

5.0 INTRODUCTION

This chapter identifies historic and cultural resources (including architectural and archaeological resources) in the Areas of Potential Effect (APEs) for the Proposed Actions, probable effects on such resources, avoidance and minimization of harm to such resources, and coordination with appropriate agencies and stakeholders (see **Figure 5-1**). Architectural resources are identified in the APEs and areas of archaeological sensitivity are also identified.

The analysis in this chapter has been prepared in accordance with City Environmental Quality Review (CEQR), Section 106 of the National Historic Preservation Act of 1966 (NHPA), as implemented by federal regulations appearing in 36 CFR § 800, in ongoing consultation with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP), acting in its capacity as the New York State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation (ACHP), the New York City Landmarks Preservation Commission (LPC), and other consulting parties.

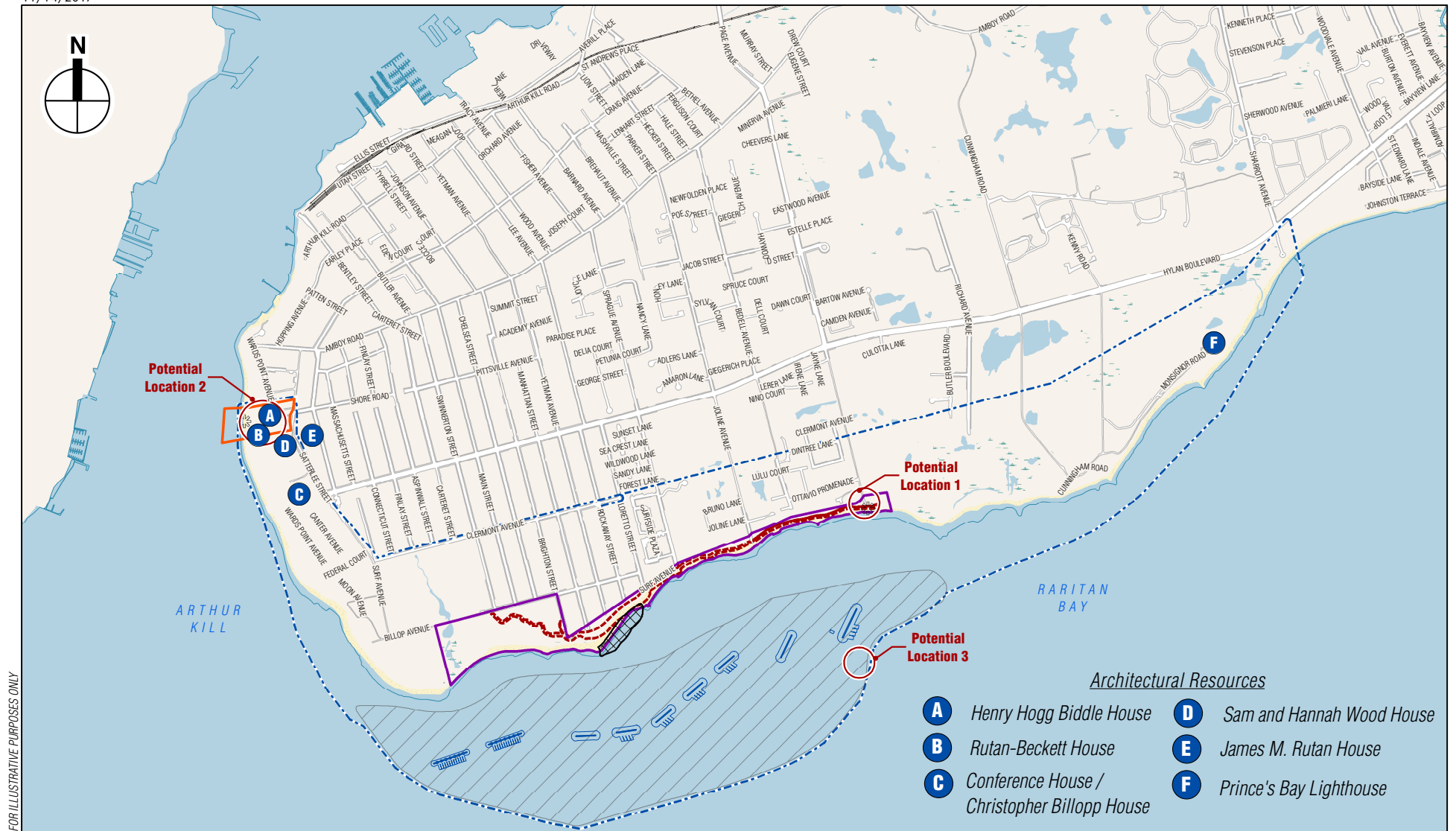
5.1 PRINCIPAL CONCLUSIONS

5.1.1 ARCHAEOLOGICAL RESOURCES

Pursuant to Section 106 of the NHPA, a Draft Phase 1A Archaeological Documentary Study (Draft Phase 1A) for the Breakwaters and Shoreline APEs was prepared in August 2016.¹ The study documented the development history of the APEs as well as their potential to yield archaeological resources, including both precontact and historic archaeological resources. In addition, the Phase 1A Study documented the current conditions of the Breakwaters and Shoreline APEs and summarized previous cultural resource investigations which have been undertaken in the vicinity. The proposed project is located in the vicinity of the Ward's Point Archaeological Conservation Area, an archaeological historic district that is listed on the State and National Registers of Historic Places.

The Draft Phase 1A prepared in August 2016 was submitted to the reviewing agencies and Section 106 consulting parties following the completion of that report (all referenced correspondence is included in **Appendix F**). In comments transmitted on October 20, 2016, the Stockbridge Munsee Community Band of Mohicans concurred with the conclusions and recommendations of the Draft Phase 1A; comments were not received from the other Tribal Nations consulted. In a comment letter dated October 26, 2016, LPC concurred with the

¹ AKRF, Inc. (August 2016): "Phase 1A Archaeological Documentary Study: Coastal and Social Resiliency Initiatives for the Tottenville Shoreline: Living Breakwaters and Tottenville Shoreline Protection Projects; Staten Island, Richmond County, New York." Prepared for the Governor's Office of Storm Recovery; New York, NY.



FOR ILLUSTRATIVE PURPOSES ONLY

- Proposed Breakwater Features
- Proposed Shoreline Restoration Area
- Shoreline APE
- Indirect Effect APE
- Breakwaters APE
- Proposed Shoreline Project Elements
- Potential Location of Proposed Water Hub (exact location to be determined)
- Proposed Floating Dock (associated with Water Hub Potential Locations 1 and 2 only)

- Water Hub Potential Location 2 APE
- Potential Water Access

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conclusions and recommendations of the draft Phase 1A Study. In a comment letter dated November 1, 2016, SHPO concurred with the conclusions and recommendations of the draft Phase 1A Study and also requested minor revisions to the Draft Phase 1A. Following the submission of the Draft Phase 1A to the consulting parties, the proposed project design was revised to include an additional potential location for the Water Hub (Potential Location 2) as well as alternate locations for water access points along the shoreline within Conference House Park. The Phase 1A was revised to reflect SHPO's comments and to reflect the changes to the project site's design following the completion of the first draft, including the addition of the new portion of the Shoreline APE located within Conference House Park. A final version of the Phase 1A (Final Phase 1A) was prepared in May 2017² and was submitted to SHPO, LPC, and the Tribal Nations for review and comment.

The Final Phase 1A Study prepared in May 2017 was also submitted to the consulting parties. In two comment letters, both issued on May 30, 2017, LPC concurred with the conclusions and recommendations of the Final Phase 1A Study and requested that Phase 1B testing occur after the finalization of project plans in order to better define the scope of archaeological testing. In a comment letter dated June 7, 2017, SHPO also concurred with the conclusions and recommendations of the Final Phase 1A Study. Letters of concurrence with the Final Phase 1A Study were also issued by the Delaware Nation and the Stockbridge Munsee Community on May 30, 2017 and by the Delaware Tribe on June 15, 2017.

CONCLUSIONS OF THE FINAL PHASE 1A STUDY

The Final Phase 1A Study concluded that it is not likely that intact archaeological deposits would be within the sandy beaches within the Shoreline APE. However, limited portions of the upland areas within the APE were determined to possess moderate sensitivity for precontact archaeological resources and moderate sensitivity for historic period archaeological resources. In addition, upland areas of the Water Hub Potential Location 2 APE were determined to be highly sensitive for precontact and historic period archaeological resources and two areas within the steeply sloped bluffs were also determined to have sensitivity for historic period archaeological resources (see **Figures 5-2 and 5-3**). A Phase 1B archaeological investigation was recommended for those areas of archaeological sensitivity within the Shoreline APE and the Water Hub Potential Location 2 APE that would be impacted by the proposed project as would be expected under Alternatives 2, 3, and 4.

The Breakwaters APE, which is located entirely within the Raritan Bay, was determined to have no sensitivity for archaeological resources dating to the historic period and low to moderate sensitivity for precontact archaeological resources at depths between 25 and 35 feet below the bay floor. As such, the proposed project would not result in impacts to archaeologically sensitive depths and no additional archaeological analysis was recommended for the Breakwaters APE.

² AKRF, Inc. (May 2017): "Coastal and Social Resiliency Initiatives for the Tottenville Shoreline: Living Breakwaters and Tottenville Shoreline Protection Projects; Staten Island, Richmond County, New York: Phase 1A Archaeological Documentary Study." Prepared for: the Governor's Office of Storm Recovery; New York, NY.



 Upland Areas with Potential Precontact Sensitivity

 Locations of Potentially Sensitive Historic Map Documented Structures

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 Shoreline Area of Potential Effect (APE)

 Proposed Shoreline Restoration Area

Areas of Archaeological Sensitivity Identified in the Phase 1A Study:
Shoreline APE (Including Water Hub Potential Location 1)



Source: 2014 Aerial Photograph and 1911 Topographical Survey

- Areas of Precontact Archaeological Sensitivity
- Water Hub Potential Location 2 APE
- Historic Archaeological Sensitivity
- Areas with Potential Sensitivity for Submerged Precontact Landforms

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Areas of Archaeological Sensitivity Identified in the Phase 1A Study:
Water Hub Potential Location 2 APE

RECOMMENDATIONS FOR ADDITIONAL ARCHAEOLOGICAL ANALYSIS

All Phase 1B testing within the previously identified areas of archaeological sensitivity would be completed in consultation with SHPO, LPC, and the Tribal Nations. Any additional archaeological investigation or consultation with the consulting parties would be completed pursuant to the terms outlined in the Programmatic Agreement executed in May 2013 among the Federal Emergency Management Agency (FEMA), SHPO, the New York State Office of Emergency Management, the Delaware Nation, the Delaware Tribe of Indians, the Shinnecock Nation, the Stockbridge-Munsee Community Band of Mohicans, LPC, and ACHP and specifically pursuant to Appendix D to the Programmatic Agreement, which pertains to the Community Development Block Grant-Disaster Recovery (CDBG-DR) grant program for activities in New York City. Any additional archaeological investigations completed subsequent to the Phase 1B investigation (e.g., a Phase 2 archaeological survey or Phase 3 Data Recovery) would be completed prior to construction in consultation with SHPO, LPC, and the Tribal Nations.

Pursuant to Section 106 and CEQR, should significant (e.g., National Register-eligible) archaeological resources be identified in sensitive areas through Phase 1B and Phase 2 archaeological investigations, disturbance or removal of such resources through construction would constitute an adverse effect under Section 106 and a significant adverse impact under CEQR. However, as outlined above, at this time only the *potential* for archaeological resources has been identified in certain locations on the project site. As set forth in the 2014 *CEQR Technical Manual*, a “site’s actual, rather than potential, sensitivity cannot be ascertained without some field testing or excavation.”³ Therefore, it is conservatively assumed for purposes of Section 106 and CEQR that the proposed project could *potentially* result in an adverse effects and significant adverse impacts, with the actual presence of any significant resources to be determined through additional archaeological investigations and consultation as set forth in the Programmatic Agreement, described above. However, should no significant archaeological resources be identified through Phase 1B or any subsequent Phase 2 archaeological investigations, and LPC, SHPO, and the Tribal Nations concur with the conclusions of those investigations, no *actual* adverse effects or significant adverse impacts would occur.

5.1.2 ARCHITECTURAL RESOURCES

As described below, no architectural resources are located in the Breakwaters APE. Therefore, Alternative 2 would not adversely affect any historic architectural resources in the Breakwaters APE.

The two architectural resources in the Water Hub Potential Location 2 APE are the Henry Hogg Biddle House and the Rutan-Beckett House, which are described below. With Alternative 2, if Water Hub Potential Location 2 is selected, one of these two historic architectural resources would be selected—the Biddle House Option or the Rutan-Beckett House Option—and would be rehabilitated and adaptively used. If plans move forward to locate the programming for the Water Hub at one of these two buildings, consultation with the consulting parties would continue to be undertaken pursuant to the terms outlined in the Programmatic Agreement executed in May 2013 among FEMA, SHPO, the New York State Office of Emergency Management, the Delaware

³ *CEQR Technical Manual* (March 2014): page 9-10
(http://www.nyc.gov/html/oec/downloads/pdf/2014_ceqr_tm/09_Historic_Resources_2014.pdf).

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Nation, the Delaware Tribe of Indians, the Shinnecock Nation, the Stockbridge-Munsee Community Band of Mohicans, LPC, and ACHP and specifically pursuant to Appendix D to the Programmatic Agreement, which pertains to the CDBG-DR program for activities in New York City.

Since the Draft Environmental Impact Statement (DEIS) was issued, in comments dated March 27, 2017, SHPO determined that the Henry Hogg Biddle House and the Rutan-Beckett House are both eligible for listing on the State/National Registers of Historic Places (S/NR-eligible). Should either the Biddle House Option or the Rutan-Beckett House Option for the Water Hub Potential Location 2 be selected, consultation with SHPO would continue to be undertaken regarding any proposed alterations to the historic resource. In addition, because the Henry Hogg Biddle House is a New York City Landmark (NYCL), if the Biddle House Option is selected for the Water Hub, the New York City Department of Parks and Recreation (NYC Parks) would consult with the LPC under the New York City Landmarks Preservation Law regarding any proposed alterations to this NYCL. LPC would review the proposed alterations and, upon approval, would issue a Binding Commission Report summarizing LPC's findings.

The architectural resources in the Water Hub Potential Location 2 APE and the Indirect Effect APE are located significantly inland, away from the locations of most of the Alternative 2 components of the Shoreline Project. As noted above, should the Water Hub programming be located at either the Biddle House or the Rutan-Beckett House, any alterations to either building would be subject to review and approval by SHPO and the consulting parties, and LPC as appropriate. It is anticipated that any alterations to either historic building would be limited to rehabilitation and adaptive use alterations. In addition, existing intervening landscaping elements and plantings, and the shoreline protection measures of the Shoreline Project further limit any visual or contextual relationships between the architectural resources in the Shoreline APE, the Indirect Effect APE, and the locations of the Shoreline Project components.

5.2 REGULATORY CONTEXT

5.2.1 NATIONAL HISTORIC PRESERVATION ACT (SECTION 106)

Section 106 mandates that federal agencies consider the effects of their actions on any properties listed on or determined eligible for listing on the National Register of Historic Places and afford the federal ACHP a reasonable opportunity to comment on such undertakings. The lead federal agency, in consultation with the SHPO and consulting parties, must determine whether a proposed project would have any adverse effects on historic properties within the APE. Section 106 requires consultation with the SHPO, federally recognized Native American Tribal Nations that might attach religious and cultural significance to historic properties affected by the project, and additional consulting parties with a demonstrated interest in the project based on a legal or economic relation to affected properties or on an interest in the project's effects on historic properties. In addition, ACHP may elect to participate in consultation, if certain criteria are met.

The review under Section 106 can be conducted in coordination with analyses conducted for the National Environmental Policy Act (NEPA). In addition, because the views of the public are essential to informed federal decision-making in the Section 106 process, the public should be informed about the project and its effects on historic properties and given the opportunity to comment. This public comment element can be combined with the public participation component required by NEPA. The public participation efforts being conducted for the Proposed Actions are described in Chapter 1, "Purpose and Need and Alternatives."

Section 101(d)(6)(B) of the NHPA requires the lead federal agency to consult with any Native American tribe that attaches religious and cultural significance to historic properties that may be affected by the undertaking. The lead federal agency shall ensure that consultation in the Section 106 process provides the Native American tribe a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of properties, including those of traditional religious and cultural importance, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects.

The basic steps of the Section 106 process are as follows:

- In consultation with the SHPO, the federal agency establishes an APE for the project, carries out appropriate steps to identify historic properties within the APE, and, in consultation with the SHPO, applies the National Register criteria for those properties that have not been previously evaluated for National Register eligibility. For properties of religious and cultural significance to participating Native American tribes, the federal agency also consults with the Tribal Historic Preservation Officer (THPO) or designated tribal representative to assess eligibility.
- If historic properties are identified, the federal agency in consultation with the SHPO, applies the criteria of adverse effect (36 CFR § 800.5[a][1]) to the identified historic properties within the APE, taking into consideration any views provided by consulting parties and the public. For properties of religious and cultural significance to tribal nations, the federal agency also consults with the THPO or designated tribal representative. In general, an adverse effect is found if the project may cause a change in the characteristics of the historic property that qualify it for inclusion in the National Register. The federal agency notifies the SHPO, ACHP, participating Native American Tribal Nations, and other consulting parties of its finding and provides supporting documentation meeting standards outlined in the regulations. The information is also made available to the public.
- If the assessment finds that the proposed project may have an adverse effect, consultation continues among the SHPO, ACHP, and other consulting parties to seek measures that would avoid, minimize, or mitigate adverse effects on historic properties. Members of the public are also provided an opportunity to articulate any views on resolving the project's adverse effects. This mitigation is typically implemented through a Memorandum of Agreement (MOA).
- Consultation typically results in an MOA, outlining agreed-upon measures to avoid, minimize, or mitigate the project's effects on historic properties. Execution of the MOA and implementation of its terms satisfy the requirements of Section 106, and the project proceeds under the terms of the MOA.

The Governor's Office of Storm Recovery (GOSR) is serving as lead agency under NEPA and SEQRA, and related laws, for the environmental review of the Proposed Actions. GOSR issued a notice in the Federal Register on April 20, 2015, advising the public of the preparation of an EIS and initiating the Section 106 process. In addition, GOSR sent a lead agency letter to involved agencies on January 30, 2015. GOSR is preparing the EIS to analyze the potential impacts of the Proposed Actions on behalf of the State of New York as the recipient of Community Development Block Grant - Disaster Recovery (CDBG-DR) funds from the U.S.

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Department of Housing and Urban Development under 42 U.S.C. § 5304(g) and 79 Fed. Reg. 62,182 (October 16, 2014).⁴

In addition to GOSR, participants in Section 106 consultation for the Proposed Actions include SHPO, LPC; and representatives from four Tribal Nations, including the Delaware Nation, the Delaware Tribe of Indians, the Shinnecock Nation, and the Stockbridge-Munsee Community Band of Mohicans. A Draft Scope of Work (DSOW) for the EIS was submitted to the consulting parties in 2015 and subsequently revised. In comment letters dated April 7, 2015, and May 1, 2015, LPC concurred with the initial and revised DSOW, as did SHPO in comments submitted through CRIS on February 24, 2015 and the Stockbridge Munsee Community Band of Mohican Indians in a comment letter dated August 20, 2015 (see **Appendix F**).

In May 2013, a Programmatic Agreement was executed among FEMA, SHPO, the New York State Office of Emergency Management, the Delaware Nation, the Delaware Tribe of Indians, the Shinnecock Nation, the Stockbridge-Munsee Community Band of Mohicans, LPC, and ACHP as a result of Hurricane Sandy. This Programmatic Agreement ensures that Federal disaster assistance programs in the State of New York are administered in accordance with certain stipulations to satisfy FEMA's Section 106 responsibilities. Other Federal agencies providing financial assistance for the type of disaster assistance programs covered by the Agreement may, with the concurrence of ACHP, FEMA, and SHPO, satisfy their Section 106 responsibilities by accepting and complying with the terms of the Agreement. GOSR has agreed to accept the terms and conditions of the Programmatic Agreement via Appendix D to the Programmatic Agreement and to take into account the effects of its undertakings and satisfy its Section 106 responsibilities for the CDBG-DR program for activities in New York City.

5.2.2 NEW YORK STATE HISTORIC PRESERVATION ACT

The New York State Historic Preservation Act of 1980 (NYSHPA) closely resembles NHPA, and requires that state agencies consider the effect of their actions on properties listed on or determined eligible for listing on the State Register of Historic Places. When a project is being reviewed pursuant to Section 106 of the NHPA (and 36 CFR Part 800), the procedures of Section 14.09 of the NYSHPA do not apply, and any review and comment by SHPO must be made within the framework of Section 106 procedures (NYSHPA § 14.09[2]). Accordingly, the Proposed Actions are not being reviewed separately under Section 14.09 of the NYSHPA.

5.3 METHODOLOGY

5.3.1 DEFINITION OF THE AREA OF POTENTIAL EFFECT

A required step in the Section 106 process is determining the APE, which is defined as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if such properties exist” (36 CFR § 800.16[d]). The APE is influenced by the scale and nature of an undertaking.

The APEs for the Proposed Actions were developed in consultation with GOSR, SHPO, LPC, and representatives from four Tribal Nations, including the Delaware Nation, the Delaware Tribe

⁴ The Governor's Office of Storm Recovery, operating under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation, is the responsible entity for the administration of the CDBG-DR grants to the State of New York.

of Indians, the Shinnecock Nation, and the Stockbridge-Munsee Community Band of Mohicans. In a comment letter dated September 10, 2015, LPC concurred with the definitions of the APEs as proposed at that time (see **Appendix F**). In comments transmitted through CRIS on September 11, 2015, SHPO concurred with the APEs as they were defined at that time (see **Appendix F**). Subsequent to the initiation of Section 106 consultation, the Water Hub Potential Location 2 APE was established to account for Water Hub Potential Location 2 within the northwest portion of Conference House Park.

In general, adverse effects on architectural resources may include both direct physical effects—demolition, alteration, or damage from construction—and indirect effects, such as the introduction of visual, audible, or atmospheric elements that may alter the characteristics of the historic property that qualify it for inclusion in the National Register in a manner that would diminish the integrity of the property’s historic features. Archaeological resources are potentially affected by direct effects from construction activity resulting in disturbance to the ground surface (including submerged ground surfaces) such as excavation, grading, pile-driving, cutting and filling, dredging, and staging. The criteria for adverse effects, as defined by ACHP, are described in greater detail at the end of this section.

The Proposed Actions have four APEs: the Breakwaters APE, the Shoreline APE, the Water Hub Potential Location 2 APE, and the Indirect Effect APE. The Breakwaters APE, the Shoreline APE, and the Water Hub Potential Location 2 APE account for the areas that would be directly affected by the Proposed Actions. The Breakwaters APE is an approximately 230-acre area within the Raritan Bay where the breakwaters would be installed on the bay floor. The Shoreline APE includes the area proposed for the Shoreline Project elements as well as an area of shoreline restoration (as part of the Breakwaters Project) along an 806-foot-long section of the waterfront between Loretto Street and Manhattan Street, where the historically narrow beach would be restored through the placement of approximately 17,404 cubic yards of sand. The Shoreline APE also includes the site of Water Hub Potential Location 1 and the wayfinding and monitoring elements associated with Water Hub Locations 2 and 3. The Water Hub Potential Location 2 APE includes an approximately 7.15-acre area in the north-western portion of Conference House Park. A larger area—the Indirect Effect APE—has been identified to account for indirect effects from the Proposed Actions. An assessment of potential impacts to archaeological resources was limited to the APEs that would involve direct effects—the Breakwaters APE, the Shoreline APE, and the Water Hub Potential Location 2 APE. The architectural resources analysis considers the potential for impacts within all four APEs. The APEs have been developed based on the proposed work activities and their potential to affect historic properties, including potential direct and indirect effects caused by the construction and operation of the Proposed Actions. The APEs are shown in Figure 5-1.

Direct effects may include physical damage or destruction of a historic resource or its setting. The Breakwaters APE, the Shoreline APE, and the Water Hub Potential Location 2 APE have been defined as the areas where there is the potential for the Proposed Actions to cause direct effects, including all locations that could potentially be subject to direct ground-disturbing activities (including in-water work) and adjacent areas within 90 feet, to account for potential construction-related impacts. Project activities associated with the construction of the Proposed Actions may include excavation, pile-driving, cutting and filling, and staging. As defined in the New York City Department of Buildings (NYCDOB) *Technical Policy and Procedure Notice (TPPN) #10/88* and in conformance with New York City Building Code Chapter 3309.4.4, adjacent construction is defined as any construction activity that would occur within 90 feet of a historic resource.

Indirect effects may include the introduction of visual, audible, or atmospheric elements which alter the characteristics of a historic property that qualify it for inclusion in the National Register. To account for potential indirect effects, the Indirect Effect APE has conservatively been defined to include the area on land within potential visual range of the proposed system of breakwaters and the proposed shoreline protection elements on a portion of the Tottenville shoreline that would be parallel to the breakwaters (see **Figure 5-1**).

5.3.2 IDENTIFICATION OF HISTORIC PROPERTIES WITHIN THE APES

The methodology used for identifying historic properties within the APES is described below.

ARCHAEOLOGICAL RESOURCES

Archaeological resources include material culture and other physical remnants of past human activities on a site. They can include archaeological resources associated with Native American populations that used or occupied a site, and can include stone tools or refuse from tool-making activities, remnants of habitation sites, and similar items. These resources are also referred to as “precontact,” since they were deposited before Native Americans’ contact with European settlers. Archaeological resources can also include remains from activities that occurred during the historic period, which began with the European colonization of New York City in the 17th century. Such resources can include remains associated with European contact with Native Americans, battle sites, landfill deposits, structural foundations, waterfront structures (such as sea walls, wharves, docks, and piers) and domestic shaft features such as cisterns, wells, and privies.

On sites where development (including the construction and demolition of buildings and other landscape modifications) occurred at some point during the past, archaeological resources may have been disturbed or destroyed by grading, excavation, infrastructure installation, and tidal action/erosion. However, some resources do survive in urban environments despite extensive development. Deposits can be protected when covered with pavement (i.e., a parking lot) or with a building with a shallow foundation and no basement. In both scenarios, archaeological deposits can be sealed beneath the ground surface, protected from further disturbance.

Archaeological investigations typically proceed in a multi-phase process consisting of Phase 1—determining the presence or absence of archaeological resources through documentary research and field testing; Phase 2—gathering sufficient information to assess State and National Register eligibility; and Phase 3—mitigating unavoidable effects through data recovery or another form of mitigation. The need for advancing to an additional phase of work is dependent upon the results of the preceding phase. In urban contexts, the first phase of work is typically divided into two smaller phases, known as Phase 1A, which involves documentary research, and Phase 1B, which involves field testing to confirm the results of the Phase 1A Study.

Phase 1A Archaeological Documentary Study of the Breakwaters and Shoreline APES

Pursuant to the Section 106 process, in addition to SHPO, other consulting parties were contacted regarding the Proposed Actions. These consulting parties included LPC, and Tribal Nations representing Richmond County, including the Delaware Nation, the Delaware Tribe of Indians, the Shinnecock Nation, and the Stockbridge-Munsee Community Band of Mohicans (SMCBM). Each potential consulting party was provided with maps depicting the APES as originally proposed, as well as the draft Scope of Work for the DEIS dated April 1, 2015, which

recommended the preparation of a Phase 1A Archaeological Documentary Study (Phase 1A) of the areas now referred to as the Breakwaters and Shoreline APEs.

In a comment letter dated February 9, 2015, LPC requested that a Phase 1A Archaeological Documentary Study of the APEs be prepared specifically to assess their potential to contain archaeological resources associated with the precontact occupation of the area (see **Appendix F**). Additionally, in comments transmitted through the New York State Cultural Resources Information System (CRIS) on April 29, 2015, SHPO concurred with the plan to prepare a Phase 1A of the Breakwaters and Shoreline APEs (see **Appendix F**). Of the Tribal Nations that were contacted, comments were received only from Stockbridge-Munsee Community Band of Mohicans. In a comment letter dated August 20, 2015, the THPO for Stockbridge-Munsee Community Band of Mohicans, stated that they wished to serve as a consulting party for the projects and that they concurred with the proposed Scope of Work for the DEIS (see **Appendix F**). Stockbridge-Munsee Community Band of Mohicans also provided a “Policy for Treatment and Disposition of Human Remains and Cultural Items that May Be Discovered Inadvertently during Planned Activities,” and requested that the protocols outlined therein be incorporated into any archaeological testing plans that may be prepared in the future.

In response to these comments, a Draft Phase 1A for the Breakwaters and Shoreline APEs was prepared in August 2016. A Final Phase 1A was prepared in May 2017 after the design of the proposed project was modified. The Phase 1A was designed to satisfy the requirements of LPC and SHPO and followed the guidelines of the New York Archaeological Council (NYAC). In addition, the study was prepared by a Registered Professional Archaeologist (RPA). The study documented the development history of the APEs as well as their potential to yield archaeological resources, including both precontact and historic archaeological resources. In addition, the Phase 1A Study documented the current conditions of the Breakwaters and Shoreline APEs and summarized previous cultural resource investigations which have been undertaken in the vicinity.

In comments transmitted on October 20, 2016, the Stockbridge Munsee Community Band of Mohicans concurred with the conclusions and recommendations of the Draft Phase 1A (all referenced correspondence is included in **Appendix F**); comments were not received from the other Tribal Nations consulted. In a comment letter dated October 26, 2016, LPC concurred with the conclusions and recommendations of the draft Phase 1A Study. In a comment letter dated November 1, 2016, SHPO concurred with the conclusions and recommendations of the Draft Phase 1A and requested minor revisions. The Final Phase 1A Study prepared in May 2017 was also submitted to the consulting parties. In two comment letters, both issued on May 30, 2017, LPC concurred with the conclusions and recommendations of the Final Phase 1A Study and requested that Phase 1B testing occur after the finalization of project plans in order to better define the scope of archaeological testing. In a comment letter dated June 7, 2017, SHPO also concurred with the conclusions and recommendations of the Final Phase 1A Study. Letters of concurrence with the Final Phase 1A Study were also issued by the Delaware Nation and the Stockbridge Munsee Community on May 30, 2017, and by the Delaware Tribe on June 15, 2017.

Phase 1A Documentary Study Methodology

The Phase 1A Archaeological Documentary Study undertaken for this project had four major goals: (1) to determine the likelihood that the APEs were occupied during the precontact (Native American) and/or historic periods; (2) to determine the effect of subsequent development and landscape alteration on any potential archaeological resources that may have been located at the APEs; (3) to make a determination of the APEs’ potential archaeological sensitivity; and (4) to

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make recommendations for further archaeological analysis, if necessary. In addition, the Phase 1A was designed to supplement a previous Phase 1A of Conference House Park that was completed by archaeologist Arnold Pickman in 1997.⁵ Since Pickman's 1997 report was prepared nearly 20 years ago, the areas studied as part of that analysis were reevaluated as part of the 2017 Phase 1A of the APEs. Modern advancements in mapping technology and geographic information systems (GIS) were used to more thoroughly analyze the topographic changes and erosion that have altered the waterfront areas in this portion of Staten Island.

In order to satisfy the four goals outlined above, documentary research was completed to establish a chronology of the APEs' development and landscape alteration, to identify any individuals who may have owned the land or worked and/or resided there, and to determine if buildings were present there in the past. Data was gathered from various published and unpublished primary and secondary sources, such as historic maps, topographical analyses (both modern and historic), historic and current photographs (including aerial imagery), newspaper articles, local histories, and previously conducted archaeological surveys. These published and unpublished resources were consulted at various repositories, including the Main Research Branch of the New York Public Library (Local History and Map Divisions). File searches were conducted at LPC, SHPO, and the New York State Museum (NYSM). Information on previously identified archaeological sites and previous cultural resources assessments was accessed through New York State's CRIS.

Geomorphological Analysis of the Bay Floor

The Breakwaters APE was included within the study area of the New York and New Jersey Harbor Navigation Project, a large archaeological investigation completed by Geoarcheology Research Associates (GRA) in conjunction with Hunter Research, Inc. within New York Harbor in 2014.⁶ That study concluded that the location of the Breakwaters APE was highly sensitive for deeply buried submerged archaeological sites. In October 2015, as part of the geotechnical investigation for the proposed Breakwaters Project, a geo-bore soil boring program was completed within the Raritan Bay. Because of GRA's identification of this portion of the Bay as highly sensitive, it was determined that the geotechnical borings should be monitored by a geoarchaeologist to determine if potentially archaeologically sensitive terrestrial landforms or other intact archaeological resources have survived within the APE. A total of 20 borings ranging between approximately 60 and 150 feet in depth were completed as part of the geotechnical boring program. The results of the monitoring were summarized in a report issued

⁵ Pickman, Arnold (1997): "Archaeological and Historical Intensive Documentary Research: Conference House Park, Staten Island, New York; NYC Parks/Pre-CEQR R." Prepared for Jackson & Kihn/South Street Design Company.

⁶ Geoarcheology Research Associates (2014): "Geomorphology/Archaeological Borings and GIS Model of the Submerged Paleoenvironment in the New York and New Jersey Harbor and Bight in Connection with the New York and New Jersey Harbor Navigation Project, Port of New York and New Jersey, Under contract to U.S. Army Corps of Engineers New York District CENAN-PL-EA, 26 Federal Plaza New York, New York 10278-0900. March 2014." Prepared under subcontract to and in conjunction with Hunter Research, Inc., Trenton, NJ. Prepared for: Tetra Tech, Portland, ME; under contract to the US Army Corps of Engineers, New York, NY.

in July 2016.⁷ The borings were observed from the drilling barge, cores were monitored, sediments were photographed, and samples were collected for off-site laboratory analysis. The laboratory analysis included macro-stratigraphic descriptions, fine screening/flotation of deposits that have potential to contain archaeological deposits, C-14 dating, and select botanical analysis. The report is summarized in this chapter and is included as an appendix to the Phase 1A.

ARCHITECTURAL RESOURCES

Once the APEs were determined, a list of officially recognized architectural resources within the APEs was compiled that includes National Historic Landmarks (NHL), State/National Register-listed (S/NR-listed) properties or properties determined eligible for such listing, NYCLs and Historic Districts, and properties that have been found by LPC to appear eligible for designation, considered for designation (“heard”) by LPC at a public hearing, or calendared for consideration at such a hearing (these are “pending” NYCLs).

Criteria for listing on the National Register are in the Code of Federal Regulations, Title 36, Part 63, and LPC has adopted these criteria for use in identifying architectural resources for CEQR review. Following these criteria, districts, sites, buildings, structures, and objects are eligible for the National Register if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and: (1) are associated with events that have made a significant contribution to the broad patterns of history (Criterion A); (2) are associated with significant people (Criterion B); (3) embody distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); or (4) may yield information important in prehistory or history. Properties that are younger than 50 years of age are ordinarily not eligible, unless they have achieved exceptional significance. Official determinations of eligibility are made by OPRHP/SHPO.

LPC designates historically significant properties in the City as NYCLs and/or Historic Districts, following the criteria provided in the Local Laws of the City of New York, New York City Charter, Administrative Code, Title 25, Chapter 3. Buildings, properties, or objects are eligible for landmark status when a part is at least 30 years old. Landmarks have a special character or special historical or aesthetic interest or value as part of the development, heritage, or cultural characteristics of the city, state, or nation. There are four types of landmarks: individual landmark, interior landmark, scenic landmark, and historic district.

Field surveys of the APEs were conducted by an architectural historian who meets NPS Professional Qualification Standards for Architectural History, codified under 36 CFR § 61. No potential historic architectural resources were identified in the APEs.

5.3.3 EVALUATION OF POTENTIAL EFFECTS ON HISTORIC PROPERTIES

Once the historic properties in the APEs were identified, the effects of the Proposed Actions on those resources were assessed. As described above, effects on historic properties identified in this chapter may include both direct and indirect effects. Assessments of effects are based on

⁷ Lynch, Kerry J., Ph.D. (2016): “Archaeological Phase I Geo-Bore Monitoring Project for the Living Breakwaters Project, Staten Island, New York.” Prepared by Archaeological Services, University of Massachusetts, Amherst, MA. Prepared for: AKRF, New York, NY.

ACHP's Criteria of Adverse Effect codified in 36 CFR § 800.5(a)(1) and (2). The assessment may result in three possible effects findings: no effect (no historic properties affected); no adverse effect; or adverse effect. According to ACHP's criteria, an adverse effect is found "when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association." Examples of adverse effects include, but are not limited to "physical destruction or damage of all or part of the property;" "removal of the property from its historic location; change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;" and "introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features." Adverse effects may include "reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative."

5.4 AFFECTED ENVIRONMENT/EXISTING SETTING

5.4.1 ARCHAEOLOGICAL RESOURCES

The shoreline in the vicinity of the beach along the Raritan Bay near the APE has been extensively modified as a result of erosion and tidal activity which has altered the shoreline extensively over the last century. The Phase 1A Study completed by AKRF in May 2017 included an extensive analysis of the precontact and historic period occupation of the APEs as well as the disturbance that has resulted as a result of tidal action and intentional modifications to the landscape associated both with recreational use and the restoration of the beach. The conclusions of the Phase 1A are summarized below and the locations of areas of archaeological sensitivity are depicted on **Figures 5-2 and 5-3**.

BREAKWATERS APE

Precontact Archaeological Sensitivity

Although the APE is currently inundated by the Raritan Bay, thousands of years ago, it would have been exposed dry land that could have been inhabited by early Native American populations. The locational patterns of Native American sites can be projected back in time onto now-submerged offshore areas that were formerly dry, inhabitable land. GRA's 2014 research determined that the sea level was 2 to 4 meters lower than its current location as recently as a few thousand years ago, and that the coastline was located hundreds of meters south of its present location. Older landforms located beneath the peat deposits therefore could include what were formerly well-drained, inhabitable upland areas, and as a result the Phase 1A concluded that precontact archaeological sites dating to more than 5,000 years ago could be intact at great depths below the existing bay floor. However, the Breakwaters APE and the surrounding vicinity have been subject to disturbance as a result of significant erosion caused by tidal action as well as dredging that has occurred for the creation and maintenance of shipping channels in the immediate vicinity.

The soil cores that were monitored as part of the geomorphological investigation appear to suggest that during the late Archaic period (circa 5,500 years before present); the soils currently situated approximately 35 feet below sea level were situated below what was then the exposed ground surface. Evidence of possible submerged landforms containing botanical artifacts (e.g., remnants of eel grass and other marine plants as well as charred wood) was observed near the

western side of the APE. The geomorphological investigation tentatively concluded that the Breakwaters APE had experienced, “a long history of eroded, reworked deposition from currents and storm surge closer to shore adjacent to the middle and eastern end of the APE”.⁸ Though speculative due to the fact that it was not based on continuous cores, this finding is consistent with historic descriptions of the naturally occurring modifications that have re-shaped the shoreline in the vicinity of the APE as seen on historic maps.

The Phase 1A concluded that the once habitable buried ground surface is situated near a depth of approximately 25 to 35 feet below the present sea level. Although no direct evidence of human habitation was recovered during the geomorphological investigation, the presence of this habitable ground surface in an area of demonstrated sensitivity for prehistoric occupation indicates that the Breakwaters APE has low to moderate sensitivity for precontact archaeological resources at depths between 25 and 35 feet below the bay floor. However, these depths would not be impacted as a result of the proposed breakwater system, which is not expected to generate significant disturbance beneath the bay floor.

Historic Period Archaeological Sensitivity

As described in the Phase 1A, the Breakwaters APE was inundated throughout the entire historic period and no evidence was found that would suggest the presence of any potential submerged resources (e.g., shipwrecks) on the bay floor within the APE. Therefore, the Phase 1A determined that the Breakwaters APE has no historic period archaeological sensitivity.

SHORELINE APE

The Phase 1A prepared in May 2017 made the following sensitivity determinations for the portions of the Shoreline APE as it was defined at that time:

Precontact Archaeological Sensitivity

The precontact sensitivity of project sites in New York City is generally evaluated by a site’s proximity to level slopes, water courses, well-drained soils, and previously identified precontact archaeological sites. As described in the Phase 1A, the Shoreline APE is east of the Ward’s Point Archaeological Conservation Area, which is listed on the State and National Registers of Historic Places⁹.

The Ward’s Point site has been the subject of amateur and professional archaeological investigations since the mid-19th century and has contributed greatly to the archaeological record of New York City and the surrounding area. The archaeological site represents several periods of continuous occupation lasting thousands of years and has been designated a conservation area to protect remaining archaeological data located in the vicinity. The majority of the previously identified archaeological sites within the Conservation Area have been identified on the high bluffs in the northern and western portions of Conference House Park, as opposed to the low-lying areas similar to those in the vicinity of the Shoreline APE. However, the Phase 1A described archaeological investigations that were conducted near the Shoreline

⁸ Lynch 2016: 10.

⁹ The boundaries of the Conservation Area are not publicly disclosed in order to protect the archaeological resources located there and, as such, will not be reproduced in this document.

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APE that identified archaeological sensitivity of upland areas similar to those seen in portions of the APE.

The Phase 1A identified at least 30 previously identified precontact archaeological sites in the files of SHPO, LPC, and the New York State Museum, many of which were in connection with the occupation of Ward's Point. In addition, the APE's waterfront location and proximity to both salt and fresh water resources would have made it an attractive location for temporary or permanent settlement during the precontact period. However, as a result of the extensive erosion and historic period development that have transformed the landscaped of the waterfront in the vicinity, there has also been significant disturbance to the area. Pickman's 1997 Phase 1A determined that the entire extent of Conference House Park in the vicinity of the Shoreline APE lacked sensitivity with the exception of an isolated area of moderate archaeological sensitivity near a knoll located to the west of Page Avenue, in the vicinity of one of the possible locations for the proposed Water Hub (Potential Location 1). The Phase 1A concluded that current topographic information suggests that the landscape of this area may not have been significantly modified, however, there has been disturbance associated with the construction and demolition of houses and driveways. This area was therefore determined to have low to moderate sensitivity for precontact archaeological resources.

The Phase 1A concluded that it is not likely that intact archaeological deposits would be located within the sandy beaches of the Shoreline APE. As such, the portion of the Shoreline APE that is situated along the beach to the east of Brighton Street was determined to have no sensitivity for precontact archaeological resources as a result of disturbance associated with tidal action/erosion, development, and the restoration and reconstruction of the beach, including the construction of sea walls.

However, it was determined that it is possible that undisturbed grassy and wooded upland areas may retain some archaeological sensitivity, particularly in the western portion of the APE. The portion of the Shoreline APE bounded by Brighton Street, Finlay Street, Billop Avenue, and the Raritan Bay includes three different historic landscapes: 1) the beach immediately adjacent to the waterfront; 2) an area of filled marsh occupying much of the southern and eastern portion of this part of the APE; and 3) an upland area adjacent to an existing streambed. As with the remainder of the Shoreline APE to the east, the beach front in this portion of the APE has been heavily damaged as a result of erosion and flooding and is not considered to have precontact sensitivity. Much of the former marsh locations have since been filled or are still inundated by the existing stream. These areas are determined to have low sensitivity for precontact archaeological resources. Because of the presence of fill throughout much of this area, any potentially sensitive levels are likely buried beneath a layer of protective fill and would not be impacted by the Proposed Actions. Finally, the upland areas adjacent to the stream, south of those elevated areas which were previously identified as potentially archaeologically sensitive, were identified in the Phase 1A as having moderate sensitivity for precontact archaeological resources.

Historic Period Archaeological Sensitivity

During the 18th and 19th centuries, homes lined the waterfront in the vicinity of the Shoreline APE, including several that were within or in the immediate vicinity of the APE. In the late-19th and early-20th centuries, the coastal areas of southwestern Staten Island were transformed into vibrant resort communities. In addition to the homes that had been present on the waterfront for decades, the coastline was quickly developed with various recreational facilities, including boat and bathhouses, beach clubs, campgrounds, bungalows, and waterfront resorts.

The Phase 1A identified map-documented structures associated with at least fifteen historic properties along the waterfront, the majority of which were insubstantial structures associated with seasonal summer occupancy or use. The locations of many of the former homes and other waterfront structures are now underwater or buried under layers of sand. Action has been taken to restore or defend the waterfront from continued erosion, including the deposition of sand and the construction of sandbag barricades, which are visible in aerial photographs taken in recent years, as are the ruins of piers and platforms along what is now the beach. The construction and demolition of houses, concrete and wood sea walls, piers, boat and bathhouses, paved parking areas, and other developments along the waterfront would also have resulted in additional disturbance.

The Phase 1A determined that only a few of the map-documented structures within the Shoreline APE were present before the mid-19th century and represented normal occupancy (as opposed to seasonal camps or recreational buildings). Many of these former house locations are largely inundated or were covered with sandy beach deposits as a result of erosion and sea level rise. These include residences occupied by the Cooley, Joline, Laforge, and Mahen homes as depicted on **Figure 5-2**. These homes all appear to have been constructed by the mid- to late-19th century and presumably pre-dated the installation of water and sewer networks in this area. Therefore, the residents of these early homes would have relied on domestic shaft features (e.g., privies, cisterns, and wells) for the purposes of water gathering and sanitation. Though there has been significant disturbance to the area, largely as a result of tidal action, sturdy subsurface shaft features could have survived, especially in upland areas like the two potential sites for the proposed Water Hub (Potential Location 1). Therefore, those locations were identified as having moderate sensitivity for archaeological resources dating to the historic period. The remainder of the Shoreline APE was determined to have low sensitivity for historic period archaeological resources.

WATER HUB POTENTIAL LOCATION 2 APE

Precontact Archaeological Sensitivity

As with the Shoreline APE, the Phase 1A determined that upland portions of the Water Hub Potential Location 2 APE are sensitive for archaeological resources associated with the precontact occupation of southwestern Staten Island. As depicted in **Figure 5-3**, the areas of sensitivity are situated to the east of the steeply sloped bluffs lining the western shore of Staten Island.

Historic Period Archaeological Sensitivity

The Phase 1A concluded that the Water Hub Potential Location 2 APE is located near three historic properties containing multiple historic homes in addition to a 19th century shipyard. The upland areas east of the bluffs within the APE are determined to have high sensitivity for archaeological resources associated with the occupation of historic homes on the Biddle, Rutan, and Wood/Leven properties. These resources are expected to include shaft features used for the purposes of water-gathering and sanitation (e.g., privies, cisterns, and wells) as well as midden deposits similar to those observed during previous archaeological investigations. The Phase 1A Study also concluded that the steeply sloped bluffs and adjacent beaches were not developed for residential use in the same manner as the upland areas with the exception of the former Rutan shipyard building that was later identified as a dwelling owned by the Forshay family. The location of the former shipyard was determined to have moderate sensitivity for archaeological

resources and the adjacent beach was determined to have low sensitivity for archaeological resources dating to the historic period (see **Figure 5-3**).

5.4.2 ARCHITECTURAL RESOURCES

BREAKWATERS APE

The Breakwaters APE is located along the Tottenville neighborhood's southern shoreline, within the waters of the Raritan Bay. As the Breakwaters APE is within the water, there are no known or potential architectural resources within the Breakwaters APE.

SHORELINE APE

The Shoreline APE is almost entirely within Conference House Park, a 265-acre park that is described in further detail below. The south-west portion of the Shoreline APE includes a wooded area with walking trails that extend from nearby roadways to the shoreline. The Shoreline APE continues eastward with grassy areas and sandy lookout points, many with seating areas. It also includes existing temporary dunes constructed by NYC Parks after Superstorm Sandy. The eastern part of the Shoreline APE, which includes Water Hub Potential Location 1 in the vicinity of the southern terminus of Page Avenue, is primarily an undeveloped wooded area, with a roadway that provides access to private property west of Page Avenue. Therefore, there are no known or potential architectural resources within the Shoreline APE.

WATER HUB POTENTIAL LOCATION 2 APE

The Water Hub Potential Location 2 APE, which is located within the north-western portion of Conference House Park, includes some of the park's paths, trails, and natural areas. The Water Hub Potential Location 2 APE also contains two known historic architectural resources—the Henry Hogg Biddle House and the Rutan-Beckett House. These historic architectural resources are described below. The **Henry Hogg Biddle House** (S/NR-eligible, NYCL) is located at 70 Satterlee Street. The house and the property are located within the north-west portion of Conference House Park. In a comment letter dated November 9, 2016, NYC LPC indicated that the Henry Hogg Biddle House appears S/NR-eligible. Since the issuance of the DEIS, in a comment letter dated March 27, 2017, SHPO determined that the Henry Hogg Biddle House is S/NR-eligible (see **Appendix F**). Built circa 1845, this two-and-a-half story Greek Revival-style house is sited on a bluff overlooking the Raritan Bay. The house has deep, two-story high porticos that extend along the full length of its east and west façades. The porticos are supported by four large Doric fluted columns. The house has a wood-frame structure, is clad in wood, and has a gabled roof with a slightly flared projecting spring eave that extends out over the porticos. The east façade includes the house's primary entrance which has a wooden door flanked by pilasters with lanterns and topped with a pediment. The first floor has large window openings with 15-pane divided light windows, with flat arch wood lintels and surrounds. The second floor window openings are smaller, with six-over-six double hung windows. The south façade has an elevated entrance with wooden steps and handrails. This side entrance has a slightly sloped awning with decorative wood screens. The house originally belonged to Captain Henry Hogg Biddle who owned the ferryboat that ran between Tottenville and Perth Amboy, New Jersey. The house was designated as a NYCL in 1990. SHPO's March 27, 2017, comment letter determined that the house is S/NR-eligible under National Register Criterion C as "a rare surviving example of a house that combines its design spring eave construction with Greek

Revival style architecture.” SHPO also identified the significance of the Biddle House’s “setting, which includes a long approach drive, fencing and plantings, [that] enhances the character of the architecture” (see **Figures 5-1 and 5-4**, Photo 1).

The **Rutan-Beckett House** (S/NR-eligible) is located within the north-west portion of Conference House Park southwest of the Henry Hogg Biddle House, described above. The Rutan-Beckett House was built circa 1848 by William Henry Rutan, a ship carpenter who ran the Rutan shipyard near his house in the Tottenville area (see Figure 5-4, Photo 2). The Rutan family owned the house until 1910. The house was abandoned until it was purchased by the Beckett family who remodeled and modernized the interiors in the 1950s. Since the issuance of the DEIS, in a March 27, 2017, comment letter, SHPO determined that the Rutan-Beckett House is S/NR-eligible under National Register Criterion C, “as a rare survivor of early Tottenville, an important 19th-century town on Staten Island’s South Shore.” SHPO also identified the 1950s intact interiors and furnishings as part of the building’s historic significance.

INDIRECT EFFECT APE

In addition to the two known architectural resources described above, there are three other known architectural resources located within the Indirect Effect APE and one known architectural resource located just outside the APE, across from Conference House Park. The Indirect Effect APE comprises parks, including portions of Conference House Park; residential neighborhoods; and a nature preserve. Conference House Park is not a historic resource, but it contains historic resources; a playground; a visitor’s center; paths and hiking trails; natural areas and beaches; and the “South Pole” marking the southernmost point of New York State. The historic architectural resources in Conference House Park that are located in the Indirect Effect APE are described below. The central portion of the Indirect Effect APE is a primarily residential area with most houses having been constructed in the 1980s. These houses do not appear to meet S/NR or LPC criteria for listing or designation due to their age and architectural style. The eastern portion of the Indirect Effect APE includes the Mount Loretto Unique Area, a natural reserve that contains wetlands and roadways, and the Prince’s Bay Lighthouse, a historic architectural resource, located at 6204 Hylan Boulevard, which is described below. The Mount Loretto Unique Area is administered by the New York State Department of Environmental Conservation (NYSDEC).

The **Conference House/Christopher Billopp House** (NHL, S/NR, NYCL) is located at 7455 Hylan Boulevard, within Conference House Park. Known to be the oldest two-story house on Staten Island, this Colonial-style house was built between 1680 and 1688. The house’s west façade contains the primary entrance, which includes a wood door with a transom and a brick lintel. The house is faced in fieldstone and has a low set of fieldstone and brick steps with wooden handrails. The house’s windows are non-original but have previously been replaced with multi-light, two-over-two windows. The windows have brick eyebrow lintels. The house has a steeply gabled roof with slate tiles and two brick chimneys at either end of the house. A wood-frame one-and-a-half-story structure extends from the rear of the house, with a steeply pitched roof, wood cladding, and an entrance portico. The Conference House served as the location of a peace conference on September 11, 1776, during the Revolutionary War. Those in attendance at this conference included Benjamin Franklin, John Adams, and Edward Rutledge, representing the Americans. The British were represented by Lord Richard Howe, along with his secretary, Henry Strachey (see **Figures 5-1 and 5-5**, Photos 1 and 2).



Henry Hogg Biddle House 1



Rutan-Beckett House 2



Conference House / Christopher Billopp House, west façade front entrance

1



Conference House / Christopher Billopp House, south façade

2

The **Sam and Hannah Wood House**¹⁰ (S/NR-eligible) at 96-98 Satterlee Street is located within the northern portion of Conference House Park. In a comment letter dated November 9, 2016, NYC LPC indicated that the Sam and Hannah Wood House appears S/NR-eligible. Subsequently, in comments dated March 27, 2017, SHPO determined that the house is S/NR-eligible under Criterion C “as a good example of the Greek Revival style as it developed on Staten Island” and as an early 19th century home built by members of the Ward family (see Appendix F). This Greek Revival-style one-and-three-quarter-story house was built in circa 1840. It is five bays wide and clad in wood shingles. It is oriented with its east, primary façade on Satterlee Street, with a central with a wooden door surround. The first floor has six-over-six double hung windows; the second floor has horizontal, low window openings that are covered with wood panels. The house has a gabled roof with non-original asphalt shingles (see **Figure 5-6**, Photo 1).

The **James M. Rutan House** (S/NR-eligible) is located at 97 Satterlee Street on the east side of Satterlee Street, just outside the Indirect Effect APE and across from Conference House Park. The house’s the original owner was the owner of the Rutan shipyard which played an important role in Staten Island’s maritime industrial history. Built circa 1865, this Italianate-style, two-story house is three window bays wide with wood clapboard siding. The primary entrance is slightly elevated beyond a wooden porch with a bracketed roof cornice that is supported by narrow squared columns. The main entrance is in the left bay and has a screened double-door followed by a recessed set of wooden double door with arched openings. The window openings have two-over-two sash windows, topped with bracketed window hoods and flanked by wood shutters. The second floor windows are also two-over-two sash windows with bracketed window and wood shutters. The roof is flat with a bracketed cornice (see **Figure 5-6**, Photo 2).

The **Prince’s Bay Lighthouse** (S/NR-eligible, NYCL), located at 6204 Hylan Boulevard in the Mount Loretto Unique Area, is within the easternmost portion of the Indirect Effect APE. It is one of the oldest surviving lighthouse complexes on Staten Island and is located on a bluff, approximately 85 feet above the Raritan Bay. The lighthouse tower was built in 1864. It is a brownstone-clad structure with a single bay of windows opening from each of three levels. In 1868, a two-story lighthouse keeper’s house was constructed and is connected to the side of the tower by a 15-foot long passageway. The two-story keeper’s house is also faced in brownstone and has a low gabled roof, a plain wood cornice, and two chimneys. The house is three window bays wide, with a slightly elevated gable roofed entrance with a wooden door and an arched transom. The house has six-over-six divided light, double-hung windows and a four-over-four divided light double-hung window at attic level. A one-story fieldstone Carriage House, built in 1869, is located adjacent to the keeper’s house (see **Figures 5-1 and 5-7**, Photo 1).

5.5 EFFECTS ASSESSMENT

5.5.1 ALTERNATIVE 1—NO ACTION ALTERNATIVE

With the No Action Alternative, no new structural risk reduction projects or marine habitat restoration projects will be implemented in the Breakwaters APE, the Shoreline APE, or the Water Hub Potential Location 2 APE. It is expected that the current trends of erosion, wave

¹⁰ The Sam and Hannah Wood House appears in CRIS and on a 1986 Building-Structure Inventory Form in CRIS as the “Sam and Hannah Woods House.” However, the Conference House Park website and brochure identifies the building as the Sam and Hannah Wood House (without the “s”).



Sam and Hannah Wood House 1



James M. Rutan House 2



Prince's Bay Lighthouse 1

action, ecosystems, and water quality will continue in Tottenville. Further, no development projects are planned in the Indirect Effect APE for the 2020 analysis year.

ARCHAEOLOGICAL RESOURCES

Breakwaters APE

As described in the Phase 1A, potentially sensitive deposits were identified within the Breakwaters APE at depths of 25 to 35 feet or more. Therefore, the No Action Alternative would not result in impacts to archaeological resources within the Breakwaters APE.

Shoreline APE

Under the No Action Alternative, the erosion of the southern shoreline would continue, which could result in the continued disturbance and increased exposure of archaeological resources in what are now the upland areas adjacent to the sandy beach lining the waterfront.

Water Hub Potential Location 2 APE

As described in the Phase 1A, areas of archaeological sensitivity were identified in the Water Hub Potential Location 2 APE. However, under the No Action condition, no subsurface disturbance would be expected to occur within the APE. Therefore, the No Action Alternative would not result in impacts to archaeological resources within this APE.

ARCHITECTURAL RESOURCES

With the No Action Alternative, the status of architectural resources in the Shoreline APE, the Water Hub Potential Location 2 APE, and the Indirect Effect APE could change. S/NR-eligible resources could be listed on the Registers, NYCL-eligible properties could be calendared for a designation hearing, and properties pending designation as Landmarks could be designated. It is also possible, given the Proposed Action's completion year of 2020, that additional sites could be identified as architectural resources and/or potential architectural resources in this time frame.

With the No Action Alternative, changes to architectural resources or to their settings could occur and some architectural resources in the Indirect Effect APE could deteriorate or experience direct effects through alteration or demolition, while others could be restored.

Architectural resources that are listed on the S/NR or that have been found eligible for listing are given a measure of protection under Section 106 of the National Historic Preservation Act from the effects of projects sponsored, assisted, or approved by federal agencies. Although preservation is not mandated, federal agencies must attempt to avoid adverse effects on such resources through a notice, review, and consultation process. Properties listed on the Registers are similarly protected against effects resulting from projects sponsored, assisted, or approved by State agencies under the State Historic Preservation Act. However, private owners of properties eligible for, or even listed on, the Registers using private funds can alter or demolish their properties without such a review process. Privately owned properties that are NYCLs, in New York City Historic Districts, or pending designation as NYCLs are protected under the New York City Landmarks Law, which requires LPC review and approval before any alteration or demolition can occur, regardless of whether the project is publicly or privately funded. Publicly owned resources are also subject to review by LPC before the start of a project; however, LPC's role in projects sponsored by other city or state agencies generally is advisory only.

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With the No Action Alternative, no changes will occur in the Breakwaters APE, the Shoreline APE, or the Water Hub Potential Location 2 APE as no new structural risk reduction projects will be implemented. As there are no architectural resources in the Breakwaters APE, no such resources will be affected in any case.

The architectural resources in the Indirect Effect APE also will not be affected in the No Action Alternative as there will be no changes to the Breakwaters APE, the Shoreline APE, or the Water Hub Potential Location 2 APE. Existing views of the architectural resources and the visual context of each historic architectural resource will not be affected. Therefore, the architectural resources in the APEs will not be adversely affected by the No Action Alternative.

5.5.2 ALTERNATIVE 2—PREFERRED ALTERNATIVE—THE LAYERED TOTTENVILLE SHORELINE RESILIENCY STRATEGY: LIVING BREAKWATERS AND TOTTENVILLE SHORELINE PROTECTION PROJECT (LAYERED STRATEGY)

As described in Chapter 1, “Purpose and Need and Alternatives,” Alternative 2 comprises two project components—the Living Breakwaters Project (the “Breakwaters Project”) and the Tottenville Shoreline Protection Project (the “Shoreline Project”).

ARCHAEOLOGICAL RESOURCES

Breakwaters APE

As described in the Phase 1A, potentially sensitive deposits were identified within the Breakwaters APE at depths of 25 to 35 feet or more, far greater than the depths of impacts associated with the Alternative 2. Therefore, Alternative 2 would not result in impacts to archaeological resources within the Breakwaters APE.

Shoreline APE

The Phase 1A Study of the Shoreline APE identified locations of potential precontact archaeological sensitivity along certain portions of the upland areas within the APE (see **Figure 5-2**). The locations of historic period archaeological sensitivity (also depicted on **Figure 5-2**) are located in the vicinity of four mid- to late-19th century homes that are identified as sensitive for deeply buried domestic shaft structures.

The construction of the proposed Shoreline Project and the Water Hub (Potential Location 1), if selected in this location, would require subsurface excavation. As such, the Phase 1A Study recommended that Phase 1B archaeological testing be completed to determine the presence or absence of archaeological resources within the sensitive portions of the APE. Since the shoreline restoration would involve only the deposition of sand with no in-ground disturbance, it is expected that this component of the project would serve to protect archaeological resources from continued erosion. Therefore, the shoreline restoration component of the proposed project would have no adverse effect on archaeological resources within this portion of the project site.

All Phase 1B testing within the previously identified areas of archaeological sensitivity or any new areas of archaeological sensitivity that may be identified in the newly added portion of the Shoreline APE would be completed in consultation with SHPO, LPC, and the Tribal Nations. Any additional archaeological investigation or consultation with the consulting parties would be completed pursuant to the terms outlined in the Programmatic Agreement executed in May 2013 among the FEMA, SHPO, the New York State Office of Emergency Management, the Delaware

Nation, the Delaware Tribe of Indians, the Shinnecock Nation, the Stockbridge-Munsee Community Band of Mohicans, LPC, and ACHP and specifically pursuant to Appendix D to the Programmatic Agreement, which pertains to the CDBG-DR program for activities in New York City. Any additional archaeological investigations completed subsequent to the Phase 1B investigation (e.g., a Phase 2 archaeological survey or Phase 3 Data Recovery) would be completed prior to construction in consultation with SHPO, LPC, and the Tribal Nations.

Pursuant to Section 106 and CEQR, should significant (e.g., National Register-eligible) archaeological resources be identified in sensitive areas through Phase 1B and Phase 2 archaeological investigations, disturbance or removal of such resources through construction would constitute an adverse effect under Section 106 and a significant adverse impact under CEQR. However, as outlined above, at this time only the *potential* for archaeological resources has been identified in certain locations on the project site. As set forth in the *CEQR Technical Manual*, a “site’s actual, rather than potential, sensitivity cannot be ascertained without some field testing or excavation.”¹¹ Therefore, it is conservatively assumed for purposes of Section 106 and CEQR that the proposed project could *potentially* result in an adverse effects and significant adverse impacts, with the actual presence of any significant resources to be determined through additional archaeological investigations and consultation as set forth in the Programmatic Agreement, described above. However, should no significant archaeological resources be identified through Phase 1B or any subsequent Phase 2 archaeological investigations, and LPC, SHPO and the Tribal Nations concur with the conclusions of those investigations, no *actual* adverse effects or significant adverse impacts would occur.

Water Hub Potential Location 2 APE

The Phase 1A Study of the Shoreline APE identified locations of potential precontact and historic period archaeological sensitivity within certain portions of the Water Hub Potential Location 2 APE (see **Figure 5-3**). Subsurface excavation would occur in this APE only if a portion of it is selected as the location of the proposed Water Hub. In the event that the Water Hub Potential Location 2 is selected, the Phase 1A Study recommended that Phase 1B archaeological testing be completed to determine the presence or absence of archaeological resources within the sensitive portions of the APE.

All Phase 1B testing within the previously identified areas of archaeological sensitivity or any new areas of archaeological sensitivity that may be identified in the newly added portion of the Shoreline APE would be completed in consultation with SHPO, LPC, and the Tribal Nations. Any additional archaeological investigation or consultation with the consulting parties would be completed pursuant to the terms outlined in the Programmatic Agreement executed in May 2013 among the FEMA, SHPO, the New York State Office of Emergency Management, the Delaware Nation, the Delaware Tribe of Indians, the Shinnecock Nation, the Stockbridge-Munsee Community Band of Mohicans, LPC, and ACHP and specifically pursuant to Appendix D to the Programmatic Agreement, which pertains to the CDBG-DR program for activities in New York City. Any additional archaeological investigations completed subsequent to the Phase 1B investigation (e.g., a Phase 2 archaeological survey or Phase 3 Data Recovery) would be completed prior to construction in consultation with SHPO, LPC, and the Tribal Nations.

¹¹ *CEQR Technical Manual* (March 2014): page 9-10
(http://www.nyc.gov/html/oec/downloads/pdf/2014_ceqr_tm/09_Historic_Resources_2014.pdf).

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Pursuant to Section 106 and CEQR, should significant (e.g., National Register-eligible) archaeological resources be identified in sensitive areas through Phase 1B and Phase 2 archaeological investigations, disturbance or removal of such resources through construction would constitute an adverse effect under Section 106 and a significant adverse impact under CEQR. However, as outlined above, at this time only the potential for archaeological resources has been identified in certain locations on the project site. As set forth in the *CEQR Technical Manual*, a “site’s actual, rather than potential, sensitivity cannot be ascertained without some field testing or excavation.”¹² Therefore, it is conservatively assumed for purposes of Section 106 and CEQR that the proposed project could potentially result in an adverse effects and significant adverse impacts, with the actual presence of any significant resources to be determined through additional archaeological investigations and consultation as set forth in the Programmatic Agreement, described above. However, should no significant archaeological resources be identified through Phase 1B or any subsequent Phase 2 archaeological investigations, and LPC, SHPO, and the Tribal Nations concur with the conclusions of those investigations, no actual adverse effects or significant adverse impacts would occur.

ARCHITECTURAL RESOURCES

Breakwaters APE

Under Alternative 2, the Breakwaters Project would reduce wave energy at the shoreline and prevent or reverse shoreline erosion. The breakwater system would be an in-water system that would include approximately 10 breakwater segments, (approximately 3,900-linear-feet of breakwaters in total) off the Tottenville shoreline. It would have limited visibility from nearby areas within the Breakwaters APE, from the shoreline within the Shoreline APE, and from the Water Hub Potential Location 2 APE. Visibility from the Indirect Effect APE would be further limited by distance and intervening structures. As described above, no architectural resources are located in the Breakwaters APE. Therefore, Alternative 2 would not adversely affect any historic architectural resources in the Breakwaters APE.

Shoreline APE

The Shoreline Project would consist of a series of shoreline protection measures—including an earthen berm, a hybrid dune/revetment system, eco-revetments, and a raised edge (revetment with trail)—from approximately Carteret Street to Page Avenue.

Also within the Shoreline APE, the Breakwaters Project would include an area of shoreline restoration between approximately Manhattan and Loretto Streets, and a proposed Water Hub.

¹² *CEQR Technical Manual* (March 2014): page 9-10
(http://www.nyc.gov/html/oec/downloads/pdf/2014_ceqr_tm/09_Historic_Resources_2014.pdf).

Two potential on-shore locations are under consideration for siting the Water Hub.¹³ Water Hub Potential Location 1 would be in the vicinity of the southern terminus of Page Avenue and would involve the construction of a new structure. Water Hub Potential Location 2 would be in the Water Hub Potential Location 2 APE, as described below.

The two options for Water Hub Potential Location 1 are both in the vicinity of the southern terminus of Page Avenue. The Page East Option would locate the proposed Water Hub in an existing Conference House Park parking lot and surrounding wooded area immediately east of Page Avenue and the Page West Option would use a grassy site west of Page Avenue that previously contained a two-story NYC Parks building (which was demolished in 2016 due to substantial damage caused by Superstorm Sandy) (see Chapter 1, “Purpose and Need and Alternatives,” Figures 1-10 and 1-11). Although the design is still being developed, this structure is anticipated to be small in scale, ranging from approximately 38-feet (potential location west of Page Avenue) to 48-feet (potential location east of Page Avenue) in height, clad in materials to enhance visual connections to the nearby waterfront areas (see Chapter 1, “Purpose and Need and Alternatives,” Figures 1-12 and 1-13). It would have a rooftop observation deck and solar panels. The proposed Water Hub facility would include landscaping, parking, and utility spaces and would be contextual to the surrounding park and waterfront area. At Potential Location 1, access to the water from the shore would be provided by a seasonal temporary floating boat launch that would be anchored approximately one-foot above mean high water (MHW). Should Water Hub programming be located at Water Hub Potential Location 2 or 3, as described below, a small approximately 400-square-foot structure would be constructed near the terminus of Page Avenue at Potential Location 1. This small facility would provide seating, wayfinding, and potential storage for kayaks and beach cleaning equipment.

Water Hub Potential Location 2 APE

As noted above, under Alternative 2, the Breakwaters Project would include a proposed Water Hub within the Water Hub Potential Location 2 APE. The two options for Water Hub Potential Location 2 are both sites in the north-west portion of Conference House Park. Both options would involve the rehabilitation and adaptive use of an existing NYC Parks building—either the Biddle House or the Rutan-Beckett House—both of which are historic architectural resources. The Biddle House Option would locate the programming for the Water Hub within the existing Henry Hogg Biddle House. The Rutan-Beckett House Option would locate the programming for the Water Hub within the existing Rutan-Beckett House, which is located southwest of the Biddle House (see **Figure 5-4**, Photos 1 and 2). Similar to Potential Location 1, Potential Location 2 would also provide access to the water, in the area near the house being adaptively reused for Water Hub activities. With Alternative 2, if Water Hub Potential Location 2 is selected, one of these two historic architectural resources would be rehabilitated and adaptively

¹³ Subsequent to the issuance of the DEIS, an additional Water Hub location has been included for consideration. Potential Location 3 would involve a “floating” Water Hub—a vessel operated by a non-profit organization (e.g., BOP). The vessel would visit the breakwater project area for education and monitoring and would be docked at existing facilities in the City. Should Water Hub programming be located at Potential Location 3, similar to Potential Location 2, wayfinding and interpretive elements and potential storage for kayaks would be constructed near the terminus of Page Avenue. Additional wayfinding, interpretive signage and monitoring locations would be integrated along the length of the shoreline as part of the Water Hub’s educational programming. No additional parking facilities would be required with this option. Also, because this option does not include an on-shore facility, a seasonally deployed temporary floating boat launch would not be included as part of the project.

used. If plans move forward to locate the programming for the Water Hub within one of these two buildings, consultation with the consulting parties would continue to be undertaken pursuant to the terms outlined in the Programmatic Agreement executed in May 2013, as described above. In particular, any proposed alterations to the Biddle House—including alterations to this building’s exterior, interior, and its setting (i.e., long approach drive, fencing and plantings)—would require consultation with SHPO. In addition, if the Biddle House Option is selected for the Water Hub, NYC Parks would consult with LPC under the New York City Landmarks Preservation Law regarding any proposed alterations to this NYCL. If the Rutan-Beckett House Option is selected for the Water Hub, any proposed alterations to the Rutan-Beckett House—including alterations to the building’s exterior and its 1950s interiors—would require consultation with SHPO.

The Water Hub Potential Location 2 component of the Breakwaters Project would have limited potential for visibility from the Shoreline APE, due to location, distance, and existing intervening built and natural structures. Further, there are no architectural resources in the Shoreline APE.

The architectural resources in the Indirect Effect APE are located significantly inland, away from the locations of most of the Alternative 2 components of the Breakwaters Project. The closest architectural resource—the Sam and Hannah Wood House—is located approximately 283 feet southeast of the Henry Hogg Biddle House and approximately 332 feet southeast of the Rutan-Beckett House. Should plans move forward to locate the Water Hub at either the Biddle House or the Rutan-Beckett house, it is anticipated that the rehabilitation and adaptive use alterations would be limited to the interiors of the buildings. Therefore, these changes would not result in any adverse effects to nearby architectural resources in the Indirect APE. In addition, existing intervening landscaping elements and plantings, and the shoreline protection measures of the Shoreline Project, further limit any visual or contextual relationships between the architectural resources in the Indirect Effect APE and the locations of the Shoreline Project components. Therefore, Alternative 2 would not adversely affect any historic architectural resources in the Indirect Effect APE.

5.5.3 ALTERNATIVE 3—BREAKWATERS WITHOUT SHORELINE PROTECTION SYSTEM

With Alternative 3, the proposed breakwaters system would be developed, including the proposed Water Hub and associated landscaping but without a shoreline protection system between approximately Carteret Street and Page Avenue. Two on-shore potential locations are under consideration for siting the Water Hub. Water Hub Potential Location 1 would be located in the vicinity of the southern terminus of Page Avenue and would involve the construction of a new structure in the eastern portion of Conference House Park. The new structure would be small in scale, and would be designed to be contextual to the surrounding park and waterfront area. Water Hub Potential Location 2 would involve the rehabilitation and adaptive reuse of an existing NYC Parks-owned historic structure located within the north-west portion of Conference House Park. Consultation with SHPO, LPC, and the consulting parties would continue if one of the two Location 2 options is selected. Should Water Hub programming be located at Water Hub Potential Location 2 or 3, a small facility would be constructed near the terminus of Page Avenue, and wayfinding and interpretive signage and monitoring locations would be integrated along the length the shoreline as part of the Water Hub’s educational programming.

ARCHAEOLOGICAL RESOURCES

Breakwaters APE

As described in the Phase 1A, potentially sensitive deposits were identified within the Breakwaters APE at depths of 25 to 35 feet or more, far greater than the depths of impacts associated with the Alternative 3. Therefore, like Alternative 2, Alternative 3 would not result in impacts to archaeological resources within the Breakwaters APE.

Shoreline APE and Water Hub Potential Location 2 APE

Under Alternative 3, the presence of the Breakwaters would be expected to slow the rate of erosion of the shoreline. However, the construction of the proposed Water Hub (in either Potential Location 1 or 2) and associated landscaping could result in the continued disturbance of archaeological resources in what are now the upland areas adjacent to the sandy beach lining the waterfront as depicted on **Figures 5-2 and 5-3**. The construction of the proposed Water Hub would require subsurface excavation in either Potential Location 1 (within the Shoreline APE) or Potential Location 2. As such, the Phase 1A Study recommended that Phase 1B archaeological testing be completed to determine the presence or absence of archaeological resources within the sensitive portions of the APE. Phase 1B testing would only be required within whichever on-shore Water Hub location is selected as part of the final project design.

Should Water Hub Potential Location 3 be selected, the construction of wayfinding and interpretive elements along the shoreline and potential storage for kayaks near the terminus of Page Avenue would require limited subsurface excavation. \ If these areas of limited excavation are located within areas of archaeological sensitivity identified in the Phase 1A, then Phase 1B testing would be required as described below.

Since the shoreline restoration would involve only the deposition of sand with no in-ground disturbance, it is expected that this component of the project would serve to protect archaeological resources from continued erosion. Therefore, the shoreline restoration component of the proposed project would have no adverse effect on archaeological resources within this portion of the project.

All Phase 1B testing within the previously identified areas of archaeological sensitivity or any new areas of archaeological sensitivity that may be identified in the newly added portion of the Shoreline APE would be completed in consultation with SHPO, LPC, and the Tribal Nations. Any additional archaeological investigation or consultation with the consulting parties would be completed pursuant to the terms outlined in the Programmatic Agreement executed in May 2013 among the FEMA, SHPO, the New York State Office of Emergency Management, the Delaware Nation, the Delaware Tribe of Indians, the Shinnecock Nation, the Stockbridge-Munsee Community Band of Mohicans, LPC, and ACHP and specifically pursuant to Appendix D to the Programmatic Agreement, which pertains to the CDBG-DR program for activities in New York City. Any additional archaeological investigations completed subsequent to the Phase 1B investigation (e.g., a Phase 2 archaeological survey or Phase 3 Data Recovery) would be completed prior to construction in consultation with SHPO, LPC, and the Tribal Nations.

Pursuant to Section 106 and CEQR, should significant (e.g., National Register-eligible) archaeological resources be identified in sensitive areas through Phase 1B and Phase 2 archaeological investigations, disturbance or removal of such resources through construction would constitute an adverse effect under Section 106 and a significant adverse impact under CEQR. However, as outlined above, at this time only the *potential* for archaeological resources

has been identified in certain locations on the project site. As set forth in the *CEQR Technical Manual*, a “site’s actual, rather than potential, sensitivity cannot be ascertained without some field testing or excavation.”¹⁴ Therefore, it is conservatively assumed for purposes of Section 106 and CEQR that the proposed project could *potentially* result in an adverse effects and significant adverse impacts, with the actual presence of any significant resources to be determined through additional archaeological investigations and consultation as set forth in the Programmatic Agreement, described above. However, should no significant archaeological resources be identified through Phase 1B or any subsequent Phase 2 archaeological investigations, and LPC, SHPO, and the Tribal Nations concur with the conclusions of those investigations, no *actual* adverse effects or significant adverse impacts would occur.

ARCHITECTURAL RESOURCES

Like Alternative 2, with Alternative 3, the breakwaters system would be located off-shore and would have extremely limited visibility from the shoreline, within the Breakwaters APE, the Shoreline APE, the Water Hub Potential Location 2 APE, or from the Indirect Effect APE. Should the Water Hub programming be located at Water Hub Potential Location 2 in either the Biddle House or the Rutan-Beckett House, any alterations to either building would be subject to review and approval by SHPO and the consulting parties, and LPC as appropriate. It is anticipated that any alterations to either historic building would be limited to rehabilitation and adaptive use alterations. In addition, existing intervening landscaping elements and plantings would limit any visual or contextual relationships between the architectural resources in the Indirect Effect APE. Should Water Hub programming be located at Water Hub Potential Location 2 or 3, a small facility would be constructed near the terminus of Page Avenue at Water Hub Potential Location 1. As with the Water Hub at Potential Location 1, this small facility also would not result in any adverse effects to historic architectural resources. Consultation with SHPO, LPC, and the consulting parties would continue if one of these two Water Hub Potential Locations is selected. Therefore, the on-shore project components that would be developed with Alternative 3 would not affect the context or architectural integrity of any architectural resources in the Shoreline APE, the Water Hub Potential Location 2 APE, or the Indirect Effect APE. The Prince’s Bay Lighthouse to the north and the other architectural resources located within the north-west part of Conference House Park do not have a meaningful contextual relationship with the Breakwaters APE. Further, due to distance and intervening built and natural structures, the architectural resources in the Indirect Effect APE would not be affected by the components of Alternative 3 in any case. Therefore, the off-shore breakwaters and the on-shore Water Hub Location 1 and associated landscaping that would be developed with Alternative 3 would not result in any adverse impacts to historic architectural resources. Therefore, Alternative 3 would not adversely affect any historic architectural resources in the Indirect Effect APE.

5.5.4 ALTERNATIVE 4—SHORELINE PROTECTION SYSTEM WITHOUT BREAKWATERS

Alternative 4 would develop the proposed shoreline protection system, but would not include the breakwaters system, Water Hub (in any of the three proposed locations), or associated landscape elements that would be developed with the Breakwaters Project.

¹⁴ *CEQR Technical Manual* (March 2014): page 9-10
(http://www.nyc.gov/html/oec/downloads/pdf/2014_ceqr_tm/09_Historic_Resources_2014.pdf).

ARCHAEOLOGICAL RESOURCES

Breakwaters APE

Alternative 4 would not include a breakwaters system or any project elements within the Breakwaters APE. Therefore, Alternative 4 would not result in impacts to archaeological resources within the Breakwaters APE.

Shoreline APE

The Phase 1A Study of the Shoreline APE identified locations of potential precontact archaeological sensitivity along certain portions of the upland areas within the APE (see **Figure 5-2**). The locations of historic period archaeological sensitivity (also depicted on **Figure 5-2**) are located in the vicinity of four mid- to late-19th century homes that are identified as sensitive for deeply buried domestic shaft structures. The construction of the proposed Shoreline Project would require subsurface excavation. As such, the Phase 1A Study recommended that Phase 1B archaeological testing be completed to determine the presence or absence of archaeological resources within the sensitive portions of the APE.

The Phase 1B testing would be completed in consultation with SHPO, LPC, and the Tribal Nations. Any additional archaeological investigation or consultation with the consulting parties would be completed pursuant to the terms outlined in the Programmatic Agreement executed in May 2013 among FEMA, SHPO, the New York State Office of Emergency Management, the Delaware Nation, the Delaware Tribe of Indians, the Shinnecock Nation, the Stockbridge-Munsee Community Band of Mohicans, LPC, and ACHP and specifically pursuant to Appendix D to the Programmatic Agreement, which pertains to the CDBG-DR program for activities in New York City. Any additional archaeological investigations would be completed prior to construction in consultation with SHPO, LPC, and the Tribal Nations.

Pursuant to Section 106 and CEQR, should significant (e.g., National Register-eligible) archaeological resources be identified in sensitive areas through Phase 1B and Phase 2 archaeological investigations, disturbance or removal of such resources through construction would constitute an adverse effect under Section 106 and a significant adverse impact under CEQR. However, as outlined above, at this time only the *potential* for archaeological resources has been identified in certain locations on the project site. As set forth in the *CEQR Technical Manual*, a “site’s actual, rather than potential, sensitivity cannot be ascertained without some field testing or excavation.”¹⁵ Therefore, it is conservatively assumed for purposes of Section 106 and CEQR that the proposed project could *potentially* result in an adverse effects and significant adverse impacts, with the actual presence of any significant resources to be determined through additional archaeological investigations and consultation as set forth in the Programmatic Agreement, described above. However, should no significant archaeological resources be identified through Phase 1B or any subsequent Phase 2 archaeological investigations, and LPC, SHPO, and the Tribal Nations concur with the conclusions of those investigations, no *actual* adverse effects or significant adverse impacts would occur.

¹⁵ *CEQR Technical Manual* (March 2014): page 9-10
(http://www.nyc.gov/html/oec/downloads/pdf/2014_ceqr_tm/09_Historic_Resources_2014.pdf).

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Water Hub Potential Location 2 APE

Alternative 4 would not include the construction of the proposed Water Hub. Therefore, Alternative 4 would not result in impacts to archaeological resources within the Water Hub Potential Location 2 APE.

ARCHITECTURAL RESOURCES

With Alternative 4, a series of shoreline protection measures would be developed within the Shoreline APE. As described above, no architectural resources are located in the Shoreline APE. In addition, the architectural resources in the Indirect Effect APE are located significantly inland, away from the locations of the shoreline protection measures that would be developed with Alternative 4. The closest architectural resource to the Shoreline APE—the Conference House/Christopher Billop House—is located more than a half-mile to the northwest. In addition, existing intervening landscaping elements and plantings, and the shoreline protection measures of the Shoreline Project, further limit any visual or contextual relationships between the architectural resources in the Indirect Effect APE and the locations of the Shoreline Project components. Therefore, Alternative 4 would not adversely affect any historic architectural resources in the Indirect Effect APE.

5.5.5 MINIMIZATION AND MITIGATION OF IMPACTS

ARCHAEOLOGICAL RESOURCES

Breakwaters APE

The Phase 1A identified potentially sensitive landforms at great depths (greater than 25 to 30 feet) beneath the bay floor. However, these depths would not be impacted as a result of the proposed Breakwaters Project, which is not expected to generate significant disturbance beneath the bay floor. Therefore, the proposed Breakwaters Project would not result in impacts to archaeological resources and would not require mitigation efforts.

Shoreline APE and Water Hub Potential Location 2 APE

As described in the Phase 1A, the construction of the proposed Shoreline Protection Project and the proposed Water Hub (including landscaping elements) in whichever on-shore proposed location is selected would require subsurface excavation. The Phase 1A Study recommended that Phase 1B archaeological testing be completed to determine the presence or absence of archaeological resources within any areas of archaeological sensitivity that would be impacted by the proposed project in both APEs prior to the commencement of construction. Archaeological testing is only recommended for those locations that would be disturbed by the proposed project, as determined by the final project design. Any additional archaeological analysis will occur prior to construction and in consultation with SHPO, LPC, and the Tribal Nations. Pursuant to Section 106 and CEQR, should significant (e.g., National Register-eligible) archaeological resources be identified in sensitive areas through Phase 1B and Phase 2 archaeological investigations, disturbance or removal of such resources through construction would constitute an adverse effect under Section 106 and a significant adverse impact under CEQR. However, as outlined above, at this time only the *potential* for archaeological resources has been identified in certain locations on the project site. As set forth in the *CEQR Technical*

Manual, a “site’s actual, rather than potential, sensitivity cannot be ascertained without some field testing or excavation.”¹⁶ Therefore, it is conservatively assumed for purposes of Section 106 and CEQR that the proposed project could *potentially* result in an adverse effects and significant adverse impacts, with the actual presence of any significant resources to be determined through additional archaeological investigations and consultation as set forth in the Programmatic Agreement, described above. However, should no significant archaeological resources be identified through Phase 1B or any subsequent Phase 2 archaeological investigations, and LPC, SHPO and the Tribal Nations concur with the conclusions of those investigations, no *actual* adverse effects or significant adverse impacts would occur.

As mandated by Section 106 of the NHPA of 1966, GOSR is participating in an ongoing consultation process with SHPO, LPC, and the Tribal Nations with respect to potential effects on archaeological and architectural resources. As part of this ongoing process, measures have been explored to avoid, minimize, or mitigate any significant adverse effects to archaeological and architectural resources. Development of these measures is set forth in the Programmatic Agreement executed in May 2013 among FEMA, SHPO, the New York State Office of Emergency Management, the Delaware Nation, the Delaware Tribe of Indians, the Shinnecock Nation, the Stockbridge-Munsee Community Band of Mohicans, LPC, and ACHP and specifically outlined within Appendix D to the Programmatic Agreement, which pertains to the CDBG-DR program for activities in New York City.

The Programmatic Agreement describes the measures to be implemented and the consultation that is required during the project’s design process, to avoid, minimize, or mitigate adverse effects of the project on historic and archaeological resources. GOSR would implement the various provisions of the Programmatic Agreement and would continue to consult with the consulting parties regarding the identification of the potential for the Proposed Actions to impact archaeological resources and GOSR would perform additional archaeological investigations as required. If significant archaeological deposits are identified and impacts on such deposits cannot be avoided, GOSR would identify and implement any additional measures that may be required to mitigate adverse effects on archaeological resources in accordance with applicable Project Review provisions in the Programmatic Agreement.

ARCHITECTURAL RESOURCES

None of the project alternatives would result in an adverse effect on any of the architectural resources in the Breakwaters APE, the Shoreline APE, the Water Hub Potential Location 2 APE, or the Indirect Effect APE. Should either the Biddle House Option or the Rutan-Beckett House Option be selected for locating the Water Hub programming, consultation would continue with SHPO, LPC, and the consulting parties regarding any proposed alterations to the historic resource. In addition, because the Henry Hogg Biddle House is a NYCL, if the Biddle House Option is selected for the Water Hub, NYC Parks would consult with LPC under the New York City Landmarks Preservation Law regarding any proposed alterations to this NYCL. LPC would review the proposed alterations and, upon approval, would issue a Binding Commission Report summarizing LPC’s findings. As the anticipated alterations to either building would be limited to rehabilitation and adaptive reuse changes, no adverse effects are anticipated. Therefore, no mitigation measures are necessary for architectural resources. *

¹⁶ *CEQR Technical Manual* (March 2014): page 9-10
(http://www.nyc.gov/html/oec/downloads/pdf/2014_ceqr_tm/09_Historic_Resources_2014.pdf).