

NYSERDA OREC RFP 22-1

Arthur Kill Terminal

SCIP Facility Investment Plan

Appendix 8

Environmental Mitigation Plan

Public Version

Environmental Mitigation Plan

Arthur Kill Terminal

January 26, 2023

Environmental Mitigation Plan - Narrative Component

Required elements of the Narrative Component of the Plan are set forth below. The Narrative Component should not exceed 20 pages in length and should be submitted as fully searchable PDFs.

E.1 Environmental Mitigation Plan Summary

The Proposer must briefly present its philosophy and approach to avoiding, minimizing, restoring and offsetting the potential environmental impacts of the proposed Project and how the Developer will use research, data and stakeholder feedback to support decision making with respect to site design, construction, operations and decommissioning.

Environmental mitigation is critical to the successful realization of the Project, which has been designed and planned specifically to avoid, minimize, and mitigate (in that order) adverse impacts relating to the Project's development. AKT has prepared its Environmental Mitigation Plan to describe the process currently underway to develop and implement an approved and successful environmental mitigation plan, with the goal of satisfying the Project's many regulatory requirements and potential concerns and objectives of its many stakeholders. The SCIP Facility has already been sited and designed in a manner that avoids and minimizes potential environmental impacts and is in the process of developing an appropriate off-site compensatory mitigation program that would mitigate for the loss of habitat areas that the Project cannot avoid or minimize. Research, data, and stakeholder feedback have been integral throughout the planning process and would continue according to the Project's Stakeholder Engagement Plan.

The Project involves substantial modifications to the Project Site, which will have substantial but unavoidable impacts of this work. Through multiple assessments performed on the Project Site, outlined in Section E.2, AKT has determined that the Project Site is comprised of low-quality habitat due to the overabundance of invasive species, presence of historic fill material throughout the uplands and within the intertidal and littoral areas, and impaired benthic habitat (resulting from the presence of low to medium contaminated sediments with low benthic species diversity and low density). AKT is dedicated to working in coordination with the reviewing agencies listed in Section E.2 to implement Best Management Practices (BMPs) and other strategies during construction to mitigate for potential impacts to aquatic resources from the Proposed Project. Marine mammals are not expected to be present at the Project Site, with the exception of the humpback whale the presence of which is unlikely but a transient whale could be present. Impacts to state and federally listed birds and bats are not anticipated.

Note that this document, prepared for the purposes of the NYS OREC RFP 22-1, is not the same Environmental Mitigation Plan as to which AKT will be seeking regulatory approval.

E.2 Communications and Collaboration

The New York State Offshore Wind Master Plan, the New York State Public Service Commission Order Establishing Offshore Wind Standard Framework for Phase 1 Procurement issued on July 12, 2018, the Order Adopting Modifications to the Clean Energy Standard issued on October 15, 2020 pursuant to

Case no. 15-E-0302, and the Order on Power Grid Study Recommendations issued on January 20, 2022 pursuant to Case No. 20-E-0197, and this RFP emphasize the value of stakeholder engagement in the development of offshore wind energy Projects. Further, the Orders require Proposers to work with the State-supported Environmental Technical Working Group (“E-TWG”). Many other stakeholders are engaged in offshore wind energy development. The Proposer must describe how it will identify stakeholders relevant to both onshore and offshore environmental issues and describe how the Proposer intends to communicate with those stakeholders during survey work, and design, construction, operation and decommissioning of the Project. This description must account for communications with members of the E-TWG and consultations with New York State agencies during the various Project phases.

Please see Stakeholder Engagement Plan for more information on stakeholder identification, organization, tracking, and communication.

AKT has been in development for several years and has coordinated extensively with its regulatory agencies in the development of the Project’s design and mitigation measures, including:

- U.S. Army Corps of Engineers
- New York State Department of Environmental Conservation
- New York State Department of State
- New York City Department of City Planning
- New York City Department of Environmental Protection
- New York City Department of Transportation
- New York City Department of Parks and Recreation
- Other stakeholders relevant to environmental permitting and mitigation, including many members of the E-TWG

E.3 Environmental Monitoring and Research Pre-, During- and Post-Construction

Environmental research and peer-reviewed publication of research findings is key to advancing the scientific knowledge of how offshore wind energy development might affect marine ecosystems and wildlife. Proposers are encouraged to publish their own work in scientific journals, or other scientifically rigorous product, and to coordinate with scientists and regulators interested in investigating environmental and wind energy-related scientific questions.

Because offshore wind energy development is in early stages in the US, there is little empirical information as to the effects such development may have on ecological communities specific to the New York Bight. Transparency in new research and peer reviewed publication of results bring higher value, allowing others to build on that work. Thoughtfully planned, designed and implemented pre-, during- and post-construction monitoring and research to understand wildlife responses and potential effects from development is key for adaptive management. Further, multiple regional sites working together and coordinating monitoring and research in a consistent manner would bring additional value to the scientific understanding of how development of offshore wind energy is affecting regional resources.

The Proposer must (to the extent possible at this stage) describe how, for large whales (particularly the North Atlantic right whale), other marine mammals, sea turtles, birds, bats, fish, sturgeon, and invertebrates, it plans to conduct scientifically sound, statistically rigorous studies to accomplish the following:

1. *Establish baseline data on the presence of these types of wildlife within the area of the proposed Project (including areas where Project-related vessels would travel to reach the Project area);*

Baseline data on the presence of fish and wildlife in the Project area has already been developed in accordance with applicable, regulations, guidelines, and best practices, and can be found in the following reference reports:

- Natural Resource Report prepared by Roux Environmental Engineering & Geology D.P.C. dated April 27, 2022;
- Joint Permit Application prepared by TMS Waterfront LLC dated May 2022;
- Environmental Assessment Statement prepared by Philip Habib & Associates dated November 2, 2022;
- Essential Fish Habitat Assessment prepared by Roux Environmental Engineering and Geology, D.P.C. dated November 8, 2022;
- Dredge Management Plan prepared by Roux Environmental Engineering and Geology, D.P.C. dated November 8, 2022;
- Significant, Sensitive, and Designated Resources Assessment prepared by Roux Environmental Engineering and Geology, D.P.C. dated April 27, 2022.
- Threatened and Endangered Species Assessment prepared by Roux Environmental Engineering and Geology, D.P.C. dated October 7, 2022

The evaluation of vessel impacts to be used for transport to and from the Project is the responsibility of the Proposer.

Additional baseline data relating to the Project's compensatory mitigation program (baseline site data and construction and post construction data) would be similarly developed in accordance with applicable, regulations, guidelines, and best practices.

2. *Assess and quantify (to the extent practical) changes attributable to Project activities;*

Pertinent changes attributable to activities of the Project have been assessed and quantified in the following reference reports¹:

- Natural Resource Report prepared by Roux Environmental Engineering & Geology D.P.C. dated April 27, 2022;
- Joint Permit Application prepared by TMS Waterfront LLC dated May 2022;
- Environmental Assessment Statement prepared by Philip Habib & Associates dated November 2, 2022;
- Essential Fish Habitat Assessment prepared by Roux Environmental Engineering and Geology, D.P.C. dated November 8, 2022;
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¹ All reports referenced in this EMP are available upon request.

3. *Monitor for impacts on these types of wildlife during each phase of physical work for the Project (site assessment, construction, operation, and decommissioning) to inform mitigation planning for later phases of the Project as well as for future Projects.*

Monitoring is currently the subject of discussions with NYSDEC and USACE and would be performed in accordance with applicable regulations and best practices and, as necessary, pursuant to permit or other authorization.

In the event that these activities cannot be clearly defined at this stage, the Proposer must describe how it will approach these questions and data gaps.

AKT would approach questions and data gaps on a case-by-case basis.

Proposers should identify collaborative efforts currently underway or in the planning stages to help highlight means by which the industry plans to standardize scientific methods, surveys, and monitoring plans across the region to enhance data compatibility and utility. Proposers are encouraged to reference Wildlife Data Standardization and Sharing: Environmental Data Transparency for New York State Offshore Wind Energy. The Proposer must describe how it plans to make environmental data available in accordance with Section 2.2.8 of the RFP.

Standardization of survey and monitoring plans for offshore wind farm development does not pertain to AKT. AKT will make environmental data available on a case-by-case basis upon request and will publish permitting documents on its website.

E.4 Supporting Other Environmental Research

The selected Proposer will be required to coordinate with independent scientists supported by third parties for the purpose of research and publication in peer reviewed journals or other scientifically rigorous products. This coordination may include the provision of reasonably requested Project data, and access to the Project area to examine environmental sensitivities and/or the impacts of offshore wind energy development on the environment.

The Proposer must describe how such requests will be considered and processed, and any restrictions on data provision or access the Project believes may be required to protect trade secrets or maintain site security.

AKT would consider all such requests on a case-by-case basis. AKT does not foresee many instances where data could not be provided to interested third parties for the reasons described above.

- *The Project shall identify ways to enhance site accessibility for the advancement of third party scientific and technological study.*

As a secure port facility, once operational, the site would not be easily accessible to parties other than those engaged in port operations. Access requests would have to be considered on a case-by-case basis.

- *The Project may also elect to identify a level of financial commitment that will be appropriated to*

leverage third-party environmental research funding, including federal or State-supported research, or that the Project would be willing to contribute to a general fund for supporting third-party research into relevant ecological communities and the effects of offshore wind energy development. Such financial commitments will be favorably considered in the proposal review process.

AKT expects that such financial commitments will be the responsibility of the Proposer.

E.5 Marine Mammals and Sea Turtles

The development of ports poses some concerns about effects on marine mammals and sea turtles, primarily related to the introduction of man-made sounds, changes in ship traffic, and the long-term presence of an industrial port. Sounds resulting from bottom surveys, ships, and pile driving may risk introducing possible changes in mammal behavior, including effective habitat reduction because of sound avoidance, interruption of life-cycle activities, and injury to hearing. For some marine mammals, low-frequency sounds such as pile driving, if performed in close proximity to an animal, can potentially cause permanent damage to hearing or temporarily make it difficult for the animal to hear predators, prey, and each other. The Project must provide a description of how it will work to understand and minimize the Project's risk to marine mammals and sea turtles, with special attention to highly vulnerable and endangered species such as the North Atlantic right whale. At a minimum this should consist of:

1. *A basic description of what is known about the proposed site in terms of marine mammal and sea turtle assemblage, temporal and spatial use of the site, and which species AKT believes to be of greatest concern and why;*

Based on the research performed to date (identified in pages 31-36 of the Essential Fish Habitat Assessment), the following bullets provide a summary description of what is known about the potential for marine mammal and sea turtle assemblage and use of the Project Site. With the exception of the Humpback Whale, none of the above listed marine mammal and turtle species are expected to be present at the Project Site.

- Humpback Whale (*Megaptera novaeangliae*): Juveniles, Adults
 - o The Project Site is not within the NOAA ESA Mapper Section 7 Consultation Area for Large Whales. Humpback Whale juveniles and adults are more likely to be observed in the New York Bight. It is possible, however, that a Humpback in transit could be found in or near the Project Site. If a transient Humpback Whale were at or near the Project Site, pile driving could temporarily impact the distance the whale could communicate or detect prey. Juvenile and adult Humpback are pelagic and mobile and are not likely to remain in the Project Site if disturbed by dredging or pile driving. Further, bubble curtains would be installed to minimize potential sound effects during construction.
- Fin Whale (*Balaenoptera physalus*): Juveniles, Adults
 - o The Project Site does not present Fin Whale habitat. Fin Whales are most often found in deeper water (100 meter isobath) and far further from shore. This assessment is consistent with the findings presented in the Species Act section 7 Consultation Biological Opinion for the Tappan Zee Bridge Replacement issued on January 4, 2017, which stated that “[t]here are no recorded sightings or detections of right or Fin Whales in the lower Hudson River or in New York Harbor” and that the species would not be exposed to the effects of vessels transiting within the Arthur

- Kill. Furthermore, the Project Site is not within the NOAA ESA Mapper Section 7 Consultation Area for Large Whales. As a result, there is no risk of the AKT Project impacting a Fin Whale.
- North Atlantic Right Whale (*Eubalaena glacialis*): Juveniles, Adults
 - o North Atlantic Right Whale habitat is not present at the Project Site, as this species is most likely to be present in open coastal waters rather than the shallower, lower salinity waters of the Arthur Kill. This assessment is consistent with the findings presented in the Species Act section 7 Consultation Biological Opinion for the Tappan Zee Bridge Replacement issued on January 4, 2017, which stated that “[t]here are no recorded sightings or detections of right or Fin Whales in the lower Hudson River or in New York Harbor” and that the species would not be exposed to the effects of vessels transiting within the Arthur Kill. Furthermore, the Project Site is not within the NOAA ESA Mapper Section 7 Consultation Area for Large Whales. Accordingly, there is no risk of the AKT Project impacting a North Atlantic Right Whale.
 - Green Sea Turtle (*Chelonia mydas*): Eggs, Hatchlings, Juveniles, Adults
 - o Green Sea Turtle preferred habitat is not present within the Project Site. The Green Sea Turtles are more frequently observed with sea grass beds, which are not present within the Project Site, as documented in the Aquatic Resources Report. Roux’s assessment is consistent with Duke University’s State of the World’s Sea Turtles (“SWOT”) maps, which identified no sea turtles in the Arthur Kill, and with the findings presented in the Species Act section 7 Consultation Biological Opinion for the Tappan Zee Bridge Replacement issued on January 4, 2017, which stated that “[t]here is no information to indicate that sea turtles are present in the Arthur Kill”. In addition, the Project Site is not within the NOAA ESA Mapper Section 7 Consultation Area for Sea Turtles. Accordingly, there is no risk of the AKT Project impacting a Green Sea Turtle.
 - Loggerhead Sea Turtle (*Caretta caretta*): Eggs, Hatchlings, Juveniles, Adults
 - o Loggerhead Sea Turtle preferred habitat is not present within the Project Site. As described above, Loggerhead Sea Turtles preferred habitat includes aquatic beds and eelgrass meadows, neither of which are present in the Project Site. Roux’s assessment is consistent with the findings presented in the Species Act section 7 Consultation Biological Opinion for the Tappan Zee Bridge Replacement issued on January 4, 2017, which stated that “[t]here is no information to indicate that sea turtles are present in the Arthur Kill”. Additionally, the Project Site is not within the NOAA ESA Mapper Section 7 Consultation Area for Sea Turtles. Accordingly, there is no risk of the AKT Project impacting a Loggerhead Sea Turtle.
 - Leatherback Sea Turtle (*Dermochelys coriacea*): Eggs, Hatchlings, Juveniles, Adults
 - o Leatherback Sea Turtle preferred habitat is not present within the Project Site. Leatherback Sea Turtles are more common off the coast of New York and New Jersey, and based on the results of the Aquatic Resources Report, the habitat at the Project Site is not likely to have significant prey species. Roux’s assessment is consistent with Duke University’s State of the World’s Sea Turtles (“SWOT”) maps, which identified no sea turtles in the Arthur Kill, and with the Species Act section 7 Consultation Biological Opinion for the Tappan Zee Bridge Replacement issued on January 4, 2017, which stated that “[t]here is no information to indicate that sea turtles are present in the Arthur Kill”. Furthermore, the Project Site is not within the NOAA ESA Mapper Section 7 Consultation Area for Sea Turtles. As a result, there is no risk of the AKT Project impacting a Leatherback Sea Turtle.
 - Kemp’s Ridley Sea Turtle (*Lepidochelys kempii*): Eggs, Hatchlings, Juveniles, Adults
 - o Kemp’s Ridley Sea Turtle preferred habitat is not present within the Project Site. Kemp’s Ridley Sea Turtles are more common off the coast of New York, Long Island, and the Long Island Sound. Based on the results of the Aquatic Resources Report, the habitat in the vicinity of the

Project Site is not likely to have significant prey species. Roux's assessment is consistent with Duke University's State of the World's Sea Turtles ("SWOT") maps, which identified no sea turtles in the Arthur Kill, and with the Species Act section 7 Consultation Biological Opinion for the Tappan Zee Bridge Replacement issued on January 4, 2017, which stated that "[t]here is no information to indicate that sea turtles are present in the Arthur Kill". As stated earlier, the Project Site is not within the NOAA ESA Mapper Section 7 Consultation Area for Sea Turtles.

Accordingly, there is no risk of the AKT Project impacting a Kemp's Ridley Sea Turtle.

- Seals (gray and harbor) and whales (Fin and North Atlantic right whales) are also known to frequently enter the Lower Bay but are not typically found within the Arthur Kill. Seals are also known to use Hoffman Island and Swinburne Island but none have been reported near or at the Project Site.
2. *A description of proposed measures to minimize the impacts of sound on marine mammals and sea turtles during all phases of Project development. This should include, at a minimum:*

AKT expects to implement a series of construction minimization measures and best management practices, all of which would be components of the comprehensive mitigation plan being developed with NYS DEC, NYC DCP, MARAD and USACE.

- a. *Anticipated pre- and post-construction survey techniques to establish an ecological baseline and changes to that baseline within the Project site;*

Pre-construction surveys are complete (see studies on EFH, aquatic resources, etc. referenced throughout), and post construction surveys and surveys of mitigation areas will be part of the Project's Mitigation Plan for NYS DEC and the Federal agencies.

- b. *Minimum size of exclusion zone intended to be monitored during geophysical surveys and construction;*

This is currently under discussion with NYSDEC and USACE (for construction, geophysical surveys are complete).

- c. *Planned approaches to understanding marine mammal and sea turtle presence and absence within the development site exclusion zone during site assessment and construction (e.g., a combination of visual monitoring by protected species observers and passive acoustic monitoring, the use of night vision and infra-red cameras during nighttime activities, etc.);*

This is currently under discussion with NYSDEC and USACE.

- d. *Proposed temporal constraints on construction activities and geophysical surveys with noise levels that could cause injury or harassment in marine mammals (e.g., seasonal restrictions during periods of heightened vulnerability for priority species; commencing activities during daylight hours and good visibility conditions, dynamic adjustments following the detection of a marine mammal); and*

Potential seasonal restrictions are currently under discussion with NYSDEC and USACE.

- e. *Proposed equipment and technologies AKT would use to reduce the amount of sound at the source, if any.*

The use of bubble curtains and other noise attenuation devices has been proposed as part of the exclusion zone and is currently under discussion with NYSDEC and USACE.

3. *A description of how the Project will seek to minimize the risk of ship strikes through timing, speed restrictions (e.g., stakeholders have suggested speed restrictions of 10 knots during time periods with high densities of species of concern), use of shipping lanes, and conformance to the National Oceanic and Atmospheric Administration guidance to avoid ship collision with whales (<https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales>).*

AKT does not, and cannot, control how vessels would access or use the site during operations and has no ability to implement or enforce speed restrictions or other navigation measures that would reduce the potential for impacts with whales during operations. AKT would seek to minimize the risk of ship strikes during construction of the Project by requiring that contractors performing work on the Project fully comply with all applicable regulations.

As a result of the potential transient presence of the Humpback Whale, there could be a temporary behavioral impact during construction and bubble curtains would be installed to minimize potential sound effects during pile driving. Overall, there is an extremely low risk of a transient Humpback Whale being present within the Project Site and if present, the possible effects of the project on the whale would be temporary and inconsequential.

E.6 Birds and Bats

Offshore wind energy has the potential to adversely impact birds and bats during siting, construction, and operation. Impacts include direct mortality from collisions with wind turbines and other structures, habitat loss, displacement, and sensory disturbances from sound and light. Since offshore wind is a new industry in the Atlantic and all potential impacts are not known, it is critical that current use by birds and bats is well understood before construction and use and impacts continue to be monitored during and post- construction so that unexpected impacts can be mitigated for.

The Proposer must provide a description of how it will work to understand and minimize the Project's risk to birds and bats. At a minimum this should include:

1. *A description of what is known about the proposed site in terms of bird and bat assemblages, temporal and spatial use of the site by key species, and which species the Proposer believes to be of greatest concern and why;*

Bats:

There are nine species of bats present in the state of New York, (Table 3.5-1) (Empire 2022). These species can be broken down into cave-hibernating bats and migratory tree bats based on their wintering strategy. No bat species of concern were identified at the Project Site by the NY Natural Heritage Program or USFWS

IPaC (please refer to agency correspondence included in Appendices F and G in the Natural Resources Report). Updated IPaC correspondence (dated January 16, 2023) is also provide as an attachment.

Table 3.5-1 Bats Present in New York and their Conservation Status

Common Name	Scientific Name	State Status	Federal Status
Cave-Hibernating Bats			
Eastern small-footed bat	<i>Myotis leibii</i>	SC	-
Little brown bat	<i>Myotis lucifugus</i>	SGCN	Under Review ³
Northern long-eared bat ¹	<i>Myotis septentrionalis</i>	T	T
Indiana bat ²	<i>Myotis sodalist</i>	E	E
Tri-colored bat	<i>Perimyotis subflavus</i>	SGCN	Under Review ⁴
Big brown bat	<i>Eptesicus fuscus</i>	-	-
Migratory Tree Bats			
Eastern red bat	<i>Lasiurus borealis</i>	-	-
Hoary bat	<i>Lasiurus cinereus</i>	-	-
Silver-haired bat	<i>Lasionycteris noctivagans</i>	-	-

Source: Empire 2022; USFWS 2021a, 2021b.

¹ On March 23, 2022, USFWS published a proposal to reclassify the northern long-eared bat as endangered. The U.S. District Court for the District of Columbia has ordered USFWS to complete a new final listing determination by November 2022 (Case 1:15-cv-00477, March 1, 2021).

² Range does not indicate species presence in the Project area.

³ Currently under a USFWS discretionary status review. Results of the review may be to propose listing, make a species a candidate for listing, provide notice of a not warranted candidate assessment, or other action as appropriate. USFWS anticipates a decision in Fiscal Year 2022.

The ecological communities present on the Project Site are not associated with any of the bat species in New York with the exception of the big brown bat, which is found in virtually every habitat ranging from suburban areas to meadows to lowland deserts and forests.

Some potential for temporary, localized nearby habitat impacts arising from onshore construction noise exists; however, no auditory impacts on bats would be expected to occur given that bats are less susceptible to temporary or permanent hearing loss from exposure to intense sounds (Simmons et al. 2016). Some temporary displacement or avoidance of potentially suitable foraging habitat could occur but these impacts would not be expected to be biologically significant. Some bats roosting in the vicinity of construction activities may be disturbed during construction but would be expected to move to a different roost farther from construction noise. This would not be expected to result in any impacts, as frequent roost switching is common among bats (Hann et al. 2017; Whitaker 1998).

Birds:

The Threatened and Endangered (T&E) Species Assessment dated October 7, 2022, as well as the Natural Resources Report, dated April 27, 2022, and the Aquatic Resources Report, dated April 27, 2022, all prepared by Roux Environmental Engineers & Geologists D.P.C. (“Roux”), set forth the baseline bird data.

Roux conducted a winter waterfowl survey on the Project Area on February 4, 2022, and March 2, 2022, to note the presence or absence of waterfowl within the Project Area and the immediate area surrounding the Project Area and to document a formal count of waterfowl observations, respectively. In March 2022, Roux completed a ground-based survey following the New York State Ornithological Association (NYSOAA) methodology adopted from Swift’s 2007 January Waterfowl Counts, reported in Kingbird. Roux established two sampling locations along the Arthur Kill shoreline to count waterfowl and waterbirds.

Observations were recorded over a two-hour period beginning at dawn. Each bird observed was counted, and estimations were made for large flocks in flight. A camera with a wide-angle zoom lens was used to document field observations.

Canadian geese were the most abundant species observed, followed by bufflehead and mute swans. All five species observed are considered of least concern on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species and are not included on the List of Endangered, Threatened and Special Concern Fish & Wildlife Species of New York State. The Audubon Society considers all the observed species to be stable, with the exception of mute swans which are considered to be a nuisance species. No endangered waterfowl species were observed, and the species observed were not utilizing the property, with the exception of Canadian geese which were present along the shoreline.

Consultations with the USFWS to identify federal-listed T&E species, as well as migratory birds that are known to occur on or near the Project Area, were completed (see Appendix G, Natural Resources Report, as well as attached USFWS correspondence dated January 16, 2023). For State-listed species, the NYSDEC Nature Explorer and Natural Heritage Program (NHP) databases were searched for known occurrences. Upland habitat on the upland portion of the Project Area was visually assessed for its potential to support threatened, endangered or species of special concern between January and April 2022. Two listed bird species were targeted for the site surveys: the peregrine falcon and piping plover, as shown in Table 1.

Table 1: Upland T&E Bird Species within the Project Site and its Vicinity.

Common Name	Scientific Name	Habitat Description	Flowering/Reproducing Breeding/Nesting/Fledgling Season	Habitat Potentially Present Onsite	NYS/Federal Status
Peregrine Falcon	<i>Falco peregrinus</i>	Nests on ledges or holes on the faces of rocky cliffs, as well as bridges and buildings	January through early June	Yes ¹	Endangered (NYS)
Piping Plover	<i>Charadrius melodus</i>	Open, sparsely vegetated beaches and sandflats between primary dune and high tide line	Mid-March to August	No	Endangered (NYS) Threatened (Federal)

Note: ¹ The last publicly available recorded Peregrine Falcon sighting/nesting activity was at the Outerbridge Crossing in 2015, located immediately north of Project Area.

Starting in late fall 2021 and through mid-summer 2022, a total of 9 survey events were performed during the time periods when it would be most optimal to observe these targeted T&E species if present in the Project Area. The frequency and seasonal timing of the survey events were sufficient to determine the presence or absence of piping plover and peregrine falcon. Additionally, a literature search and consultation with Cornell eBird website was performed to evaluate potential sightings of piping plover and peregrine falcon, as well as any details on the peregrine falcon nest box previously documented on the PANYNJ Outerbridge Crossing. Further, a review of typical ecological community and habitat associated with these T&E species (based on Associated NYNHP Ecological Community) was performed and compared to the terrestrial ecological communities observed in the upland Project Area. For peregrine falcon, their habitats are not readily present in the Project Area.

As reported in the 2022 T&E Species Assessment, none of the bird species reviewed appear to be present or utilizing the upland Project Area. Additionally, the terrestrial habitat present in the upland Project Area

is not ideal for any of the species listed. As a result, and as further demonstrated below, the Proposed Project is not anticipated to have an effect on the listed species.

Peregrine Falcon. There is no evidence that peregrine falcons are utilizing the Project Site. Although the PANYNJ Outerbridge Crossing, which is located immediately north of the Project Site, may provide a nesting structure for the peregrine falcon, documented peregrine falcon activity has not occurred at the Outerbridge since 2015. Peregrine falcon nests or other peregrine falcon activity has not been observed by Roux staff during the nine site surveys completed between 2021 and 2022. The main diet of the peregrine falcon includes other birds and very few birds were observed at the Project Site and none that would be suitable for the peregrine falcon as prey along the shoreline. As a result, based on the information reviewed and the assessments conducted, the Proposed Project is unlikely to impact the peregrine falcon.

Piping Plover. There is no evidence that piping plovers are utilizing the Project Site. The Project Site shoreline is comprised of Intertidal, Gravel, Sand Beach, Low Salt Marsh and High Salt Marsh, and almost the entirety of this area is submerged during high tide. Invasive overgrowth from the Common Reed and a rocky shoreline area located immediately landward of the high tide line eliminates the potential for piping plover to utilize this shoreline for feeding or nesting. Roux staff did not observe piping plover nests or other activity on the Project Site. The Project Site does not provide viable habitat to support the piping plover and, thus, the Project is unlikely to impact the piping plover.

Overall, neither of the species listed above appear to be present or utilizing the Project Site. Additionally, the habitat present at the Project Site is not ideal for any of the species listed. As a result, Proposed Project actions are not anticipated to contribute to the loss of viability of T&E species or jeopardize or adversely modify critical habitat for these species.

2. *The planned approach that the Proposer will use to evaluate risks to birds and bats generally, and those of greatest concern specifically;*

Risks were evaluated based on field surveys and data from NYSDEC, USFWS, and the New York Natural Heritage Program (NYNHP). Please refer to the T&E Species Assessment, the Aquatic Resources Report, and the Natural Resources Report for more information on the approach to risk and impact evaluation.

Birds and bats that currently use the site as habitat would be displaced as a result of the Project's construction. Birds previously documented to use the Project Area would be expected to find suitable habitat in the surrounding area. None of the suspected terrestrial T&E bird species were observed onsite (peregrine falcon and piping plover). As such, the Project is not expected to have any effect on the listed species.

3. *Steps the Proposer will pursue to minimize risk to birds and bats (e.g., lighting); and*

During long-term operations, light nuisances from the terminal operations may affect the bird and bat species that use the marshes along neighboring Mill Creek. In addition to the fact that the listed species would be able to avoid the site, the perimeter lighting system is designed to reduce light overspill onto adjacent properties to zero no more than 50 ft from the perimeter fence by height of pole, directionality, and shielding. As such, light pollution on neighboring properties would be minimized to the maximum extent practicable.

With regards to sound impacts, the effects on the listed species are temporary, inconsequential compared to neighboring existing sources, and geographically constrained. Noise levels from the Outerbridge Crossing alone would exceed the levels on the project site at all times, which in any event would be

cyclical and materially mitigated by much of the noise generating operations being on or near the Arthur Kill.

Relocation or avoidance by the listed species is most likely the response to the site impacts. Unlike other parts of NYC, there is extensive forest and habitat remaining within the vicinity of the Project Site for relocation. Furthermore, the loss of maritime forest habitat would be mitigated by expansion and restoration of the same habitat on the North Shore of Staten Island at Arlington Marsh.

4. *Identification of technological approaches to assess impacts or any Proposals for other research or mitigations relating to birds or bats planned or under consideration at this time.*

Not applicable.

E.7 Fish, Invertebrates and their Habitats

The principal potential risks of port development to fish, invertebrates and their habitats include possible changes to the seafloor and other habitats, increased sediment levels in the water column, noise and sensory disturbances, and direct harm to fish and invertebrate species from construction equipment, and foraging/spawning habitat loss. These changes could result in changes in predator/prey relationships, competition between species and changes to fish and invertebrate populations in and around the Project site.

The Proposer must provide a description of how it will work to understand and minimize the Project's risk to fish and invertebrates and their habitats. At a minimum this should include:

1. *A basic description of what is known about the proposed site in terms of fish and invertebrate assemblage, and temporal and spatial variations in fish, invertebrates and their habitats at the proposed site. The use of collaborative monitoring models with the fishing community is encouraged to develop trusted baseline data;*

A long-term Aquatic Biological Survey (ABS) in the Upper Bay, Lower Bay, Arthur Kill, and Newark Bay was completed by others as part of the USACE New York New Jersey Harbor Deepening Project. USACE. October 2015. New York and New Jersey Harbor Deepening Project Demersal Fish Assemblages of New York / New Jersey Harbor and Near-Shore Fish Communities of New York Bight. The ABS was a long-term, diverse, and spatially robust sampling program that included bottom trawl surveys of demersal or near bottom occurring finfish (2002 – 2010 dataset), ichthyoplankton tows using a benthic sled equipped with a plankton net to collect fish eggs and larvae near the bottom (2002 – 2011 dataset), and benthic grab samples (2005 - 2012) to identify sediment types and benthic invertebrates as well as underwater video surveys to map benthic habitat. Data from this multi-year (2002 to 2011) monitoring program, as it relates specifically to the Arthur Kill, was included as part of the AKT Project Essential Fish Habitat (EFH) assessment to determine the potential likelihood of EFH presence within the Arthur Kill (herein referred to as the Arthur Kill Study Area). From this large data set, the multi-year (2002-2011) subset specific to the Arthur Kill monitoring program in both channel and non-channel (shallow) was examined and included as part of the EFH assessment. This USACE study, while being the latest large-scale sampling of demersal fish population in the Arthur Kill, was deemed applicable and representative to the environmental conditions found in the marine Project Area. Such data was used to (1) determine the potential likelihood of these EFH species to be present within the marine Project Area, as well as (2) assess their respective preferential habitat areas (i.e., substrate, water depths,

temperatures, and salinity at various life stages) in the Arthur Kill. Data from a sample fish population study is often used by fisheries managers to estimate the population dynamics within a larger stream area; the data collected during the ABS study can be reasonably applied to the Project Site to make general fish usage assumptions.

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act, an EFH assessment was prepared to identify the potential impacts of the Proposed Project on EFH, which has been updated based upon comments received from NYSDEC and is provided in Appendix B. The EFH Assessment provides an evaluation of the fish species identified by the NOAA Fisheries EFH Mapper. The species identified in the NOAA Fisheries EFH Mapper and described by Roux in the EFH Assessment are summarized in Table 2 below. The Project Site and surrounding area is not used for fishing.

Table 2: Summary of EFH Species

<u>Common Name</u>	<u>Scientific Name</u>	<u>Lifestage(s) Potentially Present</u>			
		<u>Eggs</u>	<u>Larvae</u>	<u>Juvenile</u>	<u>Adult</u>
<u>Winter Flounder</u>	<u><i>Pseudopleuronectes americanus</i></u>	X	X	X	X
<u>Little Skate</u>	<u><i>Leucoraja erinacea</i></u>			X	X
<u>Atlantic Herring</u>	<u><i>Clupea harengus</i></u>		X	X	X
<u>Red Hake</u>	<u><i>Urophycis chuss</i></u>	X	X	X	X
<u>Windowpane Flounder</u>	<u><i>Scophthalmus aquosus</i></u>	X	X	X	X
<u>Winter Skate</u>	<u><i>Leucoraja ocellata</i></u>			X	X
<u>Clearnose Skate</u>	<u><i>Raja eglanteria</i></u>			X	X
<u>Longfin Inshore Squid</u>	<u><i>Doryteuthis pealeii</i></u>	X			
<u>Bluefish</u>	<u><i>Pomatomus saltatrix</i></u>			X	X
<u>Atlantic Butterfish</u>	<u><i>Peprilus triacanthus</i></u>		X		
<u>Summer Flounder</u>	<u><i>Paralichthys dentatus</i></u>		X	X	X

Summer Flounder SAV was also mapped by NOAA Fisheries as a Habitat Area of Particular Concern (HAPC) potentially located within the Project Site.

The Atlantic sturgeon (*cipenser oxyrinchus oxyrinchus*) was the only T&E species identified by the NOAA GARFO Section 7 ESA mapper as potentially present within the Project Site and only during migration. However, critical habitat for this species was not identified within the Project Site. Atlantic Sturgeon have been observed in the New York Bight and are known to migrate up the Hudson for spawning. The Arthur Kill is located near the Hudson River and New York Bight, and as a result, it is possible, but highly unlikely, that a transient adult or sub-adult migratory Atlantic Sturgeon would travel the Arthur Kill.

2. *Identification of fish and invertebrate species the Project believes to be of greatest concern and why;*

See EFH Assessment for more information. The winter flounder was identified as the species of greatest concern based upon feedback from NMFS and NYSDEC regarding mitigation requirements for project

habitat impacts. The winter flounder may feed on the marginal benthic polychaetas and algal species present. Since a significant portion of winter flounder prey is benthic, once the dredging work is complete the benthic community would recover, and the winter flounder prey base would not be affected long-term within or outside of the Project Site.

Per the Section 7 review, Atlantic sturgeon adult and sub-adult may occasionally use the Arthur Kill and area around the Project Site as a migratory route and infrequent foraging grounds, but they are a deep-water species and would be expected to use the existing navigation channel as a migratory corridor and not the shallow waters of the marine Project Site.

3. *The planned approach that the Project will use to evaluate risks and impacts to fish, invertebrates and their habitats generally, and the species or habitats of greatest concern specifically;*

As stated in the EFH Assessment, potential effects of the proposed construction include possible fatality and injury of fish in various life stages, interference with fish movements, disruption of forage base, and changes in water quality during dredging operations. Direct removal of sediment would occur during dredging and direct removal and covering of soft-bottom habitat and algal species will occur during dredging and filling activities.

Given the suspended sediment concentrations and the limited duration of disturbance, the impacts to fish resources are expected to be short term and localized. As a result, effects to the EFH in the Project Site are expected to be minimal. Nevertheless, to avoid to the greatest degree practical any impacts on fish AKT is in the process of working with the NYSDEC, USACE, NMFS and USFWS to adopt fish/species exclusion engineering controls, including the use of weir nets and bubble curtains, to further protect fish during construction of the Project.

Once the Project is operational, AKT does not anticipate any material impacts on fish populations on the Project Site.

4. *Steps the Project will pursue to minimize risk to fish, invertebrates and their habitats (e.g., foundation type, scour protection, cable shielding for electromagnetic fields, construction windows, siltation/turbidity controls, use of dynamic-positioning vessels and jet plow embedment, port construction and dredging); and*

The dredging and filling areas proposed for the AKT Project have been minimized to the maximum extent practical to protect the EFH while still being able to construct a viable and functional port facility.

Temporary impacts to water quality would occur, such as an increase in suspended solids and turbidity. Such impacts are anticipated to be short term and localized to within the perimeter of the project site / fish exclusion area because of the shallow depths and through the use of full depth turbidity curtains. Intermittent, short-term impacts to the managed species assessed would include disturbance of fish and prey species throughout the water column within the localized area during the dredging. Due to their mobility, most fish, except for immobile life stages, would be expected to avoid the active dredging area. The sediment plume associated with dredging would have a potential short-term water quality impact that would resolve quickly; low currents inside of the turbidity curtains, shallow water, and full curtain

protection would cause the particles to settle within the perimeter. These effects would be further minimized through approved equipment and dredging techniques (e.g., seal-bucked dredge, controlled hoist speeds, turbidity curtains), which would be identified in the permit documents for the dredging approach.

Please see Dredge Management Plan prepared by Roux Environmental Engineering and geology dated Nov 2, 2022.

Discussions are currently underway with NYSCDEC, USACE, and other agencies regarding the best approaches to afford additional protections for fish during the Project's construction.

5. *Any Proposals for other research or measures taken to reduce risk or impacts to fish, invertebrates or their habitats (e.g., ecosystem or habitat enhancements).*

None in addition to what has been addressed above.

E.8 Considerations for Subsea and Overland Cables

New York State is developing an Offshore Wind Cable Corridor Constraints Assessment (Assessment) to better understand the constraints of siting cables in New York State waters, at landfall, and along overland routes to existing points of interconnection. This Assessment will coordinate the analysis and evaluation of potential cable corridors to support future decision-making and policy development to achieve New York State's goals and mandates and allow for commercial innovation. The potential environmental impacts of activities associated with subsea and overland cable routes should be identified as part of the Environmental Mitigation Plan.

Not applicable to AKT Project.

E.9 Additional Considerations

The Project must outline any additional mitigation strategies not otherwise described herein that would improve the Plan and reduce impacts on the environment.

None in addition to what has been addressed above.

E.10 Project Decommissioning

The Proposer must describe how it will develop a decommissioning plan, including coordination with environmental stakeholders, and any elements of its contemplated decommissioning plan that can be identified at this stage. Proposals demonstrating thoughtful consideration of the full life cycle of offshore wind energy projects will be considered favorably.

Not applicable to the Project.

Environmental Mitigation Plan – Standardized Component

The Standardized Component of the Environmental Mitigation Plan generally follows the Narrative component but provides concise and consistent documentation of specific mitigation approaches across selected Projects to make comparison by stakeholders more efficient. the Project must augment these elements to the extent appropriate by addressing the highlighted areas through the addition of mitigation measures they are committing to pursue as part of the proposed Project. A complete, stand- alone Environmental Mitigation Plan must be provided in the format below.

Environmental Mitigation Plan

for

Arthur Kill Terminal

Version 1.0

Prepared pursuant to [contract number, date (TBD)]

with

New York State Energy Research and Development Authority

Albany, NY

Prepared by
Arthur Kill Terminal, LLC

145 Avenue of the Americas, 7th Floor
New York, NY 10013



January 26, 2023

Communication Officers, Contact Information, Links		
Name/Title	Role	Contact Information
Boone Davis CEO	Responsible for Project and all stakeholder communications.	603-828-7634 bdavis@atlanticterminals.com
Charles Dougherty CCO	Responsible for Project and all stakeholder communications.	617-669-9003 cdougherty@atlanticterminals.com

Links to Project information:
www.arthurkillterminal.com

Table of Contents

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List of Tables

Table 1: Summary of Potential EFH within the Project Site

1. Environmental Mitigation Plan Summary

1.1. Overall philosophy and principles

This section should describe the overall philosophy and principles the Developer will follow to avoid, minimize, restore, and off-set potential environmental impacts.

Environmental mitigation is critical to the successful realization of the Project, which has been designed and planned specifically to avoid, minimize and mitigate adverse impacts relating to the Project's development. AKT's response to this Environmental Mitigation Plan form to describe the process currently underway to develop and implement an approved and successful environmental mitigation plan, with the goal of satisfying the Project's many regulatory requirements and potential concerns and objectives of its many stakeholders. The SCIP Facility has already been sited and designed in a manner that avoids and minimizes potential environmental impacts and is in the process of developing an appropriate off-site compensatory mitigation program that would mitigate for the loss of habitat areas that the Project cannot avoid or minimize. Research, data, and stakeholder feedback have been integral throughout the planning process and would continue according to the Project's Stakeholder Engagement Plan.

1.2. Overall approach to incorporating data and stakeholder feedback

This section should describe how the Developer will use research, data, and stakeholder feedback to update the EMP and support decision-making throughout the life cycle of the Project (preconstruction, surveys, site design, construction, operations, and decommissioning).

- The developer shall seek consultation and coordinate with relevant stakeholders.
- The developer shall review existing research and data and seek input from stakeholders regarding data gaps to inform decisions made throughout the Project life cycle.
- The developer shall review and seek input from stakeholders on proposed and conducted survey rationales and methodologies as well as design, construction and operation, and decommissioning plans for the Project.
- To the extent that the timeline allows, pre- and post-construction monitoring shall be designed to improve the understanding of impacts of offshore wind energy port development and operations on aquatic and natural resources.

1.3. Existing guidance and best practices that will be followed

This section should present a list of existing guidance documents, publications, tools, and/or plans that will be followed to support the EMP. Include links, if available, for all references.

- U.S. Army Corps of Engineers, New York District, [Compensatory Mitigation Plan Guidelines](#)
- Hudson-Raritan Estuary Comprehensive Restoration Plan, Project Summary Sheets, [Kill Van Kull and Arthur Kill Planning Region](#)
- Department of the Army, U.S. Army Corps of Engineers, and Environmental Protection Agency, [40 CFR Part 230 Compensatory Mitigation for Losses of Aquatic Resources, Final Rule](#)

2. Communications and Collaboration Approach

2.1. Overview and communication plan objectives

This section should provide an overview of the communication plan and objectives and its importance in environmental mitigation.

- The developer shall seek methods and processes to allow for a two-way flow of information between key stakeholders and developers, specifically highlighting how the developer uses this feedback to inform their decision making.

- The developer shall provide updates to environmental stakeholders in an appropriate manner that would be easily accessed and widely distributed.

2.2. Communication officers/positions, responsibilities, and contact information

This section will provide a list of communication officers, their role, and name and contact information. The list should provide stakeholders with an understanding of who should be called for a particular issue or question. It will also include links to the Project website so readers know where to find additional information.

Name/Title	Role/Responsibilities	Contact Information
Boone Davis CEO	Responsible for Project and all stakeholder communications.	603-828-7634 bdavis@atlanticterminals.com
Charles Dougherty Chief Commercial Officer	Responsible for Project and all stakeholder communications.	617-669-9003 cdougherty@atlanticterminals.com

Additional information can be found at www.arthurkillterminal.com.

2.3. Identification of stakeholders

This section should describe the process by which stakeholders relevant to environmental issues will be identified and classified by stakeholder group.

- Please refer to the Stakeholder Engagement Plan for more information on the project’s stakeholders and how they are identified, classified, and tracked.

2.4. Participation in stakeholder and technical working groups

2.4.1. Communication with E-TWG

This should describe the communication and collaboration approach with members of the E-TWG and consultations.

- The Developer shall dedicate Project-specific technical resources to the E-TWG.
- To the extent practicable, the Developer shall work with the E-TWG and shall attend E-TWG meetings and workshops.
- To the extent practicable, the developer shall identify specific individuals to serve at least one-year terms in the role of primary and secondary core members.

2.4.2. Communication with other New York State agencies

This should describe communication with New York State agencies during each phase of the Project.

- AKT is in active communication with the following New York State agencies:
 - New York State Department of Environmental Conservation (NYSDEC) regarding the Joint Permit Application and Geotechnical Site Investigation processes;
 - New York State Department of State (NYSDOS) regarding the Coastal Zone Management Program Consistency Determination process;
 - New York State Office of General Services (NYSOGS) regarding the Lands Underwater acquisition/lease process;
 - New York State of Department of Transportation (NYSDOT) regarding the Sidewalk, Curb and Roadway (SCARA) permit process; and
 - New York State Historic Preservation Office (SHPO) for archaeological and historic consultations and the Section 106 process.
 - Empire State Development Corporation, which is the grant sponsor for the project.

2.4.3. Communication with other stakeholder and working groups

This should describe any relevant participation with other stakeholder groups that would help inform the EMP.

- The developer shall seek to collaborate with other regulatory agencies and stakeholder groups and consider memberships and participation in such collaborative efforts (e.g., E- TWG, F-TWG, ROSA, RWSE, etc.).

2.4.4. Communication and collaboration with other developers

This should describe any relevant participation and collaboration with other developers in the offshore space, with a focus on communication and collaboration with adjacent leaseholders. This may include but is not limited to shared research efforts, coordination of survey methods, or standardization of navigational and safety protocols.

- The developer shall seek to maximize the impact of research efforts such as data collection, methodology, analysis and dissemination by collaborating with other port developers whenever practicable.

2.5. Communication methods and tools by phase

This section should describe the communication and outreach methods and tools that will be employed for each stakeholder group during each phase of the Project.

Proposed Outreach Method/Tools	Phase*			
	1	2	3	4
Please refer to the developer’s Stakeholder Engagement Plan, applicable to all pertinent phases.				
*Phase: 1: Survey/Design; 2: Construction; 3: Operation; 4: Decommission				

3. Supporting Other Research

3.1. Support of collaborative research

This section should describe how opportunities for developing or investing in collaborative research with the environmental community to collect ecological data will be identified and undertaken. The description must account for the need to coordinate with members of the E- TWG during data gathering and assessment.

- To the extent relevant, the developer shall commit to engagement with regional science organizations (e.g. Regional Wildlife Science Collaborative, Responsible Offshore Science Alliance).

3.2. Handing/processing requests

This section should describe how requests for coordination with third-party supported scientists will be processed - including providing reasonably-requested Project data and access to the Project area for independent scientists examining environmental sensitivities and/or the impacts of offshore wind energy development on the environment for the purpose of publication in peer-reviewed journals or other scientifically rigorous products.

- The developer is committed to cooperating with third-party supported scientists to the maximum extent practicable consistent with its confidentiality obligations and the rights of tenants of the terminal.

3.3. Data availability

This section should describe how data will be made available in accordance with Section 2.2.8 of the RFP.

- Data will be publicly available at www.arthurkillterminal.com and/or in the permit filings, or otherwise would be provided on a case-by-case basis upon request.

3.4. Proposed restrictions

This section should describe any restrictions on data provision or access that may be required to protect trade secrets or maintain site security.

- The developer does not envision restrictions on data provision as trade secrets: access will be offered to the extent it does not interfere with tenant rights, safety and security requirements.

:

3.5. Financial commitment for third party research

This section should provide a level of financial commitment, if elected, that will be appropriated to leverage third-party environmental research funding, including federal or State-supported research. Or, if elected, provide the level of commitment to a general fund for supporting third- party research into potential environmental effects of offshore wind energy development.

- The developer does not have a current plan to provide financial support of third-party environmental research but remains open to entertaining such support in the future.

3.6. Proposed or existing commitments/collaborations

This section should describe proposed or existing commitments and collaborations with third-party researchers in support of monitoring activities and assessing impacts.

- The developer will be engaged with third party researchers regarding the environmental impact of its port development and the monitoring and assessment of its offsite mitigation program.

4. Proposed Mitigation of Impacts to Marine Mammals and Sea Turtles

4.1. Baseline characterization

4.1.1. Available information¹

Describe existing key literature and datasets that are available for baseline characterization.

- Please refer to the following studies:
 - Potential marine mammals found in the vicinity of the Project Site were identified by Roux Environmental Engineering and Geology, D.P.C using the NOAA Fisheries EFH Mapper and NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) Endangered Species Act (ESA) Section 7 mapper. Joint Permit Application prepared by TMS Waterfront LLC dated May 2022;
 - Environmental Assessment Statement prepared by Philip Habib & Associates dated November 2, 2022;
 - Essential Fish Habitat Assessment prepared by Roux Environmental Engineering and Geology, D.P.C. dated November 8, 2022;
 -

4.1.2. Data being collected

Describe data collected, or will be collected, to support baseline characterization.

- NOAA's National Marine Fisheries Service (NMFS) Section 7 Consultation
 - NOAA's Section 7 Mapper
- Marine mammals and sea turtles are not identified within the vicinity of the Project Area Site by NOAA's Section 7 mapper. Observations of all humpback whales and dead, entangled, or distressed marine mammals shall be communicated to NOAA's Marine Mammal Health and Stranding Response Program as soon as is practical, and no later than 24 hours after occurrence.

4.2. Species at risk

Describe which species the Developer believes to be of greatest concern and why.

- Humpback Whales were not identified within the vicinity of the Project Site by the NOAA Section 7 Mapper. Juveniles and adults are more likely to be observed in the New York Bight, but have a potential to be present, transiently, in the Project Site.
- Although it is unlikely that there would be a transient Humpback Whale at the Project Site, pile driving noise has a potential to temporarily impact the distance whales can communicate and detect prey. Juveniles and adults are pelagic and mobile and would not be likely to remain in the Project Site if disturbed by pile driving noise. As a result, there could be a temporary behavioral impact to the Humpback Whale during construction, and bubble curtains would be installed to minimize potential sound effects during pile driving. Overall, there is an extremely low risk of a transient Humpback Whale being present within the Project Site and if present, the Project effects would be de minimis.

4.3. Potential impacts and mitigation measures by phase

The table below should list the potential impacts to marine mammals and sea turtles and proposed mitigation measures. To this end, a description of proposed measures to minimize the impacts of sound on marine mammals and sea turtles during all phases to Project development should be included. In addition, provide a description of the anticipated pre- and post- construction survey techniques to establish an ecological baseline and changes to that baseline within the Project site; the minimum size of exclusion zone intended to be monitored during geophysical surveys and construction; planned approaches to

¹ All referenced materials are available upon request.

understanding marine mammal and sea turtle presence and absence within development site exclusion zone during site assessment and construction (e.g. a combination of visual monitoring by protected species observers and passive acoustic monitoring, the use of night vision and infra-red cameras during nighttime activities, etc.); proposed temporal constraints on construction activities and geophysical surveys with noise levels that could cause injury to harassment in marine mammals (e.g., seasonal restrictions during periods of heightened vulnerability for priority species; commencing activities during daylight hours and good visibility conditions, dynamic adjustments following the detection of a marine mammal); and proposed equipment and technologies the Developer would use to reduce the amount of sound at the source, if any.

- The developer does not anticipate any material impacts on marine mammals or sea turtles.

Potential Impacts	Proposed Mitigation Measures ¹	Phase*			
		1	2	3	4
Underwater noise impacts from geophysical survey equipment	<p>-Exclusion, clearance, and monitoring zones shall be maintained around noise-generating activities to help measure and mitigate potential noise-related effects on marine mammals.</p> <p>-Monitoring during noise-generating activities shall be done through an integrated monitoring approach, including the use of PAM, NMFS- approved PSOs, and other proven technologies, as appropriate, to the extent practicable and in compliance with federal regulation.</p> <p>-Noise generating geophysical survey work shall not commence after dark or at other times of low visibility such as fog and heavy rain that would prevent sufficient monitoring of exclusion zones, to the extent compatible with practicability and worker safety.</p> <p>- Survey activities will abide by temporal (e.g., diurnal and seasonal) constraints and surveys for activities that could cause injury or harassment in marine mammals. Such examples of temporal constraints include DMAs established by NMFS, seasonal speed restrictions, and planning activities around known time-of-year restrictions during periods of high presence, to the extent within the control of developer.</p>	X	X	X	

Underwater noise impacts from construction and installation activities	<p>The developer shall seek to use noise attenuation technologies to reduce sound from pile driving of foundations.</p> <p>For in-water pile driving, which includes the quay and bulkhead and bridge protection wall, the developer would specify “soft-start” methods including the use of vibratory hammers. Additionally, the developer would provide bubble curtains around the perimeter of the site as the primary exclusion area and noise curtain, which would provide both physical separation from the work and attenuation</p> <p>-Monitoring during noise-generating activities shall be done through an integrated monitoring approach, including the use of PAM, NMFS- approved PSOs, and other proven technologies, as appropriate, to the extent practicable.</p> <p>-In addition to the use of visual monitoring by PSOs and PAM,</p> <p>-The developer would abide by regulatory required temporal (e.g., diurnal and seasonal) constraints on construction activities that could cause injury or harassment in marine mammals. Such examples of temporal constraints include DMAs established by NMFS, seasonal speed restrictions, and planning activities around known time-of-year restrictions during periods of high presence, the extent within the developer’s control.</p>	X			
Vessel strikes on marine mammals	<p>-The developer shall ensure that all vessel personnel are trained regarding animal identification and protocols when sightings occur.</p> <p>-The developer shall provide reference materials on board all Project vessels for identification of marine mammals and sea turtles.</p> <p>-The developer will utilize PSOs or dedicated crew members to monitor for whales and sea turtles during vessel transit that is within the control of developer.</p> <p>-Vessels within the control of developer will reduce speed, stop, or alter course if ESA-listed marine mammals, large unidentified whales, or sea turtles are sighted within the vessel forward operating path.</p>	X	X	X	X
Electromagnetic Fields (EMF), resulting in potential disturbance to marine mammals/sea turtles and/or their prey resource	<p>-The does not anticipate that EMF assessment will be required for the terminal project.</p>	N/A			
*Phase: 1: Survey/Design; 2: Construction; 3: Operation; 4: Decommission					

4.4. Monitor for potential impacts during each phase

Describe how potential impacts will be monitored on marine mammals and sea turtles during each phase of physical work for the Project (site assessment, construction, operation, and decommissioning) to inform mitigation planning for later phases of the Project as well as for future Projects.

- Marine mammals and sea turtles are not identified within the vicinity of the Project Site by NOAA's Section 7 mapper. No material impacts on marine mammals or sea turtles are anticipated.
- As a conservative protective measure, the developer would utilize PSOs or dedicated crew members to monitor for whales and sea turtles during vessel transit.
- If ESA-listed marine mammals, large unidentified whales, or sea turtles are sighted during any phase of the work, that information would be used to inform mitigation planning for future Project phases.
- .

4.4.1. Assess and quantify changes

Describe how changes to environmental resources will be quantified using statistically sound methods.

- Ideally, specific questions and focal taxa shall be chosen for the Project either based on site-specific fisheries risk assessment, or in relation to broader regional efforts to assess variation between sites and understand cumulative impacts for sensitive species.
- Monitoring would, to the extent practicable, use appropriate study designs and methodologies to effectively analyze risk prior to construction and evaluate impacts during construction and operation by testing hypotheses and helping to assure statistical power for meaningful data analysis.
- Outside expertise would, if practicable, be consulted during study design and data analysis processes.

4.4.2. Address data gaps

Describe how data gaps will be addressed.

- The developer has worked and shall continue to work with stakeholders, including regulatory agencies and local groups, in the design phase of the Project to identify data gaps to be addressed through surveys or permitting applications.

4.5. Strategies for developing alternate protocols

Describe the process for determining when mitigation strategies are insufficient and under what conditions they might elect to rehabilitate or restore impacted marine mammals and sea turtles in an alternative location.

- No impacts to marine mammals or sea turtles are anticipated.
- As necessary, the developer shall explore this further in consultation with the E-TWG, regulatory agencies and relevant stakeholders.

5. Proposed Mitigation of Impacts to Birds and Bats

5.1. Baseline characterization

Describe how baseline data will be established on the presence of bird and bat assemblages, temporal and spatial use of the site by key species within the area of the proposed Project.

- Please refer to Threatened and Endangered Species Assessment prepared by Roux Environmental Engineering and Geology, D.P.C., dated October 7, 2022.

5.1.1. Available information

Describe key existing literature and datasets that are available for baseline characterization.

- Please see response to Section 4.1.1.

5.1.2. Data collected

Describe data collected, or will be collected, to support baseline characterization.

- Wildlife species found on the Project Site were identified during field visits by Roux Environmental Engineering and Geology, D.P.C in 2021 and 2022. Roux conducted Threatened and Endangered (T&E) surveys of the Project Site starting in late fall 2021 and through mid-summer 2022. The results of the field visits, by species of potential concern, are summarized in response to Section 5.2.

5.2. Species at risk

Describe which species the Developer believes to be of greatest concern and why.

None; but the following species are addressed because they are endangered in New York State and were identified as species that may occur in the proposed project location or may be affected by your proposed project by either the U.S. Fish and Wildlife Service or the NYSDEC Division of Fish and Wildlife and the New York Natural Heritage Program.

- Peregrine Falcon
 - There is no evidence that peregrine falcons are utilizing the Project Site. Although the PANYNJ Outerbridge Crossing, which is located immediately north of the Project Site, may provide a nesting structure for the peregrine falcon, documented peregrine falcon activity has not occurred at the Outerbridge since 2015. Peregrine falcon nests or other peregrine falcon activity has not been observed by Roux staff during the nine site surveys completed between 2021 and 2022. The main diet of the peregrine falcon includes other birds, very few birds were observed at the Project Site and none that would be suitable for the peregrine falcon as prey along the shoreline. As a result, based on the information reviewed and the assessments conducted, the Proposed Project is unlikely to impact the peregrine falcon.
- Piping Plover
 - There is no evidence that piping plovers are utilizing the Project Site. The Project Site shoreline is comprised of Intertidal, Gravel, Sand Beach, Low Salt Marsh and High Salt Marsh, and almost the entirety of this area is submerged during high tide. Invasive overgrowth from the Common Reed and a rocky shoreline area located immediately landward of the high tide line, eliminates the potential for piping plover to utilize this shoreline for feeding or nesting. Roux staff have not observed piping plover nests or other activity on the Project Site. The Project Site does not provide viable habitat to support the piping plover and is unlikely to impact the piping plover.
- Overall, neither of the species listed above appear to be present or utilizing the Project Site. Additionally, the habitat present at the Project Site is not ideal for any of the species listed. As a

result, Proposed Project actions are not anticipated to contribute to the loss of viability of T&E species or jeopardize or adversely modify critical habitat for these species.

- Other bird species documented to using the Project Site can be expected to find suitable habitat on undeveloped parcels near the Project site.

5.3. Potential impacts/risks and mitigation measures by Project stage

The table below should list the potential impacts and mitigation measures to understand and minimize the Project's risk to birds and bats. At a minimum this should include the steps the Developer will pursue to minimize risk to birds and bats (e.g. lighting), and identification of technological approaches to assess impacts or any Proposals for other research or mitigations relating to birds or bats planned or under consideration at this time.

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
Collision risk to marine birds and bats	<p>-To avoid and minimize attraction- and disorientation-related impacts to birds and bats, artificial lighting on offshore wind Projects shall be reduced to the extent practicable while maintaining human safety and compliance with FAA, USCG, BOEM and other regulations.</p> <p>-Monitoring shall be conducted to determine if there is a need for perching-related deterrents to reduce attraction and minimize potential perching and loafing opportunities for birds.</p> <p>-Physical deterrents to perching (e.g. such as spikes and netting or other best available technology) shall be implemented if there is demonstrated risk at the site (e.g., perching and roosting on infrastructure is a common occurrence) and to the extent that they do not represent a human safety hazard.</p>	NA			
Habitat impacts, including breeding and nesting areas	<p>Siting and construction of nearshore and onshore Project components for offshore wind farms (including but not limited to nearshore export cable routes, landfall sites, onshore cable routes, and onshore substations) shall be conducted in such a way as to avoid or minimize the loss or alteration of bird and bat habitat, as well as avoid or minimize disturbance and direct and indirect effects to bird and bat populations and their prey. Specifically, onshore infrastructure (i.e., landfall site, cable routes, substations) and development activities should 1) maximize the use of previously developed or disturbed areas, and 2) avoid unique or protected habitats, as well as habitat for key species, where feasible.</p> <p>The Proposed Project, through an extensive alternatives and minimization analysis, has attempted to avoid and/or minimize impacts to the seabed and benthic habit on the site. As described above, the measures and mitigation plan are concurrently being</p>		X	X	X

	<p>developed as part of the ongoing regulatory pre-application effort. Impacts are anticipated to be short-term and localized; no long-term changes to the seabed or habitat around the site are anticipated.</p> <p>On the site itself, the loss of habitat and seabed due to dredging and filling is proposed to be mitigated offsite through the creation, restoration or enhancement of tidal wetlands, sublittoral, and littoral habitat areas.</p> <p>During construction the installation of an exclusion area for construction would protect fish, mammals and turtles from entering the site, BMPs will reduce/eliminate turbidity and water quality impacts, and spill response protocols will be implemented.</p>				
*Phase: 1: Survey/Design; 2: Construction; 3: Operation; 4: Decommission					

5.4. Monitor for impacts during each phase

Describe how potential impacts will be monitored on birds and bats during each phase of physical work for the Project (site assessment, construction, operation, and decommissioning) to inform mitigation planning for later phases of the Project as well as for future Projects.

Not applicable to Project.

5.4.1. Pre/Post monitoring to assess and quantify changes

Describe how changes to environmental resources will be quantified using statistically sound methods.

Not applicable to Project.

- Pre- and post-construction monitoring shall be designed in such a way that it improves understanding of the impacts of offshore wind energy development on birds and bats, including identifying specific questions and taxa on which to focus monitoring efforts for the proposed Project, or in relation to broader regional efforts to assess variation between sites and understand cumulative impacts for sensitive species.
- Monitoring will, to the extent practicable, use appropriate study designs and methodologies to effectively analyze risk prior to construction and evaluate impacts during construction and operation by testing hypotheses and helping to assure statistical power for meaningful data analysis.
- Outside expertise will, if practicable, be consulted during study design and data analysis processes.

5.4.2. Address data gaps

Describe how data gaps will be addressed.

- The developer has worked and shall continue to work with stakeholders, including regulatory agencies and local groups, in the design phase of the Project to identify data gaps to be addressed through surveys or permitting applications.

5.5. Strategies for developing alternate protocols

Describe the process for determining when mitigation strategies are insufficient and under what conditions they might elect to rehabilitate or restore impacted birds and bats in an alternative location.

- As necessary, the developer will explore this further in consultation with the E-TWG, regulatory agencies and relevant stakeholders.

6. Proposed Mitigation of Impacts to Fish, Invertebrates and their Habitats

6.1. Baseline characterization

Describe what is known about the proposed site in terms fish and invertebrate assemblage, and temporal and spatial variations in fish, invertebrates and their habitats at the proposed site. The use of collaborative monitoring models with the fishing community is encouraged to develop trusted baseline data.

6.1.1. Available information

Describe key existing literature and datasets that are available for baseline characterization.

- New York and New Jersey Harbor Deepening Project Demersal Fish Assemblages of New York / New Jersey Harbor and Near-Shore Fish Communities of New York Bight, USACE 2015; and
- Fish found in the vicinity of the Project Site were identified by Roux Environmental Engineering and Geology, D.P.C using the NOAA Fisheries EFH Mapper and NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) Endangered Species Act (ESA) Section 7 mapper.

A long-term Aquatic Biological Survey (ABS) in the Upper Bay, Lower Bay, Arthur Kill, and Newark Bay was completed by others as part of the USACE New York New Jersey Harbor Deepening Project. The ABS was a long-term, diverse, and spatially robust sampling program that included bottom trawl surveys of demersal or near bottom occurring finfish (2002 – 2010 dataset), ichthyoplankton tows using a benthic sled equipped with a plankton net to collect fish eggs and larvae near the bottom (2002 – 2011 dataset), and benthic grab samples (2005 - 2012) to identify sediment types and benthic invertebrates as well as underwater video surveys to map benthic habitat. Data from this multi-year (2002 to 2011) monitoring program, as it relates specifically to the Arthur Kill, was included as part of the AKT Project EFH assessment to determine the potential likelihood of EFH species presence within the Arthur Kill and their preferential habitat areas (herein referred to as the Arthur Kill Study Area). The sampling locations were located within a few miles of the AKT Project Site. This data provides a general understanding of the fish assemblages that may likely be present within the vicinity of the proposed AKT Project at various times of the year. The ABS study included approximately half of the Arthur Kill located 5 nautical miles to north of the AKT Project Site and represent both near shore and channel sampling points. The data is relevant for the following reasons:

1. Provides valuable EFH information for a variety of species pertaining to habitat preferences, including substrate, water depths, temperatures, and salinity at various life stages.
2. A robust data set that included both in channel and non-channel (shallow) sampling stations, spanning almost a decade which can be used to establish trends in fish usage of not just the Arthur Kill but also the other waterbodies that were studied.

Data from a sample fish population study is often used by fisheries managers to estimate the population dynamics within a larger stream area; the data collected during the ABS study can be reasonably applied to the Project Site to make general fish usage assumptions.

The Essential Fish Habitat (EFH) Assessment provides an evaluation of the fish species identified by the NOAA Fisheries EFH Mapper.

The species identified in the NOAA Fisheries EFH Mapper and described by Roux in the EFH Assessment are summarized in Table 1 below. The table also denotes the federally managed species and their associated life stages with potential EFH within the Project Site.

TABLE 1: Summary of Potential EFH within the Project Site

Common Name	Scientific Name	Lifestage(s) Potentially Present			
		Eggs	Larvae	Juvenile	Adult
Winter Flounder	<i>Pseudopleuronectes americanus</i>	X	X	X	X
Little Skate	<i>Leucoraja erinacea</i>			X	X
Atlantic Herring	<i>Clupea harengus</i>		X	X	X
Red Hake	<i>Urophycis chuss</i>	X	X	X	X
Windowpane Flounder	<i>Scophthalmus aquosus</i>	X	X	X	X
Winter Skate	<i>Leucoraja ocellata</i>			X	X
Clearnose Skate	<i>Raja eglanteria</i>			X	X
Longfin Inshore Squid	<i>Doryteuthis pealeii</i>	X			
Bluefish	<i>Pomatomus saltatrix</i>			X	X
Atlantic Butterfish	<i>Pepilus triacanthus</i>		X		
Summer Flounder	<i>Paralichthys dentatus</i>		X	X	X

Summer Flounder SAV was also mapped by NOAA Fisheries as a Habitat Area of Particular Concern (HAPC) potentially located within the Project Site.

The Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*, potential migratory habitat) is the only species included within the NOAA GARFO Section 7 Mapper for the Project Site. Critical habitat for this species was not identified within the Project Site. Atlantic Sturgeon have been observed in the New York Bight and are known to migrate up the Hudson for spawning. The Arthur Kill is located near the Hudson River and New York Bight, and as a result, it is unlikely, but possible, that a transient adult or sub-adult migratory Atlantic Sturgeon would travel the Arthur Kill.

6.1.2. Data being collected

Describe data collected, or will be collected, to support baseline characterization.

- Fish found in the vicinity of the Project Site were identified by Roux Environmental Engineering and Geology, D.P.C using the NOAA Fisheries EFH Mapper and NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) Endangered Species Act (ESA) Section 7 mapper. The species identified in the EFH mapper and Section 7 Mapper are evaluated in the Essential Fish Habitat Assessment, prepared by Roux Environmental Engineering and Geology, D.P.C., dated November 8, 2022.
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The Aquatic Resources Report prepared by Roux Environmental Engineering and Geology, D.P.C., dated April 27, 2022, provides a description of the tidal and freshwater wetland delineations, the results of a submerged aquatic vegetation (SAV) survey, results of the winter waterfowl survey, benthic sediment quality, benthic invertebrate analysis, and an assessment of wetlands functions and values within the Project Area.

On September 16 and 23, 2020, Roux completed a SAV survey within the Project Site using a GoPro camera and an underwater drone (FIFISH V6 model) within the intertidal, littoral and sublittoral zones. The following macroalgae species were ubiquitous across the survey area: sea lettuce (*Ulva lactuca*), and red seaweeds (*Gracilaria* sp. and *Sarcodiotheca gaudichaudii*). NMFS and NYSDEC have not yet

indicated if these macro-algae species are considered SAV species for summer flounder or other fish species. None of the species observed would meet the USEPA SAV definition. The definition of SAV per the USEPA guidance document states, “The aquatic plants are known collectively as submerged (or submersed) aquatic vegetation. SAV—or sometimes called seagrasses in marine environments—generally include rooted vascular plants that grow up to the water surface but not above it (although a few species have flowers or tufts that may stick a few centimeters above the surface). The definition of SAV usually excludes algae, floating plants, and plants that grow above the water surface.” However, according to NOAA Fisheries, SAV includes aquatic grasses (seagrasses) and attached macro-algae. Macroalgae are simpler than submerged plants and attach themselves to the seabed with a holdfast instead of true roots.

To quantify the existing benthic habitat conditions of the freshwater and tidal communities present on the Project Site, sampling and shallow sediment analysis were performed by Roux at low tide in December 2021. Benthos samples were collected at seven sample locations, including three within the freshwater wetlands and four within the intertidal gravel/sand beach. The benthic community was assessed through calculation of density, taxa richness, Shannon-Wiener’s diversity index, and Pielou’s Evenness from the benthic grab data. Biodiversity was calculated from the sum of all species relative to the total number of individuals. The total number of individuals ranged from 2 to 80 and the number of species from 2 to 11. The diversity analysis confirmed that the benthic fauna of the Project Site is low and generally includes species that are pollution tolerant. Sediment analysis was conducted to evaluate how well the chemical and physical properties of the sediment support aquatic life at the Project Site. Overall, the results indicated the baseline benthic conditions in both freshwater and marine areas have shallow low to moderate sediment contamination impacts.

6.2. Species at risk

Describe which species the Developer believes to be of greatest concern and why.

- The winter flounder was identified as the species of greatest concern based upon feedback from NMFS and NYSDEC regarding mitigation requirements for project habitat impacts. The winter flounder may feed on the marginal benthic polychaetas and algal species present. A significant portion of winter flounder prey is benthic. Once the dredging work is complete the benthic community will recover, and the winter flounder prey base will not be affected long-term within or outside of the Project Site. Dredging would potentially cause temporary impacts to the ability of juvenile and adult winter flounder to forage and feed during the dredging activity. The potential permanent impacts to spawning, egg and larval life stages would result from the permanent changes to habitat.
- Atlantic sturgeon has not been identified as a fish species which would require mitigation for project impacts to habitat.

6.3. Potential impacts/risks and mitigation measures by Project stage

The table below should list the potential impacts to fish, invertebrates, and their habitats and proposed mitigation measures. To this end, this section should describe how the Developers will minimize risk to fish, invertebrates and their habitats (e.g., foundation type, scour protection, cable shielding for electromagnetic fields, construction windows, siltation/turbidity controls, use of dynamic-positioning vessels and jet plow embedment).

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
Micro-siting	The developer shall seek input from regulatory authorities, the	X			

conflicts with habitats and fishery resources	fishing industry, and maritime industry to locate foundations and cable routes in the least impactful manner that is practicable.				
Temporary, alteration of the seabed and localized increases in noise and turbidity	<p>The developer shall seek to use noise attenuation technologies to reduce sound from pile driving of foundations (if such methods are used)</p> <p>The Proposed Project is committed to several construction minimization measures and best management practices for in-water work and work on the seabed.</p> <p>The measures and mitigation plan are concurrently being developed as part of the ongoing regulatory pre-application effort. As the Proposed Project requires permits and approvals from multiple Federal, State and Local agencies (including, but not limited to, USACE, NOAA-NMFS, USFWS, USDOT MARAD, NYSDEC, NYSDOS, NYCDCP); the permit applications detail and demonstrate that impacts have been minimized to the greatest extent practicable.</p> <p>-The developer would minimize the area and duration of sediment suspension to the extent practicable using turbidity curtains and dredging methods to reduce sediment resuspension.</p> <p>-The developer has proposed an exclusion area established on the perimeter using full height turbidity / exclusion curtains and a bubble curtain to prevent species from entering the work area and reduce noise underwater coming from the site. The intent of this exclusion area is to allow the construction to continue through potential seasonal work moratoria for Atlantic Sturgeon & Winter flounder (which are 10/1 to 11/30 and 3/1 to 6/30 annually for Atlantic Sturgeon and 12/15 to 5/31 each winter for winter flounder). The exclusion protection would be installed and removed outside of the seasonal work restrictions.</p> <p>- Tug, vessel, and other floating equipment operations would be limited to the perimeter of the site and be planned such that vessel hulls/extensions remain 2 ft above the mudlines at all times to minimize mudline disturbance.</p>	X	X	X	X
Long-term changes to seabed and habitat	<p>The developer shall, to the extent possible, avoid sensitive benthic habitats.</p> <p>The Proposed Project, through an extensive alternatives analysis, has proposed a program to avoid and/or minimize impacts to the seabed and benthic habit on the site. As described above, the particular measures and mitigation plan are concurrently being developed as part of the ongoing regulatory pre-application effort. Impacts are anticipated to be short-term and localized; no long-term changes to</p>	X	X	X	X

	the seabed or habitat around the site are anticipated. On the site itself, the loss of habitat and seabed due to dredging and filling is proposed to be mitigated offsite through the creation, restoration or enhancement of tidal wetlands, sublittoral, and littoral habitat areas.				
EMF Impacts	The developer shall use proper shielding to reduce EMF. The developer shall conduct EMF modeling and assessments to identify potential mitigation requirements.	NA			
Cable burial	The developer shall bury export and inter array cables to an appropriate minimal depth to reduce exposure risk. If depth cannot be reached, the developer shall add protective materials over the cable. The developer shall conduct routine surveys or inspections of sub-sea cables and shall conduct a survey or inspection to ensure and correct for cable exposure following hurricane or other major events causing disturbance to the seabed.	NA			
Turbine Scour Protection	The developer shall seek collaboration with state and federal regulatory authorities and key stakeholders to assess the use of ecological enhancements for turbine scour protection to provide offsets from potential adverse impacts.	NA			
*Phase: 1: Survey/Design; 2: Construction; 3: Operation; 4: Decommission					

6.4. Monitor for impacts during each phase

Describe how potential impacts will be monitored on these types of fish and invertebrates during each phase of physical work for the Project (site assessment, construction, operation, and decommissioning) to inform mitigation planning for later phases of the Project as well as for future Projects.

6.4.1. Pre/Post monitoring to assess and quantify changes

Describe how changes to environmental resources will be quantified using statistically sound methods.

- Ideally, specific questions and focal taxa shall be chosen for the Project either based on site-specific fisheries risk assessment, or in relation to broader regional efforts to assess variation between sites and understand cumulative impacts for sensitive species.
- Monitoring will, to the extent practicable, use appropriate study designs and methodologies to effectively analyze risk prior to construction and evaluate impacts during construction and operation by testing hypotheses and helping to assure statistical power for meaningful data analysis.
- Outside expertise will, if practicable, be consulted during study design and data analysis processes.
- The developer shall seek to collaborate with other regulatory agencies and stakeholder groups to identify research needs and opportunities

6.4.2. Addressing data gaps

Describe how data gaps will be addressed.

The developer shall seek to work with stakeholders, including regulatory agencies, to identify data gaps to be addressed through surveys or permitting applications.

6.5. Strategies for developing alternate protocols

Describe the process for determining when mitigation strategies are insufficient and under what conditions they might elect to rehabilitate or restore impacted fisheries in an alternative location or when

the provision of compensation of some form may be appropriate.

Not applicable to Project.

- As necessary, the developer shall explore this further in consultation with the E-TWG, regulatory agencies and relevant stakeholders.

7. Considerations for Subsea and Overland Cables

7.1. Mitigation strategies for subsea and overland cables

This section should describe any additional environmental mitigation strategies for proposed subsea and overland cable routes that support the offshore wind project.

Not applicable to Project.

8. Additional Considerations

8.1. Additional mitigation strategies and EMP refinement

This section should describe any additional mitigation strategies not otherwise described herein that would improve the Plan and reduce impacts on wildlife. In addition, describe how the EMP will be updated and refined based on additional information and stakeholder feedback.

- The developer will support collaborative research on potential mitigation strategies and best management practices with other developers, agencies and stakeholders.

8.2. Process for updating the EMP

This section should describe how feedback from environmental stakeholders, E-TWG, and other agencies and working groups will be incorporated and updated in the EMP.

- The developer will continuously evaluate and evolve this EMP so that all the components of the EMP are complete and sufficient.
- The developer expects that additional guidance and information will become available throughout the planning and regulatory process and as such will continue to consider its relevance to the EMP at the appropriate intervals.
- Updates to the EMP are intended to reflect the results of iterative exchanges with members of the E-TWG, F-TWG and relevant stakeholders.
- The developer shall update the EMP in a timely manner that reflects changes made based on key regulatory Project deliverable dates.