Chapter VII: Unavoidable Adverse Impacts

A. INTRODUCTION

The technical analyses presented in this Draft Generic Environmental Impact Statement (DGEIS) examined the potential for significant adverse environmental impacts resulting from construction and operation of the proposed Fjord Trail. SEQRA regulations require a D(G)EIS to identify any "unavoidable adverse impacts." A significant adverse impact is considered "unavoidable" if there are no reasonably practicable mitigation measures to eliminate the impact, or if there were no reasonable alternatives to the proposed action that would meet the purpose and need of the action, eliminate the impact, and not cause other or similar significant adverse impacts. The Fjord Trail has been designed to avoid, minimize, and mitigate adverse impacts to the extent practicable, but some impacts would be unavoidable. This chapter describes the short-term (construction) and long-term, permanent (operational) adverse impacts that are likely to occur, despite mitigation measures, from the proposed Fjord Trail.

B. SUMMARY OF UNAVOIDABLE IMPACTS

CONSTRUCTION (SHORT-TERM)

LAND

Construction activities would result in unavoidable impacts to land where grading and possible excavation of soil would be required to accommodate Accessibility design for the Main Trail along with other trail facilities. Some construction would occur on steep slopes. The Fjord Trail would be designed to avoid steep slopes wherever possible and keep limits of construction disturbance to the minimum necessary. No more than five acres would be disturbed at any one time and soils would be stabilized as appropriate. A Stormwater Pollution Prevention Plan (SWPPP) and a soil management plan for each Trail section would be prepared to ensure sediment and erosion control measures are in place during construction and soils are managed appropriately. Elevated trail structures may be used when steep slopes cannot be avoided.

WATER

Construction activities would result in temporary impacts to wetlands, generally along their outer edges or at the edges of the limit of disturbance, and surface waters where piles would be installed. Temporarily disturbed wetlands would be restored to existing conditions through grading and planting of native wetland species, if necessary. A SWPPP would be prepared for each section of the Trail that would minimize the potential for discharge of materials into wetlands and/or surface waters. In-water construction activities for the proposed pedestrian/bicycle bridge over Fishkill Creek along Fjord Trail North and for Fjord Trail South along the Hudson River shoreline would result in sediment resuspension from pile driving and water vessels. For pile installation along Fjord Trail South, to minimize potential impacts on water quality, subsurface sediments drawn up during drilling would be removed through a vacuum extraction process, placed on a hopper barge, and transported offsite for disposal at a licensed facility, and spud barges would maintain sufficient

clearance between the vessel and river bottom to avoid sediment disturbance. For the pedestrian/bicycle bridge along Fjord Trail North, the number, type, and size of piles would be determined as the design is advanced and measures to minimize impacts to water quality would be developed in coordination with the appropriate regulatory agencies.

BIOLOGICAL RESOURCES

Water vessels and in-water construction for the pedestrian/bicycle bridge over Fishkill Creek along Fjord Trail North and along Fjord Trail South would potentially result in temporary impacts to submerged aquatic vegetation (SAV) due to shading and resuspension of sediments. This would result in temporary loss of habitat for aquatic biota (including endangered species such as the shortnose sturgeon and Atlantic sturgeon) in these areas, but sufficient habitat would remain throughout the Hudson River. During the permitting process, the Applicant would consult with the National Marine Fisheries Service (NMFS) with respect to protection of, and mitigation measures for potential impacts to, Essential Fish Habitat (EFH) and the sturgeon species.

Construction of the Fjord Trail would result in the clearing of vegetation from multiple ecological communities. Tree clearing, in general, and large tree removal would be minimized to the extent practicable during construction. An invasive species management plan would be developed for each Trail section to prevent transport of invasive species during construction.

Construction activities would potentially displace, stress, or otherwise temporarily affect terrestrial wildlife near construction activities. To minimize impacts on wildlife, construction activities would occur outside the breeding seasons of protected species, such as pied-billed glebe and least bittern. Additionally, while endangered Indiana bats and northern long-eared bat, and the proposed listed tri-color bat, have not been documented within the Trail Corridors, tree clearing would be conducted during the winter hibernation period (November 1 – March 31) as a precautionary measure to avoid the potential for direct impacts to these species. While these short-term impacts would be unavoidable, they would be temporary for the duration of construction and are not considered to be significant. During the permitting process, the Applicant would consult with the U.S. Fish and Wildlife Service (USFWS) and the New York State Department of Environmental Conservation (NYSDEC) regarding protection measures of, and mitigation measures for potential impacts to, federally and state listed species, as appropriate.

NOISE

Construction of the proposed Fjord Trail would result in temporary disruption due to construction vehicles and noise, but given the short duration of activities in any one location and the intervening distance from sensitive receptors, these would not result in significant adverse impacts. Construction vehicle access, staging, and construction activities in recreational areas, such as Long Dock Park, Denning's Point, Madam Brett Park, Little Stony Point, and Dockside Park would temporarily diminish the enjoyment of these resources for users, but all areas would be restored to existing or improved conditions.

OPERATION (LONG-TERM, PERMANENT)

LAND

Fjord Trail would result in permanent impacts to land. The Fjord Trail (Fjord Trail North and South combined) would result in about 22 to 23 acres (Fjord Trail North Main Trail Option 1 and Option 2, respectively) of new impervious surface, which would include approximately 9 to 10 acres of crushed stone path with limited permeability (Fjord Trail North Main Trail Option 1 and 2, respectively). This would result in a loss of pervious soil surface, vegetative cover, and habitat

as a result of the proposed facilities, including the Main Trail, Meanders, Trail Banks, parking areas, and restroom buildings. This would be balanced with maintaining pervious surfaces where operationally feasible and providing landscape drainage improvements and biofiltration swales as appropriate. Given the conceptual level of design, particularly for Fjord Trail North, these estimates conservatively assume the full footprints for parking areas and Trail Banks would be impervious. As design advances and is refined, there may be opportunities to reduce impervious surface coverage (e.g., minimizing paved areas, incorporating landscaping). In addition, the path widths would be minimized to the extent possible to limit the increase in impervious area while meeting Accessibility needs.

WATER

Fjord Trail North would result in permanent impacts to a state- and federally regulated wetlands with Main Trail Option 1 due to the boardwalk crossing south of Fishkill Creek and from a proposed Meander in Madam Brett Park. Main Trail Option 2 would be upslope and would avoid the wetlands south of Fishkill Creek. As design advances, additional wetland surveys and formal wetland delineations would be conducted, and the alignment would be modified to avoid or minimize wetland impacts, such as narrowing the trail or using an elevated boardwalk.

Fjord Trail South would be designed to avoid wetlands to the extent possible to limit the potential for permanent impacts to wetlands. Fjord Trail South would be located on the west side of the causeway south of Little Stony Point and would not have the potential to result in permanent impacts to Wetland H, which is located on the east side of the causeway. The Applicant would seek a permit from the appropriate regulatory agency(ies) for any activities affecting wetlands, and if required, appropriate compensatory mitigation to offset any permanent loss of wetland habitat would be determined in coordination with NYSDEC and/or the U.S. Army Corps of Engineers (USACE).

In-water elements of the proposed Fjord Trail South would include: permanent loss of 365 square feet and net placement of 375 cubic yards of flowable concrete fill below mean higher high water (MHHW) in the footprint of piles supporting the elevated trail section over the Hudson River; permanent placement of approximately 1,920 cubic yards of fill below MHHW comprising riprap repairs and additional slope stabilization; and permanent increase in overwater coverage of 0.53 acres from the elevated trail section over the Hudson River. The piles used to support the pedestrian and bicycle bridge over Fishkill Creek may also result in a permanent loss of bottom habitat. All in-water project components would be conducted in compliance with applicable permits and compensatory mitigation would be implemented, if needed, in coordination with NYSDEC and USACE.

BIOLOGICAL RESOURCES

The Fjord Trail would result in the potential disturbance of about 53.8 acres of habitat, some of which are classified as significant natural communities by the New York Natural Heritage Program (NYNHP).

Direct permanent impacts from the Proposed Action would be reduced by incorporating existing trails and an old railbed into the design as feasible to reduce the amount of vegetation removal. Tree clearing, in general, would be minimized to the extent possible. Large trees would be avoided to the extent practicable upon final trail and facility (e.g., parking lots, restrooms) design and layout. Impacts to adjacent mature trees and to vegetation on steep slopes would also be minimized. Trail and facility design would keep limits of disturbance as narrow as possible. Restoration of native vegetation and invasive species management protocols, conducted in

coordination with the NYS Office of Parks, Recreation, and Historic Preservation (OPRHP) and NYSDEC, as needed, would offset some of the impacts to the ecological communities.

Indirect impacts may result from increasing and introducing recreational activity, human disturbance, and invasive species into previously isolated habitats (referred to as a zone of influence), which would contribute to edge effects, fragmentation, and other indirect effects on ecological communities. Impacts to wildlife would result from habitat loss, fragmentation, lighting at restroom buildings and parking areas, and an increase in human activity in currently forested and marshy areas. This would potentially displace the more sensitive wildlife species in areas that previously were not as affected by human activity. Lighting would be shielded and downward directional (dark sky compliant) to limit trespass and turned on only during dusk/evening hours. The Applicant would consult with USFWS with respect to federally listed animal species and NYSDEC with respect to state listed animal species. Minimization and mitigation strategies implemented to protect wildlife would include wildlife crossings in the trail design to allow safe passage for animals; seasonal trail closures for breeding and non-breeding bald eagles and pied-billed grebe; and visitor education efforts to reduce disturbance to protected species, illegal collecting of reptiles, and negative human-snake interactions. Ongoing coordination with USFWS, NMFS, NYSDEC, and OPRHP would continue as the project advances to ensure that all protected species are provided adequate protection.

A number of rare, threatened, and endangered terrestrial and aquatic species have the potential to occur along the Fjord Trail Corridor that could be adversely affected. The recreational usage of Fjord Trail North through marshes/wetlands would be expected to greatly reduce the potential for the marshes to provide suitable nesting habitat for breeding pied-billed grebes. Further design refinements could incorporate direct in and out trails with fences and wildlife blinds in place of meanders that fully border the marsh areas to maintain adequate riparian buffers and reduce the impact of human disturbance from trail usage. Cerulean warblers may be adversely affected from habitat loss and forest fragmentation. Future surveys would be conducted to ascertain the presence of cerulean warblers and other breeding birds, to guide final design details, and to help develop a management plan for the area and additional avoidance, minimization and mitigation measures. The New England cottontail has been documented throughout much of the woodland near the Forest Trail North Reach and the Notch and would be adversely affected by fragmentation of habitat. Trail and facility design, especially in the Notch, will continue to be advanced in consultation with OPRHP, NYSDEC, NYNHP, and others as appropriate, to minimize impacts to the New England cottontail and its habitat. Eastern box turtles would be affected by loss and alteration of habitat followed by extensive levels of recreational activity, as well as collection pressure by visitors. Interpretive signage and educational information would be placed along Fjord Trail North regarding protected species in general to dissuade collection.

In-water piles associated with the Fjord Trail for the proposed pedestrian and bicycle bridge over Fishkill Creek and the elevated trail along Fjord Trail South would displace submerged aquatic vegetation (SAV) habitat within the footprint of the piles. Reduction in light due to overwater coverage from the trail would also have an adverse effect on the ability of SAV to grow and thrive. Loss of SAV would also adversely affect aquatic biota that depend on this habitat, but this loss of habitat would be minimal compared with the habitat available throughout the Hudson River. As the design advances, an SAV survey will be conducted in Fishkill Creek for Fjord Trail North and SAV survey results will be finalized along the Hudson River within the Fjord Trail South Corridor in coordination with OPRHP and the NYSDEC to avoid and minimize impacts to these beds to the extent possible through construction means and methods and elevated trail design. In

consultation with the NYSDEC, OPRHP, and NMFS, SAV restoration opportunities would be explored.

HISTORIC AND ARCHAEOLOGICAL RESOURCES

Ground disturbance from the proposed Fjord Trail North could affect archaeological resources at the Notch, Madam Brett Park, and the southern portion of the Forest Trail Reach (southernmost section of Fjord Trail North), pending further archaeological studies that are ongoing to fully evaluate the boundaries and significance of the identified archaeological sites. As design advances, adjustments in the alignment would be made to avoid significant archaeological resources where possible. If significant archaeological sites cannot be avoided, measures to minimize and/or mitigate any adverse effects to archaeological resources would be developed in accordance with the Letter of Resolution (LOR) for this project between the State Historic Preservation Office (SHPO) and HHFT, Inc., implemented in consultation with SHPO and any participating Indigenous Nations, as needed.

TRAFFIC AND TRANSPORTATION

Increased visitation as a result of the Fjord Trail would increase traffic volumes on local roads, which would result in significant traffic impacts at three intersections in or near the Village of Cold Spring: Main Street at NYS Route 9D, Fair Street/Washburn Lot entrance at NYS Route 9D (within the Town of Philipstown), and Main Street at Fair Street. These impacts could be mitigated with removal of some on-street parking near the intersection, restriping, signal retimings, and a potential roundabout at the Fair Street/Washburn Lot entrance at NYS Route 9D, in coordination with NYSDOT and Putnam County. To help manage traffic and visitation, the Fjord Trail would expand existing and construct new parking areas, use smart tools to inform visitors of parking locations and availability, and incorporate a shuttle service along the Fjord Trail corridor that would be implemented as part of the separate BNCB and Dutchess Manor improvements. Additional potential visitation management strategies that could be implemented include incentivizing off-peak visitation, incentivizing alternate modes of transportation (e.g., transit or carpooling), and utilization of a reservation system (see Chapter III.L, "Traffic and Transportation – Fjord Trail," for further details). ✷