

**Green Acres Program
State House Commission Pre-application
Local Parkland – Major Diversion
Hudson Tunnel Project
Appendix B**

ENVIRONMENTAL ASSESSMENT REPORT

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Appendix B – Environmental Assessment Report**

ENVIRONMENTAL ASSESSMENT REPORT

This appendix describes the proposed diversions, the environmental conditions on the parklands proposed for diversion, the probable environmental impacts to the parklands, the methods of promoting appropriate environmental design and methods of mitigating adverse environmental impacts associated with the disposal or diversion, and the avoidance of adverse environmental impacts.

PRIOR STUDIES AND APPROVALS

The Federal Railroad Administration (FRA), jointly with the Federal Transit Administration (FTA), issued a combined Final Environmental Impact Statement (FEIS) / Record of Decision (ROD) and Final Section 4(f) Evaluation for the Hudson Tunnel Project (the “Project”) in May 2021. The New Jersey Transit Corporation (NJ TRANSIT) and the Port Authority of New York and New Jersey (PANYNJ) were joint lead agencies in the development of the FEIS. The FEIS/ROD disclose the environmental impacts of the Hudson Tunnel Project and the measures to minimize and/or mitigate the harm from these impacts that will be a requirement associated with any federal approval or funding action. The documents also include the Final Programmatic Agreement prepared pursuant to Section 106 and the Final Section 4(f) Evaluation and Determination in accordance with Section 4(f) of the U.S. Department of Transportation Act of 1966. The ROD represents the completion of the Federal environmental review process required under the National Environmental Policy Act (NEPA).

NJ TRANSIT is the public transportation operator that will utilize the Hudson Tunnel Project and is managing the property acquisitions and regulatory permits in the State of New Jersey. The National Railroad Passenger Corporation (Amtrak) is the intercity rail transportation operator that will utilize the Hudson Tunnel Project and will be responsible for dispatching trains through the Hudson Tunnel Project, as part of Amtrak’s Northeast Corridor. The Gateway Development Commission (GDC) is the NEPA Project Sponsor and Federal Grant Recipient for the Hudson Tunnel Project. GDC is the Project Sponsor for the Hudson Tunnel Project. The Project Sponsor is responsible for overseeing and completing the project on time and within budget, applying for and receiving Federal loans, and ensuring that the project meets all its responsibilities under Federal requirements.

I. DESCRIPTION OF THE PROPOSED DIVERSIONS

The Hudson Tunnel Project (Project) will consist of the construction of two new tubes containing one-track each, generally parallel to the existing North River Tunnel and extending from the Amtrak’s Northeast Corridor (NEC) in Secaucus, New Jersey, beneath the Palisades (North Bergen and Union City) and the Hoboken waterfront area, and beneath the Hudson River to connect to Penn Station New York (PSNY) (see Appendix H Figures 1 through 4). The Hudson Tunnel Project will also include the rehabilitation of the North River Tunnel, so that upon completion of the Project, the NEC would have four tracks (two in the new Hudson River Tunnel and two in the North River Tunnel) between New Jersey and New York under the Hudson River.

It is proposed that the Hudson Tunnel Project will pass underneath Green Acres encumbered parkland owned by the City of Hoboken. The Hudson Tunnel Project requires the major diversion of Green Acres

encumbered property to provide subsurface easements measuring approximately 0.429 acres within a 1.965-acre parkland identified as 1600 Park and approximately 3.38 acres within a 25.377-acre parkland identified as Harborside Park (commonly referred to as Cove Park) (see Appendix H, Figure 3).^{1,2}

The subsurface easements under 1600 Park and Harborside Park are required for the construction, maintenance, and operation of the new Hudson River Tunnel. The top of the tunnel structure would be permanently located approximately 90 feet underneath the surface-level parklands. The depth from ground level to the top of the easement ranges from approximately 72 feet to 83 feet (see Figures 1-3 in the Pre-Application as illustrative examples). The extent of the easement is greater than the tunnel itself to account for variations in subsurface conditions during construction.

The easements sought under the proposed diversion are subsurface and include rights to construct, maintain, and operate the new Hudson River Tunnel. The permanent subsurface easement consists of the right to construct, operate, maintain, reconstruct, repair, replace and relocate subsurface rail, fixed guideway systems, and appurtenances, the right to operate passenger rail and fixed guideway vehicles, systems and services as set forth in the description, along with the right to install and maintain transmission data or utility lines or any other form of communication or transmission.

No surface work would be undertaken at either parkland. Construction activities will occur near both parks, however there will be no permanent impact to the parks' recreational function or value. There will be no restrictions on the existing surface-level use of the parkland proposed for diversion. There are restrictions associated with construction above and adjacent to the subsurface easement which require coordination, review and concurrence by Amtrak, NJ TRANSIT, its transferees, successors, and assigns. However, future uses cannot place, insert or penetrate any structures within the subsurface easement area as depicted on the cross sections and profile contained within the individual parcel map. A fee simple interest is not being sought under the proposed diversions. The area above the Hudson River Tunnel would remain part of 1600 Park and Harborside Park, and the acquisition of the easements would not have an impact on the public's access to or use of the parkland. Construction of Harborside Park and the NJDEP Rebuild By Design project will not be impacted by the diversions.

II. DESCRIPTION OF THE ENVIRONMENTAL CONDITIONS OF THE PARKLANDS PROPOSED FOR DIVERSION

A. NATURAL RESOURCES

Consistent with the guidance provided by New Jersey Department of Environmental Protection (NJDEP) Green Acres for major diversion pre-applications, this section describes the geological character, soil characteristics, topography, land form, hydrological features, surface water classification and biological

¹ Note: the Project applicant engaged an engineering survey firm in preparing this application. The acreages for each block and lot presented in this application are based on the firm's conclusions which use the most recent information available. However, it is noted the City of Hoboken and Township of Weehawken's tax assessor records reflect slightly different acreages for these blocks and lots. This discrepancy does not affect the total acreage of subsurface easements being diverted.

² Note: Since the time of the 2022 scoping hearing, additional property surveys have been completed. The acreages presented in this application reflect the most recent information available.

resources of the area including State and federal threatened and endangered species and critical habitats in the vicinity of the proposed diversion areas.³

1600 Park is located at 1600 Park Avenue and Harborside Park is located near 15th Street and Park Avenue in Hoboken (see Appendix H, Figure 2).

As described in Chapter 15 of the FEIS, this area is underlain by rock of the Newark Basin, composed of mudstone, siltstone, sandstone, conglomerate, and argillite. The bedrock geology at the New Jersey bulkhead line in Hoboken, within the Harborside Park diversion area, is 60 feet below mean low water and forms the Stockton Formation, the base sedimentary layer of the Newark Basin. The Stockton Formation is predominately sandstone with silty mudstone, argillaceous siltstone, and shale. Excavation and filling for residential, commercial, or industrial purposes have altered a large percentage of the surficial soils in this area. Earth and manmade materials have been placed as fill, including gravel, sand, silt, clay, trash, cinders, ash, and construction debris. Large land areas along the Hudson River shoreline in Hoboken were reclaimed by filling tidal marsh and other low-lying areas with a variety of materials, including clean granular fill, cinders, ash, shotrock (irregular-shaped angular broken stones from excavation activities) from construction of various tunnels, other construction debris, and garbage.

The United States Department of Agriculture (USDA) mapped soils are presented in Appendix H, Figure 5 and are considered to be urban land, bedrock substratum (URBEDB); Laguardia artifactual coarse sandy loam (LagA); urban land, wet substratum (URWETB); and urban land-Greenbelt complex (USGRTA). No surface waters other than the Hudson River are located near the proposed diversion areas. NJDEP classifies the lower Hudson River within the Project study area as SE2 saline surface waters. Suitable uses for SE2 waters are secondary contact recreation, maintenance and propagation of biota, and maintenance of diadromous fish and wildlife.

The parkland areas are located within industrial and heavily urbanized landscape dominated by buildings, transportation infrastructure, and other impervious surfaces that offer minimal habitat for wildlife other than urban-adapted generalists that are ubiquitous throughout the metropolitan area. The following agencies were consulted as part of the FEIS regarding the presence or absence of threatened or endangered species or other species of particular concern within and immediately adjacent to the Project study area, which includes 1600 Park and Harborside Park: National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS), and NJDEP Natural Heritage Program.

According to USFWS's Information for Planning and Consultation (IPaC) database, there are no Federal threatened or endangered species or critical habitats (including wildlife refuges or fish hatcheries) within this area. USFWS's IPaC database identified a number of migratory birds of conservation concern protected under the Migratory Bird Treaty Act and the bald eagle (*Haliaeetus leucocephalus*) protected under the Bald and Golden Eagle Protection Act as having the potential to occur within the Project study area.

New Jersey Natural Heritage Program (NJNHP) identified the following threatened, endangered, special concern, and rare species, wildlife habitats, and ecological communities as having the potential to occur in the Hudson Tunnel Project's study area or its vicinity: glossy ibis (*Plegadis falcinellus*; special concern), little blue heron (*Egretta caerulea*; special concern), osprey (*Pandion haliaetus*; threatened), snowy egret (*Egretta thula*; special concern), yellow-crowned night-heron (*Nyctanassa violacea*; threatened), shortnose sturgeon (*Acipenser brevirostrum*; endangered), Atlantic sturgeon (*Acipenser oxyrinchus*, endangered),

³ New Jersey Department of Environmental Protection, *NJDEP Green Acres Program Rules*, December 18, 2018, https://dep.nj.gov/wp-content/uploads/greenacres/pdf/njac7_36.pdf . Accessed August 2025.

black-crowned night-heron (*Nycticorax nycticorax*; threatened), barn owl (*Tyto alba*; special concern), and floating marsh-pennywort (*Hydrocotyle ranunculoides*; endangered).

B. MAN-MADE RESOURCES

Consistent with the guidance provided by NJDEP Green Acres for major diversion pre-applications, this section describes the present site land use, adjacent land uses, site access, the presence of any hazardous substances or waste, the presence of any underground storage tanks or structures, the presence of abandoned wells not properly sealed, transportation patterns, and zoning.⁴

The parkland areas proposed for the diversion are designated by the City of Hoboken as open space and outdoor recreational land uses and are accessible to the public. Adjacent land uses include commercial, industrial, and residential uses. The portion of 1600 Park in the Township of Weehawken is zoned as a Special Waterfront Zone Planned Development (SW). The portion of 1600 Park in the City of Hoboken and the entirety of Harborside Park are zoned Industrial (I-1(W)). Near the proposed diversion areas, the new Hudson River Tunnel alignment would be approximately 90 feet below surface and encountering contaminated materials would not be a concern other than for excavated materials (spoils) removed during the construction of the new Hudson River Tunnel.

C. HUMAN RESOURCES

Consistent with the guidance provided by NJDEP Green Acres for major diversion pre-applications, this section describes the park and recreational facilities; aesthetic features; historical, archeological, and architectural resources in the vicinity of the proposed diversion areas.

The two parkland areas proposed for diversion are currently accessible to the public and contain built recreational facilities. 1600 Park, owned by the City of Hoboken, includes a multi-use playing field with baseball, soccer, and lacrosse facilities, dog run, viewing mound/slide hill, and restrooms. Harborside Park, owned by the City of Hoboken, includes an active park with playground. In addition, a continuous waterfront walkway runs along the riverfront through Harborside Park that is part of the 18.5-mile-long Hudson River Waterfront Walkway. Approximately three acres of Harborside Park is currently undergoing construction as part of the NJDEP Rebuild By Design project, an initiative to reduce frequent flooding in Hoboken due to major storm surges, high tides, and heavy rainfall events. The City of Hoboken has secured funding for a portion of the future improvement plan from NJ Green Acres Program and Hudson County Open Space Trust. Harborside Park is being replaced with a new signature park that incorporates flood resistant structures. The Rebuild By Design project is anticipated to be completed in 2027 and will improve this section of Harborside Park with a signature park with playgrounds, lawns, game courts, and a viewing deck. The parklands proposed for diversion do not contain any known architectural or archaeological resources.

III. PROBABLE ENVIRONMENTAL IMPACTS TO THE PARKLANDS PROPOSED FOR DIVERSION

A. LAND USE, ZONING, AND PUBLIC POLICY

Land Use

The permanent subsurface easements would be located underneath approximately 0.429 acres of parkland in the City of Hoboken's 1600 Park and approximately 3.38 acres of parkland in the City of Hoboken's

⁴ New Jersey Department of Environmental Protection, *NJDEP Green Acres Program Rules*, December 18, 2018, https://dep.nj.gov/wp-content/uploads/greenacres/pdf/njac7_36.pdf . Accessed August 2025.

Harborside Park.⁵ The diversions will neither temporarily nor permanently affect the surface-level uses or amenities in either parkland. The subsurface easements will not change existing land uses or the general character of the area. Overall, the proposed diversions will not affect the use or enjoyment of 1600 Park's and Harborside Park's recreational facilities.

Zoning

The parklands proposed for diversion are under the jurisdiction of the local municipalities. The portion of 1600 Park in the Township of Weehawken is zoned as a Special Waterfront Zone Planned Development (SW). The portion of 1600 Park in the City of Hoboken and the entirety of Harborside Park are zoned Industrial (I-1(W)). Since the new Hudson River Tunnel would be constructed underneath the parks, the proposed diversions would not affect zoning.

Public Policy

In terms of public policy, the Hudson Tunnel Project, including the subsurface easements being sought under the proposed diversions, would be consistent with the state, county, and local public policies regarding the importance of transportation infrastructure to the region. The Hudson Tunnel Project would promote or support many of the goals that are common to the Hudson County 2016 Master Plan Reexamination Report⁶, the City of Hoboken's adopted 2018 Master Plan Reexamination Report⁷, and the 2025 New Jersey State Development and Redevelopment Plan⁸. Common themes are: the promotion of modal choice; improvement of transit; increasing resiliency; increasing sustainability and promoting economic development. The State Development and Redevelopment Plan recognizes the importance of "maintaining and expanding public transportation to areas of planned higher-density development that provide opportunities to take advantage of the efficiencies of mass transit in ways that support residential and non-residential development." The NEC is a critical link in the regional transportation network for intercity travel and for commuting, and its continued uninterrupted service is a key factor to allow municipalities to continue on a path of economic development. The reliability of the transportation system is important for economic and environmental sustainability. Appendix E, "Compliance with State Development and Redevelopment Plans," discusses in greater detail the Project's compatibility with the New Jersey State Development and Redevelopment Plan, the Hudson County Master Plan, and the City of Hoboken's Master Plan.

B. ECOLOGICALLY SENSITIVE LANDS

1600 Park and Harborside Park are located within the 100-year floodplain (indicating a one percent annual chance flood) (see Appendix H, Figure 6). There are no identified wetlands within either of these parklands (see Appendix H, Figure 7). No surface construction work will occur in either of the parkland areas. Therefore, the proposed diversions would not affect the floodplain or result in flooding of adjacent areas

⁵ Note: Since the time of the 2022 scoping hearing, additional property surveys have been completed. The acreages presented in this application reflect the most recent information available.

⁶ Hudson County Planning Board, *Hudson County 2016 Master Plan Reexamination Report*, February 17, 2017, <https://www.hcnj.us/planning/past-studies-and-documents/>, Accessed August 2025.

⁷ The City of Hoboken, *2018 Master Plan Reexamination Report*, Adopted June 25, 2018, <https://masterplan-cityofhoboken.opendata.arcgis.com/pages/documents--resources>, Accessed August 2025.

⁸ New Jersey State Planning Commission, *Draft Final New Jersey State Development and Redevelopment Plan*, Approved September 15, 2025, https://www.nj.gov/state/bac/planning/documents/update-to-state-plan/dfsdrp_20250915.pdf, Accessed November 2025.

during construction. Overall, the proposed diversions will not result in loss or alteration of any ecologically sensitive lands within 1600 Park or Harborside Park.

C. WATER

Groundwater is found in the consolidated bedrock formations (i.e., bedrock aquifers) and in overlying unconsolidated deposits in this area of New Jersey (i.e., surficial aquifers). Most of the wells in this area draw water from the bedrock aquifers where groundwater is stored and transmitted in fractures (separations in rock that divides it into two or more pieces). No sole-source aquifers, community or non-community water supply wells, or well-head protection areas exist near the parklands. Groundwater in the study area is classified as “Class II Ground Water for Potable Water Supply.” According to the following NJDEP Ground Water Quality Standards⁹: the primary designated use for Class II ground waters is the provision of potable ground waters with conventional water supply treatment, either at their current water quality (Class II-A) or subsequent to enhancement or restoration of regional water quality so that the water will be of potable quality with conventional water supply treatment (Class II-B).

According to Chapter 11 of the FEIS, no surface waters other than the Hudson River are located near the parklands. The lower Hudson River Estuary is a tidally influenced portion of the Hudson River that is part of the New York–New Jersey Harbor Estuary, which also includes upper and lower New York Harbor, Arthur Kill, Kill Van Kull, East River, Raritan Bay, and Jamaica Bay. Runoff within this urbanized area is conveyed to the Hudson River by storm sewers and combined sewer overflow outfalls.

No surface construction work will occur in either of the parkland areas. The new Hudson River Tunnel would be constructed by a tunnel boring machine well beneath (approximately 90 feet) the river bottom in the New Jersey portion of the Hudson River. The proposed diversions would not result in any long-term adverse effects to water quality or stormwater. Overall, the proposed diversions required for the Hudson Tunnel Project will not affect water quality or a water body within 1600 Park or Harborside Park (Chapter 11, pg. 16).

D. AIR QUALITY AND NOISE

The Hudson Tunnel Project FEIS included an analysis of the effects of the Project on air quality at the following locations: Tonnelle Staging Area, Hudson County Staging Area, and Twelfth Avenue Staging Area. The construction periods with activities closest to sensitive receptors and with the most intensive activities and highest emissions were selected as the worst-case periods for analysis. According to Chapter 12A of the FEIS, the Hudson Tunnel Project would not have permanent effects on air quality at the two New Jersey study areas: the Tonnelle Staging Area and the Hudson County Staging Area. Air pollutant emissions may temporarily increase near the proposed Hudson County Staging Area, located along 18th Street due to construction-related traffic; however, the Project would include measures, such as idling restrictions and use of best available tailpipe reduction technologies, that would minimize emissions during construction. Overall, the total maximum emission concentrations from the on-site sources are predicted to be lower than the corresponding NAAQS for PM_{2.5}, PM₁₀, NO₂, and CO concluding that there will be no adverse effect at the New Jersey staging areas (Chapter 12A, pg. 17-19).

Noise

⁹ New Jersey Department of Environmental Protection, June 1, 2020, *Ground Water Quality Standards*, https://dep.nj.gov/wp-content/uploads/rules/rules/njac7_9c.pdf , Accessed August 2025.

The Hudson Tunnel Project FEIS included an analysis of the effects of the Project on noise levels at locations of concern including 1600 Park, following FTA procedures described in the FTA guidance manual, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018. Chapter 12A of the FEIS states that the Hudson Tunnel Project would not result in permanent noise impacts at 1600 Park or Harborside Park (Chapter 12A, pg. 35).

The FEIS considered the Project's potential to cause construction period noise near 1600 Park. Across the street at Willow Avenue south of the Hudson-Bergen Light Rail (HBLR) right-of-way in Hoboken, the Project would involve short-term construction activities associated with underpinning (supporting) the foundation of the Willow Avenue viaduct. The underpinning would include installation of piles, which will be drilled into place rather than driven, with above-ground pile caps and concrete-encased steel girders to reduce noise levels. Noise levels during the Willow Avenue viaduct construction would be below FTA noise impact thresholds at 1600 Park. As such, noise may be noticeable at 1600 Park and Harborside Park, however it would not constitute an adverse construction noise impact at these parks (FEIS/ROD Chapter 12A, pg. 15; NEPA Re-evaluation #9, pg. 41).

Per Chapter 12A of the FEIS: The Project Sponsor will coordinate with the City of Hoboken and Township of Weehawken regarding pile installation for the underpinning of the Willow Avenue viaduct, to avoid disruption to special events in nearby parks and will provide advance notification to the extent practicable of when pile installation would occur, so that the city and township can provide public notification of this activity and its expected duration (Chapter 12A, pg. 20).

Vibration

The Hudson Tunnel Project FEIS included an analysis of the effects of the Project on vibration levels in Chapter 12B. The Project's tunnel alignment would pass directly beneath 1600 Park and Harborside Park. FRA and NJ TRANSIT identified receptors within the FTA guidance manual's vibration analysis screening distances from the Project. This included nine receptors in New Jersey, one of which was the future Rebuild By Design flood wall along Park Avenue in Weehawken (proposed as part of Harborside Park). According to Chapter 12B in the FEIS, the Project would not result in permanent vibration impacts at the New Jersey receptors Chapter 12B, pg. 19). During construction, tunneling activities would be approximately 90 feet below the surface in this area. Since the tunnel boring machine (TBM) typically progresses at a pace of approximately 30 to 35 feet per day, the vibration would not last for more than two days at most at this location. While minor vibration from the TBM may be discernible for a few days as the TBM passes these parks, these temporary construction vibrations are not anticipated to be disruptive.

E. AQUATIC AND TERRESTRIAL IMPACTS

The parkland areas are located within industrial and heavily urbanized landscape dominated by buildings, transportation infrastructure, and other impervious surfaces that offer minimal habitat for wildlife other than urban-adapted generalists that are ubiquitous throughout the metropolitan area. The terrestrial habitat is limited to manicured lawns, street trees, roadside margins of ruderal vegetation, and small, fragmented woodlots. No surface waters other than the Hudson River are located near the parklands.

As described above, the following agencies were consulted as part of the FEIS regarding the presence or absence of threatened or endangered species or other species of particular concern within and immediately adjacent to the Project study area, which includes 1600 Park and Harborside Park: NOAA NMFS, USFWS, and NJDEP Natural Heritage Program.

There will be no surface work in either of the parklands and therefore the proposed subsurface easements are not anticipated to result in adverse impacts on threatened or endangered species or critical habitat. No trees will be removed in either parkland, and therefore no trees greater than six inches in diameter at breast

height will be removed. According to Chapter 11 of the FEIS, the Hudson Tunnel Project would not require any surface work in either of the parklands, the proposed diversions will not affect nesting habitat of listed species, and no permanent disturbance to listed species is expected to occur in 1600 Park and Harborside Park (Chapter 11, pg. 56).

F. SOCIAL AND ECONOMIC

Historic and Archaeological Resources

No historic resources exist within 1600 Park or Harborside Park. As mandated by Section 106 of the National Historic Preservation Act of 1966, consultation has occurred and will continue with the relevant State Historic Preservation Officers (SHPOs)—the New Jersey State Historic Preservation Office (NJHPO) and the New York State Historic Preservation Office (NYSHPO)—Advisory Council on Historic Preservation (ACHP), and other consulting parties. A Programmatic Agreement was developed through Section 106 consultation between the various federal, state, and local project stakeholders and other consulting parties as part of the Section 106 process that sets forth detailed measures to avoid, minimize, and/or mitigate adverse effects on historic properties.

Parks and Recreation

No surface work will be undertaken at 1600 Park or Harborside Park. Therefore, the Hudson Tunnel Project would not result in permanent impacts parks and recreational facilities.

However, construction activities will occur in close proximity to both parks. As described above, construction noise would not exceed FTA noise impact thresholds at 1600 Park, future park space at Harborside Park, and Hudson River Waterfront Walkway from construction. While construction noise may be temporarily noticeable at these parks, this noise increase would not be an adverse impact. The Project Sponsor will coordinate with the City of Hoboken and Township of Weehawken, which have jurisdiction for this park, regarding pile installation for the underpinning of the Willow Avenue viaduct, to avoid disruption to special events in the park and to provide advance notification, so that the city and township can provide public notification of this activity and its expected duration.

Additionally, tunneling activities will be approximately 90 feet below the surface in this area. Vibrations would not last for more than two days at most at this location. While minor vibration from the tunnel boring machine may be discernible for a few days as the tunnel boring machine passes these parks, it is not anticipated to be disruptive to park users.

In addition, there would be a construction truck route nearby 1600 Park and Harborside Park. The proposed truck routes for construction trucks traveling to and from the Hoboken construction staging site would include a new temporary access road along the north side of the existing HBLR tracks that would be approximately 150 feet from 1600 Park and the undeveloped section of Harborside Park at its closest point (a currently undeveloped stretch of waterfront along Park Avenue that will be developed in the future; the timing for this construction is not known). Additionally, trucks accessing the 17th Street Staging Area during Willow Avenue viaduct underpinning activities and jet grouting below the HBLR (anticipated to occur over a period of approximately 19 months) would travel along Park Avenue between 15th and 19th streets, 15th and 16th streets between Park Avenue and Clinton Street, as well as a short section of Clinton Street between 15th and 17th streets. Trucking activity would be discernible from 1600 Park and the undeveloped section of Harborside Park, but would not result in noise or visual impacts at the park. The predicted truck volumes on the Project's truck routes would not result in construction noise impacts for parks along or near the routes.

Overall, the area above the new Hudson River Tunnel would remain part of 1600 Park and Harborside Park, and the acquisition of the subsurface easements would not have an impact on the public's access to or use

of the parkland. Construction of Harborside Park and the NJDEP Rebuild By Design project will not be impacted by the diversions.

Environmental Justice

The proposed diversions would not affect the public enjoyment of the parklands and the surrounding neighborhoods do not meet the thresholds for environmental justice communities. Therefore, the proposed diversions would not result in disproportionately high impacts to minority or low-income communities. As part of the FEIS, FRA and NJ TRANSIT prepared an analysis of the Project's effects on environmental justice populations following guidance and methodologies for compliance with Executive Order 12898 established by the Council on Environmental Quality, the U.S. Department of Transportation (Updated Environmental Justice Order 5610.2(a), *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*), and FTA (Environmental Justice Policy Guidance for Federal Transit Administration Recipients FTA C 4703.1) as well as New Jersey and New York State guidance. The FRA and NJ TRANSIT, working with the other Project Partners, identified ways to reduce the impacts of Project construction on local communities near the construction sites in New Jersey. In the design and construction phases of the Project, the lead Federal agency will ensure that the Project Sponsor will continue to involve environmental justice communities in the study area, including targeted outreach to Limited English Proficient populations. During construction, the Project Sponsor will establish complaint procedures to promptly address community concerns and implement additional control methods where necessary.

G. SOLID WASTE

Specific to the proposed diversions, no surface construction work will occur in either of the parkland areas. The Hudson Tunnel Project will not generate waste within 1600 Park or Harborside Park. The Hudson Tunnel Project alignment has long history of industrial and railroad use that may have resulted in contamination. The overall Hudson Tunnel Project has the potential to encounter contaminated soil or groundwater during construction. As described in the FEIS, the Project Sponsor will implement measures to avoid, minimize, or mitigate any potential adverse effects from contaminated materials during construction of the Project. Such measures include, but are not limited to, the implementation of Project-wide Soils and Materials Management Plan to establish procedures for materials handling during construction, Best Management Practices (BMPs) to be implemented during construction, such as procedures for stockpiled or containerized material and testing procedures for sampling material prior to off-site disposal or on-site reuse; the development of a site-specific Soil Reuse and Alternative Fill Management Plan for management of contaminated soil; and the implementation of a Project-specific Health and Safety Plan (HASP) prior to earth-disturbing activities.

H. AESTHETICS

As part of the FEIS, an Area of Visual Effect was identified based on the project information and the visibility of Project features through landform, land cover, atmospheric conditions, and limits of sight. 1600 Park and Harborside Park do not fall within the Project's established Area of Visual Effect. There would be no above-ground visual components of the Hudson Tunnel Project in the two parkland areas. Therefore, the Hudson Tunnel Project will not cause changes to the overall visual character of the areas or blocks from the two parkland areas.

I. SUSTAINABILITY

The Hudson Tunnel Project would introduce infrastructure with a design lifespan of approximately 100 years and would represent critical transit infrastructure in the region. Per the FEIS: The Project Sponsor

will require that construction for the Project to follow Project-specific sustainable design criteria, many of which would also contribute to reducing greenhouse gas emissions from operations. Contract documents will define and require specific measurable sustainable design performance targets to be implemented. The Project in general is designed to provide resilience in the form of redundancy by providing both the rehabilitated North River Tunnel and the new Hudson River Tunnel as options for use once all construction and rehabilitation are completed. In addition, per the FEIS, the Project Sponsor will require that the design of the Project incorporates resilience measures developed to avoid, minimize, and mitigate the potential risks of severe storms and flooding in the future.

J. CUMULATIVE EFFECTS

The Hudson Tunnel Project FEIS identified future projects being planned or constructed in and near the Project study area that have the potential for overlapping and cumulative effects with the Hudson Tunnel Project, including a number of future projects are currently being implemented or planned that could affect the PSNY rail complex as well as other transportation improvements are planned or proposed in and near the Project study areas that could cumulatively affect the regional transportation network if they are implemented. Together with other components of the NEC FUTURE and the Gateway Program, the Project would preserve the current functionality of the existing NEC Hudson River rail crossing and strengthen the resilience of the NEC.

In the vicinity of 1600 Park and Harborside Park, large-scale waterfront redevelopment will continue within the Lincoln Harbor Redevelopment Area just north of the Cove, where vacant parcels beyond the study area boundaries will be redeveloped with a mix of retail, office, and residential uses similar to other new waterfront properties in Weehawken. Construction activities for Lincoln Harbor have been ongoing for many years and would not occur close to the Project site or potential truck routes in Weehawken; therefore, there is little potential for cumulative impact with the Hudson Tunnel Project.

Also in Weehawken and Hoboken, the NJDEP will complete the Rebuild By Design project, an infrastructure initiative to reduce frequent flooding in Hoboken resulting from major storm surges, high tides, and heavy rainfall events. That project will include numerous green infrastructure elements, such as landscaped berms and levees and bioretention basins, to resist and delay flooding. Close to the Project site, the Rebuild by Design Project will include a flood wall along the east side of the HBLR alignment in Weehawken, crossing to the west side of the HBLR just south of 19th Street. The Project Sponsor will also coordinate with NJDEP to avoid conflicts to the extent practicable during any overlapping construction activities of the Rebuild By Design Project and the Hudson Tunnel Project in Hoboken and Weehawken.

When construction is complete, there would be no visible, above-grade Project elements within 1600 Park or Harborside Park. Trains would operate in a tunnel deep beneath the surface of 1600 Park and Harborside Park, where they would be imperceptible and would have no cumulative effect on the surrounding environment.

IV. METHODS OF PROMOTING APPROPRIATE ENVIRONMENTAL DESIGN AND METHODS OF MITIGATING ADVERSE ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE DIVERSIONS

All measures to avoid, minimize and mitigate adverse effects of the Hudson Tunnel Project are outlined in the FEIS and ROD. Environmental design and other measures to avoid, minimize and mitigate adverse effects of the Hudson Tunnel Project within the two parkland areas, 1600 Park and Harborside Park, and the proposed diversion of five subsurface easements include:

- Outreach program to local neighborhoods, to include a staffed local neighborhood outreach office near each of the construction sites (i.e., Tonnelle Ave, Hoboken, and Twelfth Ave); a dedicated Project liaison; a 24-hour hotline for emergencies and construction complaints; and regular meetings and notifications about construction status and upcoming activities.
- Best practices during construction as described in the USACE, NJDEP, NYSDEC, and other permits and state and local requirements.
- Mitigation measures will be used to reduce noise levels at construction sites such as use of quieter equipment; use of acoustical noise tents and mufflers for loud equipment as practicable; vehicles routed through staging areas to minimize use of backup alarms.
- Implementation of a program to certify that all noise control measures specified in the EIS are being fully and properly implemented.
- Development and implementation of a noise monitoring plan during construction.
- The Willow Avenue underpinning will utilize drilled micro-piles with above ground pile caps and concrete-encased steel girders rather than below-ground underpinning, reducing construction-period noise levels at 1600 Park, Harborside Park, and Hudson River Waterfront Walkway.
- The Project Sponsor will coordinate with the City of Hoboken and Township of Weehawken regarding pile installation for the underpinning of the Willow Avenue viaduct, to coordinate construction activities to avoid disruption to special events in nearby parks, and to provide advance notification, to the extent practicable, so that the city and township can notify the public of this activity and its expected duration.
- Use of ultra-low sulfur diesel; idling restrictions; Best Available Tailpipe Reduction Technologies for all diesel engines; use of newer equipment.
- Provisions listed in the Programmatic Agreement developed through Section 106 consultation between the various federal, state, and local project stakeholders and other consulting parties as part of the Section 106 process that sets forth detailed measures to avoid, minimize, and/or mitigate adverse effects on historic properties.
- Sustainability design guidelines for construction; construction contracts to include provisions related to locally produced, recycled building materials and biodiesel.
- Implementation of Project-wide Soils and Materials Management Plan to establish procedures for materials handling during construction, BMPs to be implemented during construction, such as procedures for stockpiled or containerized material and testing procedures for sampling material prior to off-site disposal or on-site reuse.
- Development of a site-specific Soil Reuse and Alternative Fill Management Plan for management of contaminated soil.
- Implementation of a Project-specific HASP prior to earth-disturbing activities.
- Proper handling and disposal of all excavated soils and contaminated material encountered during construction in accordance with all applicable laws and regulations.

V. AVOIDANCE OF ADVERSE ENVIRONMENTAL IMPACTS

The Selected Alternative for the Hudson Tunnel Project was based on a thorough and careful consideration of the potential short-term and long-term benefits and impacts, mitigation of those impacts, and public and agency comments. The FRA and FTA have determined that all practicable measures to minimize environmental harm have been adopted as part of the Hudson Tunnel Project and that mitigation commitments are outlined in the FEIS/ROD are to be implemented by the Project Sponsor in final design, construction contracts, and post-construction monitoring. The expected benefits to the region's transportation, infrastructure, and environment that would result from the Hudson Tunnel Project largely outweigh the probable environmental impacts, which, in turn, will be mitigated to the maximum extent practicable.