

10.1 INTRODUCTION

This chapter evaluates the potential effects of the Preferred Alternative on visual and aesthetic resources in the surrounding area. It considers the effects of visible construction activities as well as permanent Project elements.

This chapter contains the following sections:

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10.2 ANALYSIS METHODOLOGY

During development of this Environmental Impact Statement (EIS), the Federal Railroad Administration (FRA) and NJ TRANSIT developed methodologies for evaluating the potential effects of the Hudson Tunnel Project in coordination with the Project's Cooperating and Participating Agencies (i.e., agencies with a permitting or review role for the Project). The methodologies used for analysis of visual and aesthetic resources are summarized in this chapter.

10.2.1 REGULATORY CONTEXT

FRA's *Procedures for Considering Environmental Impacts*¹ call for environmental reviews to consider a proposed project's effect on the aesthetic environment and scenic resources, including any significant changes likely to occur in the natural landscape and in the developed

¹ 64 Federal Register 28545, May 26, 1999.



environment. The FRA procedures also require that the analysis discuss the consideration given to design quality, art, and architecture in project planning and development by the U.S. Department of Transportation (USDOT) Order 5610.4 and the Federal Transit Administration (FTA) Circular 9400.1A.

10.2.2 ANALYSIS TECHNIQUES

FRA and NJ TRANSIT assessed visual impacts by evaluating the compatibility of the Preferred Alternative with the surrounding context, sensitivity of the viewers, and degree of impact. The assessment of compatibility comprised consideration of the Preferred Alternative's visual effects in relation to such elements as scale, form, materials, visual character, and distance between the viewer and the visual resource.

In the absence of FRA-specific guidance for assessment of visual impacts, this analysis was prepared in accordance with the *Guidelines for the Visual Impact Assessment of Highway Projects* (January 2015) prepared by the Federal Highway Administration (FHWA), as appropriate and applicable to the Hudson Tunnel Project. As the guidance prepared by FHWA is designed to address the evaluation of visual impacts of highway projects, many key components are applicable to the visual analysis methodology for the Hudson Tunnel Project, and those components are included in this analysis. Although this project is not a highway project, it is similar to one in that it involves new work on a linear transportation corridor and therefore many of the components in the guidance were relevant to the analysis. Such elements as effects on neighborhood character; viewer groups and viewer sensitivity are included in the visual assessment.

In accordance with the FHWA guidelines, the visual impact assessment consists of four phases: 1) the establishment phase, in which the study area is defined and the Area of Visual Effect identified; 2) the inventory phase, in which the existing visual quality and the components of the affected environment and populations are examined; 3) the analysis phase, in which potential impacts on visual quality are evaluated and the degree of impact assessed; and 4) the mitigation phase, in which measures to minimize and lessen any negative effects or impacts are identified.

The establishment phase of the analysis process involves examination of supporting documentation, such as the project description, purpose and need, scoping document, conceptual designs and preliminary engineering, comprehensive plans or municipal ordinances and field observation and recording. The Area of Visual Effect is determined by the Project information and the visibility of project features through landform, land cover, atmospheric conditions, and limits of sight.

Once the Area of Visual Effect has been identified, the inventory phase involves identifying and describing the existing visual character and existing conditions of the affected environment and the affected population. Visual character is a "description of the visible attributes of a scene or object..."² Views that are available to the affected population are identified and the quality of those views is described in this phase.

During the analysis phase, the impacts of the alternatives are identified and described, and the compatibility of the impact with the surrounding area is determined and the sensitivity of viewers to the impact is evaluated; all of these factors help in assessing the degree of impact on visual quality. Visual quality is defined as "what viewers like and dislike about visual resources that compose the visual character of a particular scene. Different viewers may evaluate specific visual resources differently based on their interests in natural harmony, cultural order, and

² FHWA, *Guidelines for the Visual Impact Assessment of Highway Projects*, January 2015, p. A-3.

project coherence. Neighbors and travelers may, in particular, have different opinions on what they like and dislike about a scene.”³

Viewer sensitivity is “defined by the ability of viewers to see and care about a project’s impacts. The sensitivity to impact is based on viewer sensitivity to changes in the visual character of visual resources. Viewers are either sensitive or insensitive to impacts.”⁴ A key view is a “location from which a viewer (traveler or neighbor) can see either iconic or representative landscapes, with or without the highway (facility), of the project corridor.”⁵ The impact on visual quality may be beneficial, adverse, or neutral. A proposed project may benefit visual quality by enhancing visual resources, creating better views of certain resources, and improving the experience of the viewers. Alternatively, it may adversely affect visual quality by degrading visual resources or obstructing or altering desired views.

Upon completion of the analysis phase, mitigation may be recommended for design impacts or for construction impacts or both. The mitigation phase identifies potential measures to avoid or minimize the effects of adverse visual impacts. Mitigation measures may include screening or blocking of undesirable views, or enhancing the visual quality of project elements.

10.2.3 STUDY AREAS

As described in Chapter 4, “Analysis Framework,” for the analyses in this EIS, the Project site consists of areas where the Preferred Alternative would have permanent features or where construction activities for the Preferred Alternative would occur. The analysis of visual and aesthetic conditions considers the effects of the Preferred Alternative on the area around the Project site from which elements of the Preferred Alternative may be visible. This area is the Area of Visual Effect. The Area of Visual Effect is established based on the specific features of the Preferred Alternative and the characteristics of the surrounding area that create or block views of the Project site. For visual components, views may be obscured by obstructions, landforms, vegetation, structures, or diminished by distance or environmental conditions.

FHWA guidance identifies types of viewsheds. A viewshed is “what people can see in the environment, which is a result of the intersection between the physical constraints of the environment and the physiological limits of human perceptions.” The guidance defines “static viewsheds” as “what neighbors of the road see from a stationary location. Dynamic viewsheds are what travelers ...see as they move through the landscape. The Area of Visual Effect is the sum of the viewsheds of all travelers with views from the road and all neighbors with views of the road.”

For this Project, the analysis identified viewsheds using aerial mapping, field verification, and information about the design of the Preferred Alternative. Field visits were conducted in October 2016 and February 2017.

The Area of Visual Effect is depicted in **Figures 10-1a and 10-1b**. As shown in **Figures 10-1a and 10-1b**, it includes the following areas:





- Areas with views of the Project site in the Meadowlands between County Road and Tonnelle Avenue (U.S. Routes 1 and 9). In this area, the landscape is relatively flat; therefore, visibility of the Project site and Preferred Alternative from the surrounding neighborhoods is limited. Vistas from the slope and top of the Palisades in North Bergen and Union City may provide some views of the Project site.

³ FHWA, pp. A-3, A-4.

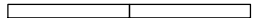
⁴ FHWA, p. A-3.

⁵ FHWA, p. A-2.

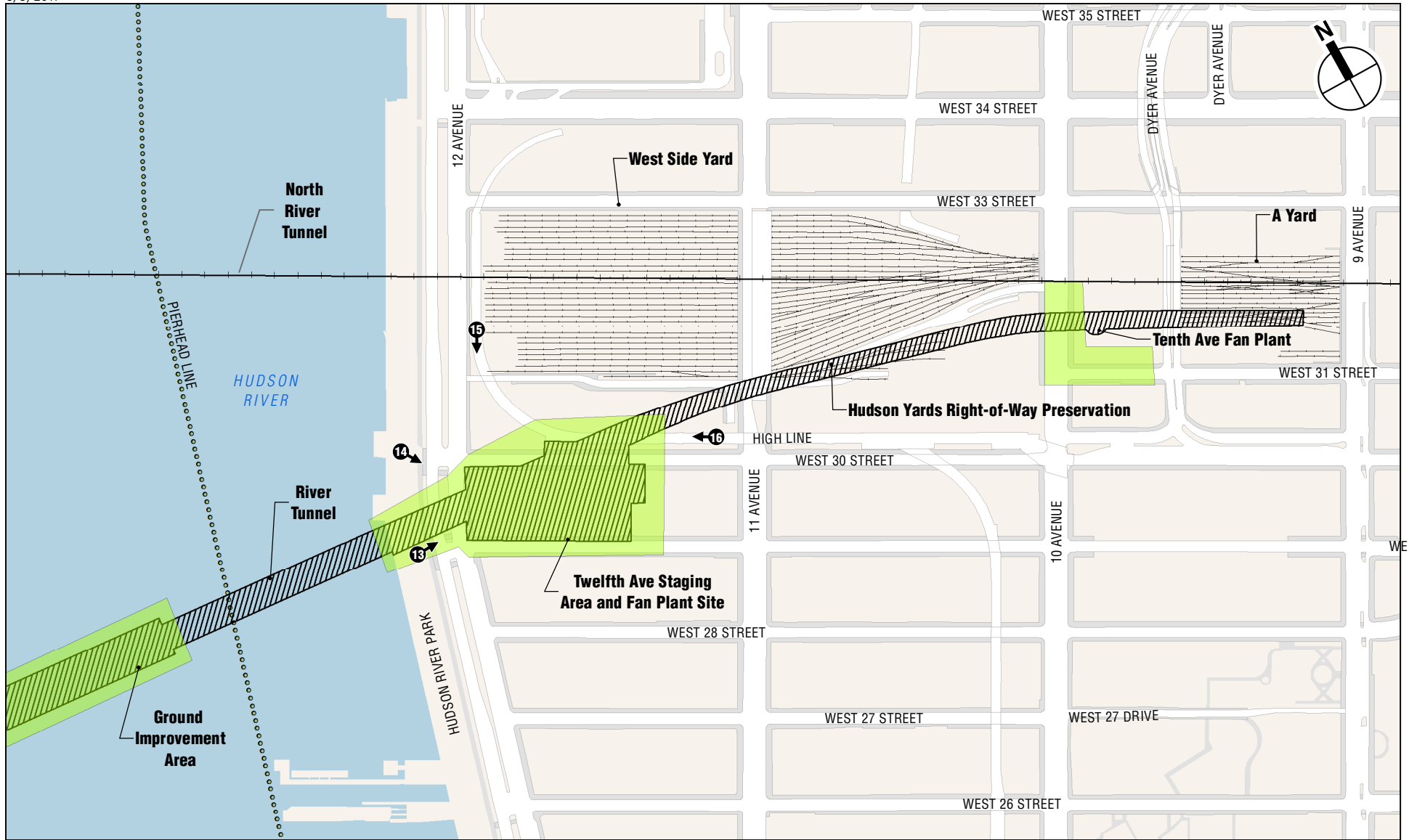


-  Project Site
-  Area of Visual Effect
-  Municipal Boundaries
-  Photograph View Direction and Reference Number

0 2,000 FEET




New Jersey
Area of Visual Effect and
Photo Key Plan
Figure 10-1a



 Project Site

 Area of Visual Effect

 Existing Northeast Corridor

 Photograph View Direction and Reference Number

0 500 FEET



New York
Area of Visual Effect and
Photo Key Plan
Figure 10-1b

- Areas with views of the Project site on and near Tonnelle Avenue. The Tonnelle Avenue corridor is a busy commercial arterial notable for the steep grade changes on either side. Views of the Project site are available from limited locations along Tonnelle Avenue and Paterson Plank Road above.
- Area of Weehawken and Hoboken with views of the Hoboken fan plant site. The Hoboken shaft site and fan plant site is visible from the immediate area and from limited locations in Union City on top of the Palisades.
- Area of the Hudson River where in-water construction activity would occur. This area would be approximately 700 feet from the water's edge in Manhattan (i.e., 700 feet from the bulkhead) and therefore would be most visible from the immediate area in New York.
- Area with views of the Project site in Manhattan. The analysis of visual impacts in New York focused on the block between Twelfth Avenue (also referred to as Route 9A) and Eleventh Avenue from West 29th to West 30th Street (Manhattan Block 675), where intensive construction activity and a permanent above-grade structure are proposed. In addition, a small area around the site of the Tenth Avenue fan plant was also evaluated.

Views from within and views of the new Hudson River Tunnel portion of the Preferred Alternative, as well as views within and of the North River Tunnel were not assessed in this visual assessment as they would be below ground and not visible to the public, other than train passengers within the tunnel, who have very limited views of the side walls of the tunnel as they pass by. **Figures 10-1a and 10-1b** also contain a location key for the photographs of the Project site described below in Section 10.3 and shown in **Figures 10-2 through 10-9**.

10.3 AFFECTED ENVIRONMENT: EXISTING CONDITIONS

10.3.1 NEW JERSEY

10.3.1.1 COUNTY ROAD TO TONNELLE AVENUE

10.3.1.1.1 Visual Character and Key Views

Between approximately County Road and Tonnelle Avenue, the Project site is a narrow, linear area between the existing embankment and railroad tracks of the Northeast Corridor (NEC) and a series of warehouses. At the eastern end of this segment of the Project site, close to Tonnelle Avenue, the Project site is located in a flat, open wetland area.

The western portion of the Meadowlands Project area consists of a mix of wetlands around Penhorn Creek and a light industrial and manufacturing area. In this portion of the Area of Visual Effect, the NEC comprises two tracks on a raised embankment between a mixed wetland/light industrial area to the north and light industrial facilities to the south. The light industrial buildings south of the NEC tracks front on streets to the south of the NEC tracks, such as Penhorn Avenue or 16th Street, with their parking lots or loading docks facing the NEC tracks. Therefore, the buildings block most views of the NEC tracks, but the tracks are visible from the paved areas behind those buildings. The buildings are low-scale warehouse and back office box structures with trucks and trailers in their parking lots. **Figure 10-2** provides views of the Project site in this area.

East of Secaucus Road, the NEC and nearby Project site pass an industrial area accessible from Secaucus Road and 16th Street and a wetland area. Along the south side of the NEC, light industrial and warehousing properties have low-scale buildings and expansive parking areas with hundreds of tractors and trailers stored on the site. From the parking lot of the industrial properties, the NEC tracks on embankment are visible. Along the north side of the NEC tracks is



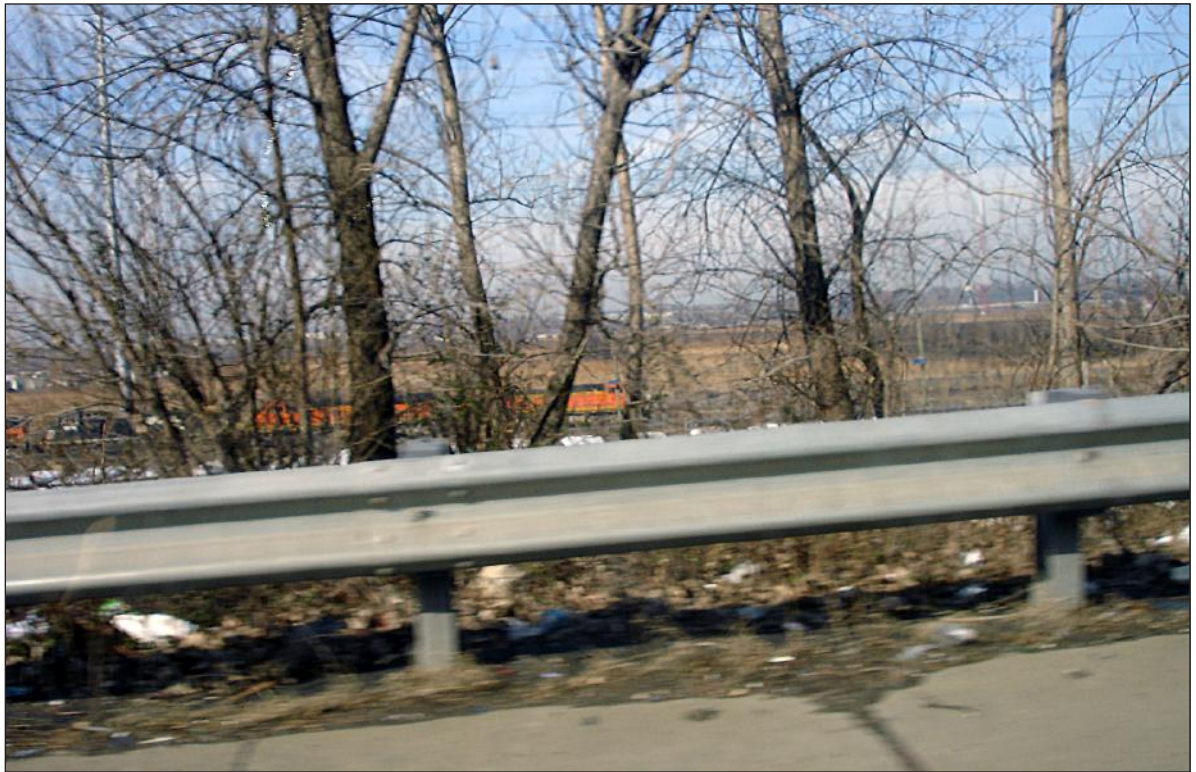
NEC embankment at 901 Penhorn Avenue Parking lot/loading docks, facing west 1



NEC embankment from parking lot behind 901 Penhorn Avenue, facing east 2



Tonnelle Avenue, facing north 3



Tonnelle Avenue overlooking staging area, facing west 4



Paterson Plank Road, looking south with residences on Grand Avenue uphill on left **5**



View to Tonnelle Avenue staging area from Paterson Plank Road, looking west **6**



Hoboken fan plant site from West 18th Street in Weehawken, facing south 7



Hoboken fan plant site from West 18th Street in Weehawken, facing west 8



Hoboken fan plant site from West 18th Street in Weehawken, facing southwest **9**



Residences along West 18th Street in Weehawken **10**
across from Hoboken fan plant site, facing west



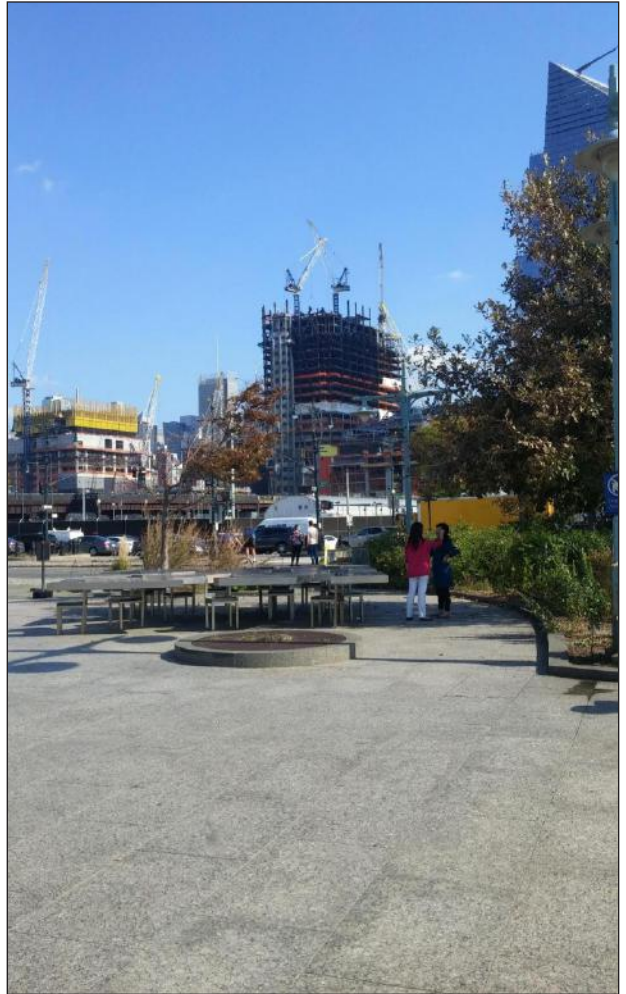
Residences along West 18th Street, across from Hoboken staging area, facing east 11



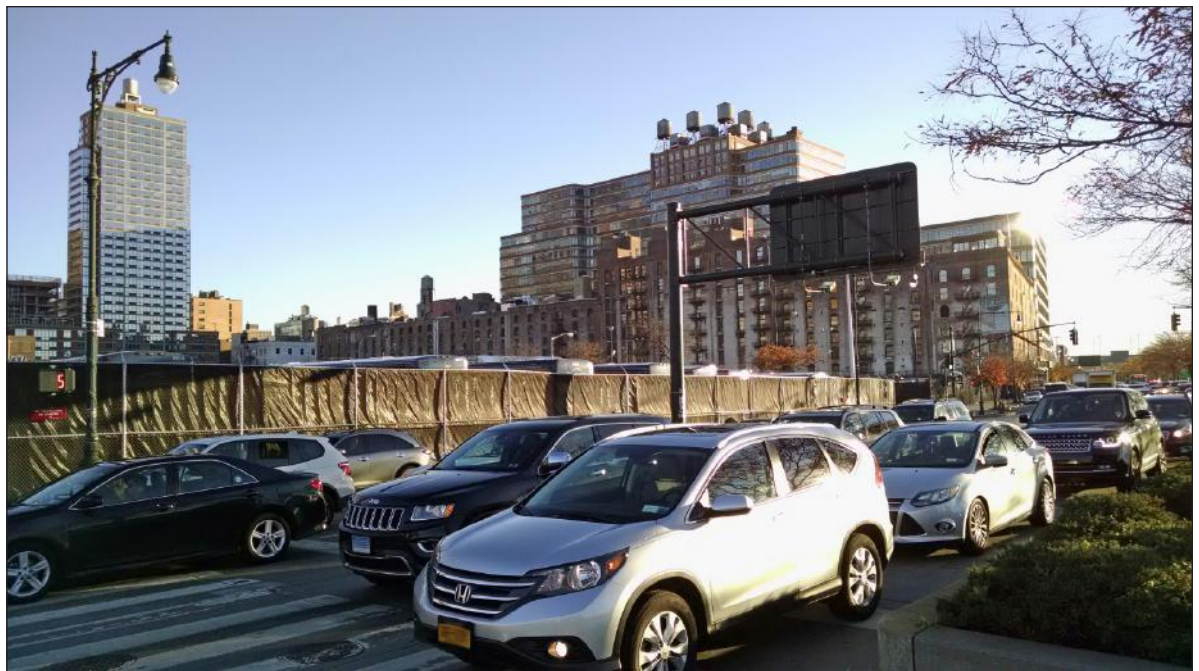
Approximate location
of fan plant site



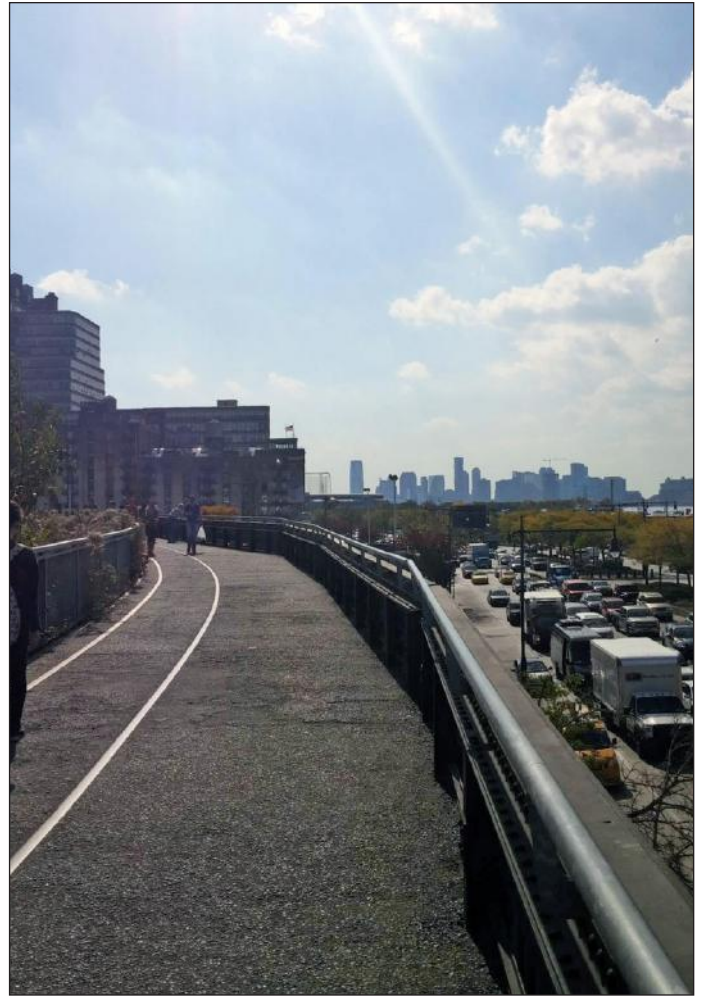
View northeast from top of Palisades to proposed fan plant site (behind trees) 12



Corner of Twelfth Avenue and West 30th Street
from Hudson River Park, facing southeast 13



Twelfth Avenue fan plant site from Hudson River Park, facing southeast 14



The High Line along Twelfth Avenue near West 30th Street, facing south 15



The High Line along West 30th Street, facing west 16

a large undeveloped tract of wetland with three large, conspicuous utility towers. In this area, the NEC tracks curve southward as they approach Tonnelle Avenue.

10.3.1.1.2 Affected Population and Viewer Sensitivity

The affected population in the Meadowlands area is limited to employees and visitors at the industrial and warehousing businesses to the south of the Project site and railroad passengers, who may have limited views from the train.

10.3.1.2 TONNELLE AVENUE AREA

10.3.1.2.1 Visual Character and Key Views

The Tonnelle Avenue portion of the Area of Visual Effect, just east of the Meadowlands wetlands area, extends from the Conrail and New York Susquehanna & Western Railway (NYSW) freight rail tracks to the west of Tonnelle Avenue to the western face of the Palisades on the west, including Paterson Plank Road and Grand Avenue on the slope of the Palisades. The Conrail and NYSW tracks serve as a boundary between the Meadowlands wetlands area and a commercial/light industrial corridor to the east along Tonnelle Avenue. Just east of Tonnelle Avenue, the topography rises steeply; the partly vegetated and partly developed steep slope of the Palisades marks the eastern boundary of the Tonnelle Avenue corridor.

Tonnelle Avenue is a heavily trafficked arterial roadway with a speed limit of 40 miles per hour (mph) and two travel lanes in each direction, separated by a concrete barrier. The road is lined with industrial and commercial businesses, such as gas stations, fast food, and self-storage. A sidewalk is present on portions of the roadway, but it is not continuous. Views outward from this location are intermittent, and blocked by fences and buildings. **Figure 10-3** illustrates views along Tonnelle Avenue.

Two streets are parallel to, but above, Tonnelle Avenue on the western slope of the Palisades: Paterson Plank Road and Grand Avenue above it. Paterson Plank Road is midway up the western slope of the Palisades, approximately 75 feet higher than Tonnelle Avenue at the Project site. The road carries local traffic, with a speed limit of 25 mph and one travel lane in each direction with a sidewalk and parking lane along its east side. Along its west side, no sidewalk exists and a metal roadway railing, a narrow paved utility strip, and a chain link fence separate the southbound roadway from the steep, vegetated and rock embankment to the west of the roadway. From Paterson Plank Road, westward views are partially obscured by fencing and plant and brush growth; however, there are intermittent views of the Tonnelle Avenue area. Within the Area of Visual Effect, the west side of Paterson Plank Road is generally undeveloped and a steep slope down to Tonnelle Avenue. On the east side of the road, one apartment building is located at approximately 19th Street, other apartment buildings are between approximately 22nd and 23rd Streets. Between those two areas, additional apartment buildings are on Grand Avenue, offset from Paterson Plank Road.

Above Paterson Plank Road, Grand Avenue is a narrow, dead-end street that is generally one-way (except the final, dead-end block). It has apartment buildings and houses on its west side overlooking Paterson Plank Road and Tonnelle Avenue. **Figure 10-4** illustrates views along Paterson Plank Road, including the residences on Grand Avenue. Views from the apartments on these two roads, and from the roads themselves, are wide vistas of the Meadowlands and NEC; views directly downward to Tonnelle Avenue itself would be less dominant and blocked by vegetation and fencing.

The portion of the Project site on the east side of Tonnelle Avenue is currently vacant with some vegetation and stacks of concrete beams being stored on the site. On the west side of Tonnelle Avenue, the Project site is lower than the roadway. Views of the Project site are of a vacant



industrial lot in the foreground, filled with parked buses, and the Meadowlands in the background.

10.3.1.2.2 Affected Population and Viewer Sensitivity

The Project site on Tonnelle Avenue is visible to pedestrians and some motorists along Tonnelle Avenue. As there are few pedestrians, viewer groups would be generally limited to motorists.

10.3.1.3 WEEHAWKEN AND HOBOKEN

10.3.1.3.1 Visual Character and Key Views

The Hoboken fan plant site is currently vacant, with remaining foundation slabs of previously demolished buildings and some volunteer vegetative growth (i.e., vegetation that has not been intentionally planted) along the surface, as illustrated in **Figure 10-5**.

The fan plant site is in a light industrial area that borders a residential neighborhood known as “the Shades.” The Shades neighborhood is a small area of single-family and multifamily residences and townhouses that is non-contiguous with other residential neighborhoods. It is bounded on the west and north by the steep, vegetated slope of the Palisades, on the south by an industrial neighborhood (including the Project site) and on the east by busy roads including the Willow Avenue viaduct. **Figures 10-6a and 10-6b** show the location of the Shades neighborhood and the land uses in this area.

The fan plant site is bordered on the south by the tracks of the Hudson-Bergen Light Rail (HBLR) right-of-way, which run through the area at grade. The area south of the HBLR is an industrial area of Hoboken that includes the North Hudson Sewerage Authority’s wastewater treatment plant, a utility substation, and a self-storage facility.

Views of the Project site are available from the Shades neighborhood on the north; limited views are also available from locations on top of the Palisades, looking down at the site. While the main focus for viewers on the top of the Palisades ridge is the Manhattan skyline, the Hoboken fan plant site is slightly visible, but highly obscured by buildings along the east side of Manhattan Avenue and Palisade Avenue in Union City, mature trees, and dense vegetation and brush.

10.3.1.3.2 Affected Population and Viewer Sensitivity

The affected population consists of residents residing along West 18th Street and in the Shades neighborhood and industrial workers in the area. HBLR passengers also have some limited views of the Project site.

Firefighters’ Memorial Park offers panoramic views of the Manhattan skyline from a platform atop the Palisades ridge. Visitors to Firefighters’ Memorial Park at the top of the Palisades in Union City, approximately 600 feet south of the Hoboken fan plant site and approximately 200 feet higher in elevation, have limited views of the Project site from the park’s eastern edge (see **Figure 10-7**).

10.3.2 HUDSON RIVER

10.3.2.1.1 Visual Character and Key Views

The Hudson River is wide (almost a mile across from shore to shore at the Project site). Views of the river and opposite shoreline are available from waterfront areas on each side. Varying levels of boating activity occur on the river, depending upon time of year and weather conditions; recreational boating activity is particularly high during certain holidays, such as July 4th and Labor Day and may be low during winter months.

10.3.2.1.2 Affected Population and Viewer Sensitivity

Views of the Project site area where in-water construction work would occur would be available primarily to people using Hudson River Park in New York and to boaters on the river. Limited views may also be available for people on the High Line, an elevated park in New York, and to motorists passing the site on Twelfth Avenue.

10.3.3 NEW YORK

10.3.3.1 WATERFRONT AREA

10.3.3.1.1 Visual Character and Key Views

The waterfront area of the New York Area of Visual Effect includes Hudson River Park, Twelfth Avenue, and the blocks immediately east of Twelfth Avenue. This area on the west side of Manhattan is characterized by the rapidly developing, mixed urban environment of Manhattan, the Hudson River Park, and the natural environment of the Hudson River.

Hudson River Park is a linear, waterfront greenspace and hardscape park along the West Side of Manhattan from Battery Place to 59th Street, bounded on its west side by the Hudson River and on its east side by Twelfth Avenue, a New York State arterial roadway/boulevard (Route 9A). In the immediate vicinity of the Project site, Hudson River Park includes a fenced heliport (the West 30th Street Heliport), a paved walkway and adjacent paved bikeway, seating, and plantings. The heliport is a paved asphalt area surrounded by a chain link fence with a mesh screen that limits public access and blocks views of the heliport and helipads.

Twelfth Avenue (Route 9A) is a heavily trafficked arterial roadway with northbound and southbound travel lanes separated by a raised planted median and pedestrian refuge area, and pedestrian intersections and crossings. Near the Project site, the roadway has three southbound lanes and four northbound lanes, plus a northbound parking lane and sidewalk on the eastern side of the road. The speed limit on Route Twelfth Avenue is 40 mph.

The Twelfth Avenue fan plant site is an undeveloped, paved lot currently used by Greyhound Line bus company for midday storage of buses serving the Port Authority Bus Terminal and by the Port Authority police, with office and support space (see **Figure 10-8**). The block immediately south of the site is used as a storage and staging area and a natural gas vehicle fueling station. Surrounding land uses include the West Side Yard, a large rail storage yard, to the north and the Chelsea Terminal Warehouse between West 27th and West 28th Streets two blocks south of the site.

10.3.3.1.2 Affected Population and Viewer Sensitivity

Recreational users of Hudson River Park and motorists along Twelfth Avenue can view the Project site from the west, although some views are slightly obscured by trees and shrubs in the roadway median between the northbound and southbound lanes of Twelfth Avenue. There is a public seating area located across from the Project site.

To the north of the Twelfth Avenue fan plant site is the High Line, an elevated public park on a former freight railroad viaduct. The High Line begins at the sidewalk grade at West 34th Street and ramps up in elevation as it heads west toward Twelfth Avenue, where it reaches approximately 20 feet above grade as it loops around the western end of the West Side Yard, and then bends east on West 30th Street. **Figure 10-9** shows views from the High Line. Near the Project site, the High Line is predominantly paved, with limited plantings and some seating areas; an adjacent area of former rail tracks and volunteer vegetation between the tracks is intentionally preserved beside the walkway. Since it is currently located higher than the undeveloped Project site on its south and the open rail yard on its north, the High Line today



offers wide vistas of Hudson River Park and the Hudson River beyond. Views inland to Manhattan include numerous construction sites with the structures of high-rise buildings being erected. The High Line continues through the Chelsea District and terminates at Washington and Gansevoort Streets. The High Line has many visitors throughout the year, providing many opportunities for views of the surrounding area. Portions of the Project site—and particularly the Twelfth Avenue fan plant site directly to the south across West 30th Street—are visible from several locations along the High Line.

From the area east of the Twelfth Avenue ventilation facility site, views of the site are severely restricted by the presence of large buildings.

10.3.3.2 TENTH AVENUE AREA

10.3.3.2.1 Visual Character and Key Views

Near Tenth Avenue, the Project site includes the street-level façade of the building on Tenth Avenue between West 31st and West 33rd Streets, known as the Lerner Building. This building is currently undergoing façade renovation. On its Tenth Avenue façade, the building has no windows at sidewalk level; this part of the façade houses ventilation louvers and a blank door that is not accessible to the public.

10.3.3.2.2 Affected Population and Viewer Sensitivity

Viewers at the Lerner Building are limited to pedestrians on the sidewalks adjacent to the building. Motorists passing the building on Tenth Avenue have only limited views of the façade as they pass.

10.4 AFFECTED ENVIRONMENT: FUTURE CONDITIONS

No notable changes will occur to the Area of Visual Effect in New Jersey by the 2030 analysis year. However, as described in Chapter 6A, “Land Use, Zoning, and Public Policy,” Section 6A.4.3.1, extensive redevelopment will occur by 2030 in the New York Area of Visual Effect as a result of recent public policy initiatives in the area, and many sites are already under construction with high-density developments. This condition is the baseline against which the impacts of both the No Action and Preferred Alternatives are compared.

Directly north of the Twelfth Avenue fan plant site, three major redevelopment projects will result in a new high-rise neighborhood built on platforms above the rail yard, collectively referred to as Hudson Yards (and individually referred to as the Eastern Rail Yard, Western Rail Yard, and Manhattan West). The redevelopment between Tenth and Eleventh Avenues known as the Eastern Rail Yard project will include six towers 50 to 90 stories tall, as well as mid-rise buildings and public open spaces. The Western Rail Yard project between Eleventh and Twelfth Avenues will include eight towers 30 to 75 stories tall as well as lower buildings and public open space. In addition, the Manhattan West project between Ninth and Tenth Avenues, to the east of the Lerner Building, will include four towers 30 to 70 stories high as well as lower buildings and public open space.

Dense development is also anticipated on the Project site block between Eleventh and Twelfth Avenues (Block 675) by 2030. In May 2017, the New York City Department of City Planning (NYCDCP) released a planning study, *Block 675 Planning Framework*,⁶ that provides an overall vision for Block 675 in terms of land use, density, massing, and urban design. The document

⁶ <https://www1.nyc.gov/assets/planning/download/pdf/plans-studies/block-675-planning-framework/block-675-presentation-0517.pdf>.

proposes rezoning the block to allow a mix of land uses and proposes a building massing rhythm that would increase from south to north and from west to east in response to the existing built context and allow views of the city and toward the Hudson River.

On the Twelfth Avenue fan plant site, a high-rise commercial and/or hotel building may be built in the future under the current zoning, which allows a large, high-rise building. In addition, consistent with the Block 675 Planning Framework, NYCDOP is currently evaluating a rezoning for the eastern portion of Block 675 that would likely result in two high-rise developments on the eastern portion of the block near Eleventh Avenue (for more information, see Chapter 6, "Land Use, Zoning, and Public Policy," Section 6A.4.3.1.2). This would include a tower up to 700 feet tall on West 29th Street at Eleventh Avenue and a 510-foot-tall tower on West 30th Street at Eleventh Avenue.

At Tenth Avenue near the Lerner Building, development associated with the Eastern Rail Yard will be completed on the west side of Tenth Avenue and the recladding project under way at the Lerner Building will be completed on the east side.

10.5 IMPACTS OF NO ACTION ALTERNATIVE

No new passenger rail tunnel across the Hudson River would be constructed in the No Action Alternative and the North River Tunnel would not be fully rehabilitated. The No Action Alternative assumes that the existing North River Tunnel remains in service, with continued maintenance as necessary to address ongoing deterioration to the extent possible. Visual and aesthetic conditions in the study area will remain unchanged from the future affected conditions described above in Section 10.4.

10.6 CONSTRUCTION IMPACTS OF THE PREFERRED ALTERNATIVE

10.6.1 OVERVIEW

The Preferred Alternative would include construction activities throughout the Project site. This section evaluates the following above-ground, visible components of the Project for their temporary visual impact during construction, as follows:

- Construction of surface track (approximately 1.7 miles) adjacent to the NEC from County Road to Tonnelles Avenue, including embankments and viaducts.
- Construction activities on staging sites on both sides of Tonnelles Avenue at the Project site.
- Construction staging on the Hoboken fan plant site, including new, temporary truck routes providing access to the site.
- Construction staging on the Twelfth Avenue fan plant site and other construction activities nearby in New York.

10.6.2 NEW JERSEY

10.6.2.1 COUNTY ROAD TO TONNELLES AVENUE

During construction of the Preferred Alternative, construction activity would be visible in the Meadowlands in the area between County Road and Tonnelles Avenue for approximately seven years. Construction of the new tracks and accompanying infrastructure would be visible from the parking lots and loading docks at the rear of the adjacent industrial buildings and from trains using the adjacent NEC. Given the limited viewers and industrial nature of this part of the Area of Visual Effect, the construction activity in the Meadowlands would not result in adverse visual



impacts. Residences on Paterson Plank Road, Grand Avenue, and other locations on the slope or top of the Palisades may also have views of the construction area, but at a long distance, where construction would generally be a small element in wide views.

10.6.2.2 TONNELLE AVENUE AREA

The construction staging areas on the Tonnelle Avenue corridor would have intensive, visible construction activity at the staging sites and at the existing tunnel portal when rehabilitation of the North River Tunnel is under way. Construction at the Tonnelle Avenue staging areas would last for approximately 11 years. Visible activities would include workers at the staging areas, trucks arriving at and departing from the sites, stockpiled materials at the sites, and the visible elements of the Project under construction, including the new Hudson River Tunnel's below-grade tracks and tunnel portal.

These construction activities would be partially visible at a distance from vehicles passing by the sites on Tonnelle Avenue. For these viewers, given the existing industrial and commercial nature of Tonnelle Avenue, the views of construction would not be adverse.

Views of the construction could also be visible from some of the residences along Paterson Plank Road and the west side of Grand Avenue; however, the area is not visible from the Grand Avenue sidewalks or street bed. From this vantage above the construction staging areas, views directly down to the site are partially blocked by vegetation and fencing and less dominant than the wide vistas of the Meadowlands beyond. During periods when trees and plants are in leaf, many of the views would be blocked. During the off-leaf periods, some of the plant branches and brush would filter views; however, they would not fully obscure views.

10.6.2.3 WEEHAWKEN AND HOBOKEN

The Preferred Alternative would result in similar intensive, visible construction activities at the Hoboken staging site for approximately seven years. This would include workers at the site, construction equipment stored on the site, trucks arriving and departing, and the visible Project elements under construction here: the ventilation shaft followed by the fan plant. Residents of the Shades would be highly sensitive to the visual effects of construction staging and construction activities.

A temporary noise barrier would be erected along the north side of the Hoboken staging site, which would block some views of construction activities from the residential neighborhood along 18th Street. The local residential community may view the visible aspects of construction unfavorably; however, the construction of a temporary noise barrier would lessen the visibility of the construction activities and staging. Noise barriers may be viewed positively by some viewers and negatively by others. In addition, the Preferred Alternative includes construction truck routes close to the HBLR tracks, to shift traffic away from the majority of the Shades neighborhood.

10.6.3 HUDSON RIVER

The Preferred Alternative would include a small work zone within the Hudson River for a period of about 15 months. As discussed in Chapter 3, "Construction Methods and Activities," Section 3.3.5, this work would be constructed in three stages, each affecting an area of the river about 400 feet long (from east to west) and 320 feet wide (from north to south). At the closest point, the work zone would be about 700 feet from the Manhattan shoreline. This construction zone would include an in-water work zone enclosed by a cofferdam (i.e., barrier) extending above the waterline, and barges anchored around the barrier from which work would be conducted. Viewed from the shoreline or from nearby boats, this work zone would appear similar to other equipment barges periodically moored along the Manhattan shoreline. Given the large expanse of the

Hudson River and the distance from the shore, this temporary construction activity would not notably affect views from New Jersey or Manhattan.

10.6.4 NEW YORK

Construction activities relating to the staging activities and subsequent construction of the fan plant on the Twelfth Avenue site would be visible from the surrounding streets, Hudson River Park, and the High Line over a period of approximately seven years (estimated at 2019 to 2026). Heavy truck activity would also be visible from the surrounding areas. Construction sites can be visually unappealing to sensitive viewers. However, the area around the Twelfth Avenue staging site is currently largely industrial in context. While two parks do pass through this area, they are within a larger industrial setting. In the future, in the same period while the Preferred Alternative is under construction, extensive construction will also be occurring in the surrounding area. Some new residential buildings will be completed and occupied in the Area of Visual Effect during that timeframe, but construction will continue on many other sites nearby.

With the Preferred Alternative, a noise wall would surround the Twelfth Avenue staging site, which would also serve to block views into the site. Taller equipment would be visible above the wall, as would the fan plant structure as it is erected. People on the High Line would have views over the wall into the site. Overall, construction activities may result in an adverse visual impact but this effect would be temporary. Some construction activities would also occur in Hudson River Park as the new tunnel is constructed beneath the park. As discussed in Chapter 3, "Construction Methods and Activities," Section 3.3.6, ground improvement is required in this area, which would result in visible construction activities at the surface over a period of approximately two years. During the ground freezing operation, equipment would be located within the West 30th Street Heliport to support the freezing. This construction equipment would be visible to people in nearby areas of Hudson River Park. Construction barricades would be installed to block views of the construction zone for park users. Some views of construction activity could distract from the enjoyment of park activities. Construction fencing would be clad with aesthetically attractive or artistically enhanced fabric.

Construction activities for the Tenth Avenue fan plant would occur largely within the Lerner Building and track area below and would not be visible to the surrounding area.

10.7 PERMANENT IMPACTS OF THE PREFERRED ALTERNATIVE

10.7.1 OVERVIEW

The Preferred Alternative for the Hudson Tunnel Project would include five permanent above-ground components that are evaluated for their visual impact as follows:

- Surface track (approximately 1.7 miles) adjacent to the existing NEC between County Road in Secaucus, New Jersey, and the new portal, through the Meadowlands and under Tonnelles Avenue. Some of the track would be situated on embankment and some would be on a viaduct or bridge structure.
- Portal to the new Hudson River Tunnel in the western face of the Palisades in North Bergen, New Jersey.
- A fan plant on West 18th Street in Hoboken, New Jersey.
- A fan plant on the block between Twelfth Avenue (Route 9A) and Eleventh Avenue, West 29th and West 30th Streets in Manhattan, New York (Block 675).



- Modifications to the façade of the Lerner Building in New York for the Tenth Avenue fan plant.

10.7.2 NEW JERSEY

10.7.2.1 COUNTY ROAD TO TONNELLE AVENUE

10.7.2.1.1 Visual Character and Key Views

The new surface tracks through the Meadowlands would be located on an embankment and viaduct, along the south side of the existing NEC. An access road for maintenance vehicles would run along the south side of the new tracks where they curve through the wetlands area east of Secaucus Road.

As there are currently NEC tracks on an embankment through this part of the Meadowlands (with a viaduct over Secaucus Road), the new tracks would not introduce a totally new land use or element, but would appear as an expansion of the existing tracks. The tracks would not differ in any substantial way from the appearance of the existing tracks, and therefore would not adversely affect the area's visual character when viewed from nearby or farther away.

10.7.2.1.2 Affected Population and Viewer Sensitivity

The Preferred Alternative would result in a slightly different view from the trains on the NEC for current and future rail passengers, but would not be visible itself to passengers on the trains. The new surface tracks, retaining walls, and permanent access roadways to the tracks would be visible to workers and visitors to the industrial properties along the NEC the Meadowlands area. These features may also be visible to viewers on the slope or top of the Palisades, but generally would blend in with the existing NEC so as not to be noticeable.

10.7.2.2 TONNELLE AVENUE AREA

10.7.2.2.1 Visual Character and Key Views

The new tunnel approach in a cut below the level of the roadway and the new tunnel portal in the slope of the Palisades would be in a light industrial area along Tonnelle Avenue and would be similar in character to the existing North River Tunnel portal nearby. Key views would be views of the new tracks, the underpass and open cut between Tonnelle Avenue and the western face of the Palisades below Paterson Plank Road, and the new tunnel portal below Paterson Plank Road.

10.7.2.2.2 Affected Population and Viewer Sensitivity

Motorists along Tonnelle Avenue, and the occasional pedestrian, would have a view of the new rail embankment approaching from the west through the Meadowlands and the vacant industrial lot located adjacent to (and below) Tonnelle Avenue. Motorists' and rail passengers' views would be of limited duration and it is unlikely that they would have great awareness or sensitivity to changes in the visual environment. Tracks between Tonnelle Avenue and the face of the Palisades beneath Paterson Plank Road would likely not be clearly visible to motorists from the roadway, given the grade difference. The new tunnel portal would also not be clearly visible from Tonnelle Avenue, but may be slightly discernable, due to the grade difference, distance from Tonnelle Avenue and buildings, structures, and vegetation that would obscure views. The completed Project elements would also not be visible from Paterson Plank Road or Grand Avenue.

10.7.2.3 WEEHAWKEN AND HOBOKEN

10.7.2.3.1 *Visual Character and Key Views*

The new Hoboken fan plant would introduce a new fan plant close to the eastern slope of the Palisades. Based on conceptual design (10 percent design), the fan plant would occupy a footprint of approximately 200 feet by 140 feet and would be approximately 65 feet high. The shape, size, and design treatment of the fan plant will be refined during preliminary and final engineering. **Figure 10-10** illustrates the potential massing of the Hoboken fan plant. The Hoboken fan plant would be designed to be compatible with the character of the surrounding area. The Project Sponsor for the Hudson Tunnel Project will coordinate with the local community and seek input in determining the appropriate design for the visible portions of the fan plant.

The bulk and scale of the fan plant would be characteristic of a light industrial building. The impact is expected to be neutral in consideration of the current condition of the lot, which is vacant and contains remnants of the previous structures that were demolished.

The scale and form of the Hoboken fan plant would be consistent with the visual character of other light industrial buildings nearby, including low-rise industrial buildings along Willow Avenue to the north and the wastewater treatment plant immediately to the south beyond the HBLR right-of-way.

From the Shades neighborhood and along West 18th Street, residents looking south would be able to view the fan plant, which would be in the foreground with the black cylindrical tanks of the wastewater treatment plant in the background. Workers in the industrial area to the immediate east of the site would also have views of the building.

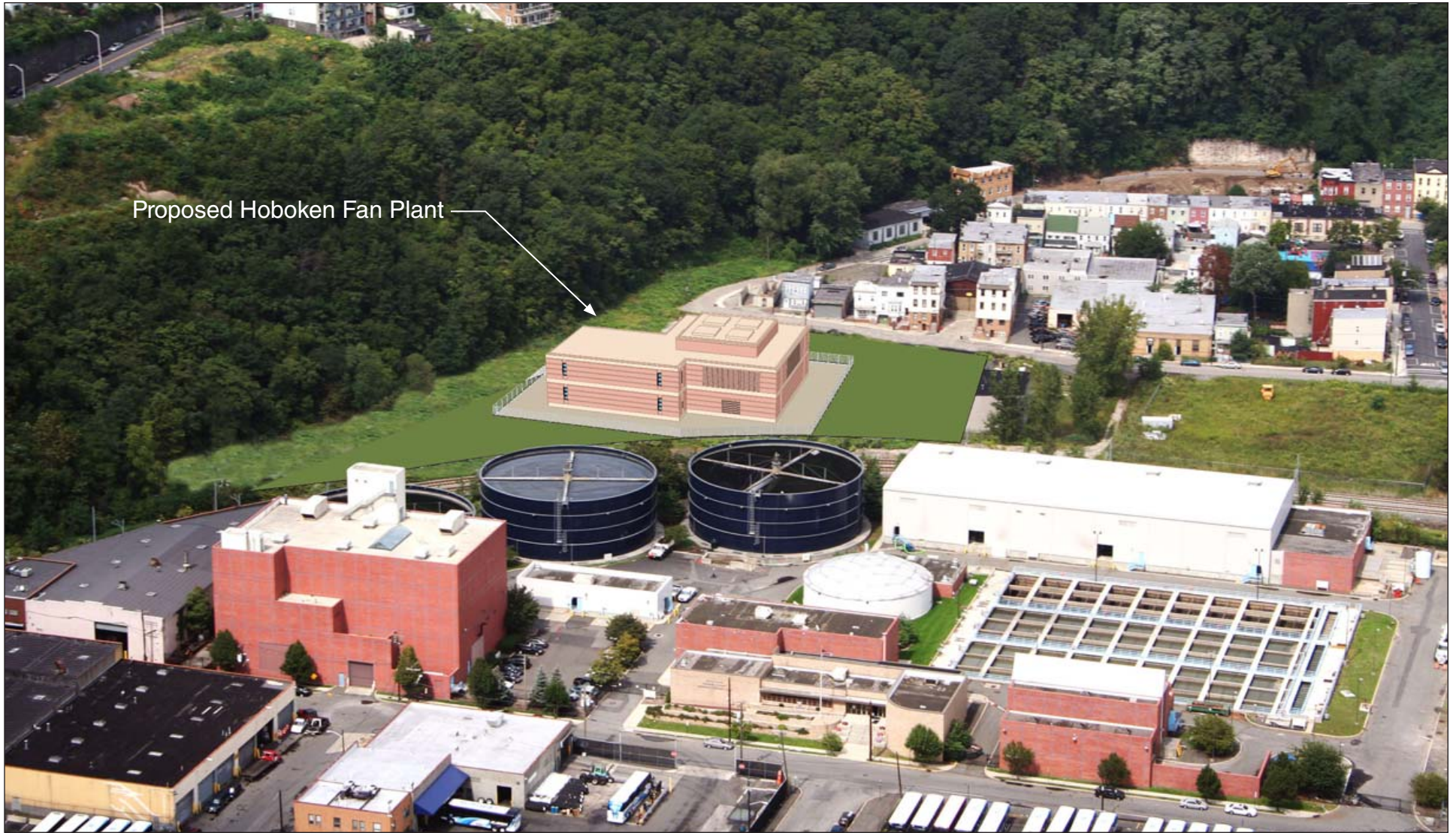
From areas to the south, views of the fan plant would be obscured by the wastewater treatment plant and other industrial buildings. From the elevated position of the Willow Avenue viaduct, the ventilation facility could be slightly visible from some vantage points.

The Palisades ridge would limit views of the building from the west. While the main focus for viewers on the top of the Palisades ridge would likely be the Manhattan skyline, the fan plant site would be slightly visible, but highly obscured by buildings along the east side of Manhattan Avenue and Palisade Avenue in Union City, mature trees, and dense vegetation and brush. Firefighters' Memorial Park offers panoramic views of the Manhattan skyline from a platform atop the Palisades ridge. The ventilation facility would be slightly visible in the foreground from this vantage point.

10.7.2.3.2 *Affected Population and Viewer Sensitivity*

Residents of the local community in Weehawken would be highly sensitive to changes in the visual environment related to the fan plant. The current visual character of the proposed fan plant site is one of a vacant lot surrounded by a chain link fence, which is not highly compatible with residential uses. However, the proposed fan plant site is also located within a group of light industrial structures. The new fan plant would be similar in shape and character to the adjacent light industrial uses. It would also be compatible with the residential character of the neighborhood to the north. Therefore, it would have a neutral aesthetic impact on the residential community that borders on the light industrial community. Ultimately, the design of the exterior of the new fan plant and the design of the surrounding site features, including any landscaping, would have an effect on the aesthetic perception of the site by nearby residents.

Park visitors at Firefighters' Memorial Park would be sensitive to views from this area, but the fan plant would be highly obscured and consistent with the visual character of the adjacent light industrial land uses and would not likely appear exceptional or out of context in its height or its



Proposed Hoboken Fan Plant



form. Visitors at Firefighters' Memorial Park viewing the landscape from the overlook would likely generally focus towards the horizon with a standard cone of vision, facing the Hudson River and Manhattan skyline; should a park visitor look downward toward the fan plant, the new building would not be greatly noticeable, nor would it differ substantially from the surrounding uses and buildings. Its presence would not introduce a negative impact on visual quality.

10.7.3 HUDSON RIVER

There would be no above-ground or above-water-level visual components of the Preferred Alternative in the Hudson River.

10.7.4 NEW YORK

10.7.4.1 WATERFRONT AREA

10.7.4.1.1 Visual Character and Key Views

The new Twelfth Avenue fan plant would be a major new element in the landscape, located at or slightly east of Twelfth Avenue between West 29th and West 30th Streets. The shape and specific location of the Twelfth Avenue fan plant will be refined during preliminary and final engineering. This NEPA analysis is based on conceptual plans (10 percent design). Based on conceptual design, the Twelfth Avenue fan plant may be developed with its tunnel fans oriented vertically, in which case the building would require a footprint of approximately 120 feet by 130 feet and a maximum height of approximately 150 feet. It is also possible for the tunnel fans to be oriented horizontally, resulting in a lower building with a larger footprint. Design of the fan plant could be coordinated with other plans for the western end of the block and the fan plant could potentially be incorporated within a future commercial or residential building constructed at the site. Alternatively, it is also possible that the fan plant would be developed independently on the property. The shape, size, and design treatment of the fan plant will be refined during preliminary and final engineering.

This EIS considers two possible configurations for the Twelfth Avenue fan plant: a fan plant at the corner of Twelfth Avenue and West 30th Street; and a fan plant on West 29th Street east of Twelfth Avenue.

In either of those configurations, the fan plant could be oriented vertically or horizontally, and can be freestanding or adjacent to or integrated with a commercial and/or residential development built by another party as a separate project. Figure 2-10 in Chapter 2, "Project Alternatives and Description of the Preferred Alternative" illustrates the potential massing of the Twelfth Avenue fan plant.

The Twelfth Avenue fan plant will be designed to be compatible with the character of the surrounding area and any urban design goals that the City of New York has established for the area. This includes the *Block 675 Planning Framework*, which provides an overall vision for Block 675 in terms of land use, density, massing, and urban design, and recognizes the need to incorporate the fan plant into Block 675 (see further discussion in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.3.3.3.4). The design of visible elements of the fan plant will be coordinated with NYCDTCP.

As discussed above in Section 10.4, the Area of Visual Effect around the Twelfth Avenue fan plant is currently undergoing substantial redevelopment. By 2030, when the Preferred Alternative would be complete, the block where the fan plant site is located (Block 675) will be developed with two tall towers at Eleventh Avenue. On the large blocks to the north between Tenth and Twelfth Avenues, many high-rise buildings and mid- to low-rise buildings will be present. A high-rise commercial building may also be developed on the same lot as the fan

plant. Overall, this area of the Far West Side will be transformed into a densely developed neighborhood of large and bulky buildings.

The Twelfth Avenue fan plant would be similar in bulk and height to many of the mid-rise buildings that will be present in the surrounding area and much shorter than the high-rise buildings that will be located on the same block and on the blocks to the north.

Depending on the disposition of its final design (i.e., what portions of the building are exposed to the street front), the Twelfth Avenue fan plant would be visible from several of vantage points and to several viewer groups. The actual configuration of the structure, its level of exposure to the surrounding streets, and its relationship with the surrounding buildings would contribute to the final determination of the effect of the fan plant on the visual environment.

Views of the new fan plant from the east would be restricted by the presence of large buildings that will be built there in the future. The fan plant would be visible from the Hudson River Park and from Twelfth Avenue, depending on the final configuration.

The Twelfth Avenue fan plant would have a neutral to slightly adverse effect on the visual quality of the area. Once other surrounding buildings are completed, the effect of the facility on the visual quality of the area would be neutral to slightly adverse, depending upon the disposition of the final design. Plans for the Hudson Yards include buildings that are far taller than the proposed fan plant (the tallest of which would be almost 1,300 feet high) and therefore the facility would not be out of context with the bulk or height of the surrounding buildings. The fan plant would be consistent with the neighborhood character of the existing industrial area and with the future planned developments. Much of the character of the facility can be shaped in final design to be consistent with the architectural treatment and facade typical of the area.

10.7.4.1.2 Affected Population and Viewer Sensitivity

The ventilation facility may be visible from nearby areas of Hudson River Park, although some views may be obscured by plantings in the median of Twelfth Avenue. Visitors to Hudson River Park would be moderately sensitive to changes in the visual environment across from the park. Views of the fan plant would exist from parts of the High Line that are in close proximity to the ventilation facility. Pedestrians walking along Twelfth Avenue would be able to see the facility and may be moderately sensitive to its effect. Motorists along Twelfth Avenue and on the streets surrounding would be able to observe the ventilation facility from the roadway would minimally sensitive to visual effects.

10.7.4.2 HUDSON RIVER

The Preferred Alternative does not include any permanent, visible elements in the Hudson River. Once the limited in-water construction activity is complete, the Preferred Alternative would not be visible beneath the river.

10.7.4.3 TENTH AVENUE AREA

10.7.4.3.1 Visual Character and Key Views

The new Tenth Avenue fan plant is proposed for a location beneath the Lerner Building (on Tenth Avenue between 31st and 33rd Streets). This building currently has ventilation louvers at street-level along its Tenth Avenue façade, which may be replaced with different louvers as part of the Preferred Alternative. This would not result in a notable visible change.

10.7.4.3.2 Affected Population and Viewer Sensitivity

If new louvers are placed on the Tenth Avenue façade of the Lerner Building, pedestrians on the street may notice the change, but it would not be substantive.



10.8 MEASURES TO AVOID, MINIMIZE, AND MITIGATE IMPACTS

A number of measures will be implemented for the Preferred Alternative to avoid or minimize adverse impacts related to visual and aesthetic considerations. These will include the following:

- The Hoboken staging site will have a temporary noise barrier up to 25 feet high and 400 feet long to buffer the nearby residential neighborhood on the north side of West 18th Street from construction noise (see Chapter 12, “Noise and Vibration,” Section 12.9). This will also have the effect of blocking potentially unattractive views of the construction area from the surrounding neighborhood. Some people may perceive the presence of a noise wall as unattractive, although others may see it as a positive visual element. The Project Sponsor will work with the local community to maintain the wall in an attractive visual condition.
- For construction sites in New York, 15-foot-high site enclosures or temporary noise barriers will block views into the construction sites (see Chapter 12, “Noise and Vibration,” Section 12.9). At cut-and-cover construction sites, temporary barriers will be constructed along the curblines while the street nearest the curb will remain open to accept equipment to complete the excavation across the street. This will also block views of the construction area from the surrounding neighborhood. Some people may perceive the presence of a noise wall as unattractive, although others may see it as a positive visual element. The Project Sponsor will work with the local community to maintain the wall in an attractive visual condition.
- Construction fencing will be clad with aesthetically attractive or artistically enhanced fabric.
- The Hoboken fan plant and surrounding site will be designed to be compatible with the visual character of the surrounding area. Such elements as the façade of the structure within the site, planting, pavement, and fencing will be designed in a manner that is sensitive to the neighboring residential community. The Project Sponsor for the Hudson Tunnel Project will coordinate with the local community and seek input in determining the appropriate design for the visible portions of the fan plant.
- The Twelfth Avenue fan plant will be designed to be compatible with the character of the surrounding area and any urban design goals that the City of New York has established for the area. The design of visible elements of the fan plant will be coordinated with NYCDOP. *