



FEDERAL AVIATION ADMINISTRATION

EASTERN REGION
AIRPORTS DIVISION

**Short Environmental
Assessment Form
for
AIRPORT DEVELOPMENT
PROJECTS**



Airport Name: Teterboro Airport

Identifier: TEB

Proposed Project: Replacement of Taxiway B with new Taxiway V

This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA official.

Responsible FAA Official

Date

This form is to be used only for limited types of projects. It is strongly recommended that you contact your local Environmental Protection Specialist (EPS) before completing this form. See instructions page.

APPLICABILITY

This Form can be used if the proposed project meets the following criteria:

- 1) It is not categorically excluded (see paragraphs 303 and 307-312 in FAA Order 1050.1E) or
- 2) It is normally categorically excluded but, in this instance, involves at least one extraordinary circumstance that may significantly impact the human environment (see paragraph 304 and the applicable section in Appendix of 1050.1E) or
- 3) The action is one that normally requires an EA at a minimum (see paragraph 506 in FAA Order 5050.4B) and
- 4) The proposed project must fall under one of the following categories of Federal Airports Program actions:
 - (a) Approval of a project on an Airport Layout Plan (ALP).
 - (b) Approval of federal funding for airport development.
 - (c) Requests for conveyance of government land.
 - (d) Approval of release of airport land.
 - (e) Approval of the use of Passenger Facility Charges (PFC).
 - (f) Approval of development or construction on a federally obligated airport.

If you have questions as to whether the use of this form is appropriate for your project, contact your local EPS BEFORE using this form.

Complete the following information:

Project Location

Airport Name: Teterboro Airport Identifier: TEB
Airport Address: 399 Industrial Avenue
City: Teterboro County: Bergen State: NJ Zip: 07608

Airport Sponsor Information

Point of Contact: Edward Knoesel, Mgr., Environmental Programs, Aviation Technical Services
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Evaluation Form Preparer Information

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1. Introduction/Background:

The Port Authority of New York and New Jersey (Port Authority) is proposing to remove the runway incursion hot spot HS-1 located on Taxiway B at Teterboro Airport (TEB), NJ by removing existing 423 ft x 50 ft Taxiway B and constructing a new 708 ft x 60 ft Taxiway V between runways 1-19 and 6-24. An overview drawing of the proposed action is provided in Attachment A. The proposed action would remove the double hold short on Taxiway B where aircraft must taxi from one Runway Safety Area (RSA) directly to the other, with only sixteen feet of distance between runway hold short lines. The FAA defines an incursion hot spot (HS) as a location on an airport movement area with a history or potential risk of collision or runway incursion. Heightened attention by FAA Air Traffic Control (ATC), pilots, and vehicle drivers is necessary when operating in these areas. Several congestion areas and hotspots exist on TEB's airfield resulting in interrupted taxi flows and delays.

The proposed action would remove one of three hotspots on the airfield. All three hotspots are depicted in Attachment E. The proposed action addresses HS-1. HS-2 is located south of HS-1 and is designated a hot spot due to geometrical complexity in the taxiway system which may result in pilots heading north on Taxiway L to fail to make a right turn on Taxiway Q, which results in the potential for incursions onto runway 06-24. HS-3 exists where there is a direct and short route from an apron to Runway 06-24. HS-2 and HS-3 will not be addressed in the proposed action. The proposed action does not enable the Port Authority to address HS-2 and HS-3, and there are no projects within the Port Authority's ten year capital plan that will address HS-2 and HS-3. Constraints currently preventing mitigation of HS-2 and HS-3 include tenant leasehold restrictions, wetland impacts, runway safety area requirements, and space available for additional airfield construction.

Arriving aircraft exiting Runway 06 at Taxiway 'B' have to cross Runway 01-19 to access the apron area. Before crossing the runway, aircraft must hold on Taxiway 'B' until they are cleared to cross. Due to the close proximity of both runways to the hold lines, aircraft holding on Taxiway 'B' can penetrate either Runway 01-19's RSA or Runway 06-24's RSA. This can slow down arrival sequences in north flow.

Construction work for the removal of Taxiway B and construction of Taxiway V would include the following:

- Removal of Existing Taxiway B and associated utilities
- Construction of new Taxiway V between runway 06-24 and Taxiway A
- Construction of associated utilities for Taxiway V

2. Project Description (List and clearly describe ALL components of project proposal including all connected actions). **Attach a map or drawing of the area with the location(s) of the proposed action(s) identified:**

The Proposed Action would remove Teterboro Hotspot 1 by decommissioning and removing existing 423 ft x 50 ft Taxiway B and associated utilities and signage and constructing a new 708 ft x 60 ft Taxiway V, connecting with Runway 6-24 at a 45 degree angle and with Taxiway A.

Project elements are described in detail as follows:

Decommissioning and Removal of Taxiway B:

Taxiway B, connecting runways 6-24 and 1-19, will be decommissioned and removed. This involves full depth pavement removal and disposal of 1,730 yards of asphalt and aggregate, removal of 28 taxiway edge lights, 9 taxiway centerline lights, 2 guidance signs, 4 elevated guide bar lights, and the removal of 5,170 feet of cable, 2,585 feet of wire, and 2,350 feet of conduit. 1,000 linear feet of pipe will be removed and a subsurface drain will be removed. In accordance with the Port Authority's Sustainable Design Policy, at least 75% of the materials disposed will be recycled or reused. Because the existing lawn adjacent to Taxiway B will be disturbed during removal of the preceding items, the project expects that coarse material and some soil will be removed to a depth of 36" for 5,900 square yards and a depth of 6" for 15,800 square yards, to be replaced with 2,120 tons of clean soil and a 2" layer of compost to prepare for seeding. The plant selection will follow the Port Authority's *Sustainable Landscape Design Guidelines* and *FAA Advisory Circular 150/5500-33B* to minimize wildlife attractants.

Construction of Taxiway V:

A new taxiway, V, will be constructed at a 45 degree angle to runway 6-24, and connect to Taxiway A. The proposed pavement is designed to accommodate the expected traffic on Taxiway V, which will consist primarily of aircraft arriving on Runway 6. The design aircraft for the pavement is the Gulfstream V with a GTW of 80,000-90,000 lbs. The pavement is designed to accommodate these aircraft at landing weight, due to the fact that few departing aircraft are expected to use Taxiway V.

The pavement section will consist of a 4 inch asphalt concrete top course, above a 6 inch plant mix macadam course, above a 14 inch dense graded aggregate base course (DGABC), and an underlying

12 inch I-7 sand course to mitigate the poor subgrade soil conditions prevalent at Teterboro Airport. The pavement has an expected 20 year service life.

Construction of Associated Utilities for Taxiway V:

The design of the drainage system will maximize positive drainage under significant rainfall events and will meet required storm water management rules established in New Jersey Administrative Code 7:8, and stormwater quality total suspended solids and pollutant removal best management practices. Since the high groundwater elevation and the intolerance of wildlife associated with frequent standing water in aircraft operations areas prohibits the use of alternative water quality strategies, vegetative filter strips (VFS), grass swales and manufactured treatment devices (MTD) will be used.

The removal of Taxiway B will connect two sub-basins connected to a 21.7 acre basin bounded by Runway 6-24, Runway 1-19, and Taxiway A. Currently, 6.7 acres of the basin, or 30%, are impervious. The addition of Taxiway V will add 1.3 acres of impervious surface to the basin, while the removal of taxiway B removes 0.62 acres of impervious surface, resulting in a net gain of 0.68 acres of impervious surface. This minimal change will not warrant a redesign of the drainage network in this basin, as the peak ponding elevating during a 2 year average recurrence interval precipitation event remains the same for previous and proposed conditions. Vegetative filter strips will be installed on both sides and for the entire length of taxiway V to serve as an initial filter for stormwater runoff. 2,000 linear feet of HDPE subdrain and 1,000 feet of concrete and iron piping will be installed to connect to the existing drainage system. Six catch basins and 7 stormwater manufactured treatment devices will be installed. The drainage system will run to a drainage ditch adjacent to Route 46 via two reinforced concrete pipes under Taxiway A. The drainage ditch eventually drains to the East Riser Ditch.

2 Taxiway edge lights, 55 taxiway centerline lights, 18 base can lights and covers, and 9 runway guard lights will be installed, along with 4,250 feet of conduit, 9,350 feet of cable, and 4,675 feet of grid wire. 6 Taxiway guidance signs and 2 replacement runway edge lights will be installed.

The proposed action would unavoidably impact between 3 and 4.5 acres of freshwater wetlands regulated by the U.S. Army Corp of Engineers (USACE). The loss of wetlands is unavoidable in order to meet the proposed project's purpose and need. The Port Authority will minimize wetland impacts to the extent possible before the USACE issues its Jurisdiction Determination as to the precise amount of impact and required mitigation, in accordance with guidance within Section 404 (b)(1) of the Clean Water Act. This determination is underway and will be finalized in between July and September 2015, well before construction award. To mitigate for the expected wetland disturbance, the Port Authority will purchase the appropriate number of mitigation credits (3-4.5) from the Kane Mitigation Bank LLC as established through consultation with the United States Army Corp of Engineers. The Port Authority entered into an agreement with Kane in December 2012, and the credits are available.

3. Project Purpose and Need:

The primary purpose of the Proposed Action is to reduce runway incursions caused by the Taxiway B hotspot. Arriving aircraft exiting Runway 06 at Taxiway 'B' have to cross Runway 01-19 to access the apron area. Before crossing the runway, aircraft have to hold on Taxiway 'B' until they

are cleared to cross. Due to the close proximity of both runways to the hold lines, aircraft holding on Taxiway 'B' can penetrate either Runway 01-19's RSA or Runway 06-24's RSA. There is only 16 feet of clearance between each RSA, which could result in runway incursions if an aircraft is not immediately cleared to cross Runway 1-19.

Because of this hazard, the majority of traffic arriving on Runway 6 exits the runway at Taxiway A, located at the end of the runway. This increases runway occupancy time on runway 6 by 7 seconds per flight when compared to the proposed action, increases delay, and increases aircraft fuel usage due to an extended taxi time and resulting in-air delays experienced by inbound aircraft. 40% of arrivals to TEB use Runway 6.

In summary, the Proposed Action would serve the needs of the Port Authority, aircraft operators, FAA, and the general flying public by removing an FAA-designated hotspot, reducing the risk of runway incursions, and reducing runway occupancy time.

4. Describe the affected environment (existing conditions) and land use in the vicinity of project:

Teterboro Airport, located in the northwest section of the New Jersey Meadowlands District, encompasses approximately 827 acres: 90 acres of aircraft hangers, maintenance and office facilities, 408 acres used for aeronautical purposes and 329 undeveloped acres. It is located in the Boroughs of Teterboro, Moonachie, and Hasbrouck Heights in Bergen County, NJ and is 12 miles from midtown Manhattan, via the George Washington Bridge or the Lincoln Tunnel.

The areas surrounding TEB are a mixture of commercial and industrial developments with residential communities in close proximity. Land use to the south, in Moonachie and Carlstadt, is almost entirely commercial and industrial development. To the west lies Route 17 and associated commercial development, a rail line, and extensive industrial uses. The site is bounded to the north by industrial development between Rt. 46, which abuts the northern portion of the airport, and Interstate 80 in Teterboro and South Hackensack. On the east side of the airport property lies wooded wetlands and Fred Wehren Boulevard. Residential communities are located east of TEB in Little Ferry, Moonachie, and other surrounding areas.

TEB is designated a "reliever" airport according to the National Plan of Integrated Airport Systems that services general aviation requirements for the greater New York area. The airport is a 24-hour public-use facility, offering both visual non-precision and "all weather" precision landing capabilities, however, there is a voluntary night time curfew for all aircraft between 11 pm and 6 am for noise abatement. TEB does not accommodate scheduled carrier operations as a general aviation reliever airport. The airport also imposes weight restrictions, and prohibits the use of aircraft with operating weights in excess of 100,000 pounds. TEB's utilization consists of a broad range of general aviation aircraft.

TEB is owned by the Port Authority. Effective December 1, 2000 the Port Authority assumed full responsibility for the operation of TEB, and together with AVPORTS, manages the daily operations and maintenance of the airport.

5. Alternatives to the Project: Describe any other reasonable actions that may feasibly substitute for the proposed project, and include a description of the "No Action" alternative.

If there are no feasible or reasonable alternatives to the proposed project, explain why (attach alternatives drawings as applicable):

Runway Safety Area:

A total of four (4) alternatives (including the no action alternative) were developed for removing and mitigating the incursion hotspot at Taxiway B. Three of the alternatives (excluding no-action) are depicted in Attachment B.

No Build/Action Alternative

The No Action Alternative does not meet the purpose and need of the project, which is to remove the existing runway incursion hotspot at Taxiway B. A no-action alternative leaves Taxiway B in place, which could result in continued risk of runway incursions.

Preferred Alternative: Construction of Taxiway V and associated utilities, not precluding the future construction of Taxiway P (preferred alternative)

This alternative would entail the removal of existing 423 ft x 50 ft Taxiway B and constructing a new 708 ft x 60 ft Taxiway V between runways 1-19 and 6-24. This alternative would add a net 0.68 acres of impervious surface to the basin as a result of the construction of Taxiway V, and impact between 3 and 4.5 acres of existing jurisdictional freshwater wetlands. A drainage analysis determined that the characteristics of the existing watershed would be maintained under this alternative, but that vegetated filter strips and manufactured treatment devices will be needed to maintain current stormwater runoff quality. The estimated construction cost for this alternative is \$3.9 million, excluding the wetland mitigation cost, estimated at \$2,598,750.

Alternative 1: Construction of taxiway V and associated utilities, and taxiway P throat, in anticipation of the future addition of taxiway P to runway 1-19

This alternative would entail the removal of existing 423 ft x 50 ft Taxiway B and constructing a new 708 ft x 60 ft Taxiway V between runways 1-19 and 6-24, along with the construction of a throat for future Taxiway P, which would connect Taxiway V with Runway 1-19. This project would add 1.18 acres of impervious surface to the basin as a result of the construction of Taxiway V and the Taxiway P throat, and would impact approximately 5.2 acres of existing jurisdictional freshwater wetlands. A drainage analysis determined that the characteristics of the existing watershed would be maintained under this alternative, but that vegetated filter strips and manufactured treatment devices will be needed to maintain current stormwater runoff quality. The estimated construction cost for this alternative is \$5.067 million, excluding the wetland mitigation cost, estimated at \$3,861,000.

Alternative 2: Full build of taxiway V and P in area bound by taxiway A, and both runways.

This alternative would entail the removal of existing 423 ft x 50 ft Taxiway B and constructing a new 708 ft x 60 ft Taxiway V between runways 1-19 and 6-24, along with the construction of a full-length Taxiway P, which would connect Taxiway V with Runway 1-19. This project would add 2.18 acres of impervious surface to the basin as a result of the construction of Taxiway V and Taxiway P, and would impact approximately 5.2 acres of existing jurisdictional freshwater wetlands. A drainage analysis determined that the characteristics of the existing watershed would be maintained under this alternative, but that vegetated filter strips and manufactured treatment devices

will be needed to maintain current stormwater runoff quality. The estimated construction cost for this alternative is \$6.238 million, excluding the wetland mitigation cost, estimated at \$3,861,000.

6. Environmental Consequences – Special Impact Categories (refer to the Instructions page and corresponding sections in Appendix A of 1050.1E and the Airports Desk Reference for more information and direction. The analysis under each section must comply with the requirements and significance thresholds as described in the Desk Reference).

(A) AIR QUALITY (Please note this analysis must meet requirements for both NEPA review and Clean Air Act (CAA) requirements).

Clean Air Act

(a) Is the proposed project located in a nonattainment or maintenance area for the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act and does it result in direct emissions (including construction emissions)?(If **Yes**, go to (b), **No**, go to the NEPA section below.

Teterboro Airport is located in the New Jersey-New York-Connecticut Intrastate Air Quality Control Region (AQCR). The New Jersey-New York-Connecticut Intrastate AQCR does not meet the Federal standard for the 8-hour concentration of ozone or the Federal standard for the 24-hour and annual arithmetic mean concentrations of fine particulate matter (PM_{2.5}). In the past, this area was also designated as a nonattainment area for carbon monoxide (CO); however, on May 20, 2002, the U.S. Environmental Protection Agency (USEPA) determined the area had attained the CO standard and the region was re-designated to attainment for CO. The area now operates under a maintenance plan for CO.

There will be direct as well as indirect emissions due to the proposed project.

(b) Is the proposed project an “exempted action,” under the General Conformity Rule or Presumed to Conform (See FRN, vol.72 no. 145, pg 41565)? (If **Yes**, cite exemption and go to NEPA section below; **No**, go to (c)).

No. The proposed project would not qualify as an exempt action under the General Conformity Rule.

(c) Would the proposed project result in a net total of direct and indirect emissions that exceed the threshold levels of the regulated air pollutants for which the project area is in non-attainment or maintenance? (Attach emissions inventory). (If **Yes**, consult with ADO).

The annual emissions of volatile organic compounds (VOC), oxides of nitrogen (NO_x), particulate matter with an aerodynamic diameter of up to 2.5 micro meters (PM_{2.5}) and carbon monoxide (CO) for the demolition of Taxiway B and construction of Taxiway V are expected to be well below the Federal *de minimis* thresholds for each pollutant established by the General Conformity Rule. Air quality studies for three similar projects, including the EMAS at Runway 24 approach End, Runway 19 End, and Runway 24 End confirmed emissions of the above listed pollutants at much lower levels than the Federal *de minimis* thresholds. The extent of the Proposed Action, in regards to construction emissions, has a similar footprint, as the Runway 19 end EMAS project resulted in 41,650 square feet of EMAS material along with a roadway realignment component while this project results in 42,480 square feet of additional pavement along with a taxiway demolition. The

referenced projects only produced a maximum of 12.51% of emissions for the *de minimus* threshold for NOX, and significantly less than that for VOC and CO. See Attachment D for the Air Quality Studies for the past similar projects at TEB.

NEPA

(a) Is the airport's activity levels below the FAA thresholds for requiring a NAAQS analysis? (If **Yes**, document activity levels and go to Item 2, **No**, go to (b)).

No. The USEPA determined that projects having *de minimis* emissions would not be likely to cause an exceedance of any NAAQS. The evaluation of the emissions inventories for similar projects (i.e. Runway 24 approach End EMAS project, Form C Short EA approved with a Finding of No Significant Impact (FONSI) in March 2006; Runway 19 End EMAS project, Form C Short EA approved with a FONSI in May 2007; and Runway 24 End EMAS project, Form C Short EA approved as FONSI in June 2011) confirmed that the net emissions due to the proposed project were *de minimis* for the duration of the projects. The extent of construction for the Proposed Project is longer for this project, but the impacted area is similar in size and scope. The reason for the extended duration of this project is because work will only occur during nighttime runway closures, due to the project's impacts on both runway RSAs. The cumulative impacts of the project will be similar. Therefore, no further analysis to demonstrate attainment of the NAAQS for this Proposed Project would be required; furthermore, the Proposed Project will not result in any delay in the attainment of any NAAQS, nor would the proposed project worsen any existing NAAQS violation.

(b) Do pollutant concentrations exceed NAAQS thresholds? (Attach emissions inventory).

Not Applicable.

(c) Is an air quality analysis needed with regard to state indirect source review?

No. The Proposed Project does not include features that would require a New Jersey indirect source review.

(B) BIOTIC RESOURCES

Describe the potential of the proposed project to directly or indirectly impact plant communities and/or the displacement of wildlife. (This answer should also reference Section 19, Water Quality, if jurisdictional water bodies are present).

The location of the Proposed Project is on the northern end of the airport between runways 1-19 and 6-24. Displacement of wildlife is not anticipated to occur due to the nature of the area in between runways. There is limited potential animal habitat at or near the Proposed Project location. Although the project area contains wetlands, the dominant vegetation is a monoculture of Tall Fescue and no significant plant communities are located at the proposed project site. The wetlands within the project boundary are considered to be waters of the United States by the U.S. Army Corps of Engineers (USACE) and, therefore, a USACE Section 404 Clean Water Act Wetland Permit will be required.

(C) COASTAL RESOURCES

(a) Would the proposed project occur in a coastal zone, or affect the use of a coastal resource, as defined by your state's Coastal Zone Management Plan (CZMP)? Explain.

Yes. The proposed project would occur in the coastal zone in an area governed by the Waterfront Development Law (N.J.S.A. 12:5-3).

(b) If **Yes**, is the project consistent with the State's CZMP? (If applicable, attach the sponsor's consistency certification and the state's concurrence of that certification).

In New Jersey State, the CZMP concurrence is issued by the NJDEP as part of the Flood Hazard Area Permit. The application for Flood Hazard Area permit along with consistency evaluation of New Jersey State CZMP will be submitted to NJDEP for review between July and October 2015.

Based on the consistency evaluation conducted, the judgment of the Port Authority is that the Proposed Project complies with and would be conducted in a manner consistent with the New Jersey State CZMP.

(c) Is the location of the proposed project within the Coastal Barrier Resources System? (If Yes, and the project would receive federal funding, coordinate with the FWS and attach record of consultation).

No. Teterboro Airport is not located within the Coastal Barrier Resources System.

(D) COMPATIBLE LAND USE

(a) Would the proposed project result in other (besides noise) impacts that have land use ramifications, such as disruption of communities, relocation of residences or businesses, or impact natural resource areas? Explain.

No. The Proposed Project is compatible with the existing land use. No businesses or residences will be affected by this proposed project.

(b) Would the proposed project be located near or create a wildlife hazard as defined in FAA Advisory Circular 150/5200-33, "Wildlife Hazards On and Near Airports"? Explain.

No. The Proposed Project will be located airside within the existing airport boundary and will not be near wildlife or create a wildlife hazard.

(E) CONSTRUCTION IMPACTS

Would construction of the proposed project increase ambient noise levels due to equipment operation; degrade local air quality due to dust, equipment exhausts and burning debris; deteriorate water quality when erosion and pollutant runoff occur; and/or disrupt off-site and local traffic patterns? Explain.

Noise

Community noise impacts during construction are the result of operating construction equipment and construction/delivery vehicles traveling to and from the site. Noise impacts vary widely, depending on the phase of construction, e.g. land clearing and excavation, foundation work, etc. The Proposed Project would have no perceptible increase in ambient noise levels at noise sensitive

receptors in the area due to construction activities. Construction activities associated with the Proposed Project would temporarily increase the ambient noise levels in the immediate vicinity of the project area during periods of heavy construction. However, there are no sensitive receptors immediately adjacent to the Proposed Project site. Off-site impacts, from equipment and materials egress/ingress, are anticipated to be minimal, if any.

Air Quality

The Proposed Project would not degrade local air quality due to dust, equipment exhaust or burning debris. No debris generated during the construction of the Proposed Project would be burned. Air quality impacts during the construction of the Proposed Project are anticipated to be both short-term and relatively minor, and restricted to fugitive dust from ground disturbing activities. The Contractor would employ dust suppression techniques, should more than minimal levels of dust be generated at the site. Dust suppression, if necessary, would be performed in accordance with FAA Advisory Circular 150/5370-10, *Standards for Specifying Construction of Airports*.

Water Quality

Several measures would be implemented during construction that would minimize impact to water quality, such as those discussed under Item (S) Water Quality below. All actions would conform to local, state and federal water quality regulations. Construction contract specifications would contain the provisions of FAA Advisory Circular 150/5370, *Standards for Specifying Construction of Airports*, Item P-156 *Temporary Air and Water Pollution, Soil Erosion, and Siltation Control*, and 150/5320-5B, *Airport Drainage*.

Local Traffic Patterns

No off-site and local traffic patterns are likely to be disrupted given the project's nighttime construction schedule and normal management procedures to minimize such impacts. Construction-related vehicular traffic, primarily from workers' commuting to work and to materials deliveries, will be minimal due to the small footprint of the project.

(F) SECTION 4(f) RESOURCES

Does the proposed project have an impact on any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or an historic site of national, state, or local significance? (If **Yes**, contact FAA, contact appropriate agency and attach record of consultation).

No. The proposed project is completely within the confines of TEB airport and does not require use of any public lands.

(G) ENDANGERED AND THREATENED SPECIES

(a) Would the proposed project impact any federally or state-listed or proposed, endangered, or threatened species (ESA) of flora and fauna, or impact critical habitat? (Attach record of consultation with federal and state agencies as appropriate).

No. While TEB is located within the Meadowlands District, and there have been endangered and threatened wildlife species observed in the district, this project is not expected to impact any federal, state-listed or proposed endangered or threatened species of flora and fauna, or impact any critical habitat.

According to the Natural Heritage Database, the Yellow-crowned night heron (*Nyctanassa violacea*), and the Snow Egret (*Egretta thula*), may be encountered at the project site. The Yellow-crowned night heron is state threatened species, and Snow Egret a species of special concern. Nevertheless, the project site does not provide habitat for these threatened or special concern species, nor is there any potential for their presence due to the project site's vicinity to runways. In accordance with FAA Advisory Circular 150/5200-33B Hazardous Wildlife Attraction on or near Airports, birds and insects are discouraged near runway and taxiways to prevent wildlife strikes and reduce the threat to aircraft safety. Therefore, no significant impacts to endangered and threatened wildlife species are anticipated. Several other bird species were identified by the Natural Heritage Database Search to be within one mile of the project site. However, habitats for these bird species consist of wetlands, bays, and estuaries, requiring trees or the ground for nesting which are not present within the project work area. Therefore, there will no adverse impacts to these bird species due to the Proposed Project.

In addition, according to the United States Environmental Protection Agency (USEPA) Endangered Species Protection Program Database, the Indiana Bat species has been documented in Bergen County, New Jersey. However, at a meeting held at TEB on November 19, 2010, the Director of the U.S. Fish and Wildlife Service (USFWS) office in Pleasantville, NJ stated that Indiana Bats were not a concern in this area. Therefore, based on this statement, it is concluded that the Proposed Project would have no adverse impact on this species and its habitat.

(b)Would the proposed project affect species protected under the Migratory Bird Act? (If Yes, contact FAA).

No. The proposed project would not affect the species protected under the Migratory Bird Act due to the limited affected area for this Proposed Project and the location, which is restricted to an already developed area consisting primarily of pavement and maintained vegetated area.

(H) ENERGY SUPPLIES, NATURAL RESOURCES AND SUSTAINABLE DESIGN

What effect would the proposed project have on energy or other natural resource consumption? (Attach record of consultations with local public utilities or suppliers if appropriate)

The Proposed Project would have a negligible impact on public utilities, energy supply and natural resources. The Proposed Project would not change the operation of the airport, except to increase its safety. There is no shortage of construction material necessary for the proposed project within the region. The project will follow the Port Authority's *Sustainable Infrastructure Guidelines*, which establish sustainable design requirements for infrastructure projects.

(I) ENVIRONMENTAL JUSTICE

Would the proposed project have a disproportionate impact on minority and/or low-income communities? Consider human health, social, economic, and environmental issues in your evaluation. Explain.

No. There would be no residential or business displacement, no fiscal impact, and no disproportionate impacts to low-income or minority populations.

(J) FARMLANDS

Does the project involve acquisition of farmland, or use of farmland, that would be converted to non-agricultural use and is protected by the Federal Farmland Protection Policy Act (FPPA)? (If **Yes**, attach record of coordination with the Natural Resources Conservation Service (NRCS), including form AD-1006.)

No farmland is found within the Teterboro Airport. The proposed project will be constructed on land owned by the Port Authority.

(K) FLOODPLAINS

(a) Would the proposed project be located in, or would it encroach upon, any 100-year floodplains, as designated by the Federal Emergency Management Agency (FEMA)?

Yes. Prior to Superstorm Sandy, FEMA was in the process of updating specific Flood Insurance Rate Maps (FIRMs). FEMA released Preliminary FIRMS for Bergen County on May 30, 2014, which are subject and open for appeal until July 1, 2015. According to Preliminary FIRMS dated May 30, 2014, the Project Area is located in Zone AE, which is the area subject to storm surge flooding from the 1% annual chance coastal flood (the 100-year flood). In the vicinity of the Project Area, the 1% annual advisory base flood elevation is 8 feet NAVD 88.

(b) If Yes, attach the corresponding FEMA Flood Insurance Rate Map (FIRM) and describe the measures to be taken to comply with Executive Order 11988.

See Attachment C for Preliminary FIRMs.

Executive Order 11988 requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. While the proposed action would result in a net increase of 0.68 acres of impervious surface, a drainage study determined that the ponding elevation resulting from a 2-year recurrence rainfall event would not change versus a no-build scenario. The effect of the proposed action on the drainage basin and on the overall floodplain, therefore, is expected to be negligible.

(L) HAZARDOUS MATERIALS

Would the proposed project involve the use of land that may contain hazardous materials or cause potential contamination from hazardous materials? (If **Yes**, attach record of consultation with appropriate agencies). Explain.

The Proposed Project is not expected to require the use of land that may contain hazardous substances or may be contaminated. During the construction of the Proposed Project, soils will be excavated for grading, filling and planting vegetation. If any of the soils excavated are suspected of

being contaminated based on a field assessment, soil samples would be obtained. The samples would be taken to a NJDEP certified laboratory and analyzed for the list of priority pollutants. Soils with elevated levels of pollutants will be disposed off-site in accordance with Federal and State regulations. Typically, non-hazardous soil can be beneficially reused off-site as landfill cover or final cover for landfill closures. If any soils or other materials removed during the construction are determined to be hazardous wastes, the material would be disposed of at an EPA approved hazardous waste disposal facility under the Port Authority's RCRA hazardous waste ID number.

All waste disposal activities associated with the Proposed Project would comply with all federal, state and local regulations regarding the identification, removal, transportation, and disposal of hazardous and non-hazardous material.

(M) HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL OR CULTURAL PROPERTY

(a) Describe any impact the proposed project might have on any properties in or eligible for inclusion in the National Register of Historic Places. (Include a record of your consultation and response with the State or Tribal Historic Preservation Officer (S/THPO)).

The Proposed Project is limited to taxiway demolition and construction within the periphery of the existing runways and taxiways. It would have no impact on any properties listed or eligible for listing on the National Register of Historic Places as no historic properties are located at TEB.

The New Jersey Meadowlands Commission lists the Airport Tower and Aviation Hall of Fame, the Atlantic Aircraft Factory at TEB, and the Bendix Factory Complex, adjacent to TEB as potential historic resources. However, the New Jersey Historic Preservation Office has not identified these resources as having historic significance.

(b) Describe any impacts to archeological resources as a result of the proposed project. (Include a record of consultation with persons or organizations with relevant expertise, including the S/THPO, if applicable).

The Proposed Project is limited to taxiway demolition and construction within the periphery of the existing runways and taxiways. The entire project area is located within the confines of the airport property, which is situated on filled marshland, and is not anticipated to contain any significant scientific, prehistoric, historic, archaeological or paleontological resources.

There are no archeological resources located at TEB. According to the New Jersey Meadowlands Commission's Master Plan, the Meadowlands was used significantly in the prehistoric period, although scant evidence has been recovered.

(N) INDUCED SOCIOECONOMIC IMPACTS

Would the proposed project cause induced, or secondary, socioeconomic impacts to surrounding communities, such as change business and economic activity in a community; impact public service demands; induce shifts in population movement and growth, etc.? Explain.

The Proposed Project would induce positive secondary impacts in the region because of construction activity. These economic impacts would benefit surrounding communities during construction by increasing employment opportunities and expenditures on local services and materials. The Proposed Action would not result in property acquisition,

residential relocation, division or disruption of established communities, or disruption of planned development.

(O) LIGHT EMISSIONS AND VISUAL EFFECTS

Would the proposed project have the potential for airport-related lighting impacts on nearby residents? Explain.

No. The Proposed Project would not result in any airport-related lighting impacts on nearby residents. The taxiway edge and centerline lighting installed as a result of constructing Taxiway V will not be significantly more impactful than the existing lighting to be removed as part of Taxiway B demolition.

(P) NOISE

Will the project, when compared to the No Action alternative for the same timeframe, cause noise sensitive areas located at or above DNL 65 dB to experience a noise increase of at least DNL 1.5 dB? (Use AEM as a screening tool and INM as appropriate. See Airports Desk Reference, Chapter 17, for further guidance).

The Proposed Project does not require a noise analysis per Order 5050.4B. The Proposed Project does not involve any runway extension or runway strengthening and is not expected to result in any increase in airport operations.

(Q) SOCIAL IMPACTS

Would the proposed project cause an alteration in surface traffic patterns, or cause a noticeable increase in surface traffic congestion or decrease in Level of Service?

No. The Proposed Project, located on airport property, will not affect surface traffic patterns or cause any increase in surface traffic congestion. There will be no decrease in Level of Service as a result of this proposed project.

(R) SOLID WASTE

Would the operation and/or construction of the project generate significant amounts of solid waste? If Yes, are local disposal facilities capable of handling the additional volumes of waste resulting from the project? Explain.

There would be no adverse impacts related to solid waste management from the project once the Proposed Project is complete. There will be a temporary increase in solid waste due to the short-term construction activities. Soils will be reused on site to the greatest extent possible. There are local disposal facilities within the area that are capable of handling solid waste associated with construction activities.

(S) WATER QUALITY

(a) Does the proposed project have the potential to impact water quality, including ground water, surface water bodies, and public water supply system or federal, state or tribal water quality standards? (If Yes, contact appropriate agency and include record of consultation).

TEB is located in the Meadowlands District and is hydrologically connected to Berry's Creek via the East and West Riser Ditches. The proposed project would not have a negative impact on

surface or groundwater quality. Specific water quality issues related to the proposed project are addressed below:

- 1) Approximately 195,300 Sq ft (4.51 acres) of soil will be disturbed in the Flood Hazard Area during construction activities and, therefore, the project will require a Soil Erosion and Sediment Control Certificate from the Bergen County and authorization from the New Jersey Department of Environmental Protection (NJDEP) for stormwater discharges during construction. The Port Authority will submit soil erosion and sediment control plans to the Bergen County Soil Conservation District.
- 2) The area to provide graded support for Taxiway V will be filled with structural fill, graded and restored with appropriate, non-bird attractant vegetation. There will be a net increase of 0.68 acres of impervious area.
- 3) Vegetative filter strips will be installed on both sides and for the entire length of taxiway V to serve as an initial filter for stormwater runoff. 2,000 linear feet of HDPE subdrain and 1,000 feet of concrete and iron piping will be installed to connect to the existing drainage system. Six catch basins and 7 stormwater manufactured treatment devices will be installed. The drainage system will run to a drainage ditch adjacent to Route 46 via two reinforced concrete pipes under Taxiway A. The drainage ditch eventually drains to the East Riser Ditch.
- 4) Aircraft operations after implementation of the proposed project would not change and therefore not expected to have any change to water quality.

During construction, storm water runoff would be managed through the implementation of a Stormwater Pollution Prevention Plan (SWPPP), which includes Best Management Practices (BMPs) to prevent stormwater contamination. The Port Authority BMPs would follow the applicable local, State, and federal regulations, which are routinely implemented for all airport construction projects. The BMPs include provisions for the control and / or prevention of erosion from soil and debris storage piles and containment of construction materials. Construction management practices would be incorporated into the project's construction documents and become the obligation to which each contractor working on the site must adhere. The Port Authority monitors compliance, on a routine basis, with the BMPs and the existing NJDEP New Jersey Pollution Discharge Elimination System (NJPDES) permit for TEB.

Construction contract specifications would contain the provisions of FAA Advisory Circular (AC) 150/5370 *Standards for Specifying Construction of Airports (change 10)*, *Item P-156 Temporary Air and Water Quality Pollution, Soil Erosion, and Siltation Control*, and FAA AC 150/5320 *Airport Drainage*.

(b) Is the project to be located over a designated Sole Source Aquifer? (If **Yes**, attach record of consultation with EPA).

No, Teterboro Airport is not located over an EPA-designated sole source aquifer.

(T) WETLANDS

(a) Does the proposed project involve federal or state regulated or non-jurisdictional wetlands? (Contact USFWS or state agency if protected resources are affected) (Wetlands must be delineated using methods in the US Army Corps of Engineers 1987 Wetland Delineation Manual. Delineations must be performed by a person certified in wetlands delineation).

Yes, the Proposed Project does involve impacts to delineated wetlands. A survey of wetland areas within the TEB boundaries was performed in 2000 – 2001 and the US Army Corps of Engineers (USACE) provided a Jurisdictional Determination in a letter dated October 2, 2001. This delineation was updated and submitted to USACE in April of 2007 for a revised Jurisdictional Determination. According to the recently revised determination, the total acreage of jurisdictional wetlands at TEB has increased since 2001. A total of 16 palustrine freshwater jurisdictional wetland areas were delineated within the boundaries of TEB. The vast majority of this acreage consists of palustrine forested wetlands located on the east and the southwest portions of the airport and are not in the immediate area of this project. USACE makes individual project specific Jurisdictional Determinations for wetlands. For the purposes of this project, both the 2001 and 2007 delineations indicate wetland areas that would be impacted by this proposed project.

The Proposed Project will unavoidably impact between 3 and 4.5 acres of USACE jurisdictional palustrine emergent freshwater wetlands. The Port Authority will minimize wetland impacts to the extent possible before the USACE issues its Jurisdiction Determination as to the precise amount of impact and required mitigation, in accordance with guidance within Section 404 (b)(1) of the Clean Water Act. This determination is underway and will be finalized in by late summer 2015, well before construction award. The proposed construction in wetland areas includes the following:

Demolition of Taxiway B:

This piece of the proposed action involves full depth pavement removal and disposal of 1,730 yards of asphalt and aggregate, 1,000 linear feet of pipe and a subsurface drain for a 423ft x 50ft taxiway. Because the existing lawn adjacent to Taxiway B will be disturbed during removal of the preceding items, the project expects that coarse material and some soil will be removed to a depth of 36" for 5,900 square yards and a depth of 6" for 15,800 square yards, to be replaced with 2,120 tons of clean soil and a 2" layer of compost to prepare for seeding. The plant selection will follow the Port Authority's *Sustainable Landscape Design Guidelines* and *FAA Advisory Circular 150/5500-33B* to minimize wildlife attractants. This piece of the project will result in a gain of 0.62 acres of pervious surface. There will be no new impervious area added to this part of the project and the characteristics of the watershed will be maintained.

Construction of Taxiway V and Associated Utilities:

This part of the proposed action involves construction of a 708ft x 60 ft taxiway. The pavement section will consist of a 4 inch asphalt concrete top course, above a 6 inch plant mix macadam course, above a 14 inch dense graded aggregate base course (DGABC), and an underlying 12 inch I-7 sand course to mitigate the poor subgrade soil conditions prevalent. This piece of the project is expected to add 1.3 acres of impervious surface to the watershed.

Vegetative filter strips will be installed on both sides and for the entire length of taxiway V to serve as an initial filter for stormwater runoff. 2,000 linear feet of HDPE subdrain and 1,000 feet of concrete and iron piping will be installed to connect to the existing drainage system. Six catch basins and 7 stormwater manufactured treatment devices will be installed. The drainage system will run to a drainage ditch adjacent to Route 46 via two reinforced concrete pipes under Taxiway A. The drainage ditch eventually drains to the East Riser Ditch. Based on a drainage analysis, no change to the surrounding drainage network is required to maintain the current performance of the

drainage network. 2-year average recurrence interval SCS type III event with constant tailwater elevation of 2.5 feet NAVD88 will result in a peak pond elevation of 3.3 feet under both existing and proposed conditions.

Since wetlands are bird attractants, the FAA (Circular 150/5200-33 “Hazardous Wildlife Attractants on or Near Airports”) discourages mitigation on airport properties. Therefore, to mitigate for these impacts, the Port Authority will purchase the appropriate number of mitigation credits (between 3 and 4.5) from the Kane Mitigation Bank LLC. The restoration project via Kane Mitigation Bank has been designed and constructed so not to pose as an attractant to large water fowl.

The Department of the Army – Section 404 Permit application for wetlands including mitigation for the loss of the wetlands will be submitted to USACE in between July and October 2015.

(b) If yes, does the project qualify for an Army Corps of Engineers General permit? (Document coordination with the Corps).

Not applicable.

(U) WILD AND SCENIC RIVERS

Would the proposed project affect a river segment that is listed in the Wild and Scenic River System or National Rivers Inventory? (If **Yes**, coordinate with the jurisdictional agency and attach record of consultation).

No. The proposed project would not affect any designated Wild and Scenic Rivers.

(V) CUMULATIVE IMPACTS

Discuss impacts from past, present, and reasonably foreseeable future projects both on and off the airport. Would the proposed project produce a cumulative effect on any of the environmental impact categories above? Consider projects that are connected and may have common timing and/or location. For purposes of this Form, generally use 3 years for past projects and 5 years for future foreseeable projects.

This section addresses potential cumulative impacts that could occur as a result of the Proposed Project. The construction schedule of the proposed project, to span from 3rd Quarter 2016 through 3rd Quarter of 2018, will not overlap with any major project at the airport. With the exception of temporary construction-related impacts, the cumulative adverse environmental impact of the Proposed Project is expected to be minimal.

TEB airport, like any other airport in the country, requires regular maintenance and modernization. The Port Authority has and will continue to undertake an array of improvements at TEB to maintain and improve the efficient movement of aircraft and travelers. As is evident from a review of the projects listed below, each has demonstrated independent utility and can go forward without regard to whether any or all of the other listed actions are adopted. Each is proceeding separately and has or will go forward based on its own merits. The Proposed Project also has demonstrated its independent utility and need. The projects listed below represent the Port Authority’s most recent steps to maintain and to improve the Airport’s functionality and to enhance the level of service. The following is a summary of the ongoing or recently completed projects and projects anticipated in the foreseeable future.

Past Actions

Between 2008 and 2015 there were twelve development or improvement projects undertaken at the airport, all except for two (EMAS at End of Runway 24 and Runway 1 RSA Improvements) of which were categorically excluded from the requirement to prepare an EA or an EIS (projects eligible for a Categorical Exclusion are actions that, under normal circumstances, are not considered major federal actions and that have no measurable impacts on the environment). These projects were the following:

- Snow Equipment Storage Building
- Rehabilitation of Runway 6/24
- Expansion of Jet Aviation Infield Aircraft Parking Apron
- Unmanned Air Operations Area Gates, Perimeter Strengthening
- Relocation of Emergency Generator
- Rehabilitation of Taxiway 'A'
- EMAS At End of Runway 19
- Rehabilitation of Runway 1/19
- EMAS at End of Runway 24
- Atlantic Aviation Terminal Improvements
- Runway 1 RSA Improvements
- Decommissioning of Taxiway M

Ongoing Actions

Following is the ongoing action at the airport:

- Improvement of Perimeter Wildlife Fencing: The airport is improving existing wildlife fencing around the perimeter of the airport to further deter wildlife and improve safety. This project received a Categorical Exclusion from the FAA on April 30, 2015.

Reasonably foreseeable Future Projects

The following actions are planned to be undertaken between 2013 and 2018 and are anticipated to be categorically excluded from the requirement to prepare an EA or EIS.

- Landmark Aviation FBO – This project is intended to address congestion and capacity constraints at Landmark Aviation's FBO. Landmark intends to construct additional auto parking on the landside as well as two new hangars and a ramp extension on the airside of their current leasehold. The project is currently in preliminary design. This project may increase impervious areas at the airport and require modifications to existing storm drainage systems within the FBO leasehold, but will not require modifications to the airport stormwater drainage system.
- Taxiway Fillets Improvements along Runway 6/24 – This project will involve expansion of taxiway fillets along the alignment of Runway 6/24 to provide for better transition of aircraft from the runway onto the various connecting exit taxiways. The project will entail the

milling and overlaying with asphalt concrete pavement of the intersection of taxiways and Runway 6/24, shoulder and erosion pavement, grading, seeding, pavement marking and adjusting taxiway lighting and utility castings to meet the new finished surface. The proposed project may require re-routing and adjusting storm drainage systems, re-grading of grass areas. The minor increase in impervious surface will have no negative effect on the capacity requirements of the airports' storm water drainage system. This project is scheduled to commence in future but is not included on the current capital plan.

Even when impacts are determined to be individually insignificant, the impacts can be collectively significant when taking place over a period of time. Therefore, the cumulative effects of environmental impacts were considered only for those categories determined to have impacts due to the proposed project.

Floodplains

The proposed projects are located within the 100 and 500-year floodplains and will require a Stream Encroachment and a Flood Hazard Area permit from the NJDEP. While other airport projects are located within these areas, the encroachment will not involve considerable probability of loss of human life; will not cause damage that will involve substantial cost, including interruption of service on or loss of a vital transportation facility; nor will they have an adverse impact on natural and beneficial floodplain values. As the proposed projects will not result in a change in base elevation or storage capacity, or significant floodplain impacts, there will be no cumulative impacts as a result of this project.

Water Quality

All construction activities would be conducted in accordance with BMPs and applicable local, state, and federal regulations. A soil erosion and sediment control program would be established. Any airport permits or approvals relevant to stormwater would be modified to include the improvements. A NJDEP Flood Hazard Area permit application will be submitted to the NJDEP for this project. In addition, a Soil Erosion and Sedimentation Control Plan will be prepared and submitted to Bergen County SCD. Such procedures are routinely implemented for all airport projects. No cumulative water quality impacts are expected to occur. Loss of wetland acreage will be mitigated as required by USACE. No impacts to water quality are expected; therefore, no cumulative water quality impacts would occur.

Air Quality

The Proposed Project would cause a temporary change in the net emissions due to the operation of construction equipment. However, the emissions for projects such as this have been shown to be *de minimis* under the Clean Air Act (as amended in 1990) General Conformity Rule for similar types of projects. Further, the *de minimis* emissions are assumed to comply with the New Jersey SIP and are not expected to cause an exceedance of any of the NAAQS, delay the attainment of any NAAQS, or worsen an existing violation of any NAAQS. Other projects recently completed, under construction, or planned in the foreseeable future at TEB, are all expected to have *de minimis* emissions. Therefore, no cumulative adverse air quality impacts are anticipated from the proposed project.

Energy Supply and Natural Resources

The net impact of the Proposed Project and other projects planned for the airport on energy supplies is minimal. The majority of the projects on airport relate to modernization of older airport

structures, which because of efficiency improvements over the last 40 years will result in reductions in energy needs. Cumulative impacts related to energy demand not meeting available supply are not expected.

Light Emissions

The Proposed Project would not cause adverse impacts from light emissions. No new lighting sources are proposed for this project.

Construction Impacts

The Proposed Project would not cause significant construction impacts beyond the local site area. Contractors will be required to conduct all work using best management practices to control and minimize impacts to the environment. All grading and clearing activities would be guided by BMPs and a soil erosion and sediment control plan. Excavated soils will be assessed for potential contamination in the field and disposed in accordance with pertinent local, state, and federal regulations.

The proposed project is not expected to generate any cumulative impacts when compared to past projects or reasonably foreseeable future projects.

7. PERMITS

List all required permits for the proposed project. Has coordination with the appropriate agency commenced and what is the expected time frame of receiving a permit?

The following permits and approvals would be required prior to initiating construction.

- NJDEP Flood Hazard Area Permit including Section 401 Water Quality Certification
- NJDEP Construction Activity Stormwater General Permit NJG0088323
- Coastal Zone Management Program Consistency Certification Concurrence from NJDEP.
- Bergen County SCD Soil Erosion & Sediment Control Permit
- Department of the Army (DA) - USACE Permit pursuant to Section 404 of the Clean Water Act

The Port Authority will apply for all permits listed above in advance of project award and it is anticipated that the permits will be obtained in a timely fashion with no difficulty before the start of construction. The facility already has a NJDEP NJPDES permit for stormwater discharge.

NOTE: Even though the airport sponsor shall obtain one or more permits from the appropriate federal, state, and/or local agencies for the proposed project, start of construction shall not commence until all required permits are obtained, and FAA has issued its environmental determination.

8. MITIGATION

Describe those mitigation measures to be taken to avoid creation of significant impacts to a particular resource as a result of the proposed project, and include a discussion of any impacts that cannot be mitigated.

In order to minimize any potential impacts, mitigation measures will include adherences to all applicable regulatory and permit requirements. To mitigate for the unavoidable filling of wetlands impacts (3-4.5 acres), the Port Authority will purchase the appropriate number of mitigation credits from the Kane Mitigation Bank, LLC. The Port Authority has an agreement with Kane for this purchase. Mitigation will be done off airport property and will include measures that are consistent with safe airport operations.

9. PUBLIC INVOLVEMENT

Describe the public review process and any comments received.

The Port Authority has informed the airport community about this project through correspondence with the Teterboro Aircraft Noise Abatement Advisory Committee (TANAAC), a group comprised of the Port Authority, federal, state, and local elected officials, FAA representatives and airport users. The Port Authority has also made the document available at Port Authority offices at Teterboro Airport and online and is accepting public comments from July 6-July 22, 2015. To ensure that interested parties are informed, a notice will be published in the Star Ledger and the Bergen Record notifying the public of any FAA decision in regard to this Environmental Assessment.

10. LIST OF ATTACHMENTS

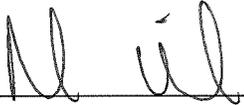
- Attachment A: Project Drawings
- Attachment B: Depiction of Project Alternatives
- Attachment C: FEMA Preliminary Flood Insurance Rate Maps
- Attachment D: Air Quality Studies for Comparable Projects
- Attachment E: Map of TEB Airfield Hotspots

Project Title: Replacement of Taxiway B with New Taxiway V

Identifier: TEB

11. PREPARER CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct.



Signature 06/26/2015
Date

Nate Kimball

Name

Airport Environmental Specialist

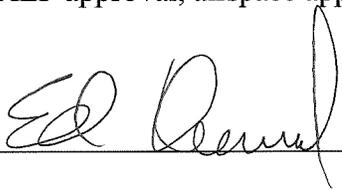
Title

The Port Authority of NY & NJ 212 435 3783

Affiliation Phone #

12. AIRPORT SPONSOR CERTIFICATION

I certify that the information I have provided above is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed for the above proposed project(s) until FAA issues a final environmental decision for the proposed project(s), and until compliance with all other applicable FAA approval actions (e.g., ALP approval, airspace approval, grant approval) has occurred.



Signature 06/26/2015
Date

Edward C. Knoesel

Name

Senior Manager, Environmental and Noise Programs

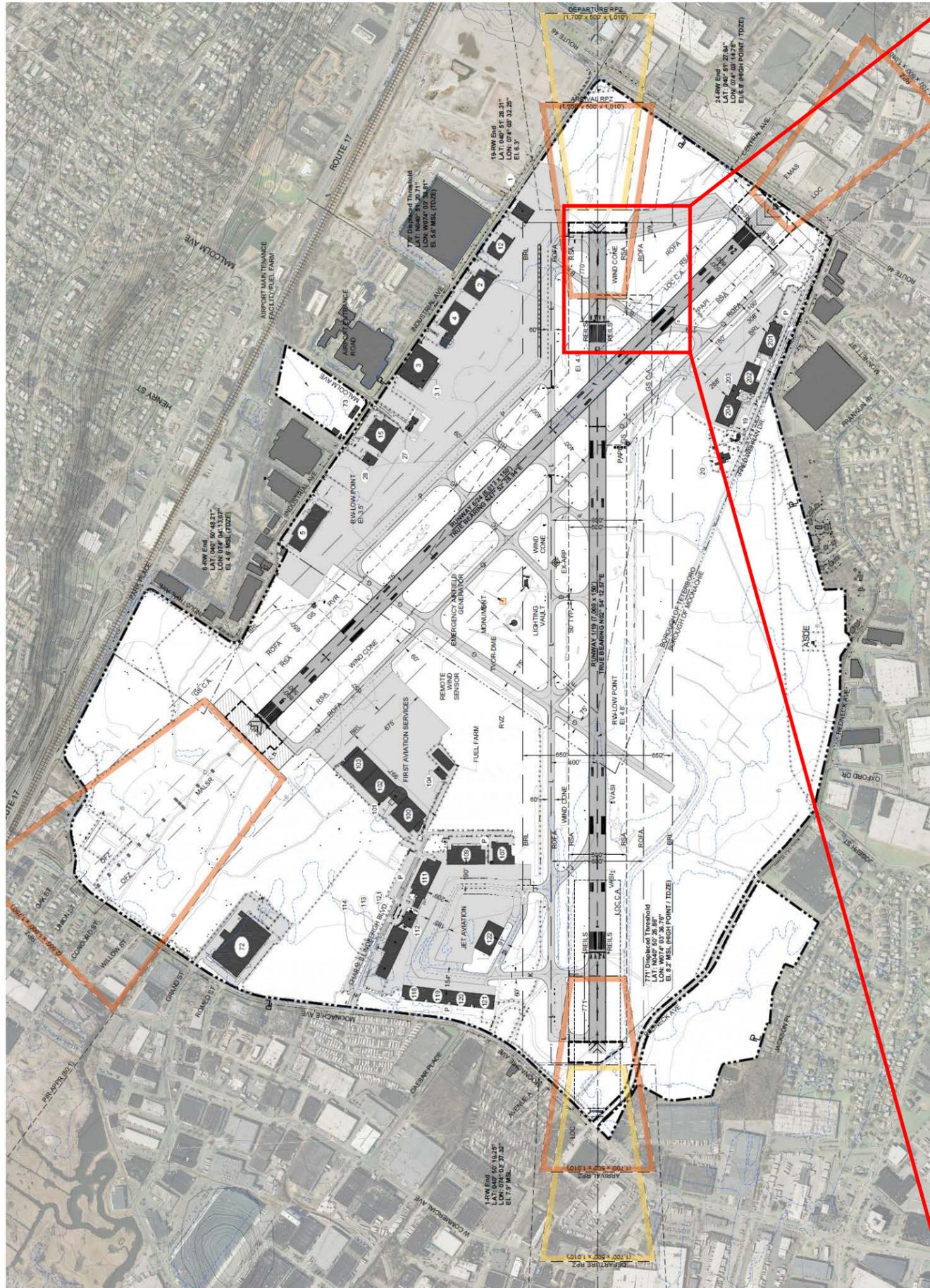
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The Port Authority of NY & NJ 212 435 3747

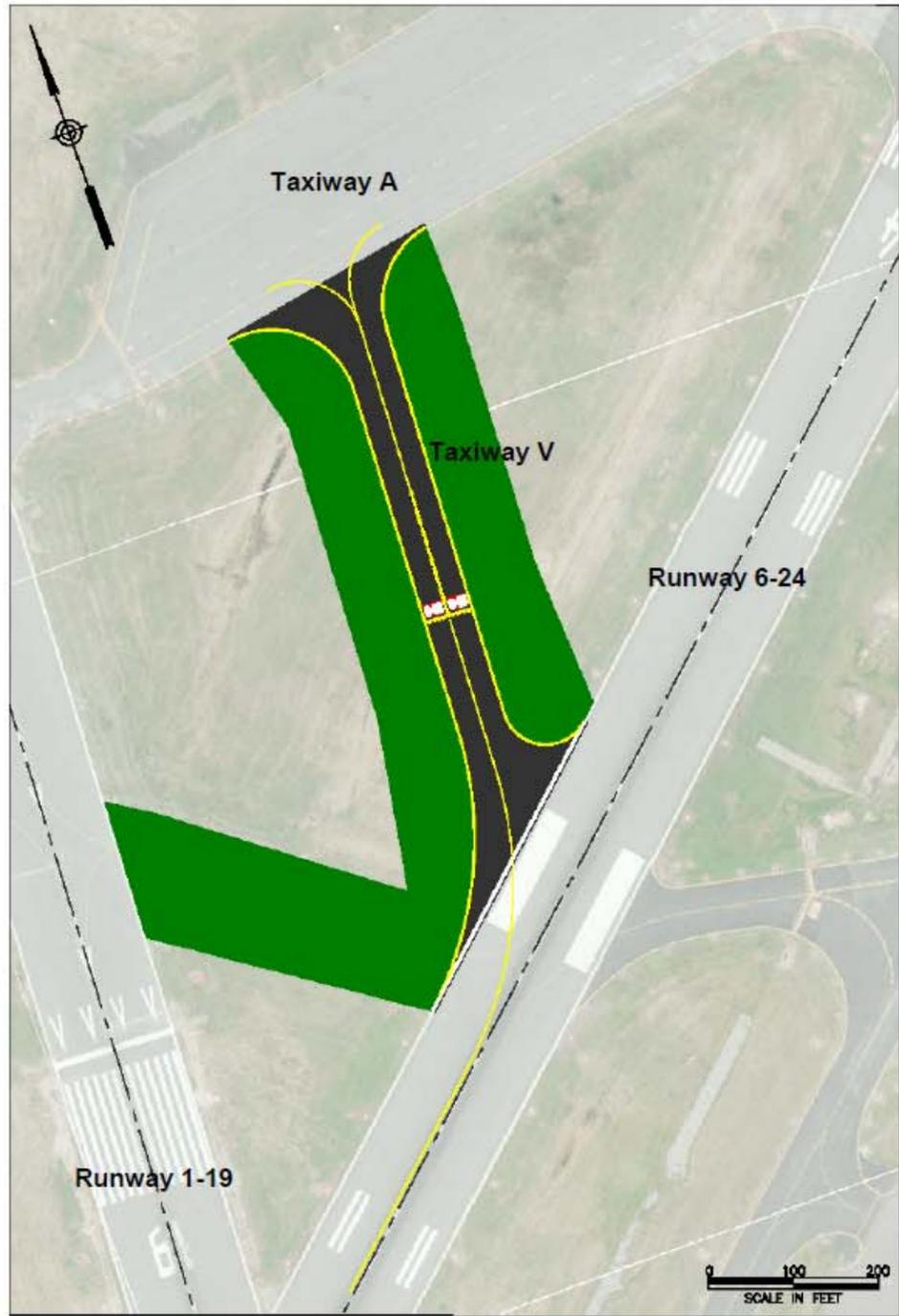
Affiliation Phone #

Attachment A: Project Drawings

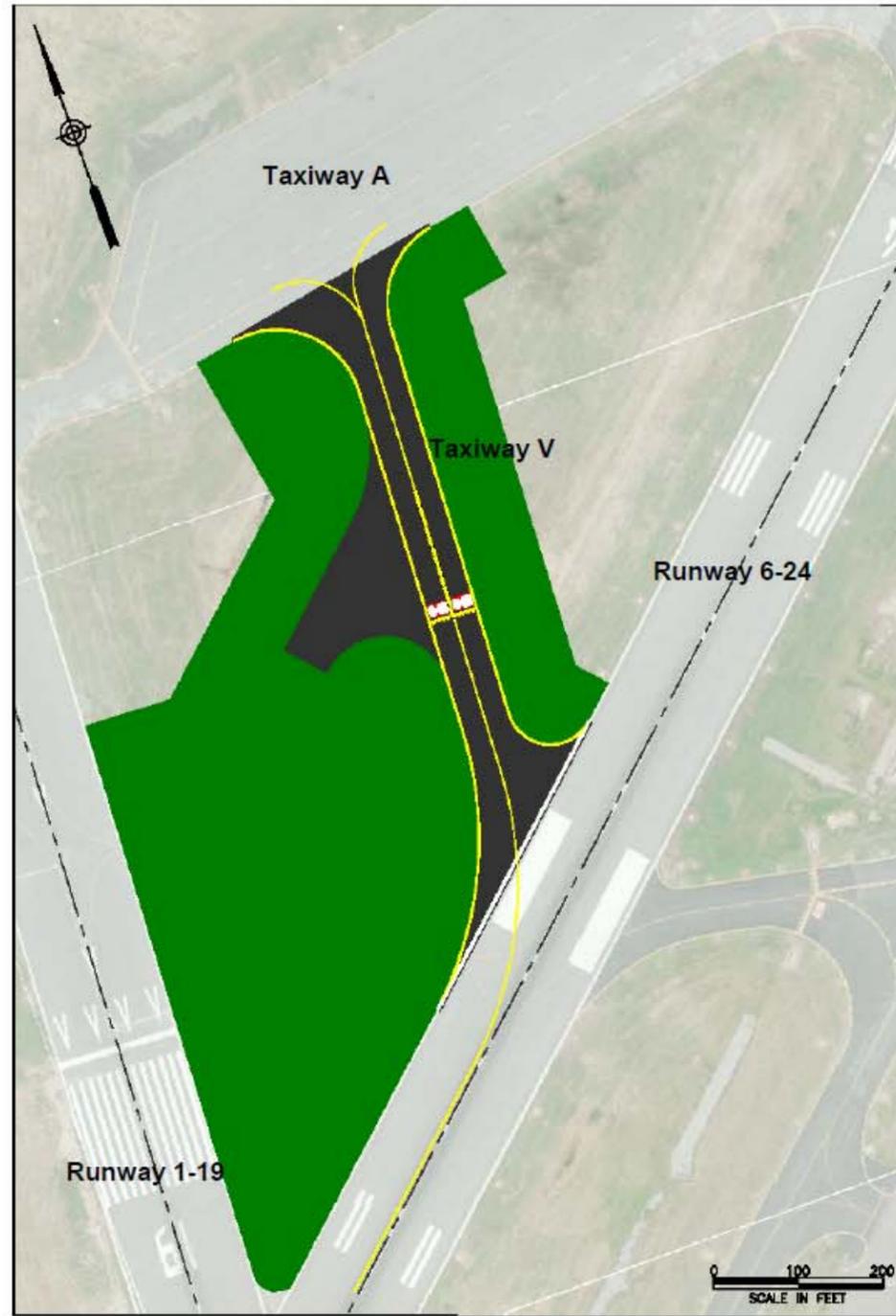
Attachment A: Project Drawing



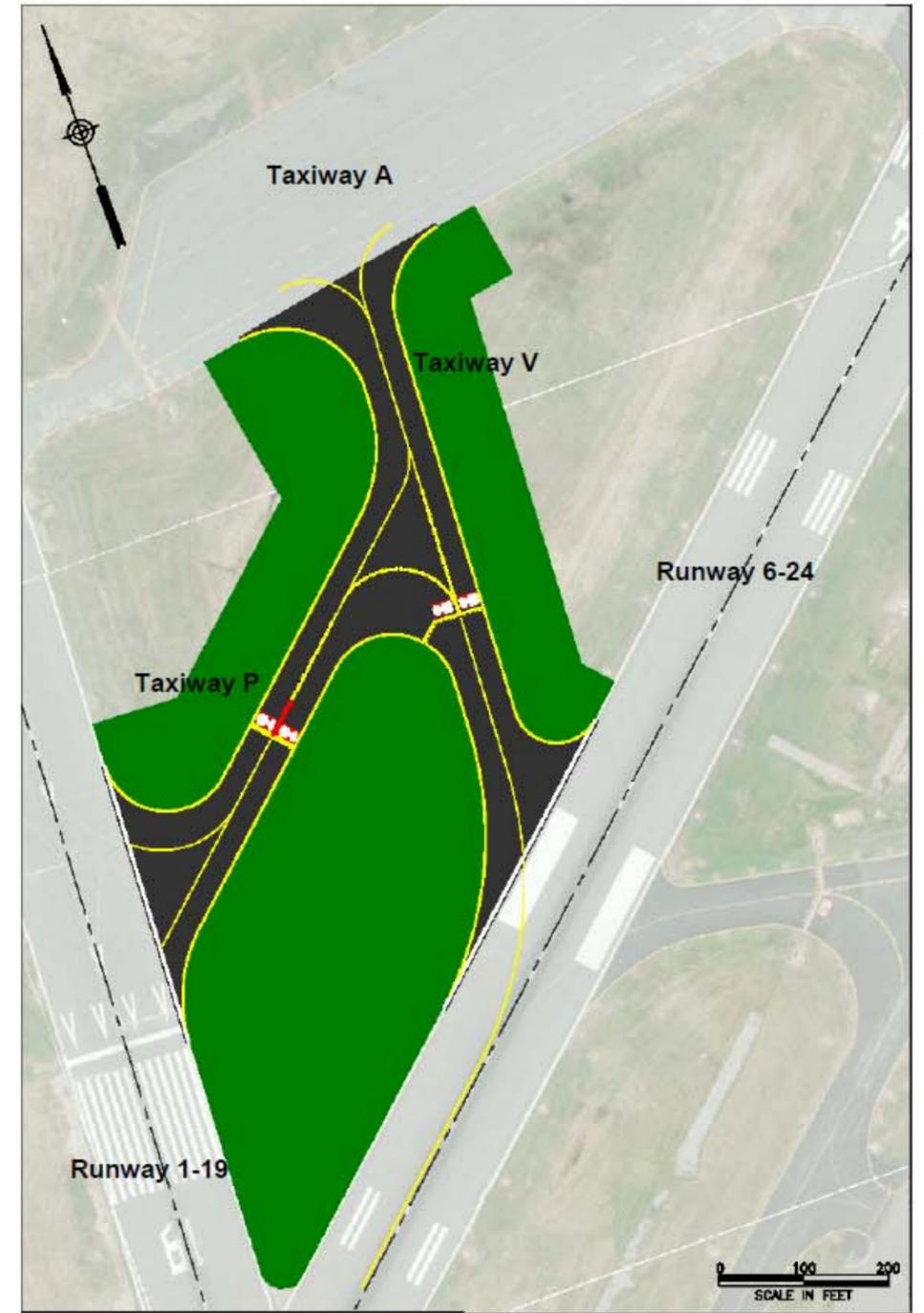
Attachment B: Depiction of Project Alternatives



Preferred Alternative



Alternative 1



Alternative 2

Attachment C: FEMA Preliminary Flood Insurance Rate Maps

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was New Jersey State Plane 2900 zone. The **horizontal datum** was NAD 83. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA/NNGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was provided in digital format by the State of New Jersey Office of Information Technology. This information was derived from digital orthophotos produced at a scale of 1:2400 with a 1-foot pixel resolution from photography dated 2012.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the Map Service Center (MSC) website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/mifp>.



This digital FIRM was produced through a unique cooperative partnership between the New Jersey Department of Environmental Protection (NJDEP) and FEMA. As part of the effort, NJDEP has joined in a Cooperative Technical Partnership agreement to produce and maintain FEMA's digital FIRMs.

NJFHADF is equal to the 1-percent-annual chance flood plus an additional 25% in flow, and not to exceed the 0.2-percent-annual chance flood. NJFHADF boundary is to regulate disturbance to the land and vegetation within flood hazard area of a water body. This regulation is set forth by the State of New Jersey Flood Hazard Area Control Act Rules N.J.A.C. 7:13, and is administered by New Jersey Department of Environmental Protection (NJDEP).

Borough of Hasbrouck Heights 340041

ZONE AE (EL 8)

ZONE AE (EL 8)

740000 FT

JOINING PANEL 0252

New Jersey Meadowlands Commission 340570

Borough of Teterboro 340537

Township of South Hackensack 340515

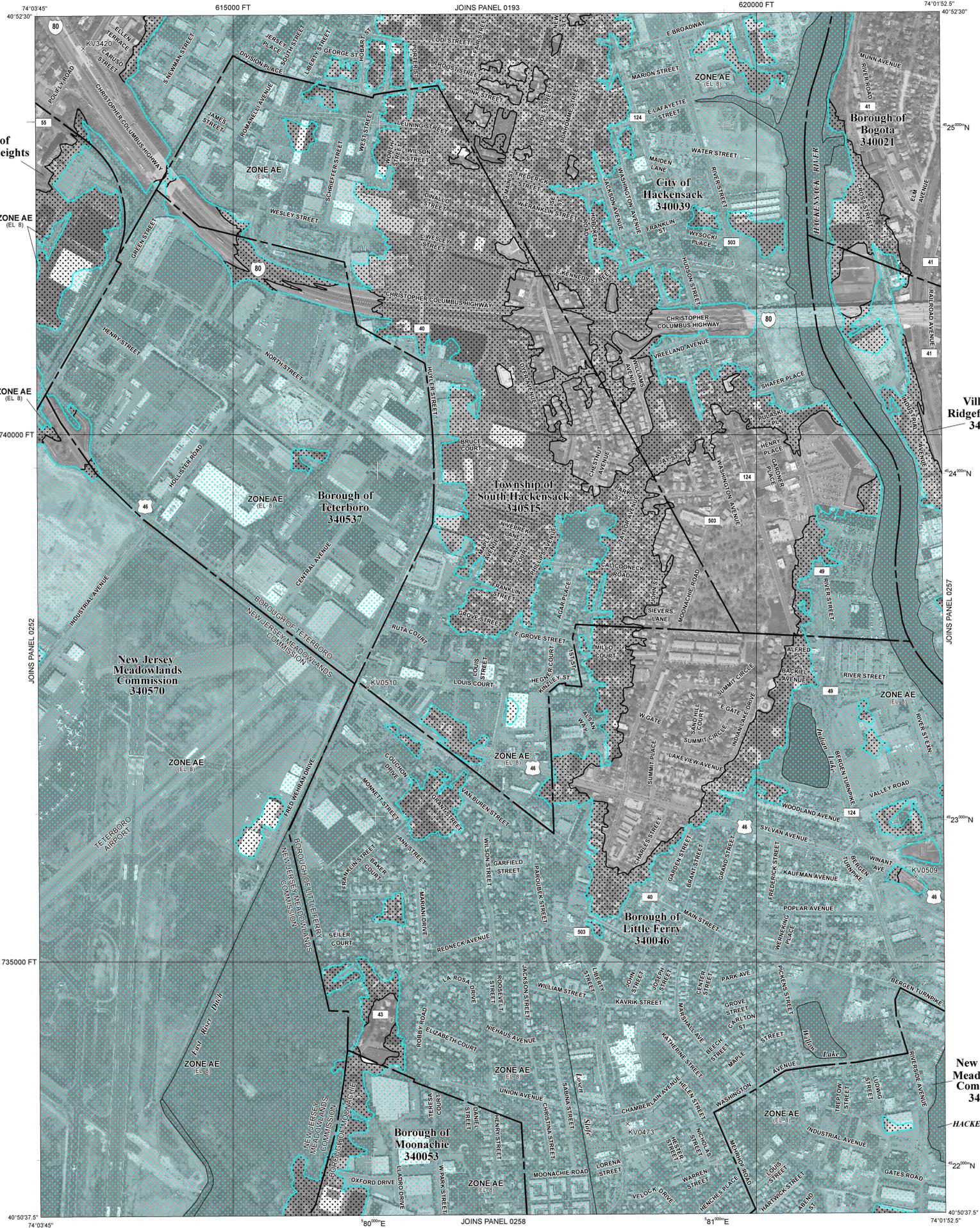
Borough of Little Ferry 340046

New Jersey Meadowlands Commission 340570

Borough of Moonachie 340053

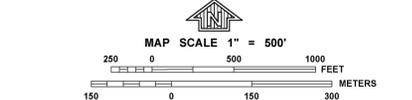
735000 FT

40°50'37.5"



LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE**
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS**
- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS**
- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**
- OTHERWISE PROTECTED AREAS (OPAs)**
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- New Jersey Flood Hazard Area Design Flood (NJFHADF)
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*
- * Referenced to the North American Vertical Datum of 1988
- Cross section line
- Limited detail cross section line
- Transect line
- 87°07'45", 32°22'30"
- 76°N
- 600000 FT
- DX5510 x
- M 1.5
- River Mile
- MAP REPOSITORY
- Refer to listing of Map Repositories on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
- September 20, 1995
- EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
- September 30, 2005 - See Notice to Users in Flood Insurance Study Report
- For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
- To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0256J

FIRM

FLOOD INSURANCE RATE MAP

BERGEN COUNTY, NEW JERSEY (ALL JURISDICTIONS)

PANEL 256 OF 332

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOGOTA, BOROUGH OF	340021	0256	J
HACKENSACK, CITY OF	340039	0256	J
HASBROUCK HEIGHTS, BOROUGH OF	340041	0256	J
LITTLE FERRY, BOROUGH OF	340046	0256	J
MOONACHIE, BOROUGH OF	340053	0256	J
NEW JERSEY MEADOWLANDS COMMISSION	340570	0256	J
RISEFIELD PARK VILLAGE	340095	0256	J
SOUTH HACKENSACK TOWNSHIP	340096	0256	J
TOWNSHIP OF RIDGEFIELD PARK	340097	0256	J

PRELIMINARY

AUGUST 29, 2014

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER 34003C0256J

MAP REVISED

Federal Emergency Management Agency

Attachment D: Air Quality Studies for Comparable Projects

Summary of Air Quality Studies Conducted for EMAS Projects at TEB

Project: Air Quality Emissions from Installation of EMAS on Approach End of Runway 24

Date: January 2006

Consultant: Weston Solutions

Summary: A study was conducted to estimate air emissions from the proposed installation of an engineered materials arresting system (EMAS) at the approach end of Runway 24 at the Teterboro Airport for purposes of determining the air quality impacts from the proposed project and the potential applicability of the General Conformity regulations (40 CFR Part 93). Air emissions were estimated from the construction equipment identified associated with the installation of the EMAS system. Emissions were estimated using USEPA methodologies and emission factors for both off-road construction equipment and vehicles and for on-road vehicles associated with the proposed project. The installation of the EMAS system will have no impact on the aircraft traffic at the Teterboro Airport. Therefore, emissions from aircraft operations and associated ground support equipment were not included in this evaluation as there will be no change (increases or decreases) in emissions.

The estimated annual emissions of volatile organic compounds (VOC), oxides of nitrogen (NO_x), and carbon monoxide (CO) for the proposed EMAS project are well below the Federal de minimis thresholds for VOC, NO_x, and for CO established by the General Conformity rule.

Emissions:

Pollutant	Direct Emission, tons	Indirect Emissions, tons	Total Emission, tons	Federal De minimis Thresholds, tons	% of De minimis Thresholds
NO _x	11.85	0.11	11.96	100	11.96%
VOC	1.18	0.11	1.29	50	2.58%
CO	7.26	1.63	8.89	100	8.89%

Form C Short EA was prepared and submitted to FAA for this project. The FAA issued a "Finding of No Significant Impact" (FONSI) on March 7, 2006.

Project: Air Quality Emissions from Installation of EMAS on End of Runway 19

Date: April 2007

Consultant: Weston Solutions

Summary: The results of the analysis showed that estimated annual emissions of volatile organic compounds (VOC), oxides of nitrogen (NO_x), particulate matter with an aerodynamic diameter of up to 2.5 micro meters (PM_{2.5}) and carbon monoxide (CO) for the proposed EMAS and Redneck Avenue projects are well below the Federal de minimis thresholds for VOC, NO_x, CO and PM_{2.5} established by the General Conformity Rule. Therefore, no significant air quality impacts are anticipated.

Emissions:

Pollutant	Direct Emission, tons	Indirect Emissions, tons	Total Emission, tons	Federal De minimis Thresholds, tons	% of De minimis Thresholds
NO _x	12.4	0.11	12.51	100	12.51%
VOC	1.2	0.11	1.31	50	2.62%
CO	7.5	1.6	9.1	100	9.10%
PM _{2.5}	0.91	0.013	0.923	100	0.92%

Note: Above emissions are from EMAS construction activities only and exclude the emissions from re-alignment of the Redneck Avenue. Emissions from Redneck Avenue construction were estimated as follows in tons: NO_x = 2.23; VOC = 0.55; CO = 5.9; PM_{2.5} = 0.376

Form C Short EA was prepared and submitted to FAA for this project. The FAA issued a "Finding of No Significant Impact" (FONSI) on May 22, 2007.

Attachment E: Map of TEB Airfield Hotspots

Current Airfield Issues

Airfield Hotspots

→ HS 2:

- Geometrical Complexity - "High Energy" Intersection
- Pilots fail to turn right on TWY Q and continue straight on Lima and cross RWY 6/24

→ HS 1:

- Double "Hold Short" marking.
- Aircraft remain inside RSA while holding short

→ HS 3:

- Short Taxi Time - Direct Route from Apron to Runway - Taxiways G & C

