5. ENVIRONMENTAL CONSEQUENCES

This chapter describes the anticipated environmental, social, and economic consequence of the Proposed Action. Information pertaining to the environmental consequences was obtained through an alternative analysis, evaluation of conceptual plan, on-site investigations, review of published information, agency correspondence, and discussions with the Airport personnel and public officials. The design and the various alternatives developed and presented in Chapter 3 is the result of a cohesive and integrated planning effort, minimizing impacts by the post development condition. Table 5-1 presents, in a comparative form, the level of impacts per each alternative.

Table 5-1: Level of Environmental Consequences per Alternatives

KEY CRITERIA - ENVIRONMENTAL CONSEQUENCES		Selection Matrix – Level of Direct Impacts	
		Alt. 1 (No Action)	Alt 4C
MEET PURPOSE AND NEED		NO	YES
CULTURAL RESOURCE	Archeological	None	None
	Historic Properties	None	None
	Section 4(f)	None	None
	Section 6(f)	None	None
NATURAL ENVIRONMENT	Biological Resources	None	Low
	Protected species	None	None
	Wetlands	None	0.17 ac
	Surface Waters	None	0.18 ac
	Groundwater	None	None
	Floodplains	None	Low
	Coastal Resources, Barriers, and Sanctuaries	None	None
	Wilderness Areas	None	None
	Wild and Scenic Rivers	None	None
	Natural Resources / Energy Supply	None	Improved Existing Condition
HUMAN ENVIRONMENT	Air Quality	None	Improved Existing Condition
	Land use	None	None
	Farmlands	None	None
	Noise	None	Improved Existing Condition
	Hazardous Materials	None	Improved Existing Condition
	Socioeconomic, Environmental Justice, and Children's Health and Safety Risks	None	None
	Traffic and Surface Transportation	None	Improved Existing Condition

KEY CRITERIA - ENVIRONMENTAL CONSEQUENCES		Selection Matrix – Level of Direct Impacts	
		Alt. 1 (No Action)	Alt 4C
	Light Emission and Visual Impacts	None	Improved Existing Condition
	Solid Waste Management	None	Improved Existing Condition
CUMULATIVE IMPACTS		Not significant (NS)	NS

Source: McFarland-Johnson, Inc.

After analyzing the results of the data collected as part of the environmental planning process and compared to the No Action, it is concluded that due to the nature and location of the project and implementation of site-specific best management practices (BMPs), the Proposed Action would result in limited environmental impacts, not significant to the natural and human environment. Necessary measures and BMPs would be established to further minimize and mitigate any environmental impacts the Proposed Action may have.

Alternative 1 (No Action) does not meet and address the needs of the Airport. The No Action alternative assumes that the Proposed Action is not implemented and the conditions at the Airport would remain unchanged, including current deficiencies and inability to accommodate existing demand, limiting the ability of TTN to maintain revenue. Alternative 2 (Alternate Locations) does not meet the purpose and need, would result in higher development costs and budget, and would have a longer construction duration. Alternative 2 has been dismissed and is not further discussed in this chapter. Alternative 3 (Terminal Reconstruction) does not meet and address the needs, and expansion of the terminal is not feasible due to existing terminal building split-level design. In addition, the existing terminal is over 40 years old, does not meet current codes and its physical condition including HVAC, plumbing, roofing, glazing and finishes, is in various stages of disrepair and is not energy efficient. Therefore, Alternative 3 is dismissed and is not further discussed in this chapter. For details of the evaluated alternatives refer to Chapter 3.

Alternative 4 (Terminal Replacement) meets the purpose and need and includes three (3) design variations (e.g., 4A, 4B, and 4C). Alternative 4C is the preferred alternative and considered as the Proposed Action. Therefore, for the purpose of this chapter, the discussion of the environmental consequences and mitigation measures is focused on Alternative 4C (Preferred Alternative and Proposed Action). Alternative 4C, as the Proposed Action, is compared to the No Action (Alternative 1) throughout this chapter as per FAA Order 1050.1F, Section 6-2.1.f.

The potential impacts from the Proposed Action are discussed in the following sections and quantified to the maximum extent as possible. In areas where quantitative measures cannot be provided, qualitative assessments are provided. The following resources are not present within the project area or immediate vicinity; therefore, do not require further evaluation:

- Coastal Zones
- Coastal Barriers
- Section 4(f)

- Farmland
- Historic, Architectural, Archaeological, and Cultural Resources
- Wild and Scenic Rivers

The absence of these resources is documented in Chapter 4.

5.1. AIR QUALITY

This section sets forth the potential impacts to air quality from the Proposed Action and the No Action Alternative. Potential impacts related to construction and operation of the Proposed Action are considered herein.

5.1.1. Operational Emissions

The Proposed Action would not induce aircraft operations or passengers or change the aircraft fleet using TTN beyond forecast operations compared to the No Action. The Sponsor has assumed any increase in operations would be commensurate with the forecast demand developed in the AMPU and not a direct result of the Proposed Action. This is based on known aviation markets, leisure travelers (low corporate), Airport runway constraints, and five years of historical data since Frontier began operating at TTN.

During the years of construction and after construction, operational emissions associated with aircraft, traffic, and parking emissions would be the same (i.e., no increase or change) with the implementation of the Proposed Action and the No Action alternative. Implementation of the Proposed Action would change how passengers access the Airport Terminals and parking areas, in particular surface vehicle traffic patterns as they are expected to change with the Proposed Action accessing the new Terminal from Sam Weinroth Road. However, any new roadway lengths and surface vehicle changes (i.e., vehicle miles traveled) are expected to be minimal (or insignificant) compared to the No Action as shown in Appendix E. Therefore, operational emissions associated with airfield emissions sources, parking, and traffic were not inventoried or evaluated as part of this EA.

5.1.2. Proposed Action

The Proposed Alternative would consist of removing parking spaces from existing parking lots and the construction of a 1,000 vehicle multi story parking garage which would replace the lost surface parking and accommodate forecasted operational growth. A preliminary design rendering of the parking garage is included in Chapter 3. The 1,044-car open garage parking structure is planned in conjunction with the new terminal building. The garage is proposed to be a naturally ventilated precast concrete structure, four tiers high. Tiers 1, 2, and 3 are to be approximately 86,300 SF each while tier 4 is to be approximately 66,700 SF. An administration space for the parking operations and management would be provided in a built and fitted out section of the garage for offices and break rooms. Stair/elevator towers are planned at the four corners of the building. The southwest elevator tower would align with the new terminal building and drop-off curb and would provide direct access to the exterior of the proposed drop-off plaza. The existing terminal would be demolished and a new approximately 125,000 square foot terminal would be constructed. Demolition of the existing ARFF and construction of a new ARFF located along Scotch Road and north of the Army

National Guard is proposed. To facilitate efficient access to and from the airport, terminal circulation and access road improvements are also proposed. Table 5-2 presents the primary components of the Proposed Action.

Table 5-2: Proposed Action New Terminal and Roadway Improvements

Project Action Component	Area (Square Feet)	Construction Start	Construction End
Construction of New Roadway	159,750	2022: QTR 3	2023: QTR 2
Construction of New Terminal Building	125,000	2022: QTR 3	2023: QTR 4
Site Work (including restoration, utilities, etc.)	n/a	2022: QTR 3	2024: QTR 1
Construction of New Parking Garage	160,000	2022: QTR 4	2023: QTR 2
Construction of New Apron	189,028	2023: QTR 3	2023: QTR 4
Construction of New ARFF Building	10,000	2023: QTR 1	2023: QTR 4
Demolition of Existing ARFF Building	5,500	2024: QTR 1	2024: QTR 1
Demolition of Existing Roadways	52,500	2022: QTR 3	2024: QTR 1
Demolition of Existing Terminal Building	13,900	2024: QTR 1	2024: QTR 3

Source: Urban Engineers, November 2020

Construction of the Proposed Action would result in short-term changes in air emissions from sources such as exhaust emissions from nonroad construction equipment such as haul trucks, site clearing, and grading. On-road vehicles include those associated with transport and delivery of supplies, materials, and equipment to and from the site, and construction worker trips. Additionally, fugitive dust emissions include site preparation, land clearing, material handling, equipment movement on unpaved roads and evaporative emissions from the application of asphalt paving.

Construction activities associated with the Proposed Action are expected to begin in the third quarter of 2022 and be completed in the third quarter of 2024. Construction activity emission estimates were derived from the ACRP Airport Construction Emissions Inventory Tool (ACEIT). The ACEIT model has the ability to estimate nonroad and on-road activity data using the EPA NONROAD and MOVES model for a variety of standard airport construction projects, including the associated activity types and the equipment used for each activity, hours, and engine sizes (horsepower), and vehicle trips. Based on the project dimensions for each activity, the ACEIT model scales these activities internally and provides air emission estimates for each activity on an annual basis. Detailed information regarding methodologies and assumptions for calculating construction and demolition emissions are provided in Appendix E.

5.1.4. Construction Impacts

Proposed Action

Criteria pollutant emissions inventories were prepared for each year of construction from 2022 through 2024. The emissions inventory for construction-related activities associated with the Proposed Action for all criteria pollutants is presented in Table 5-3. Construction-related pollutant emissions were compared against the General Conformity *de minimis* thresholds established by

the USEPA to gauge conformity with the SIP. As shown in **Table 5-3**, annual construction-related emissions between 2022 and 2024 would be below the *de minimis* thresholds for all pollutants including NO_x, VOCs and $PM_{2.5}$. Therefore, a General Conformity determination is not required for the Proposed Action. Additionally, in accordance with the FAA Air Quality Handbook, the Proposed Action can be determined to "not cause a significant air quality impact, since it is unlikely the pollutant concentration analyzed would exceed a NAAQS." No significant adverse air quality impacts would be expected to result from construction of the Proposed Action.

Table 5-3: Proposed Action Construction Emission Inventory

	Estimated Total Annual Emissions (TPY)					
Year	VOC[1]	NO_2[1]	$PM_{2.5}$	CO	SO_2	PM_{10}
2022	2.1	5.9	0.3	10.5	0.04	1.3
2023	3.3	7.4	0.4	10.6	0.06	1.9
2024	0.1	0.3	0.02	0.4	0.002	0.1
Peak Annual Emissions	3.3	7.4	0.4	10.6	0.06	1.9
De minimis threshold	50	100	100	100	100	100
Exceed *de minimis* threshold?	No	No	No	No	No	No

Source: HMMH

Notes: 1. Following standard industry practice, ozone was evaluated by evaluating emissions of VOC and NO_X, which are precursors in the formation of ozone.

5.1.5. No Action Alternative

The No Action Alternative assumes that the Proposed Action is not implemented. However, construction of various unrelated projects such as Taxiway construction, obstruction removal, and others would continue unabated. See Section 5.13. Additionally, aircraft operations would be unchanged compared to the Proposed Action. Therefore, air quality would remain unchanged and no additional air quality impacts would occur.

5.1.6. Significance Analysis

As provided in FAA Order 1050.1F, an action would cause a significant air quality impact if pollutant concentrations would exceed one or more of the NAAQS established by the USEPA under the CAA, for any of the time periods analyzed, or would increase the frequency or severity of any such existing violations.

Additionally, the CAA requires federal agencies such as the FAA to ensure their actions conform to the appropriate SIP. Conformity requires that a project or action adheres to the SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. The General Conformity Rule applies to this project since the project area is designated marginal non-attainment with the 2008 and 2015 ozone standards and maintenance for PM2.5. If General Conformity applies, an applicability analysis is performed to determine if a General Conformity Determination is required to demonstrate that the Proposed Action conforms to the approved SIP(s). A conformity determination is required if

the total direct and indirect pollutant emissions resulting from a project are above the de minimis emissions threshold levels specified in the conformity regulations.[1] The de minimis thresholds represent emission quantities of a NAAQS-regulated pollutant or its applicable precursors over which a proposed action in a nonattainment or maintenance area may cause or contribute to a new or continued violation of the NAAQS. A conformity determination is not required if the differences in emissions between the Proposed Action and the No Action Alternative are below the applicable de minimis emission threshold levels, or if the proposed action is exempt or included in the FAA list of "presumed to conform activities." Federal de minimis emission thresholds for attainment and nonattainment areas relevant to TTN are listed in **Table 5-4**.

Table 5-4: General Conformity De Minimis Thresholds Relevant to TTN

Pollutant	Attainment Status (Severity)	Pollutant	Thresholds (tons per year)
Ozone (O_3) [1]	Nonattainment (Marginal)	Nitrogen Oxides (NO_X)	100
		Volatile Organic Compounds (VOC)	50
Fine Particulate Matter ($PM_{2.5}$)	Maintenance	$PM_{2.5}$	100
Carbon Monoxide (CO)	Attainment	CO	100
Respirable Particulate Matter (PM_{10})	Attainment	PM_{10}	100
Sulfur Dioxide (SO_2)	Attainment	SO_2	100

Source: EPA
Notes: 1. Ozone is addressed through analysis of its precursors—VOCs and NOX

As indicated in Section 5.1.4, air quality impacts associated with implementation of the Proposed Action would not be significant when compared to the No Action Alternative; therefore, no mitigation measures are required. However, TTN is committed to best practices to reduce public health and environmental impacts during construction and operation of the Proposed Action. To ensure construction impacts remain at or below less-than-significant adverse levels, emissions would be minimized and controlled through the implementation of BMPs and reasonably available control measures, such as:

- Sequencing or phasing construction activities
- Minimization of the amount of disturbed soils at any given time during project activities
- If needed, water spray for dust suppression to prevent fugitive dust from becoming airborne

[1] US Environmental Protection Agency, General Conformity De Minimis Tables, https://www.epa.gov/general-conformity/de-minimis-tables (accessed June 4, 2019).

- Suspend or adjust intensity of project activities during periods of sustained high wind speeds (e.g., 30 mph and over), as defined by the Occupational Safety and Health Administration (OSHA)
- Maintaining vehicles and equipment in good working conditions
- Limit engine idling by turning off engines after three (3) to five (5) minutes of inactivity
- Decreasing vehicle speed limits while at project site or tracts to reduce fugitive dust generation and obeying posted vehicle speed limits while off-site
- Trucks would not be loaded with debris to their maximum hauling capacity
- Use tarp covers on trucks transporting construction materials and construction debris to and from the site

These best management practices would reduce air quality effects associated with dust or particulate emissions from the project. Additionally, re-vegetation (ground cover) would be promoted at the project with the completion of the construction activities.

5.2. BIOLOGICAL RESOURCES

5.2.1. Ecological Communities

A variety of low-quality and fragmented habitats subject to human and airport activities occur within the project areas. These activities include periodic maintenance as per FAA requirements, including regular mowing and obstruction removal.

The areas within the Airport property consist of a variety of habitats that are common, of limited ecological function and value, and abundant in the vicinity of the project areas and within New Jersey. Therefore, significant impacts to ecological communities in the vicinity of the project areas resulting from the Proposed Action are not anticipated.

5.2.2. State and Federal Listed Threatened and Endangered Species

As discussed in Section 4.2, NJ NHP and USFWS indicated the presence or potential presence of rare plants, threatened or endangered wildlife species or wildlife habitat, or Natural Heritage Priority Sites within and in the vicinity of the project areas. Copies of the NJ NHP and USFWS consultation is included in Appendix C.

An Acoustic bat survey was conducted in Summer 2015 for a separate and independent project on the airport, specifically the obstruction removal project, as discussed in Section 4.2.1 of this EA. The proposed terminal replacement project overlaps with the obstruction removal project study area. Coordination with the Reviewing Biologist at the USFWS New Jersey Field Office on November 12, 2020 indicated that no additional presence/absence studies would be required for the terminal replacement project if tree clearing is completed during the winter based on the estimated amount of tree clearing required. The Proposed Action would require approximately 3.5 acres of on-airport land clearing (e.g., trees) for site preparation and construction of the project. After construction, approximately 1.68 acres of the 3.5 acres along the south side of the new terminal access road and terminal building would be revegetated with native species. Revegetation would take into consideration the natural environment while maintaining the safety

and efficiency of TTN and following FAA Engineering Brief No. 91 (*Management of Vegetation in the Airport Environment*). Any planting would be performed with the objective to limit the effect or prevent future object penetrations in airspace protection zones.

A USWFS request for a project review was submitted on August 19, 2020. The project review for the Proposed Action was conducted to formalize the above guidance. As stated in the USFWS concurrence letter, dated November 12, 2020, a known occurrence or potential habitat for Indiana bat and NLEB is located on or near the project's action area; however, the proposed project is not likely to adversely affect federally-listed or proposed-listed species. The basis for the USFWS's determination is due to the amount of tree clearing proposed (approximately 3.5 acres), reforestation of approximately 1.68-acres following construction, and tree removal activities limited to October 1 through March 31 to avoid adverse effects to Indiana bat, NLEB, and at-risk species, including little brown bat *(Myotis lucifugus*) and tricolored bat *(Perimyotis subflavus*).

Copies of the NJ NHP correspondence, the USFWS Official Species List, and USFWS Concurrence Letter are included in Appendix C.

As discussed in Section 4.2.1, potential vernal pool habitat on Airport property is located north of the existing terminal building. The outer edge of the vernal pool habitat overlaps with employee parking lot, however, there is no work proposed in this area. Therefore, potential impacts to the vernal pool habitat are not anticipated.

5.2.3. No Action Alternative

The No Action alternative does not meet the purpose and need of the project. The No Action assumes that the existing Airport footprint and associated infrastructure would remain unchanged if Proposed Action is not implemented. Unrelated, independent actions, such as pavement maintenance, obstruction removal, taxiway reconstruction, and others would continue as planned under the No Action Alternative. See Section 5.13

5.2.4. Significance Analysis

FAA Order 1050.1F establishes the thresholds for significant threatened and endangered species impacts as follows: USFWS or the National Marine Fisheries Service (NMFS) determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat. Based on FAA Order 1050.1F, the FAA has not established a significance threshold for non-listed species. However, factors to be considered in assessing impacts include whether the action would have the potential for:

- A long-term or permanent loss of unlisted plant or wildlife species (i.e., extirpation of the species from a large project area)
- Adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations

- Adverse impacts on a species' reproductive success rates, natural mortality rates non-natural mortality rates (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance

Based on the estimated acreage of tree clearing (approximately 3.5 acres total) required for the Proposed Action, the USFWS has indicated that no additional presence/absence studies would be required if tree clearing is completed during the winter months (refer to Appendix C for a copy of the USFWS email correspondence, dated October 10, 2019, and USFWS Concurrence Letter, dated November 12, 2020). Tree removal would be limited to October 1 through March 31 to avoid direct impacts to individual bats and potential occupied roost trees. Implementation of this tree clearing timing restriction would also provide protection to migratory birds during the nesting season. Proposed landscaping and revegetation would provide roughly 50% mitigation of tree removal impacts.

Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations is not anticipated. Based on the above and measures to avoid, minimize, and mitigate impacts, it is anticipated that the Proposed Action is not likely to adversely affect biological resources, nor does it have the potential to exceed the significant thresholds listed above for non-listed species.

5.3. HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

These resources are not present within the project site; therefore, the Proposed Action is not expected to have an effect on historic, architectural, and archeological, and cultural resources. According to the Phase IA Survey the area of potential effect (APE) for archaeology has been disturbed from prior airport development and was determined to have a low sensitivity for prehistoric and historic archaeological sensitivity.

In the event of inadvertent discoveries, the following actions would be followed:

- Discoveries: If human remains, funerary objects, sacred objects or objects of cultural patrimony are discovered, immediate telephone notification of the inadvertent discovery, with written confirmation, to the SHPO.
- Ceasing Activity: If the inadvertent discovery occurred in connection with the Proposed Action, the person, in addition to providing the notice described above, must stop the activity in the area of the inadvertent discovery and make a reasonable effort to protect the human remains, funerary objects, sacred objects, or objects of cultural patrimony discovered inadvertently.
- Resumption of activity: The activity that resulted in the inadvertent discovery would resume after coordination with SHPO and receipt of written confirmation.

5.3.1. Significance Analysis

The FAA has not established a significance threshold for historical, architectural, archeological, and cultural resources. However, the FAA has identified a factor to consider when evaluating the

resources, in which the proposed action or alternative(s) would result in a finding of Adverse Effect through the Section 106 process.

NJ SHPO concurred with the Phase IA findings, including the following:

- APE has a low sensitivity for prehistoric and historic archaeological sensitivity and no additional archaeological investigation is recommended; and
- No intensive-level survey for resources identified to be more than 50 years of age is recommended.

Based on the above, the Proposed Action would not result in adverse effects to historical, architectural, archeological, and cultural resources in accordance with 36 CFR 800.5.

5.4. CLIMATE

This section sets forth the potential impacts to climate from the Proposed Action and the No Action alternative. Potential impacts related to construction of the Proposed Action are considered herein.

5.4.1. Operational Activities

As discussed in the Air Quality section, the Proposed Action would not induce aircraft operations or passengers or change the aircraft fleet using TTN beyond forecast operations compared to the No Action. During the years of construction and after construction, operational emissions associated with aircraft, traffic, and parking emissions would essentially be the same (i.e., no increase or change) with the implementation of the Proposed Action and the No Action alternative (See **Appendix E** for operational emission estimates for Parking garage which are insignificant). Therefore, operational emissions associated with airfield emissions sources, parking, and traffic were not inventoried or evaluated as part of this EA.

5.4.2. Methodology

For this analysis, GHG emissions associated with the Proposed Action were prepared for carbon dioxide, methane, and nitrous oxide and presented as carbon dioxide equivalent (CO_2e) in metric tons per year relevant to their global warming potential. The carbon dioxide equivalent is estimated by taking the mass equivalent of each pollutant (TPY) and multiplying by the global warming potential equivalent (GWP) of each pollutant and adding them together. For example, the GWP of CO_2 is 1, CH_4 is 28 GWP, and N_2O is 265 GWP, according to the IPCC Fifth Assessment Report.[2]

The methodology and assumptions for the GHG analysis are consistent with the air quality analysis discussed in Section 5.1. GHG emissions associated with the construction and demolition activities of the Proposed Action were qualitatively evaluated. The results are compared to U.S., local, and global levels.

[2] https://www.ipcc.ch/assessment-report/ar5/

5.4.3. Construction Impacts

Construction and demolition activities associated with Proposed Action could result in a temporary increase in equipment usage. Research has shown that there is a direct relationship between the amount of greenhouse gases emitted and fuel consumption greenhouse gas emissions associated with diesel fuel and gasoline usage to support truck and vehicle trips along with construction. A temporary increase in GHG emissions associated with construction and demolition activities are expected from gasoline and diesel fuel usage. As discussed, there are no significance thresholds for aviation GHG emissions, nor has FAA identified any factors to consider in making a significance determination for GHG emissions. As shown in **Table 5-5**, construction, and demolition emissions under the Proposed Action would not be regionally significant and would comprise a very small fraction of the U.S. based emissions of 6,472 million metric tons of carbon dioxide equivalents (MMTCO2e) and the State of New Jersey's most recent GHG inventory emissions of 97.0 MMTCO2e and even less than the 49 gigatons of carbon dioxide equivalent global GHG emissions.[3] [4] [5]

Table 5-5: Estimated GHG Emissions from Construction Activities

Greenhouse Gases Emissions (Metric Ton)				
Year	CO_2	CH_4	N_2O	CO_2E
2022	5,354	0.02	0.63	5,522
2023	7,104	0.03	0.70	7,285
2024	311	0.001	0.03	318

Source: HMMH

5.4.4. No Action Alternative

The No Action alternative would not result in increases in fuel burn or GHG emissions. No changes to GHG emissions would occur and there would be no impact as a result of implementation of the No Action alternative. GHG emissions from unrelated independent actions would continue under the No Action Alternative (see Section 5.13).

5.4.5. Significance Analysis

The FAA has not established a significance threshold for climate and GHG emissions, nor has the FAA identified specific factors to consider in making a significance determination for GHG emissions. No accepted methods of determining significance applicable to aviation or transit projects emissions have been developed. Therefore, direct linkage is difficult to isolate and to

[3] https://www.epa.gov/sites/production/files/2019-02/documents/us-ghg-inventory-2019-main-text.pdf

[4] http://ipcc.ch/publications_and_data/ar4/syr/en/contents.html

[5] https://www.mwcog.org/documents/2016/04/22/metropolitan-washington-community-wide-greenhouse-gas-emissions-inventory-summary--greenhouse-gas/

understand.[6] For disclosure purposes, GHGs associated with the alternatives have been calculated in accordance with FAA guidelines. Estimated GHG emissions from construction of all alternatives are provided below.

GHG emissions from the Proposed Action have been quantified and disclosed consistent with FAA guidelines. In addition, measures are included in the construction and operation of the Proposed Action that would help minimize and reduce GHGs. These would include the emission reduction measures discussed in Section 5.1.6.

5.5. HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

The FAA 1050.1F, *Desk Reference,* states that the EA should describe wastes generated as a result of the Proposed Action; waste handling and disposal requirements; identify if waste disposal would impact the capacity of the disposal facility; and determine whether the Proposed Action would interfere with ongoing remediation of contaminated sites within the project area or in the immediate vicinity.

Implementation and operation of the Proposed Action would comply with all applicable federal, State, and local regulations regarding hazardous materials, hazardous waste management, solid waste, and pollution prevention. The subsections that follow summarize the hazardous substances identified during the Phase I and II ESAs, their significance as it relates to the NEPA evaluation, and the mitigation measures that would be implemented.

5.5.1. Hazardous Materials

Urban Engineers, Inc. (Urban) conducted a Phase I Environmental Site Assessment (May 2019) and a Phase II Environmental Site Assessment (November 2020) for Trenton-Mercer Airport (TTN). The Phase I and II ESAs were integral to identify existing conditions in the proposed development area for this EA. TTN engaged a Licensed Site Remediation Professional (LSRP), to assist with completion of the ESAs as part of the terminal project EA. The LSRP will oversee NJDEP required remediation, as prescribed by applicable regulations, regardless of whether the terminal project proceeds. The subject area includes the existing terminal building and Aircraft Rescue and Fire Fighting (ARFF) building as well as the locations of the proposed terminal and proposed ARFF buildings, located within the TTN property, in Trenton, New Jersey. The Phase I recognized environmental conditions RECs are identified as follows and further detailed in Section 4.7.1 of this EA:

- REC No. 1 – Fueling, Maintenance and Aircraft Operations
- REC No. 2 – Historic Fill
- REC No. 3 – Historic Firefighting Drills
- REC No. 4 – Potential Underground Storage Tank
- REC No. 5 – Reported NJ Spills & Releases

[6] US Department of Transportation, Federal Aviation Administration, Order 1050.1F Desk Reference, February 2020.

The complete Phase I ESA is provided in **Appendix F, pages - .**

The Phase II ESA further investigated the RECs identified in the Phase I ESA. The results, conclusions, and recommendations are summarized in Section 4.7.2 of this EA and fully detailed in the Phase II ESA (**Appendix F, pages - **). The Table of Contents for the Phase I ESA can be found on Page 5 of Appendix F. The Table of Contents for the Phase II ESA can be found on Page 661 of Appendix F. **Table 5-6** provides a concise summary of the recommendations provided in Sections 5.1 to 5.5 of the Phase II ESA.

Table 5-6: Summary of Phase II Recommendations

Phase I ESA REC (May 2019)	Phase II Recommendation/Remedial Approach
REC No. 1 – Fueling, Maintenance and Aircraft Operations	▪ No further sampling is required at this time. ▪ A soil and material management plan shall be included in the construction contract.
REC No. 2 – Historic Fill	▪ No further sampling is required at this time within the Terminal Expansion Area. ▪ Additional PAH and Arsenic sampling and analysis shall be conducted within the proposed ARFF Building area. ▪ A soil and material management plan shall be included in the construction contract.
REC No. 3 – Historic Firefighting Drills	▪ The Phase I and II ESA findings have identified PFAS compounds as contaminants of concern as they relate to NEPA hazardous material, solid waste, and pollution prevention. ▪ Additional groundwater characterization and reporting shall be conducted to adequately delineate the nature and extent of PFAS impact. ▪ Groundwater flow direction (southwesterly) and gradient (0.04 ft/ft) would be used in the development and refinement stormwater runoff studies/designs. ▪ NJDEP has regulatory authority with regard to notifying, assessing, remediating, and reporting PFAS groundwater impact cases (no federal oversight of the remedial investigation/action is required at this time). Adhere to the NJDEP regulatory path described in Section 5.7 of the Phase II ESA. ▪ The continued evaluation is completed independent of the NEPA evaluation because NEPA lacks the regulatory remediation authority that the NJDEP Technical Requirements for Site Remediation mandate.

Phase I ESA REC (May 2019)	Phase II Recommendation/Remedial Approach
REC No. 4 – Potential Underground Storage Tank (UST)	▪ No UST detected in the area south of the existing Terminal building. No further action at this time. ▪ UST fill port/vent pipe noted in the area north of the existing ARFF building (Sheriff's dog kennel). UST closure in accordance with NJDEP Underground Storage Tank Rules, NJAC 7:14B-9 shall be conducted prior to or as part of the terminal expansion project.
REC No. 5 – Reported NJ Spills & Releases	▪ No further sampling is required at this time. ▪ A soil and material management plan shall be included in the construction contract.

Source: Urban Engineers

As noted in previous sections of this EA and in the Phase II ESA, soil and groundwater impacts were identified above NJDEP criteria/standards at select RECs investigated at the property. Specifically, soil and groundwater impacts were identified near the existing and proposed ARFF building locations. Based on these identified impacts, additional delineation pursuant to NJAC 7:26E shall be conducted. In addition, a suspected UST was identified and closure of this tank pursuant to NJAC 7:14 and 7:26F shall be conducted. Proposed delineation of each media by REC (i.e., Area of Concern) and closure of the UST are discussed in Section 6.0 of the Phase II ESA (Appendix F).

Implementation and operation of the Proposed Actions would comply with all applicable federal, state, and local regulations regarding hazardous materials, hazardous waste management, solid waste, and pollution prevention. The remedial action measures described Section 6.0 of the Phase II ESA would be conducted concurrently with the design development and/or construction phases of the new terminal development and in accordance with NJDEP regulations.

The Phase I and II ESA findings have identified PFAS compounds as contaminants of concern as they relate to NEPA hazardous material, solid waste, and pollution prevention. NJDEP has a mandated and prescribed regulatory path for notifying, assessing, remediating, and reporting groundwater impact cases. Section 5.7 of the Phase II ESA summarizes the NJDEP regulatory process. In addition, a flow chart of the site remediation program process for the Proposed Action is included in Appendix F.

Documentation of the remedial investigations of PFAS impacts to the NJDEP will be required. This documentation is independent of this NEPA evaluation and performed by an LSRP and reviewed by NJDEP. Based on the findings from the delineation activities proposed above, submittal of data will be incorporated into a Remedial Investigation Report (RIR). The submittal of the RIR will be conducted in accordance with NJAC 7:26E (NJDEP Technical Requirements for Site Remediation) and NJAC 7:26C (Administrative Requirements for the Remediation of Contaminated Sites) to meet the regulatory and/or mandatory timeframes, as applicable. NJDEP has established these technical requirements which provides the framework used to remediate a contaminated site and protect public health, safety, and the environment.

Initial reporting submitted to NJDEP will include an initial Receptor Evaluation (human and ecological) identifying potential receptors near the TTN site. Investigations of identified receptors will be documented in the RIR which will include a Classification Exception Area (CEA) for groundwater. The LSRP retained for the PFAS investigation will be responsible for oversight, review, and submittal of the RIR including supporting information to be uploaded to the NJDEP portal. The NJDEP process also includes a requirement for the development of a Remedial Action Workplan (RAW) and Remedial Action Report (RAR). Again, these are developed by the LSRP and reviewed by NJDEP.

Appropriate engineering and administrative controls shall be implemented, as required, to avoid releases of any hazardous materials or wastes. The Proposed Action would adopt a Spill Prevention Control and Counter Measure Plan (SPCC) and would be followed in the event of a release, minimizing hazards to employees and the environment.

Additionally, prior to the demolition of the structures a lead base paint (LBP) and asbestos containing material (ACM) survey would be performed by a qualified professional. If LBP and/or ACM are documented, an abatement plan would be developed and implemented in accordance with state and federal regulations by a licensed contractor.

5.5.2. Solid Waste

Increases in solid waste generation should be proportional to the anticipated increases in usage in the new terminal, which are in line with the modest increase in forecasted enplanements. With consolidation of terminal administration, there would be commensurate reductions at the sites they currently occupy when they are combined within new terminal.

Management and disposal of construction and vegetative debris would be in accordance with federal, state, and local regulations. As applicable, debris from demolition activities would be transported to an authorized facility, with recycling capability for the potential to be used in future projects by others. Also, clean excavated soils may be reutilized on-site to the maximum extent possible and in accordance with site-specific design specifications. Excess soils could also be reutilized off-site, if warranted. Vegetative debris would be managed by chipping/grinding for use in landscape as mulch and compost, and excess disposed according with applicable regulation.

During the operational phase, solid waste would mainly consist of common office waste and other domestic items left behind by passengers and trash containers associated maintenance activities. Solid waste would continue to be collected weekly in designated dumpsters and disposed in compliance with federal, state, and local regulations. Currently, the Airport has a contract with Central Jersey Waste, a local waste management company. All solid waste is transported approximately five (5) miles southeast to the Mercer County Improvement Authority transfer station located in Ewing, which is then transported to the Tullytown/GROWS Landfill in Falls Township, Pennsylvania. Tullytown/GROWS Landfills are commercial landfills owned and operated by Waste Management.

5.5.3. Pollution Prevention

To further avoid and minimize the risk of unanticipated incidental impacts the following pollution prevention and mitigation measures would be implemented:

- New drainage systems would include oil / water separators
- Dispose of debris and solid waste generated by the project according to applicable federal, state, and local regulations
- Re-use excess soils on-site to the maximum extent possible
- Stage and operate construction equipment in designated areas
- Perform construction vehicle maintenance and inspections to reduce the risk for accidental spills
- Perform proper equipment/vehicle maintenance and routine inspections to reduce the risk for incidental releases of vehicle fluids
- Follow manufacturer's specifications when performing maintenance on equipment or storing hazardous material (e.g., batteries, fluids, lubricants, solvents, paints, etc.)
- Implement spill and leak prevention and response procedures for construction equipment
- Maintain spill kits to rapidly respond to and limit impacts from accidental releases of vehicle fluids
- Report releases of regulated quantities and perform cleanup according to applicable regulatory requirements
- Manage solid wastes in designated areas and establish routine pickup for disposal according to applicable regulations
- Continued use of the "No-Foam" AFFF testing systems to eliminate future discharge of AFFF to the environment for equipment testing purposes.

5.5.4. No Action Alternative

The No Action alternative does not meet the purpose and need of the project. The No Action alternative assumes that the existing Airport footprint would remain unchanged. With the No Action alternative, similar direct, long-term, and less-than-significant adverse impact on solid waste and hazardous materials would remain as to-date. However, different to the Proposed Action, the No Action alternative does not provide integration of oil/water separator as part of their drainage systems, neither considered the identification and removal of potential unknown contaminated soil or historic fill within the project site.

Similar to the Proposed Action, TTN would continue generating a consistent quantity and type of solid waste on a routine basis. However, with the lack of adequate space and aging infrastructure, the capability, and good practices for storing, staging, recycling, and managing hazardous material and/or solid waste would continue to be limited with the No Action. Remediation of identified PFAS contamination is required under NJDEP regulation (NJAC 7:26C and NJAC 7:26E) regardless of the status of the proposed action. Therefore, PFAS remediation would proceed in accordance with NJDEP's Site Remediation Program under the No Action Alternative. The requirements of the Program are the same under both the No Action and Action alternatives.

5.5.5. Significance Analysis

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention in FAA Order 1050.1F. The FAA has identified factors to consider in evaluating the context and intensity of potential impacts. If these factors exist, the FAA must evaluate these factors to determine if there are significant impacts. Factors to consider include, but are not limited to, situations in which the Proposed Action or alternative(s) would have the potential to:

- Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management.
  - → The terminal expansion project would include construction specifications and conditions that compliance with applicable federal, state, tribal, and local regulations is a condition of the contract.
- Involve a contaminated site (including, but not limited to, a site listed on the NPL). Contaminated sites may encompass relatively large areas. However, not all of the grounds within the boundaries of a contaminated site are contaminated, which leaves space for siting a facility on non-contaminated land within the boundaries of a contaminated site, if appropriately mitigated, actions within the boundaries of a contaminated site would not have significant impacts.
  - → The Phase I and II ESA has identified PFAS compounds as contaminants of concern as they relate to NEPA hazardous material, solid waste, and pollution prevention. NJDEP has a mandated and prescribed regulatory path for notifying, assessing, and reporting groundwater impact cases.
  - → As discussed in Section 5.5.1, the identification of PFAS in the groundwater adjacent to the existing ARFF requires that the site comply with NJDEP's Site Remediation Program (NJAC 7:26E and NJAC 7:26C). The documentation, remedial investigation, planning and action would be completed by an LSRP and reviewed by NJDEP. The Site Remediation Program mandates, regulatory process, timeframes, and required actions will advance independently of the proposed action, however successful completion of the process would also be a required mitigation measure for the project. The required remedial planning would inform the terminal expansion design effort and mitigation measures would be coordinated through the LSRP. The required action is expected to extend beyond the duration of construction for the terminal expansion project and the overall impact would be mitigated though the NJDEP site remediation process. A flow chart of the site remediation program process for the Proposed Action is included in Appendix F.
- Produce an appreciably different quantity or type of hazardous waste.
  - → Design, construction, and operation of the proposed action would not produce an appreciably different quantity or type of hazardous waste. Identified contaminated materials on the site were a result of fill material imported from off-site sources during the original construction of the terminal area and discharge of AFFF at the existing ARFF facility, neither of which would occur as part of the proposed action. Importation of fill from off-site sources is not expected for this project and if needed would use clean fill. Inclusion of modern spill control and countermeasure measures into the proposed terminal and ARFF facility would reduce the risk of accidental discharges from the proposed facilities.
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity.
  - → There are no indications that the terminal expansion project would generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity.
- Adversely affect human health and the environment.
  - → The terminal expansion project would not adversely affect human health and the environment. The Site Remediation Program mandates, regulatory process,

timeframes, and required actions will advance independently of the proposed action, however successful completion of the process would also be a required mitigation measure for the project. The independent NJDEP Site Remediation Program (PFAS-groundwater impact) has built-in receptor (human and ecological) evaluations, remedial investigation, planning, and action requirements geared to the protection of human health, safety, and the environment. The data generated by the Phase I and II ESA's as well as subsequent testing would be used to inform the terminal expansion design and construction phases to assure that appropriate controls are in place to prevent the spread of contaminants and prevent exposure to humans. As noted above, the Proposed Action will not introduce new avenues of hazardous waste exposure to the environment and surrounding communities. The Stormwater Pollution Prevention Plan that would be implemented will reduce stormwater runoff from the site, further reducing the risk of exposure to the environment and surrounding communities.

Implementation and operation of the Proposed Action would comply with all applicable federal, state, and local regulations regarding hazardous materials, hazardous waste management, solid waste, and pollution prevention. Contaminated materials encountered during construction will be remediated in accordance with State and Federal requirements. It is generally expected that encountered contaminated materials would be removed from the site and disposed of at an appropriately licensed location. However, remediation methods will ultimately be determined by site specific conditions. The amount of solid waste to be generated by the Proposed Action during the operational phase is not expected to be a significant increase over the current levels produced by current TTN operations. Furthermore, findings and recommendations from the Phase II ESA are discussed in this EA and incorporated into the project's final design.

In summary, if encountered during construction, contaminated materials will be handled in accordance with NJDEP requirements. It is anticipated that this would involve removal and disposal of the contaminated material at an appropriate facility, however this approach may be modified, if necessary, based upon actual site conditions. Modifications would be in accordance with applicable state and federal regulatory requirements. PFAS contamination that was identified but won't be directly affected by construction will continue to be investigated and remediated in accordance with the NJDEP prescribed regulatory path in the Site Remediation Program regulations.

5.6. LAND USE

Airport development projects have the potential to cause land use impacts. The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of an airport's noise impacts. However, it can also be associated with disruptions of the surrounding community, residential or business relocations, changes in vehicular traffic patterns, induced socioeconomic effects, and even off-airport effects from on-airport facilities such as lighting units, which are addressed in Sections 5.9 and 5.10. Noise effects are regulated under *49 U.S. Code Section 47501, et seq.* (formerly the *Aviation Safety and Noise Abatement Act* of 1979) and addressed in Section 5.8. According to the *Airport and Airway Improvement Act* of 1982 (section 511(a) (5)), the EA shall include documentation that demonstrates that the Airport sponsor has,

to the extent reasonable, taken the appropriate measures to place restrictions on the use of land, adjacent to or in the immediate vicinity of the Airport, to ensure that existing and planned land-uses would remain compatible with normal airport operations, including the landings and takeoffs of aircraft.

In planning future airport developments, it is important to identify early in the planning process existing and planned land uses that could affect or be affected by the Airport improvements to avoid or minimize effects that would disrupt land use compatibility with the Airport. Chapter 4 identified and discussed existing and planned land uses in the vicinity of the Proposed Action. Sensitive land uses generally include residences, schools, religious institutions, parks and recreation areas, and other public places. Potential impacts to these sensitive receptors include noise generated by aircraft and ground traffic and safety hazards. Other potentially incompatible land uses near airports include facilities that generate high levels of electrical transmissions or bright lights, wildlife habitat that attracts birds and other animals with the potential to interfere with airport operations, and tall structures or other objects obstructing navigable airspace.

Local and regional planning documents encourage redevelopment and new development in the vicinity of the Airport to provide jobs and boost the economy. The Proposed Action is in conformance with local and regional planning documents.

Potential environmental consequences for noise compatible land use are discussed in Section 5.8.

5.6.1. No Action Alternative

The No Action alternative does not meet the purpose and need of the project. The No Action and proposed action both assume that the existing Airport footprint would remain unchanged.

5.6.2. Significance Analysis

The FAA has not established a significance threshold for land use, and the FAA has not provided specific factors to consider in making a significance determination for land use. A determination of significant impacts is typically based on the significance of other impacts.

The Proposed Action would occur within TTN property and in accordance with current Airport land use. Land use surrounding the Airport would remain unchanged, and no adverse effects are anticipated. Implementation of the Proposed Action would not relocate residences, disrupt established communities, induce negative socioeconomic impacts. Overall, no significant impact to land use compatibility is anticipated with implementation of the Proposed Action.

5.7. NATURAL RESOURCES AND ENERGY SUPPLY

Electrical and natural gas service would be provided to the Airport through PSE&G. Treated municipal water is supplied to the Airport via Trenton Water Works. The Proposed Action would use readily available natural resources for construction and demolition of the Proposed Action. The proposed terminal building would be approximately 91,000 SF larger than the existing terminal building and baggage claim facility, which combined are approximately 33,000 SF. The existing main terminal building was constructed in 1975 and is in various stages of disrepair including the HVAC, plumbing, roofing, windows, finishes, etc. The existing terminal building is

heated, and air conditioned with small, inefficient packaged equipment that uses older, less environmentally friendly, refrigerants.

The new MEP systems are designed to minimize operating costs while providing the highest level of control over the interior environment of the terminal. Utility savings are realized by using high efficiency heating and cooling equipment and the latest technology to control the systems. Domestic hot water related energy costs would be reduced by using local hot water heaters at each point of use. Eliminating a large centralized system with hot water circulation loops would minimize hot water distribution losses and would eliminate the cost of pumping domestic hot water through the building.

The new terminal building would contain an electrical substation, housed in the basement level of the new terminal building, that transforms power from 13.2 kV down to 480/277 volts for distribution to equipment in the building. The higher voltage system has fewer line losses and reduces the voltage drop for the given power flow to the facility.

5.7.1. Significance Analysis

The FAA has not established a significance threshold for natural resources and energy supply. The FAA has identified the following factor to consider when determining potential impacts: whether the action would have the potential to cause demand to exceed available or future supplies of these resources.

The Proposed Action's potential to cause demand to exceed available or future supplies of these resources was evaluated.

The proposed terminal building and ARFF would be built to current standards and therefore be more energy efficient than the existing structures. Based on the above, the Proposed Action is not expected to result in significant impacts to natural resources and energy supply and existing utilities can supply the project demand.

5.7.2. No Action Alternative

The No Action alternative does not meet the purpose and need of the project. The No Action assumes that the existing Airport footprint and aged infrastructure remain unchanged without addressing the deficiencies of the TTN. This alternative does not promote the integration of energy efficient systems and the adoption of more efficient technology to reduce energy losses or consumption. Natural Resources and Energy Supply for unrelated projects would not be affected under the No Action Alternative.

5.8. NOISE AND NOISE-COMPATIBLE LAND USE

The Proposed Action involves the replacement of the existing under sized four-gate terminal building with a larger four-gate terminal and associated terminal access and parking improvements. The Proposed Action is not anticipated to change aircraft operations, nor does it include any changes to runway lengths, runway alignments, instrument procedures, navigational equipment, or other factors that affect airfield capacity.

HMMH prepared a Noise Technical Memorandum to assess the potential for impacts associated with the Proposed Action (see **Appendix E**). Detailed information including the noise analysis, noise contour maps, and construction impacts related to noise are included in **Appendix E**. A summary of the analysis is provided below.

5.8.1. Aircraft Operational Noise Impact

FAA order 1050.1F considers the evaluation of the environmental consequences noise impacts of a given proposed action by comparison to the no action alternative of the same time frame. The Order defines the significant impact threshold and provides various analyses that should be disclosed for a given proposed action.

FAA Order 1050.1F identifies the threshold of "significant impact" based on the yearly DNL and an incorporation of compatible land-use standards found at 14 CFR Part 150, Airport Noise Compatibility Planning, specifically Table 1 in Appendix A of that regulation. FAA defines significant impact with respect to aircraft noise if implementation of the proposed action would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that would be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB. The determination of significance must be obtained through the use of noise contours and/or grid point analysis along with local land use information and general guidance contained in Appendix A of 14 CFR part 150 (see FAA Order 1050.1F, §4.3.3, Exhibit 4-1, and FAA Order 1050.1F, Appendix B-1.5).

In addition to defining significant impacts, FAA Order 1050.1F includes additional reporting requirements such as maps of the noise exposure at least at 65, 70, and 75 dB levels reporting the number of residences or people residing at or above DNL 65 dB and location of noise sensitive uses and disclosure of potentially newly non-compatible land use regardless of whether there is a significant noise impact. FAA Order 1050.1F and the desk reference require the use of AEDT to develop the DNL noise contours and/or grid point values to determine the significance of changes in exposure to aircraft noise and land use compatibility.

The 1050.1F Desk Reference recommends that the timeframes usually selected are the year of anticipated project implementation and 5 to 10 years after implementation. The project implementation date with respect to the aircraft noise analysis is the opening of the new terminal and the transition from the existing four terminal aircraft gate parking positions to the new proposed terminal aircraft gate parking positions. The transition to the new gate parking positions is the only portion of the Proposed Action expected to affect aircraft operations and is expected to be completed approximately in the middle of the overall multi-year project schedule. At the time that this aircraft operational noise analysis commenced in early August 2020, the anticipated year of the terminal opening and the transition to the proposed terminal gates was calendar year 2022. Therefore, this analysis is based on an anticipated "First year of proposed implementation" as calendar year 2022 and "Future year of proposed implementation" as calendar year 2027. The detailed aircraft operations for calendar 2022 and calendar year 2027, No Action and Proposed Action used in the noise analysis, were developed from the higher-level Master Plan forecast discussed in Chapter 1. The following presents the key findings for the 2022 and 2027 forecast

conditions. Appendix E includes additional details and discussions regarding the analysis, the changes in noise over the years along possible effects of the noise analysis by project schedule changes and forecast changes.

Figure 5-1 presents the 65 dB through 75 dB DNL contours for the 2022 Proposed Action compared to the 2022 No Action and Figure 5-2 presents the 65 dB through 75 dB DNL contours for the 2027 Proposed Action compared to the 2027 No Action. The majority of the contours remain on airport property for both the Proposed Action and the No Action, and no 1.5 dB or greater change within 65 dB DNL or greater has been found off airport property. The only notable changes within the 65 dB DNL contours are around the terminal area and on the east side of Sam Weinroth Rd. The change is associating with the relocation of aircraft parking between the two scenarios. In both scenarios, the 65 dB DNL contour extend onto Sam Weinroth Rd. and remain on airport property. The changes between the 2022 No Action and 2022 Proposed Action 65 dB DNL contour do not overlap with noise sensitive locations. In both scenarios, all of the noise-sensitive locations within the 65 dB DNL contour are existing residences to the south of the airport in an area north of West Upper Valley Rd, south of Runway 6/24, along Bear Tavern Rd and several side streets. All twenty-four of the residences within the 65 dB DNL contour are approximately 1,100 ft or less from Runway 6/24. In both cases, the same seventeen residences are between the 65 dB DNL and 70 dB DNL contours, and the same seven between the 70 dB DNL and 75 dB DNL contours. US Census data indicates that the average household in the area has 2.6 people per residence. Therefore, a total of sixty-four people are estimated to live within the 65 dB DNL and to 75 dB DNL contours for both the 2022 No Action and Proposed Action. Additional details are provided in Appendix E. There are no other noise-sensitive or Section 4(f) locations within the 65 dB DNL contours.

In summary, the 2022 Proposed Action compared to the 2022 No Action does not cause significant noise impacts and does not change land use compatibility or non-compatibility.

Figure 5-2 presents the 65 dB through 75 dB DNL contours for the 2027 Proposed Action compared to the 2027 No Action. The majority of the contours remain on airport property for both the proposed action and the No Action and no 1.5 dB or greater change within 65 dB DNL or greater has been found off airport property. The only notable changes within the 65 dB DNL contours are around the terminal area and on the east side of Sam Weinroth Rd. The change is associated with the relocation of aircraft parking between the two scenarios. In both scenarios, the 65 dB DNL contours extend onto Sam Weinroth Rd. and remain on airport property. The changes between the 2027 No Action and 2027 Proposed Action 65 dB DNL contour do not overlap with noise sensitive locations. In both cases, all of the noise-sensitive locations within the 65 dB DNL contour are existing residences to the south of the airport in an area north of West Upper Valley Rd, south of Runway 6/24, along Bear Tavern Rd and several side streets. All twenty-five of the residences within the 65 dB DNL contour are approximately 1,200 ft or less from Runway 6/24. In both cases, the same seventeen residences are between the 65 dB DNL and 70 dB DNL contours, and the same eight are between the 70 dB DNL and 75 dB DNL contours. A total of sixty-four people are estimated to reside within the 65 dB DNL and to 75 dB DNL contours for both the 2027 No Action and Proposed Action. Additional details are provided in Appendix E. There are no other noise-sensitive or Section 4(f) locations within the 65 dB DNL contours.

Figure 5-1: 2022 - Proposed Action Noise Contours Compared to 2022 No Action Noise Contours

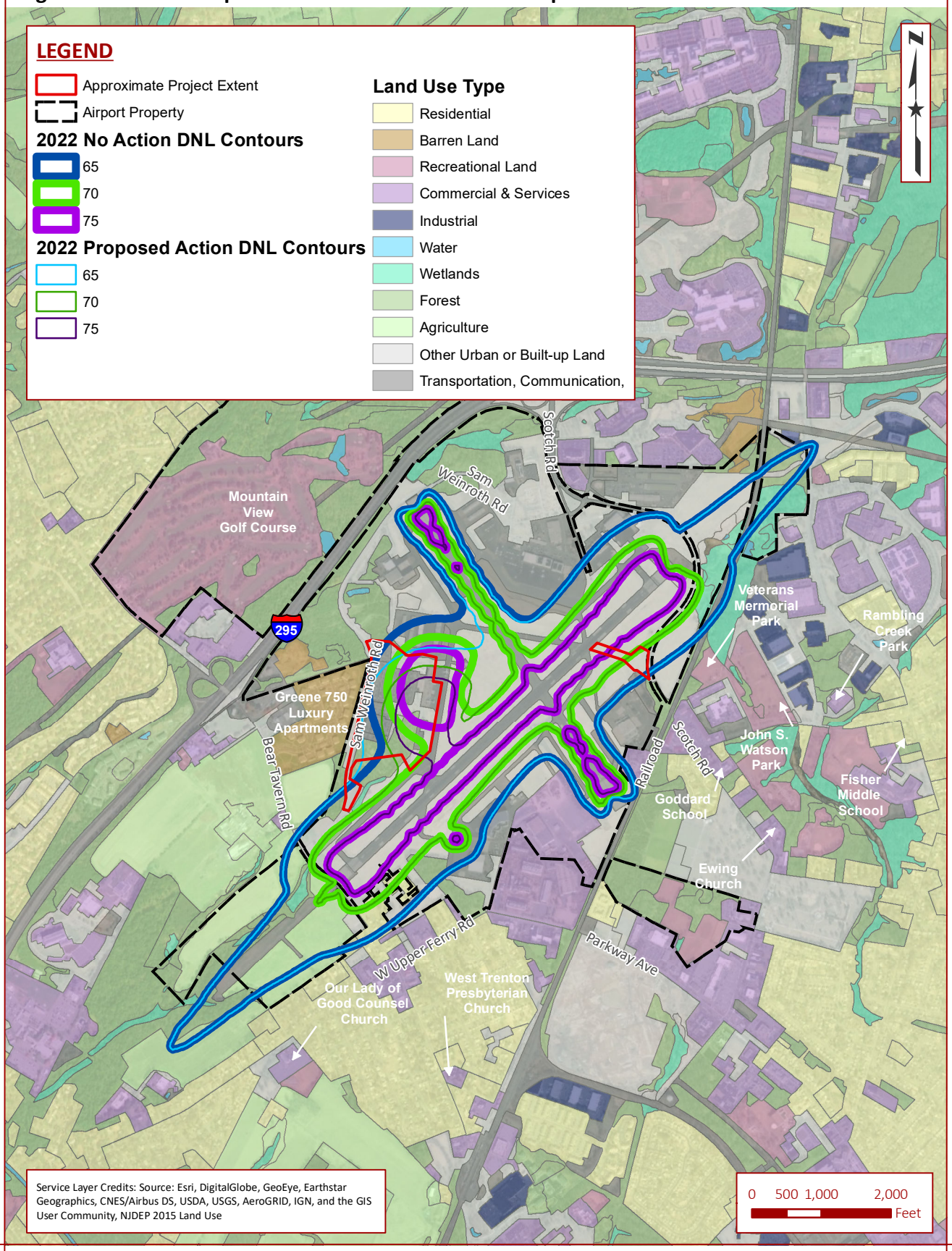

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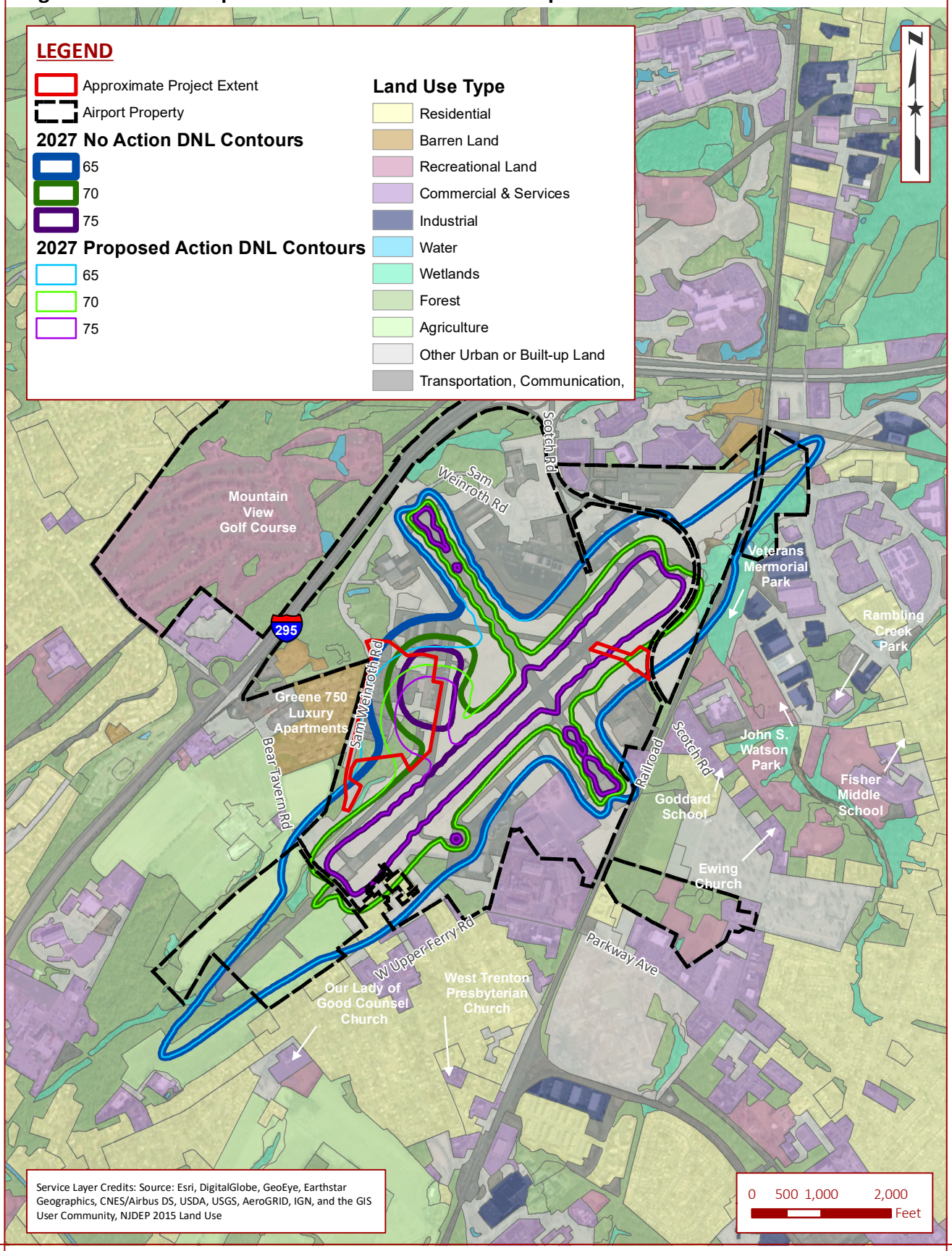
Figure 5-2: 2027 -Proposed Action Noise Contours Compared to 2027 No Action Noise Contours



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In summary, the 2027 Proposed Action compared to the 2027 No Action does not cause significant noise impacts and does not change land use compatibility or non-compatibility.

Appendix E further discusses the changes in noise over the forecast years, along with possible effects of the noise analysis by project schedule changes and forecast changes. In summary, project schedule changes and forecast changes are not expected, in most cases, to cause different overall conclusions with respect to significant noise impacts or changes to land use compatibility or non-compatibility. The forecast over the years model has a relatively modest effect on noise and a relatively small effect on the inventory of non-compatibility land use. Therefore, should the project schedule change, the analysis and conclusions presented can be considered representative of similar forecast years. The forecast for 2022 and 2027 are based on the Master Plan forecast discussed in Chapter 1 and were developed using pre-COVID 19 pandemic data and assumptions. The level of non-compatible land use for the 2022 and 2027 No Action and the Proposed Action scenarios presented above would likely be delayed because of the effects of the pandemic. The reduction in aircraft operations as a result of the pandemic and relative to what was used for the 2022 and 2027 scenarios described above, would not cause significant noise impact to occur between the Proposed Action and No Action of the same timeframe. Further discussion of this EA's forecast assumptions and the relationship to the current reduction in aircraft operations associated with the pandemic are presented in Chapter 1.

5.8.2. Construction Noise Impacts

The FAA does not provide significance thresholds for construction noise and therefore, state, and local ordinances were used to identify potential construction noise impacts. Noise control and abatement within the State of New Jersey is regulated by the NJDEP within Title 7, Chapter 29 of the N.J.A.C 7:29. N.J.A.C 7:29 does not regulate noise from construction activities, however, provisions within N.J.A.C 7:29 allow local municipalities to adopt a noise ordinance that is at a minimum consistent with N.J.A.C 7:29 but can be more stringent.

The Proposed Action is located within Ewing Township and is subject to the Township's Noise Control Ordinance, which has been reviewed and approved by NJDEP. The Township has adopted exterior sound level limits for receiving land uses consistent with N.J.A.C 7:29 and are summarized below.

- For residential property, or residential portion of a multi-use property, a sound source or sources cannot equal or exceed a maximum sound level of 65 dBA between the hours of 7 AM and 10 PM.
- For residential property, or residential portion of a multi-use property, a sound source or sources cannot equal or exceed a maximum sound level of 50 dBA between the hours of 10 PM and 7 AM.
- For a commercial facility, public service facility, non-residential portion of a multi-use property, or community service facility, a sound source or sources cannot exceed a maximum sound level of 65 dBA at any time.

In addition to the limits set forth above, the Township's Noise Control Ordinance also regulates impulsive sound. As per the ordinance, impulsive sound occurring between 7 AM and 10 PM cannot equal or exceed 80 decibels. Between 10 PM and 7 AM, impulsive sound which occurs less

than four times in any hour shall not equal or exceed 80 decibels. Impulsive sound which repeats four or more times in any hour shall be measured as continuous sound and shall meet the noise level limits in the bulleted list above.

According to the ordinance, construction noise within the Township of Ewing is exempt during weekdays between 7 AM and 6 PM and on weekends and federal holidays between 9 AM and 6 PM. Construction activities are not permitted outside of these time periods unless such activities can meet the applicable sound level limits summarized above.

The construction of the Proposed Action would commence in the beginning of 2022 and would be completed by the first quarter in 2025. Construction activities would result in temporary elevated noise levels from on-site construction equipment, personal vehicles used by construction workers to access the construction employee parking areas, and delivery/haul trucks used for equipment and material delivery and haul trips along local roads surrounding the work area.

Roadways carrying worker vehicles and heavy truck traffic to and from the work area would experience an increase in traffic during certain periods of the day, however these traffic increases would be temporary in nature and not result in significant impacts to receptors adjacent to these routes. Noise generated from on-site construction equipment would be variable depending on the construction activity occurring on the project site. On-site construction activities include the demolition and construction of various airport facilities including demolition and construction of roadways, terminal building, and ARFF building as well as construction of a parking garage, new apron, and general site work.

During typical workdays, construction noise levels would fluctuate and often be lower than the predicted worst-case levels. Additionally, the analysis only takes into account the maximum noise level produced by a single piece of construction equipment and does not include other noise sources that make up the existing noise environment, such as airport operations and traffic noise from surrounding roadways. Due to the influence of these other noise sources, the overall contribution from construction activities related to the Proposed Action is not anticipated to significantly impact noise sensitive receptors when compared to the existing noise environment.

Construction activities are expected to occur during normal daytime working hours. Since the Township of Ewing exempts construction noise from 7 AM-6 PM on weekdays and from 9 AM-6PM on weekends and holidays, no significant impacts would occur. The loudest construction noise levels predicted are associated with activities that involve the use of track-mounted augers, dump trucks, and impact equipment, including chipping guns, jackhammers, and hoe rams. Residences within the Greene 750 apartment complex are located within 200 feet of the existing terminal and parking areas and are predicted to experience the highest noise levels when work is occurs within this area. Elevated noise levels at sensitive receptors can be expected for various periods of time once work begins in Quarter 3 of 2022 and last through project completion in 2024. Construction noise levels related to the proposed ARFF are predicted to be the highest at residences located approximately 1,500 feet southeast, within the Scotch Road apartment complex and Veterans Park. Sensitive receptors can anticipate periods of increased noise levels throughout the 18 months of construction within the ARFF work area.

To minimize and reduce project construction noise within the surrounding community, noise mitigation should be implemented where practical and can include but is not limited to the use of

noise pathway controls, such as noise barriers and enclosures, and development of a Noise Control Plan. A detailed list of recommendations is included in the Noise Technical Memorandum within Appendix E.

Airside construction activities would have minimal impacts on the operation of the Airport. As a result of the proposed construction activities, minimal closures to pavements throughout the construction period are anticipated, which would lead to variations in operations in the vicinity of the terminal apron. The existing runways and taxiways would remain operational throughout the duration of the terminal building and ARFF construction. Construction activities would be carefully coordinated with Airport FBO and the contractor(s). Notices to Airmen (NOTAM's) would be issued by Airport management as needed. The construction sites would be marked and barricaded in accordance with current FAA standards.

5.8.3. No Action

The No Action alternative does not meet the purpose and need of the Proposed Action. The No Action assumes that no construction activities would be performed; therefore, related temporary increase in noise level would not be generated. The Proposed Action is not expected to induce additional aircraft operations, therefore would not have any effect on aircraft operations at TTN. Noise from aircraft operations would be identical under the No Action alternative when compared to the Proposed Action.

5.8.4. Significance Analysis

The FAA significance threshold according to FAA Order 1050.1F, is if the action would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that would be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB. Based on the information above and the analysis provided in the Noise Technical Memorandum, it can be concluded that the Proposed Action would not result in any significant noise impacts associated with aircraft operations.

The FAA does not provide significance thresholds for construction noise and therefore, state, and local ordinances were used to identify potential construction noise impacts. Township of Ewing ordinance apply for this project. Noise from construction of the Project would not result in significant impacts. Construction contract documents would require limits of certain activities at certain times, and construction equipment to be properly equipped and maintained, so as to minimize off-site construction noise impacts in accordance with the Township of Ewing ordinance.

5.9. SOCIOECONOMIC, ENVIRONMENTAL JUSTICE, AND CHILDREN'S HEALTH AND SAFETY RISKS

The Proposed Action maintains a balance between the natural and physical environments and does not have the potential to adversely affect socioeconomic conditions in surrounding communities. TTN plays a vital role in the transportation network and supports the regional economic needs and local community, providing a closer and more convenient location for most parts of central and southern New Jersey, and southeastern Pennsylvania.

The scope of the Proposed Action does not have a regional impact and would not promote shifts in populations, incomes, and growth patterns; public service demands; or negative pressure over business and economic activity, disruption to established neighborhoods, or urban proliferation. The Proposed Action does not require alterations to public services including fire and police protection, education and utility services or businesses. Potential impacts and/or changes to transportation patterns is discussed in Section 5.10, Traffic.

5.9.1. Industry, Employment, and Income

The Proposed Action would result in positive socioeconomic impact. During the construction phase temporary jobs would be created, supporting the local economy. With the Proposed Action, TTN would continue to support existing jobs and local economy.

The Proposed Action would not require alterations to public services including fire and police protection, education and utility services, businesses, or weaken employment opportunities.

According to the job creation formula provided by the U.S. White House under the American Recovery Act (ARRA), the following is used to estimate potential jobs that may be created as result of the Proposed Action:

- $92,000 of government spending creates one (1) job year
    - 64 percent of the job-years represent direct and indirect effects
    - 36 percent of the job years are induced effect

Applying the ARRA formula to the estimated construction cost ($109 million), the Proposed Action has the potential to create the following job estimates (cumulative):

- Up to 1,185 job years
    - Approximate Direct and Indirect: 758
    - Approximate Induced effect: 427

5.9.2. Community Tax Base

No significant changes are expected between pre-development and post-development conditions. The Proposed Action is located mostly on Airport property and is not anticipated to negatively affect landowners, and therefore would not produce a substantial change in the community tax base.

5.9.3. Environmental Justice

No adverse effects to disadvantaged communities are anticipated by the Proposed Action as discussed in Section 4.12.2. The Proposed Action would take place on existing Airport property. Environmental justice areas in Mercer County are not located within or in the immediate vicinity of the project areas. In addition, impacts to environmental resources discussed throughout this EA are primarily concentrated on Airport property and would be mitigated as discussed, and therefore, are not anticipated to impact environmental justice populations.

Therefore, based on the above, it can be concluded that disproportionately high and adverse human health or environmental effects are not anticipated to occur among minority or low-income populations as a result of the Proposed Action.

5.9.4. Children's Health and Safety Risks

No changes are expected between pre-development and post-development conditions, regarding health and safety risks. The proposed alternatives have been evaluated for their potential to have a disproportionate effect on children's environmental health or safety, including, but not limited to, water quality, air quality, and noise. The proposed project would not create or make more readily available products or substances that contact or ingestions through air, food, drinking water, recreational waters, or soil could harm children. It has been concluded that the Proposed Action is not of the nature or magnitude to have an adverse effect upon the health and safety of children. Mitigation is not proposed.

5.9.5. No Action Alternative

The No Action alternative does not meet the purpose and need of the Proposed Action. The No Action alternative assumes that the Proposed Action is not implemented and existing Airport terminal and ARFF would remain unchanged. The No Action has the potential to result in negative socioeconomic impacts, limiting the ability from TTN to maintain revenue and aviation needs and current operations. In addition, the No Action do not support jobs creation within the community, including direct and induced jobs associated to the construction phase.

5.9.6. Significance Analysis

The FAA has not established a significance threshold for socioeconomics in FAA Order 1050.1F. However, factors that should be considered in assessing impacts include whether the action would have the potential to:

- Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area).
- Disrupt or divide the physical arrangement of an established community.
- Cause extensive relocation when sufficient replacement housing is unavailable.
- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities.
- Produce a substantial change in the community tax base.

The Proposed Action would stimulate the local economy by creating construction jobs, demand for readily available construction materials, and job availability for the new terminal and ARFF construction, resulting in increased tax revenue to the community. The increase in the community tax base is not expected to be significant. The Proposed Action would not have any disproportionate effects on minority and low-income populations and would not adversely affect health and safety of children. No relocation of residences or businesses is proposed.

Based on the above analysis, substantial induced or secondary impacts to socioeconomic resources, environmental justices, and children's health and safety resulting from the Proposed Action are not anticipated.

5.10. TRAFFIC

Urban performed a traffic analysis to determine the anticipated traffic impacts at study area intersections resulting from the proposed project and the anticipated increase in vehicular traffic to and from the Airport as a result of the forecasted enplanements. The Traffic Engineering Report (TER) is included in **Appendix G.**

5.10.1. Study Area and Data Collection

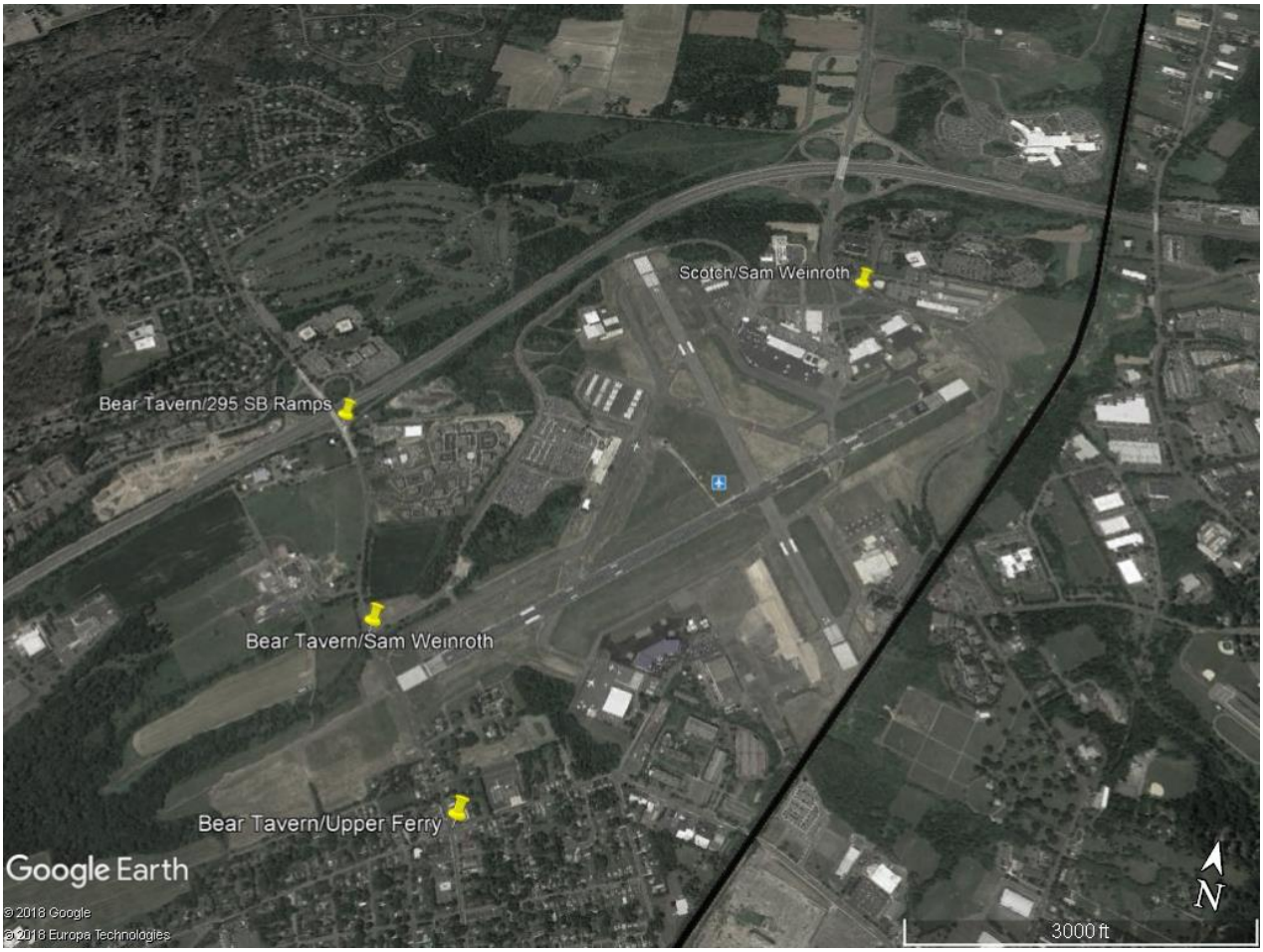
The Airport's passenger terminal has two ingress and egress points from the main roadway within the Airport, Sam Weinroth Road. These access points are the intersections of Sam Weinroth with Bear Tavern Road in the south and Scotch Road in the north.

The study area consists of the following six (6) intersections:

- Bear Tavern Road & I-295 Southbound Ramps (signalized)
- Bear Tavern Road & Sam Weinroth Road (unsignalized)
- Bear Tavern Road/Grand Avenue & Upper Ferry Road (signalized)
- Scotch Road & Sam Weinroth Road (signalized)
- Lockheed Avenue/Scotch Road Ramp & Sam Weinroth Road (unsignalized)
- Scotch Road Ramp & Sam Weinroth Road (unsignalized)

Weekday turning movement counts were performed at these locations on Wednesday, November 14, 2018, between the hours of 7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM. Saturday counts were performed at the same locations on Saturday, November 17, 2019, between the hours of 12:00 PM - 2:00 PM. Cars, Heavy Trucks and Pedestrians were counted at each location during 15-minute intervals. In addition, portable Automatic Traffic Recorder (ATR) counts were performed at four locations, three on Bear Tavern Road and one on Sam Weinroth Road. The count data was used to determine peak hour volumes for all locations. **Exhibit 5-1** shows the traffic analysis project study area.

Exhibit 5-1: Study Area



Existing Conditions

2018 Traffic Count Volumes

The count data for the study intersections was examined in order to determine the existing weekday morning and afternoon peak hour traffic volumes, as well as the Saturday midday peak hour. Based on 15-minute count periods, the weekday morning peak hour was determined to occur between 8:00 AM – 9:00 AM. The weekday afternoon peak hour was determined to occur between 4:30 PM – 5:30 PM. Lastly, the Saturday midday peak hour was determined to occur between 12:45 – 1:45 PM for all the intersections located on Bear Tavern Road, and between 12:30 PM – 1:30 PM for the remaining locations. Figures X1-1, X1-2 & X1-3 (TER, **Appendix G**) show volume figures for the 2018 existing weekday morning, weekday afternoon and Saturday midday peak hours respectively. The count data is included in Appendix X2 (TER, **Appendix G**).

Future without Airport Development Conditions

In order to study the design year (2035) without development conditions, the future without development volumes were determined. A general background growth of 5% was applied to all non-airport traffic in the network based on a review of demographic forecasts (population and employment) from DVRPC for both Mercer County and Ewing Township. This growth represents the organic growth in traffic between 2019 and 2035 and represent a 0.30% growth rate per year, which exceeds current growth rate forecasts for Ewing and Mercer, and thus was considered a conservative value. The growth rate was reviewed with the County professional staff and approved by the Mercer County Traffic Engineer.

In discussions with Mercer County Public Works, it was noted that there is a substantial amount of new/anticipated development near the airport that would likely impact study area intersections. However, calculating trips for each new trip generator was deemed not practical. Instead, it was decided to add 100 vehicles for each peak hour to the northbound and southbound through traffic at all the intersections along Bear Tavern Avenue and along Scotch Road. Figure X1-4 (TER, **Appendix G**) shows these additional new development volumes. Figures X1-5, X1-6 & X1-7 (TER, **Appendix G**) show the 2018 non-airport traffic volumes grown by 5% total and with the new development traffic from Figure X1-4 (TER, **Appendix G**) included for the weekday morning, weekday afternoon and Saturday midday peak hours respectively.

Future with Airport Development Conditions

In order to study the design year (2035) future with development conditions, the future with development volumes were determined. This was done by adding the trips generated by the proposed development to the future without development volumes.

To determine the growth in trips to the airport between 2018 and 2035, the projected yearly enplanements for the airport were analyzed. Data from Table 2-13 (contained in section 2.9) of the Trenton-Mercer Airport Master Plan (shown in TER, **Appendix G**) was used to extrapolate a growth rate that could be applied to the existing 2018 airport traffic to give us projected 2035 traffic volumes for the airport. **Table 5-7** shows the steps taken to calculate the overall growth in enplanements between 2018 and 2035.

Table 5-7: Forecasted Airport Enplanement Growth Rates

2014 Enplanements 2020 Enplanements	377,544 358,728
Growth Rate	-0.85%/Yr
2018 Calculated Enplanements	364,893
2035 Forecasted Enplanements	476,507
Overall Growth between 2018 & 2035	30.59% (1.8% per year)

Source: McFarland Johnson, Inc. and Urban Engineers

Trip Distribution and Assignment

The calculated overall growth rate of 30.59% was applied to the airport traffic for all three peak periods to calculate the "new" trips to and from the airport. This growth rate equates to a 1.8% per year growth and is directly proportional to the approved forecast of enplanements over the

same period. These trips were then distributed throughout the network based on existing traffic patterns, a review of zip codes for airport users and engineering judgement. Figures X1-8, X1-9 & X1-10 (TER, Appendix G) show these new trips for the weekday morning, weekday afternoon and Saturday midday peak hours respectively.

Table 5-8: Traffic Growth Attributed to Airport Development

Conditions	AM		PM		SAT	
	Sam Weinroth (east of Terminal)					
	WB	EB	WB	EB	WB	EB
Existing	119	183	189	169	84	89
Proposed	155	239	247	221	109	116
New Trips	36	56	58	52	25	27
	AM		PM		SAT	
	Sam Weinroth (west of Terminal)					
	WB	EB	WB	EB	WB	EB
Existing	105	114	117	138	56	59
Proposed	137	149	153	181	73	77
New Trips	32	35	36	43	17	18

Source: Urban Engineers

*Note: EB is towards the terminal and **WB is towards the terminal***

Future Volumes with Airport Development

The trips generated by the development at the airport were added to the future without development volumes giving the future with development volumes.

Figures X1-11, X1-12 & X1-13 (TER, Appendix G) show the 2035 "With Development" volumes for the weekday morning, weekday afternoon and Saturday midday peak hours respectively.

Capacity and Queuing Analysis

Capacity analysis was conducted for the study area intersections using SYNCHRO software (Version 10). SYNCHRO considers the geometry, speed limits, turning-lane lengths, peak hour factors, volumes, heavy vehicle percentages, and signal phasing and timings. The SYNCHRO program analyzes the information with equations to determine the LOS for the intersections numerically.

In order to consider the impact of new trips to the study network, the most desirable scenario would be that the intersection overall operates as closely as possible under "with development" conditions to "without development" conditions. In addition, it is desirable that individual lane groups operate as closely as possible under "with development" conditions to "without development" conditions.

Matrix Tables detailing the delay per vehicle and LOS overall and for each lane group at each intersection are included in Appendix X3 (TER, Appendix G).

5.10.2. No Action

The No Action alternative does not meet the purpose and need of the Proposed Action. The No Action assumes that improvements to terminal access would not occur. Some intersections around the airport are operating at a poor LOS due to background traffic levels. The poor intersection performance would continue under the No Action Alternative.

5.10.3. Significance Analysis

The FAA has not established a significance threshold for traffic in FAA Order 1050.1F. However, factors that should be considered in assessing impacts include whether the action would have the potential to:

- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities.
  - → Based on the above information and further described below, the Proposed Action is not anticipated to reduce the level of service for roadways surrounding the proposed terminal and ARFF.

As can be seen from the results of the SYNCHRO analysis, the network operates well overall, but with some capacity/queuing issues at certain approaches and turn movements. The westbound approach at the intersection of Bear Tavern & Sam Weinroth is projected to see an increase in delay based on the traffic analysis results. However, that westbound approach currently operates with significant delay (LOS F) and would continue to operate at LOS F with or without the proposed project, indicating there's a need to address the intersection operations independently of the proposed development. This is the key location within the development area to consider for future infrastructure improvements. The need for improvements is a pre-existing concern. Delays are expected worsen over time independent of the proposed project and is an issue that Mercer County professional staff are aware of.

Analysis showed that existing delays will worsen due to background growth in traffic volumes regardless of whether the terminal project proceeds. Consideration of signalization or a modern roundabout for intersection control should lead to acceptable traffic operations for all movements at the intersection. It is recommended that Mercer County pursue such a remedy independently of the proposed terminal replacement project. Intersection improvements are outside the scope of the EA.

Construction traffic is not expected to coincide with the peak traffic hours. Additionally, some traffic currently entering the airport would be diverted to the parking lot on Scotch Road because of temporary displacement during construction. In conclusion, the proposed action is not expected to cause any significant traffic impact.

5.11. VISUAL EFFECTS

Above ground structures would be constructed within the TTN boundaries away from neighboring developments, however, these proposed structures are not proposed to increase current light emissions or produce significant adverse light emission impacts. Lighting associated with the Proposed Action would incorporate energy efficient technologies, and as feasible the use natural

lighting. The lighting design would follow TTN safety/security standards and applicable local codes and regulations. Energy efficient luminaries would be utilized, with appropriate spacing to avoid excessive lighting and visual effects outside the TTN boundaries. In addition, the use of shielding would be considered to block certain light and minimize light trespassing to neighboring properties, as applicable.

An evaluation of potential visual effects, (obstruction of visual resources, light emissions interference with normal activities and contrast with visual character) was conducted and is discussed below.

5.11.1. Light Emissions

The FAA is required to consider potential lighting impacts associated with a proposed development action. Because most air navigational systems and other airport development actions produce relatively low levels of light intensity compared to surrounding background levels, adverse effects on human activity are unlikely.

Proposed Lighting

The Proposed Action would be designed to accentuate architecture, provide safety and security to passengers and Airport staff, enhance navigation within the terminal, and provide a comfortable and enjoyable experience for the public. Lighting associated with the terminal building would incorporate energy efficient technologies, and wherever feasible, use natural lighting.

The Proposed Action would involve the following airside and landside lighting changes:

Airside Lighting

- Terminal apron box shield/downward facing lighting similar to existing apron lighting.
- Lighting would be attached to the sides, roof line, or other parts of the terminal building and directed down with box shielded fixtures toward the east, onto the apron, and ramps, stair exits, or other areas on the airside for workers and users of the terminal.
- ARFF facility security lighting similar to existing ARFF lighting, attached to the sides, roof line, or other parts of the ARFF building and directed down with box shielded fixtures.

Landside Lighting

- Pedestrian level fixtures lighting walkways would be bollard lighting or overhead lighting from roadway lighting that is directed downward onto paths and sidewalks with shielded fixtures. Terminal drop-off area bollard lighting.
- Access roadway box shield/downward facing lighting. Roadway lighting would follow standard NJDOT style lighting with downward facing and box/shielded style fixtures.
- Parking lot box shield/downward facing lighting similar to existing lighting.
- Parking garage lighting (described below).
- ARFF facility box shield/downward facing lighting for landside parking area and security lighting on building.

The proposed parking garage would have circuit outside lights separate from the interior lights. The outer row of lights on the covered tiers would operate dusk to dawn by photocell or astronomic clock. The lights would be LED (light-emitting diode), and lighting would follow the Illuminating Engineering Society (IES) guidelines.

5.11.2. Visual Resources and Character

It is not anticipated that the Proposed Action would result in significant lighting or visual effects on the nearest neighboring property (apartment complex). A viewshed analysis was conducted to determine potential visual impacts associated with the new luxury apartment complex (Greene 750 at Bear Tavern) west of Sam Weinroth Road, across from the existing Airport parking lots and terminal building. The viewshed analysis included views of the existing and proposed terminal building and parking garage from the apartment buildings point of view. Existing trees located between Sam Weinroth Road and the apartment complex were incorporated into the viewshed analysis existing and proposed views to illustrate real world conditions. The viewshed analysis is included in Appendix B. In addition, a Google Earth view from the top floor of apartment building #11 at Greene 750 at Bear Tavern is included in Appendix B.

The proposed terminal building would be constructed adjacent to the existing terminal building and approximately 700 feet away from the nearest neighboring property. The proposed parking garage would be located within the eastern portion of the existing TTN surface level parking, approximately 300 feet away from the nearest neighboring property. An existing fringe of tall vegetation exists along the property line of the apartment complex, immediately adjacent to Sam Weinroth Road and west to TTN. This existing natural vegetative fringe creates a natural barrier minimizing potential visual effects from the Proposed Action.

The proposed ARFF location is not within a view of any residential or other non-airport related properties and therefore, no visual impacts are anticipated. In addition, due to the topography surrounding the site and nearby forested areas, the potential for light emissions to surrounding commercial, municipal, and residential land uses is low.

5.11.3. No Action Alternative

The No Action alternative does not meet the purpose and need of the Proposed Action. Light emissions would remain unchanged for the No Action alternative. Similar to the Proposed Action, the No Action alternative it is not considered to produce adverse light emission impacts or visual effects. However, the No Action does not incorporate energy efficient technologies, LED luminary and guidelines from IES.

5.11.4. Significance Analysis

According to FAA Order 1050.1F, significant thresholds have not been established for visual effects. Taking into consideration the scope of work from the project and its location, light emissions, and visual effects would be less than significant by the Proposed Action. The Proposed Action does not have the potential to:

- Create annoyance or interfere with normal activities from light emissions

- Affect the visual character of the area due to the light emissions
- Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources
- Block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations

Based on the above evaluation and given the Airport's size, location, history, and surrounding land use, an increase in light emissions is unlikely to be significant and overall, significant visual impacts are not anticipated.

5.12. WATER RESOURCES

The Proposed Action avoids and minimizes impacts to water resources and is not expected to cause significant impacts. Design considerations, controls during construction, and other mitigation measures would be implemented to further minimize impacts to water resources and water quality. The use of BMPs for stormwater management would include the installation of stormwater basins to reduce the peak flow and detain the rainfall from entering the stream immediately, discharging over a longer period of time, thereby allowing for some settlement of total suspended solids (TSS) or sediments. Where possible, infiltration of the runoff into the existing soils and groundwater would occur. The use of grass or vegetative swales, grass, and vegetative basins, and other BMPs would be designed to reduce runoff and improve water quality on the project site.

5.12.1. Wetlands

The Proposed Action minimizes direct impacts to approximately **0.22 acre** within state-regulated (jurisdictional) wetlands (designated as Wetland "AA") and **0.86-acre** within the 50 feet wetland transition area ("buffer"). Wetland impacts would result from the filling and excavation for construction of the terminal building, terminal apron, conversion of existing terminal access road to lawn/landscaping, stormwater management features, and roadway resurfacing. A summary of wetlands and acreage of impacts is provided in **Table 5-9**. Freshwater wetland, state open waters, and wetland transition area impacts within the proposed project's limit of disturbance[7] are shown on **Figure 5-3**.

[7] A project's limit of disturbance is typically defined as the boundary within which all construction, materials storage, grading, landscaping, and related activities shall occur.

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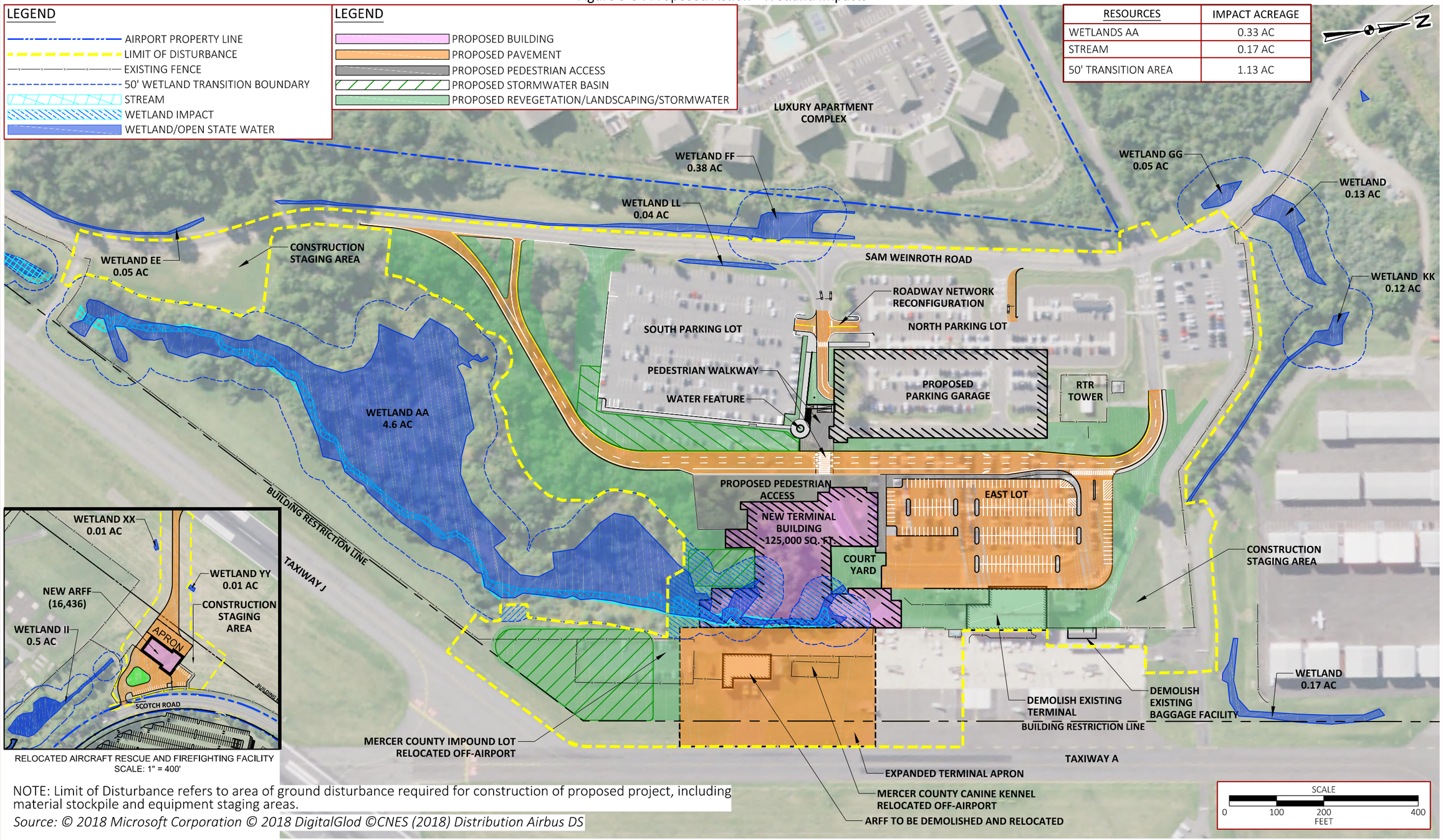
Figure 5-3 : Proposed Action - Wetland Impacts



RESOURCES	IMPACT ACREAGE
WETLANDS AA	0.33 AC
STREAM	0.17 AC
50' TRANSITION AREA	1.13 AC

RELOCATED AIRCRAFT RESCUE AND FIREFIGHTING FACILITY
SCALE: 1" = 400'

NOTE: Limit of Disturbance refers to area of ground disturbance required for construction of proposed project, including material stockpile and equipment staging areas.

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Table 5-9: Summary of Project Footprint within Regulated Wetland Areas

Jurisdictional Wetlands (ID)	Wetland Classification	Wetland Areas (Acres)	Project Footprint (IMPACTS)*		Project Components
			Wetlands Impacts (Acres)	50' Buffer (Acres)	
AA	Palustrine	4.6	0.22	0.86	Terminal Building
BB	Palustrine	0.65	--	--	Avoided
CC	Palustrine	0.75	--	--	Avoided
DD	Palustrine	0.05	--	--	Avoided
EE	Palustrine	0.05	--	--	Avoided
FF	Palustrine	0.38	--	--	Avoided
GG	Palustrine	0.05	--	--	Avoided
JJ	Palustrine	0.13	--	--	Avoided
KK	Palustrine	0.12	--	--	Avoided
LL	Emergent	0.04	---	---	Avoided
HH	Palustrine	0.05	--	--	ARFF – Avoided
II	Palustrine	0.50	--	--	ARFF – Avoided
XX	Isolated	0.01	--	--	ARFF – Avoided
YY	Isolated	0.01	--	--	ARFF – Avoided
Existing Wetlands Area		**7.39**			
Total Direct (Footprint) Impacts			0.22	0.86	
Estimated Construction Buffer (Indirect)			0.11	0.27	
Total Regulated Impacts			**0.33**	**1.13**	**Minimized Impacts**

Wetlands Area To Remain	**7.06**

Source: McFarland-Johnson, Inc., Amy Greene LOIs, and Urban Engineers

Notes: Areas (acreage) and impacts are approximate. Wetland AA delineation includes an unnamed stream where approximately **0.17 acre of riverine habitat falls within the limit of disturbance from Proposed Action. See Section 5.11.3.*

This portion of the freshwater wetland/open water complex and adjacent streambed are highly degraded due to the presence of fill, scouring, and presence of invasive species. With exception to nutrient/sediment removal, this portion of the wetland provides limited ecological functions due to its degraded condition. A small portion of project impacts may be considered temporary disturbances. Temporarily impacted freshwater wetlands, State open waters, and/or the associated 50' wetland transition areas would be restored to their original or improved condition.

The proposed ARFF relocation avoids direct impacts to NJDEP-regulated wetlands, State open waters, and the 50' wetland transition area. The proposed ARFF service road would be constructed between two (2) isolated wetlands, designated as Wetlands "XX" and "YY", which by definition, are not subject to standard transition area requirements; therefore, the service road would not impact any regulated areas.

Opportunities for mitigation on Airport property are very limited due to FAA restrictions within runway protection zones and runway approaches; therefore, compensatory mitigation for freshwater wetlands impacts is proposed through the purchase of NJDEP-approved mitigation bank credits within the watershed. Two (2) wetland mitigation banks are located within a service

area that includes the Lower Delaware Watershed Management Area (WMA #11), the Nishisakawick and Wouldow Grove Lake. All mitigation banks have credits available to sell. The NJDEP would determine the amount of mitigation required as part of the permit application process. A NJDEP Pre-Application Meeting would be requested to present the project to the NJDEP and to proactively address any questions or concerns the Department may have.

5.12.2. Floodplains

According to the FIRM Map 34021C0114F, Panel 0114F[8], the proposed terminal replacement project is located in Zone X (Area of Minimal Flood Hazard). FEMA National Flood Hazard Layer FIRMettes for the terminal and ARFF project areas are provided in **Appendix C**. While there are no FEMA designated floodplains within the project areas, NJDEP-regulated riparian zones and FHAs associated with the unnamed tributary of the Delaware River are located within a small portion of the proposed terminal replacement project footprint. NJDEP-regulated riparian zone and FHA is located immediately outside of the ARFF project area. Under the FHACA Rules, NJ regulates the alteration of topography through excavation, grading, and/or placement of fill; the creation of impervious surface; the storage of unsecured material; and construction, reconstruction, repair, alteration, enlargement, elevation, and removal of structures in the FHA. The Rules also regulate the clearing, cutting, and/or removal of vegetation in a riparian zone, the land and vegetation within and adjacent to a regulated water. Riparian zone and FHA impacts would result from the filling and excavation for construction of the terminal building, terminal apron, and stormwater management features. **Table 5-10** summarizes the riparian zones and FHAs. The riparian zone and FHA impacts within the proposed project's limit of disturbance are shown on **Figure 5-4**.

Table 5-10: Summary of Riparian Zones and FHAs

NJDEP Regulated Areas	Existing (Acreage)	Potential Impacts (Acreage)
Riparian Zones	8.63	1.14
Flood Hazards (FHAs)	4.94	0.04
Perennial (unnamed) stream	0.68	0.17
Total	14.25	1.35

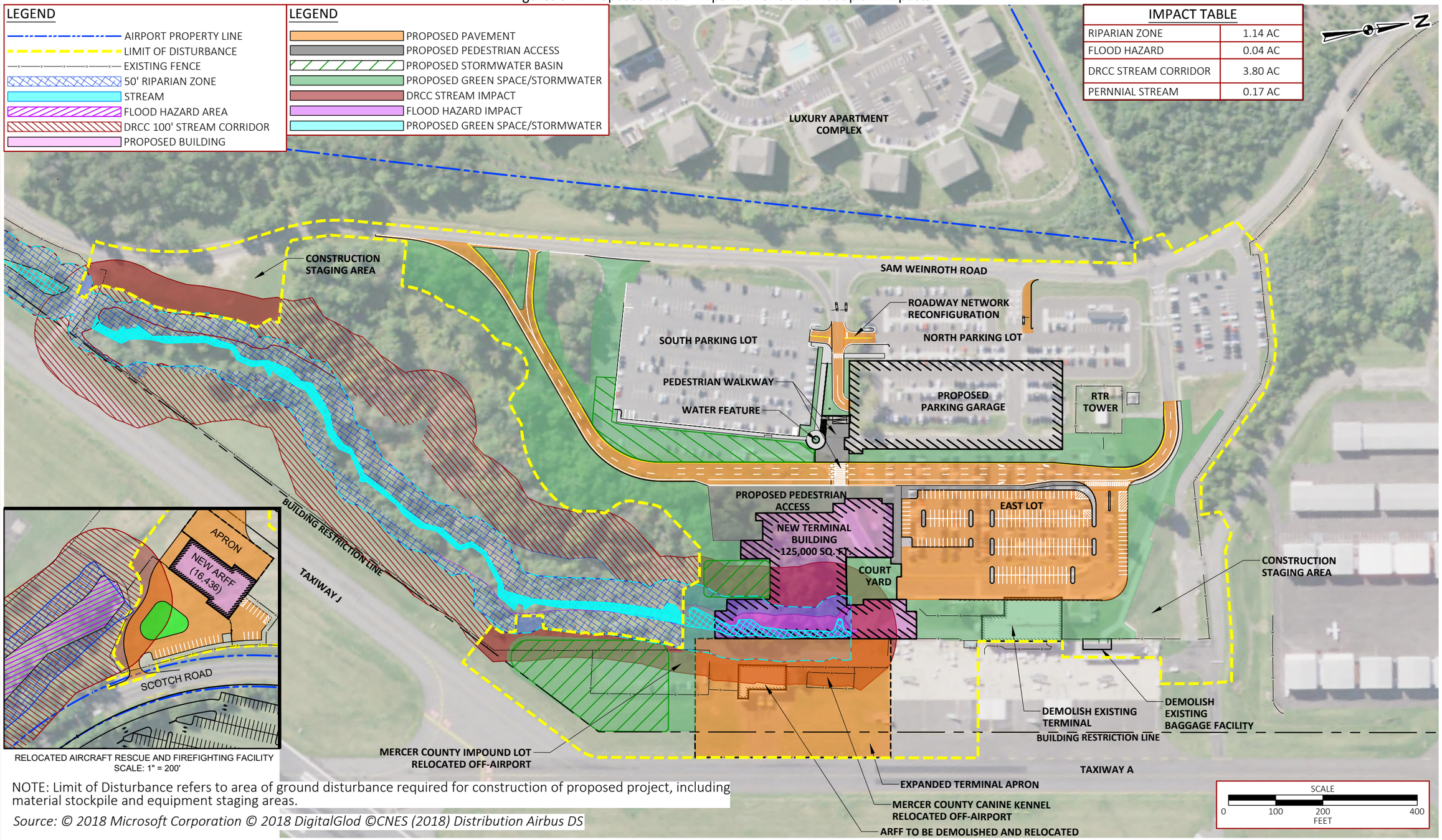
Riparian Zones and FHAs To Remain	12.9

Source: McFarland-Johnson, Inc. and Urban Engineers

The proposed ARFF relocation avoids direct impacts to the NJDEP-regulated riparian zone and FHA. However, construction of the new terminal would directly impact the riparian zone and FHA.

[8] https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-74.84248410644518,40.18511338175197,-74.67631589355477,40.25065321726062

Figures 5-4: Proposed Action - Riparian Zone and Floodplain Impacts



NOTE: Limit of Disturbance refers to area of ground disturbance required for construction of proposed project, including material stockpile and equipment staging areas.

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Approximately **1.14 acres of riparian zone** impacts and approximately **0.04 acre of FHA** impacts would result from site preparation associated with construction of the terminal building and stormwater management features, including a stormwater basin and outfalls. A small portion of project impacts may be considered temporary disturbances and the FHA would be restored to its original or improved condition.

Authorization from the NJDEP Division of Land Use Regulation would be required in accordance with the FHACA Rules at N.J.A.C. 7:13. Stormwater runoff from the proposed terminal and ARFF relocation project areas would be designed and managed in accordance with state regulations to manage the 100-year storm event and avoid flooding on and offsite. Proposed stormwater management features would address flooding conditions associated with the existing terminal area watershed.

Mitigation would be required to compensate for the impacts to these regulated areas. Opportunities for riparian zone mitigation on Airport property are very limited and would likely result in a conflict with FAA regulations (FAA AC 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports)*; therefore, mitigation would likely be satisfied through compensatory mitigation for riparian zone impacts through the purchase of NJDEP-approved mitigation bank credits. Two riparian zone mitigation banks are located within a service area that includes the Lower Delaware Watershed Management Area (WMA #11): the Nishisakwick and Wickecheoke Creek Mitigation Banks. All mitigation banks have credits available to sell. The NJDEP would determine the amount of mitigation required as part of the permit application process.

5.12.3. Surface Waters

As shown in **Figure 5-4**, the Proposed Action involves limited unavoidable direct impacts of approximately **0.17 acre** to a NJDEP-regulated perennial headwater stream (unnamed). The construction of the new terminal would result in the filling and alteration of a small segment of the stream. This portion of the stream appears to be highly disturbed, manipulated, and partially channelized. Evidence of scour and erosion were also noted along the upper reach of the stream, near an existing culvert. The streambed and adjacent areas are highly degraded due to the presence of fill, scour, and invasive species.

The Proposed Action would disturb more than one acre of land and therefore, would require a NJPDES permit. First, a Soil Erosion and Sediment Erosion Control Plan Certification must be obtained by the Mercer County Soil Conservation District. The project would be designed in accordance with the NJPDES permit, current NJDEP New Jersey State Standards and Specifications for Erosion and Sediment Control, and the current New Jersey State Stormwater Management Rules. Appropriate BMPs would address potential impacts to water quality from stormwater runoff during and following construction. Also, temporary erosion and sediment controls would be implemented to avoid impacts to water quality during the construction of the proposed project.

Post-construction stormwater management practices would be implemented to enhance water quality and provide water quantity control through peak flow attenuation. Due to the additional impervious area from the Proposed Action, stormwater runoff must be addressed meeting the requirement of no-net increase in peak stormwater runoff from pre-project conditions (see N.J.A.C. 7:8-5.6). Proposed subsurface stormwater storage and stormwater basins would

accommodate additional runoff from new impervious surfaces. The selected BMPs would be incorporated into the final design to control water quality and quantity and fulfill the peak flow attenuation requirements of the permit. Additionally, BMPs would minimize the risk of contaminated stormwater from leaving the site. The stormwater management plan would comply with FAA AC 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports,* which would exclude wet/retention stormwater basins that would attract wildlife and pose a hazard to aircraft. Based on the Stormwater Pollution Prevention Plan (SWPPP) developed for the Airport and the application of proper BMPs, no difficulty is expected in obtaining a stormwater permit.

Modern stormwater quality and quantity control measures are not currently present on the site. Implementation of the BMPs in accordance with NJDEP regulations would result in a drastic improvement to the quality of the runoff leaving the site and substantially reduce the amount of stormwater runoff during and immediately after stormwater events. This would dramatically minimize on-site flooding conditions as they currently exist. The stormwater design would manage the 100-year storm event and would more than satisfy the NJDEP and DRCC requirements. The stormwater management design would ensure there is no increase, as compared to the pre-construction peak runoff rates.

Delaware River & Raritan Canal Commission (DRCC)

The Proposed Action would automatically be considered a "major project", as defined at N.J.A.C. 7:45-1.3; therefore, approval from DRCC would be required, which would include review of stormwater runoff quantity and water quality impact (N.J.A.C. 7:45-8), as well as evaluation of stream corridor impacts (N.J.A.C. 7:45-9). The Proposed Action would result in approximately **3.8 acres** of direct impacts (e.g., earth disturbance, fill) to the stream corridor, which is defined as "Any water course that flows into the Park, its tributaries, the 100-year floodplain associated with the water course and its tributaries, and all of the land within a 100-foot buffer adjacent to the 100-year flood line associated with the water courses and their tributaries." Impacts to the stream corridor include filling and excavation for construction of the terminal building, terminal apron, and stormwater management features as shown on **Figure 5-4**.

The DRCC and County/TTN entered into a Memorandum of Agreement (MOA) on April 28, 2011, which permits activities in regulated areas to maintain a safe, secure, and legally compliant airport facility. The MOA is included in **Appendix B**. The stream corridor shown on the Stream Buffer Plan associated with the MOA is slightly different from the steam corridor generated for the Proposed Action, and therefore, impacts may be smaller. Coordination with the DRCC to confirm the stream corridor is being conducted and the recommendation(s) would be incorporated into this EA.

Pre-application meetings were held with the DRCC for the Proposed Action. On April 15, 2020, the proposed ARFF relocation was presented with the DRCC. On August 19, 2020, the proposed terminal replacement project was presented with the DRCC. These were discussed with the DRCC to determine the feasibility of obtaining approval from the Commission and to obtain input on the project design and permitting requirements. Since both projects would impact the DRCC stream corridor, a request for a waiver of strict adherence to review standards would be requested as part of the permit application in accordance with N.J.A.C. 7:45-12.3. The DRCC confirmed in the Pre-Application meeting that other New Jersey Transit projects with extensive stream corridor

impacts have been approved. Therefore, for the purpose of this EA and expected limited potential impacts, the Proposed Action is considered permittable and regulatory viable.

Mitigation would be required to compensate for anticipated impacts to the stream corridors, in coordination with the DRCC during the permitting process. The anticipated impacts (**3.8 acres**) to the DRCC stream corridor would be less-than-significant and are mitigable. As discussed with DRCC during the Pre-Application Meetings, most of the on-airport areas that could potentially be used for mitigation are under FAA obstruction restrictions and on-site mitigation is discouraged to prevent wildlife hazard, limiting on-site mitigation options. Therefore, in-situ/in-kind mitigation would not be feasible. The DRCC confirmed that off-site mitigation can be satisfied at a ratio of 2:1 or equivalent to its functional value, via land acquisition with an agreement with the property owner plus a deed restriction on behalf of the DRCC. A search of www.zillow.com for land for sale with the following criteria was conducted on August 20, 2020: 1. greater than 8 acres; 2. with a stream on or in the immediate vicinity of the property; and 3. within DRCC Zone B review zone. There were multiple properties for sale that meet these criteria, and therefore, it is assumed the County would be able to satisfy the DRCC off-site mitigation requirements. Off-site mitigation options and details would be further coordinated and presented to the DRCC during the advance design stage and as part of the local permitting process. During the architecture and engineering design stages, projects elements would be further analyzed, and stream corridor impacts continue to be evaluated in coordination with the DRCC for permitting requirements and mitigation commitments.

5.12.4. Groundwater

The western portion of Airport property is located over the EPA designated Coastal Plain SSA, while the eastern portion of the Airport property is not located over an SSA. No water well or stormwater injection wells are proposed under the Proposed Action. An SSA project review was conducted by the USEPA to determine whether it would pose a public health risk and/or impact groundwater resources in accordance with the SDWA. Based on the information provided to the USEPA, the USEPA determined that the Proposed Action would not pose a significant threat to public health or groundwater resources and complies with Section 1424(e) of the SDWA. The EPA determination and supporting documentation are provided in **Appendix C**.

According to the Phase II ESA, elevated levels of PFAS, exceeding their respective NJDEP groundwater quality criterion, were detected in groundwater monitoring wells in the vicinity of the existing ARFF. Additional groundwater characterization and reporting shall be conducted to adequately delineate the nature and extent of PFAS impact. NJDEP regulations shall be followed as described in Section 5.7 of the Phase II ESA. Further details regarding potential groundwater impacts related to PFAS and mitigation measures, are discussed in in Section 5.5.

After construction of the relocated ARFF facility, firefighting training involving AFFFs would take place in the existing location of the terminal apron. In addition, proposed aircraft deicing would take place on the terminal apron. As stated in Section 4.7.1, the Airport currently uses “No-Foam” for firefighting drills and equipment testing, which does not discharge AFFFs and therefore no cleanup is required. In an actual emergency, when foam is spent, the Airport would follow emergency cleanup operations and contact their on-call environmental consultant for spill response, as needed.

BMPs, such as a future deicing pad with a collection system, would be utilized to capture spent deicing fluids and ensure fluids do not flow to the stormwater management system or surface waters in the vicinity of the apron to prevent pollutant runoff and/or contamination.

5.12.5. No Action Alternative

The No Action alternative does not meet the purpose and need of the Proposed Action. The No Action alternative assumes that existing conditions would remain unchanged within the project area and no direct impacts over wetland areas and stream corridors would occur, and compensatory mitigation is not required. Under the No Action Alternative, unrelated projects would continue, and impacts to water resources (if any) associated with those projects would continue.

5.12.6. Significance Analysis

The proposed project's potential to impact water resources, including wetlands, floodplains, surface waters, and groundwater are discussed below.

Wetlands, Floodplains, and Surface Waters

FAA Order 1050.1F provides significance threshold for wetlands. A significant impact exists if the action would:

- Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers
- Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected
- Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety, or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public)
- Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands
- Promote development of secondary activities or services that would cause the circumstances listed above to occur
- Be inconsistent with applicable state wetland strategies

FAA Order 1050.1F provides significance threshold for floodplains. A significant impact exists if the action would cause notable adverse impacts on natural and beneficial floodplain values. FAA Order 1050.1F provides significance threshold for surface waters. A significant impact exists if the action would:

- Exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or

- Contaminate public drinking water supply such that public health may be adversely affected.

Impacts to regulated water resources are summarized in **Table 5-11** below. All water resource areas are regulated by the NJDEP, with the exception of the stream corridor, which is regulated by DRCC. Acreages are based on the 50% design and may change slightly depending on the final design.

Table 5-11: Anticipated Impacts from Proposed Action

Water Resource Description	Existing	Impact Acreage
Wetland	7.39 ac	0.33 ac
Wetland 50' Transition ("Buffer") Area	--	1.13 ac
Perennial Stream	0.68 ac	0.17 ac
Riparian Zone	8.63 ac	1.14 ac
Flood Hazard Area (FHAs)	4.64 ac	0.04 ac
DRCC Stream Corridor	12.15 ac	3.8 ac

Source: McFarland-Johnson, Inc. and Urban Engineers

Due to the onsite constraints and limitations, compensatory mitigation for freshwater wetlands and riparian zone impacts is proposed through the purchase of NJDEP-approved mitigation bank credits. Two wetland mitigation banks are located within a service area that includes the Lower Delaware Watershed Management Area (WMA #11), the Nishisakawick and Willow Grove Lake. Similarly, two riparian zone mitigation banks are located within a service area that includes the WMA #11: the Nishisakwick and Wickecheoke Creek Mitigation Banks. The above listed mitigation banks have credits available to sell. LOIs for the terminal and ARFF project areas were submitted to the NJDEP. LOIs were issued by the NJDEP On March 24, 2021 and September 18, 2020, respectively. A NJDEP Permit Pre-Application Meeting will be requested to further coordinate the approval of the final design. The NJDEP will determine the amount of mitigation required as part of the permit application process.

Off-site mitigation for DRCC stream corridor impacts would be satisfied at a ratio of 2:1 or equivalent to its functional value, via land acquisition plus a deed restriction on behalf of the DRCC. Based on an internet search, land meeting the mitigation criteria is available for purchase.

Based on the above information, it is assumed the Proposed Action would qualify for permits associated with impacts to water resources. Permit conditions and approvals would ensure the proposed activities would not violate water quality standards. In addition, the Proposed Action would not adversely affect functions or substantially alter the hydrology of wetlands, floodplains, and surface waters as discussed. Based on the above, impacts would be mitigated and reduced below the significance thresholds established by the FAA.

Appropriate stormwater design would reduce impacts from the Proposed Action on water resources. In addition, implementation of a SWPPP during the construction phase and proper stormwater management during the operational phase, and compliance with NJDEP regulations and FAA guidelines, no significant impacts to water quality are expected to result from the Proposed Action during the operation or construction phases.

Groundwater

FAA Order 1050.1F provides significance threshold for groundwater. A significant impact exists if the action would:

1. Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or
2. Contaminate an aquifer used for public water supply such that public health may be adversely affected.

BMPs, such as, engineering, and administrative controls, would be incorporated into the design of the Proposed Action to avoid contamination of groundwater. Based on the above information, the Proposed Action is not expected to cause any significant impacts to groundwater quality in the project areas during the operation or construction phases of the project. Based on the above, impacts would be mitigated and reduced below the significance thresholds established by the FAA.

5.13. CUMULATIVE IMPACTS

Consistent with CEQ guidelines and the process of determining overall environmental consequences, direct and cumulative impacts associated with the Proposed Action and the consequences of subsequent related actions must be evaluated. According to CEQ, cumulative impacts represent the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes other actions (see 40 CFR § 1508.7). Cumulative impacts can result from individually minor, but collectively significant actions taking place over time. According to Chapter 15 of the Desk Reference, the significance of cumulative impacts should be determined in the same manner as the significance of direct and indirect impacts. In some cases, cumulative impacts from other proposed or implemented project(s), in conjunction with the direct and indirect impacts from the Proposed Action or alternative(s) may together yield significant impacts and lead to a finding of significance, even though the direct and indirect impacts from the proposed action or alternative(s) alone are not significant.

Cumulative impacts were determined for projects occurring within the past three years and projects within the next five years (see Table 5-12). Past projects are defined as those that have undergone NEPA review by the FAA and/or have been constructed. Future projects have been identified by the County under the Airport Capital Improvement Program (ACIP) and have not undergone NEPA review.

The geographic area of concern for this analysis is generally the Airport property. For some resources, such as socioeconomics, impacts may extend further, and the geographic area of concern is larger. The time period for cumulative effects analysis is the cycle during which the project is expected to affect a resource, ecosystem, or human community, if that is the case.

Not including this EA, since 2014 there have been twelve (12) single and complete actions subject to NEPA reviews that have been processed by the FAA for projects at TTN, including:

- Four (4) was categorized by the FAA as an EA

- Eight (8) were categorized as Categorical Exclusions (CATEX) with minimal impacts

Past projects reviewed by the FAA considered the cumulative impacts on the environment and each other. Each of the reviews and findings were published by the FAA. All of the reviews were performed by the staff of the FAA in the Harrisburg Airports District Office.

The environmental impacts of potential future Airport projects would be analyzed in separate environmental documents, reviewed by the FAA, and by permitting/approval regulatory agencies. These projects would be designed to avoid, minimize, and/or mitigate environmental impacts on Airport property.

Projects reviewed for cumulative impacts are presented in **Table 5-12.** These actions have been implemented, are under current planning, or are anticipated in the near future to bring the Airport into compliance with federal design standards, remove critical obstructions, improve safety of Airport operations, and improve the facility's infrastructure.

Cumulative Impacts Comparison

Chapter 4—Affected Environment, describes the existing environmental conditions within the project study area. These conditions serve as a baseline for comparison of past, present, and foreseeable future projects to assess cumulative impacts.

This comparison only considers the environmental categories impacted by the proposed project along with the previous projects and future projects. These categories include:

• Biological resources (habitat and T&E species)

• Hazardous materials

• Water resources (surface water, riparian zones, and wetlands)

• Construction impacts

Past Projects (Reviewed under NEPA)

Rehabilitate Runway 6-24- The project involved pavement rehabilitation and overlay of bituminous pavement, grading, lighting, signage, and pavement markings for 6,006' long by 150' wide runway. Due to the minor nature of the project with no associated earth disturbance, no environmental resources were impacted as a result of the project.

Reconstruct Taxiway H & B- Included within this project was the reconstruction and overlay of bituminous pavement, grading, lighting, signage, drainage, and pavement markings for 2,500' long by 75' wide Taxiway H and 1,200' long by 75' wide Taxiway B. Since this project was a replacement of existing infrastructure with no new areas of disturbance, no environmental resources were impacted for this project.

Reconstruct Taxiway D/Rehabilitate Taxiway G- The Taxiway D aspect of the project included removal of 8,333 square yards of existing pavement, relocation of Taxiway D, and reconstruction and overlay of bituminous pavement, grading, lighting, signage, drainage, and pavement markings

for 1,950' long by 50' wide taxiway. The Taxiway G construction consisted of pavement rehabilitation and overlay of bituminous pavement, grading, lighting, signage, and pavement markings for 1,300' long by 50' wide taxiway. The project occurred on areas that were previously disturbed with no new areas of disturbance, and therefore, no environmental resources were impacted.

Construct Scotch Road Remote Parking Lot- The project involved construction of a paved parking lot to accommodate 800 vehicles (approximately 29,040 square yards). The project included constructing a paved overflow parking lot to accommodate parked vehicles and rental car operations. The limit of disturbance was 10.15 acres with a total impervious area of 6 acres (29,040 square yards). The project did not result in impacts to T&E species, hazardous materials, or wetland/water resources.

Construct Taxiway F and Taxiways D & G Connector- The project involved the removal of 19,444 square yards of existing pavement, reconstruction and overlay of bituminous pavement, grading, lighting, signage, drainage for 2,200' long by 50' wide taxiway. Construction of bituminous pavement, grading, lighting, signage, drainage, and pavement markings for a connector taxiway 2,300 feet long by 50 feet wide. The Taxiway "F" separation distance from taxiway centerline to runway centerline did not comply with federal design standards so the project brought the Airport up to standard. In addition, the taxiway crossed the runway non-perpendicular, which did not meet FAA geometry requirements. The reconstruction/relocation of the existing Taxiway "F" project involved the removal of approximately 15,300 square yards of pavement between Taxiway "E" and Runway 6-24 and the construction of approximately 30,000 square yards of new pavement for the relocated parallel Taxiway F (2,200 feet long x 50 feet wide). Construction included paving, drainage, lighting, grading and pavement markings. The project did not result in impacts to T&E species, hazardous materials, or wetland/water resources.

Redevelopment of Former Naval Air Warfare Center- The redevelopment consisted of demolition of existing buildings, excavation, installation of new building foundations to construct an FBO hangar/building and overlay of pavement. Redevelopment of the Former Naval Air Warfare Center accommodated a current fixed base operator who has outgrown their current facility. Approximately 10 acres of the site accommodated a new 100,000 square foot building and provided approximately 37,300 square yards of aircraft parking apron. The apron was repaved. The project did not result in impacts to T&E species, hazardous material impacts, or wetland and water resources.

RPZ and Obstruction Removal Project- The project involves the on and off-airport obstruction removal of 30.7 acres of tree obstructions. Impacts to T&E species within the project area would be avoided/mitigated to the extent necessary. The project would result in impacts to 18.2 acres of upland forest, 5.2 acres of upland field, and 4.2 acres of forested wetland (restored to 4.2 acres of scrub-shrub/emergent wetland).

Civil Air Patrol Building Demolition- The project involved the demolition of the one-story Civil Air Patrol Building (approximately 3,100 square feet) and the site was seeded. No T&E species, hazardous materials, or wetland/water resource impacts resulted from the project.

Table 5-12: Airport Capitol Projects (Cummulative Impacts)

Project Name	Description	Past Impacts/Anticipated Future Impacts	Construction Date
Past Projects (Undergone NEPA Review)			
Rehabilitate Runway 6-24	Pavement rehabilitation and overlay of bituminous pavement, grading, lighting, signage, and pavement markings for 6,006' long by 150' wide runway.	No impacts to T&E species, no impacts to hazardous materials, and no impacts to wetlands or water resources resulted.	2017-2018
Reconstruct Taxiways H & B	Reconstruction and overlay of bituminous pavement, grading, lighting, signage, drainage, and pavement markings for 2,500' long by 75' wide Taxiway H and 1,200' long by 75' wide Taxiway B.	No impacts to T&E species, no impacts to hazardous materials, and no impacts to wetlands or water resources resulted.	2015 -2017
Reconstruct Taxiway D / Rehabilitate Taxiway G	Taxiway D: Remove 8,333 square yards of existing pavement, relocate Taxiway D, and reconstruction and overlay of bituminous pavement, grading, lighting, signage, drainage, and pavement markings for 1,950' long by 50' wide taxiway. Taxiway G: Pavement rehabilitation and overlay of bituminous pavement, grading, lighting, signage, and pavement markings for 1,300' long by 50' wide taxiway.	No impacts to T&E species, no impacts to hazardous materials, and no wetland or water resources impacts resulted.	2017-2018
Construct Scotch Road Remote Parking Lot	Construction of a paved parking lot to accommodate 800 vehicles (approximately 29,040 square yards).	No impacts to T&E species, no impacts to hazardous materials, and no wetland or water resources impacts resulted.	2019-2020
Construct Taxiway F and Taxiways D & G Connector	Removing 19,444 square yards of existing pavement, reconstruction and overlay of bituminous pavement, grading, lighting, signage, drainage for 2,200' long by 50' wide taxiway. Construction of bituminous pavement, grading, lighting, signage, drainage, and pavement markings for a connector taxiway 2,300 feet long by 50 feet wide.	No impacts to T&E species, no impacts to hazardous materials, and no wetland or water resources impacts resulted.	2019-2020
Redevelopment of Former Naval Air Warfare Center	Demolition of existing buildings, leaving existing building slabs and foundations intact, excavation, installation of new building foundations to construct an FBO hangar/building and overlay of pavement.	No impacts to T&E species, no hazardous materials were encountered, and no impacts to wetland or water resources resulted.	2019-2020
RPZ and Obstruction Removal Project	On and off-airport obstruction removal of 30.7 acres of trees.	Impacts to T&E species within the project area will be avoided/mitigated to the extent necessary, impact of 18.2 acres upland forest, 5.2 acres upland field, 4.2 acres forested wetland (restored to 4.2 acres scrub-shrub/emergent wetland).	2021-2024
Civil Air Patrol Building Demolition	Demolition of the one-story Civil Air Patrol Building, approximately 3,100 square feet and site was seeded.	No T&E species, hazardous materials, or wetland/water resource impacts.	2019
Change in ALP Golf Course and Public Utility Parcels to Non-Aeronautical	Certain facilities on-airport property had been historically non-compliant with aeronautical uses. Some were sold, others were maintained as airport property with a change to non-aeronautical designation.	No impacts to T&E species, no impacts to hazardous materials, and no wetland or water resources impacts resulted.	2018
Parallel Taxiway B and Taxiway A Reconstruction Project	Reconstruction of Taxiway A and construction of a segment of new taxiway between existing TW J/A intersection and TW B/H intersection to create a full parallel taxiway to Runway 6-24.	No impacts to T&E species and no wetland or water resources impacts anticipated." The project is located within known historic fill areas.	2021-2024
Parcel A	FBO project.	No impacts to T&E species, no impacts to hazardous materials, and no wetland or water resources impacts anticipated."	2021

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Change in ALP Golf Course and Public Utility Parcels to Non-Aeronautical- Certain facilities on-Airport property had been historically non-compliant with aeronautical uses. Some were sold, others were maintained as Airport property with a change to non-aeronautical designation. Since this project was a change in aeronautical to non-aeronautical, no impacts to T&E species, no hazardous material impacts, and no impacts to wetland or water resources resulted.

Parallel Taxiway B and Taxiway A Reconstruction Project-The project involves the reconstruction of Taxiway A, including minor modifications to the lighting system. The project also includes the construction of a segment of new taxiway between existing Taxiway J/A intersection and Taxiway B/H intersection to create a full parallel taxiway to Runway 6-24. No impacts to T&E species or wetland and water resources are anticipated. The project is located within known historic fill areas.

Wetland Restoration-Northeast of Runway 24- The proposed project was initiated to provide wetland restoration of a wetland that was damaged by tree trimming operations, and a deer exclusion fence. No impacts to T&E species and no impacts to hazardous materials resulted from the project.

Anticipated Future Projects

Detailed project information is not available for the foreseeable future projects. In order to provide an anticipated level of impact, preliminary information was used. This included the currently approved ALP drawing, ACIP, recent meetings held, and similar projects at other airports.

Construct SRE/Maintenance Building- The proposed project consists of the construction of a combined snow removal equipment storage and maintenance facility. No proposed impacts to T&E species, hazardous materials, or wetland/water resource impacts are anticipated.

Construction Replacement Electrical Building- The proposed project includes the demolition of the existing electrical building and construction of a new building. No proposed impacts to T&E species, hazardous materials, or wetland/water resource impacts are anticipated.

Rehabilitate/Extend Taxiway E- The proposed project consists of pavement rehabilitation and overlay of bituminous pavement, grading, lighting, signage, and pavement markings for 1,500' long by 75' wide taxiway. This also includes extending Taxiway E 1,300' to intersect with Runway 6-24 and Taxiway B. No impacts to T&E species, hazardous materials, or wetland/water resources impacts are expected.

Construct Replacement Air Traffic Control Tower - The proposed project includes the demolition of the existing air traffic control tower and construction of a new air traffic control tower (ACTC) along with rerouting of electrical and control circuits on the airfield to the new tower. The project is not connected to the Proposed Action. The planning, design, and construction of the new air traffic control tower and demolition of the existing tower is not connected to the planning, design, and construction of the new terminal or new ARFF facility for which this EA addresses. No proposed impacts to T&E species, hazardous materials, noise, air, or wetland/water resource impacts are anticipated.

Construct Deicing Containment Facility- The proposed project includes the construction of a paved deicing pad adjacent to a gate area, taxiway or runway; a collection system with separate storage

facility; and a drainage system separate from the Airport's stormwater system. A preliminary location has been identified but could change during design of the project. No proposed impacts to T&E species, hazardous materials, or wetland/water resource impacts are anticipated.

Extend Taxiway F- The proposed project involves the construction of 2,200' long by 50' wide taxiway with access taxiways, grading, lighting, signage, drainage, and pavement markings.

5.13.1. Construction Impacts

Temporary and short-term impacts to air quality, noise, traffic, and solid waste may occur during construction phase. All these impacts are temporary and would not result in long-term and permanent impacts to the environment or surrounding land. BMPs would be implemented to further minimize temporary and control the risk of unanticipated and unforeseen incidental impacts. Unavoidable wetland impacts have been minimized as the result of the Proposed Action. In addition, the Proposed Action does not propose additional operations and there are no plans for additional operations.

Projects disturbing more than one acre of land would require a NJPDES permit. Projects would be designed in accordance with the NJPDES permit, current NJDEP New Jersey State Standards and Specifications for Erosion and Sediment Control, and the current New Jersey State Stormwater Management Rules.

Construction activities are short-term and temporary in nature, and usually do not cause significant adverse environmental impacts at airports. The cumulative project impacts include short-term construction impacts that would not create long-term adverse impacts. FAA construction standards would be adhered to during construction and BMPs would be implemented, when necessary, thus no cumulative effects related to construction activities are anticipated.

Based on the above information, it is not anticipated that implementation of the Proposed Action contributes significantly to cumulative impacts. In determining the significance of the impacts associated with the Proposed Action, the overall impact of project components detailed in the EA and the consequences of other related projects were considered.

5.13.2. Summary

As shown in Table 5-12 and above, TTN has completed or has proposed a number of improvements to the airport. Notably, the current MPU, recommended a robust multi-phase program of taxiway improvements needed to address safety and maintenance concerns. Collectively, these projects will assure that pavements are maintained in good condition, provide standard runway/taxiway separations, and improve safety of aircraft movements by reducing the number of runway crossings required for aircraft moving around the airfield. All of the listed projects are unrelated to the Proposed Action, and each has its own independent utility and is justified regardless of whether the Proposed Action proceeds. As shown, the projects are primarily maintenance and safety improvements. Several would benefit General Aviation users of TTN.

Due to the lack of environmental resources present within the project areas at TTN and the limited number of impacts to the natural and human environment, cumulative impacts are not a

significant issue for the Proposed Action. All the previously discussed impacts associated with the Proposed Action are considered less than significant. Table 5-1 included at the beginning of this chapter summarizes the level of anticipated impacts which would be a result of the Proposed Action. It should be noted that the Proposed Action would minimize and lower the risk of potential long-term direct and indirect impacts, and would result in cumulative environmental benefits (positive impacts) such as:

- Improved safety and security
- Relieve terminal building operational capacity constraints
- Enhanced internal vehicular circulation system
- Promote a more efficient ground operations and improved aviation operations helping TTN to maintain their revenue
- More efficient and environmentally oriented ground operations
- Adequate stormwater capacity and treatment of runoff
- Compensatory mitigation of potential environmental impacts in off-site areas that provide greater long-term ecological value than the jurisdictional areas to be affected
- Support current jobs associated with the TTN operations and promote temporary construction jobs in the community

Mitigation commitments would be implemented to offset unavoidable impacts to wetlands, riparian zones and DRCC stream corridors. The compensatory mitigation would strive to achieve a goal of no net loss according to the ecological values and functions. The compensatory wetland mitigation would involve off-site mitigation and the purchase of mitigation bank credits in coordination with the NJDEP and DRCC. Proper permitting would be obtained in accordance with local, state, and federal regulations.

Since the project would be developed in phases, the Proposed Action would be required to meet NPDES permit requirements, protecting water quality in the vicinity of the Airport. Additionally, appropriate state and federal permits would be required prior to construction. The permit applications review process would include an evaluation of the permit history and would assure that cumulative impacts would be avoided. Given the preliminary nature of the Proposed Action, during the final architecture and engineering design stages, projects elements would be further analyzed, and environmental impacts continue to be evaluated in more detail and in coordination with mitigation actions.

5.14. LIST OF ANTICIPATED PERMITS AND APPROVALS

The following section discusses permits, approvals, or reviews which may be required for the Proposed Action:

Executive Order 11990

The Proposed Action includes new construction located within wetlands that cannot be avoided, and therefore, an EO 11990 "Wetland Finding" must be prepared by the FAA to document compliance with the order and that the wetland impacts are justified. The finding must be made in the Finding of No Significant Impact (FONSI) or Record of Decision (ROD) and documentation necessary to support the finding must be contained in the NEPA document.

NJDEP Freshwater Wetlands Letter of Interpretation (LOI)

An LOI is issued by the NJDEP to verify the presence or absence of wetlands, State open waters, or transition areas, and their boundaries. LOIs also determine the resource value classification of a wetland when present, thus indicating the width of the regulated transition area. An LOI does not provide authorization to conduct a regulated activity. When requesting an LOI, a Division of Land Use Regulation Application Form must be completed, in addition to all requirements at N.J.A.C. 7:7A Subchapter 4. Once issued, an LOI is valid for five years, unless it is determined that the LOI is based on inaccurate or incomplete information, in which case the NJDEP would void the original letter and reissue a revised LOI reflecting the actual conditions onsite. An LOI may be extended one time for an additional five years provided the information upon which the original LOI was based remains valid. Obtaining an LOI may expedite processing of a general or individual freshwater wetland permit application.

Applications for LOIs were prepared and submitted to the NJDEP for the ARFF Study Area and Terminal Replacement Study Area to verify the limits and resource values of onsite freshwater wetlands. The LOI for the ARFF Study Area was issued by the NJDEP on September 18, 2020 (NJDEP File #1102-12-0002.5 FWW190001). The LOI for the Terminal Replacement Study Area has also been reviewed by the NJDEP and very minor modifications are being made to satisfy their concerns. The LOI for the Terminal Replacement Study Area was issued by the NJDEP on March 24, 2021. The LOI applications and NJDEP determination letters are included in Appendix H.

Freshwater Wetlands General Permit or Freshwater Wetlands Individual Permit

Typically, Freshwater Wetlands General Permits are required for regulated activities that would cause minor impacts on freshwater wetlands and state open waters; cause minimal adverse environmental impacts when performed separately; and have only minimal cumulative adverse impacts on the environment. Requirements and thresholds for all general permits are outlined in N.J.A.C. 7:7A Subchapter 7. Mitigation would be required for certain General Permits if limits on disturbance are exceeded. If General Permit thresholds are exceeded or if a regulated activity does not qualify for a General Permit, a NJDEP Freshwater Wetlands Individual Permit would be required. Individual Permits are outlined in N.J.A.C. 7:7A Subchapter 9 and require wetland mitigation in the form of wetland creation, restoration, or enhancement, mitigation bank credit purchase, monetary contribution, preservation, or a land donation. Once issued, a Freshwater Wetland General Permit or Individual Permit are valid for a period of five years and may be extended one time for an additional five years.

The Proposed Action would result in direct impacts to state open waters, freshwater wetlands, and wetland transition areas; therefore, authorization from the NJDEP Division of Land Use Regulation may be required in accordance with the NJFWPA Rules at N.J.A.C. 7:7A.

A Pre-Application Meeting would be arranged with the NJDEP prior to the preparation and submission of any Freshwater Wetlands Permit Applications. Early coordination with the NJDEP would provide important feedback and would help avoid or minimize unnecessary delays during the review process.

Wetland Transition Area Waiver

Pursuant to N.J.A.C. 7:7A Subchapter 8, a Transition Area Waiver may be required. Any person proposing to engage in regulated activities (those activities outlined in N.J.A.C. 7:7A-2.3), within 150 feet of an exceptional resource value wetland, or within 50 feet of an intermediate resource value wetland shall apply to the NJDEP for a transition area waiver. The NJDEP's authorization of certain activities under a statewide general permit or individual permit may automatically include a transition area waiver.

Water Quality Certification

Section 401 of the CWA provides the authority to ensure that federal agencies do not issue permits or licenses that violate their water quality standards. Pursuant to N.J.A.C. 7:7E and N.J.A.C. 7:7A, Water Quality Certification (WQC) is required for all projects involving a federal permit for the discharge of dredged or fill material into waters of the United States and/or their adjacent wetlands. WQC insures consistency with state water quality standards and management policies. Projects within the jurisdiction of the Freshwater Wetlands Protection Act shall receive a decision on certification concurrently with a Freshwater Wetlands or State Open Water Permit.

Delaware & Raritan Canal Commission (DRCC)

As discussed in Chapter 4, the Proposed Action is located within the DRCC's jurisdictional Review Zone B. The Proposed Action would automatically be considered a "major project," since it would disturb one (1) acre or more of land and would result in the cumulative coverage, since January 11, 1980, of one quarter acre of land with impervious surface, as defined at N.J.A.C. 7:45-1.3. Therefore, approval from DRCC would be required.

Review of visual, historic, and natural quality impact is only required for projects situated in Zone A. Review of traffic impacts is required for any major project within one mile of any portion of the Canal State Park and having direct access to a road that enters Zone A. The Proposed Action does not appear to be within one mile of any portion of the Canal State Park and having access to a road that enters Zone A. Therefore, review of visual, historic, natural quality, and traffic impacts is not anticipated. DRCC review of stormwater runoff quantity and water quality impact (N.J.A.C. 7:45-8), as well as evaluation of stream corridor impacts (N.J.A.C. 7:45-9) would be required.

Soil Erosion and Sediment Control Plan (SESCP) Certification

New Jersey has required the management of soil erosion and stormwater from virtually all non-agriculture, construction-based soil disturbances through its adoption of the NJ Soil Erosion and Sediment Control Act (N.J.S.A. 4:24-39 et seq). Implemented by the Department of Agriculture (NJDA) and the state's soil conservation districts, the act requires all construction activities greater than 5,000 square feet to be developed in accordance with a plan to control erosion during construction. The plan must also ensure that erosion would not occur once construction is completed. The SESCP would be submitted to the Mercer Soil Conservation District (SCD).

NJ Pollution Discharge Elimination System (NJPDES)

Pursuant to Section 402 of the CWA, stormwater discharges from certain construction activities are unlawful unless they are authorized by a NPDES permit or a similar state permitting program. The NJPDES stormwater program regulates stormwater discharges from municipal separate storm sewer systems (MS4s), construction activities, and industrial activities. Generally, projects that disturb one of more acres require a Construction General Permit (CGP). The proposed project would disturb greater than one acre of land and would therefore require a New Jersey CGP. The issuance of a NJPDES permit for stormwater discharges associated with construction activities requires the preparation of a Stormwater Pollution Prevention Plan (SPPP). Permit conditions and approvals would ensure the proposed activities would not violate water quality standards.

The Proposed Action would disturb more than one acre of land and therefore, would require a NJPDES permit. First, a Soil Erosion and Sediment Erosion Control Plan Certification must be obtained by the Mercer County Soil Conservation District. The project would be designed in accordance with the NJPDES permit, current NJDEP New Jersey State Standards and Specifications for Erosion and Sediment Control, and the current New Jersey State Stormwater Management Rules. Appropriate BMPs would address potential impacts to water quality from stormwater runoff during and following construction. Also, temporary erosion and sediment controls would be implemented to avoid impacts to water quality during the construction of the proposed project.

The airport currently has a pending NJPDES Individual Permit Authorization. Per comment from NJDEP, the pending authorization would need to be amended to reflect additional area(s) of exposure, drainage control measures resulting from the Proposed Action. An updated SPPP would be required as well. Although not expected, if a surface water discharge becomes necessary during construction (such as for de-watering), a NJPDES Discharge to Surface Water Permit would be needed.

NJDEP Flood Hazard Area

The NJDEP prohibits most activities within 25-feet of the top of bank of a regulated water and regulates certain activities in regulated waters, flood hazard areas, and riparian zones. A permit or authorization is required from the NJDEP prior to conducting a regulated activity in a regulated water, flood hazard area, or riparian zone.

The NJDEP would issue a Flood Hazard Area Verification to provide an official determination on the flood hazard area design flood elevation, the flood hazard area limits, the floodway limits, and/or the riparian zone limits on or within a portion of a site. A Flood Hazard Area Verification does not provide authorization to conduct activities within regulated areas. A Verification may be required prior to or concurrent with a Flood Hazard Area General Permit or Individual Permit application. A request for a Flood Hazard Area Verification was prepared and submitted to the NJDEP for the ARFF Study Area. The NJDEP issued a Flood Hazard Area Verification for the ARFF Study Area on May 12, 2020 (NJDEP File No. 1102-12-0002.5 LUP 200001), which verified the limit or extent of the flood hazard area, riparian zone, and flood hazard area design flood elevation associated with the tributary to West Branch Shabakunk Creek; a copy of the Flood Hazard Area Verification is included in Appendix C. A Flood Hazard Area Verification has not yet been requested for the Terminal Replacement Study area. A Verification would be requested concurrently with the Flood Hazard Area permit application for the Terminal Replacement project.

The NJDEP would issue a General Permit-by-Certification or General Permit for specific construction activities which have been determined to have minimal impacts on flooding and the environment. Requirements and thresholds are provided in Subchapter 8 of N.J.A.C. 7:13 for all General Permit-by-Certifications and in Subchapter 9 for all General Permits. If General Permit or General Permit-by-Certification thresholds are exceeded or if a regulated activity is not covered by same, a NJDEP Flood Hazard Area Individual Permit would be required. The requirements and limits of Individual Permits are outlined in Subchapters 10, 11, and 12 of the Rules. Riparian zone mitigation would be required if limits on disturbances are exceeded or for all impacts occurring in a 300-foot riparian zone. Riparian zone mitigation requirements are discussed in detail in N.J.A.C. 7:13 Subchapter 13. Once issued, a Flood Hazard Area General Permit, General Permit-by-Certification, or Individual Permit are valid for a period of five years from the issuance date and may be extended one time for an additional five years.

The Proposed Action would result in direct impacts to FHAs and riparian zones; therefore, authorization from the NJDEP Division of Land Use Regulation would be required in accordance with the NJDEP Flood Hazard Area Control Act Rules at N.J.A.C. 7:13.

A Pre-Application Meeting would be arranged with the NJDEP prior to the preparation and submission of any Flood Hazard Area Permit Applications. Early coordination with the NJDEP would provide important feedback and would help avoid or minimize unnecessary delays during the review process.

Mercer County Soil Erosion and Sediment Control Plan

The Soil and Sediment Control Act of 1976 stipulates that any project proposing more than 5,000 square feet of soil disturbance must have a Soil Erosion and Sediment Control Plan certified by the local District to ensure that the project meets State Standards.

Water Quality Management Plan Consistency Determination

Pursuant to N.J.A.C. 7:15-1 et seq., projects affecting water quality and requiring NJPDES permits or Treatment Works Approval (TWA) and that receive approval from the NJDEP Commissioner, are subject to a determination of water quality management consistency (WQMC).

TTN is subject to NJPDES regulations and could require TWA. Therefore, WQMC is required to assure that projects do not conflict with the statewide and area-wide Water Quality Management Plans. Review of this application is by the NJDEP Division of Water Quality.

NJ Site Remediation Program

As discussed in Section 5.5.1, all of the identified REC's (1-5), which are included under the overall Site Remediation PI # and Incident # would need to comply with the requirements of NJDEP's Site Remediation Program (NJAC 7:26E and NJAC 7:26C). Remediation would be conducted in accordance with the requirements of that program. UST Investigations would also need to comply with NJAC 7:14B and/or 7:26F, but still under the umbrella of the Site Remediation Program. The NJDEP remediation process defines the requirements for the development and submission of regulatory milestone documents. These milestone document submittals to NJDEP will include a Remedial Investigation Report (RIR) including a Classification Exception Area (CEA), Remedial Action Workplan (RAW) and Remedial Action Report (RAR) including remedial action permit (RAP)

application(s) as applicable for Site media (i.e., soil and/or groundwater). The review and approval of RAP applications(s) by NJDEP is required prior to the issuance of a final remediation document (Response Action Outcome - RAO) issued by the LSRP. The RAO is written/issued by the LSRP either for an entire site or a specific area of concern at a site. Issuance of an RAO is only conducted when remediation has been completed in accordance with applicable NJDEP statues, rules and regulations, and all permits (if applicable) and authorizations have been obtained.

5.15. PUBLIC PARTICIPATION

Chapter 6 discusses public involvement and comments received.