

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Location

Philadelphia International Airport
Philadelphia, Philadelphia County
Pennsylvania, 19153

Proposed Federal Action

Approval of the Environmental Assessment (EA) for “*Runway 9R Approach Light Pier Rehabilitation.*”

Project Description

The project involves the rehabilitation and reconstruction of the existing, active approach light system foundation pier for Runway 9 at the Philadelphia International Airport (PHL). The existing pier structure consists of a 4-foot wide wooden boardwalk system, with railing, on timber piles. The pier structure extends approximately 1,800 feet into the shallow tidal flats along the Delaware River. It is anticipated that the replacement walkway will be fiberglass and will have steel railings positioned immediately adjacent to the existing walkway, anchored on the same concrete dolphin supporting piers. The existing concrete structures are structurally sound and able to support the load of the new fiberglass walkway as well as the new replacement light standards therefore, they will not be replaced. A total of 12 walkways will be installed and will extend approximately 1,100 feet along the existing alignment. In addition to the new walkways, new Low Impact Resistant (LIR) Approach Light Towers will be installed and the entire electrical system, including new conduit and cable, will be replaced with an updated Approach Light System with Sequence Flashing Lights. The last 600 feet or so of existing walkway/pier structure is not required for reuse and will be abandoned in place or removed. A final decision on this length of pier will be based on permitting requirements.

Background

PHL has identified the need to replace the wooden pier structure supporting the approach light system for Runway 9R-27L. The existing pier structure is forty-five years old and is deteriorating due to its age and its location in the shallow tidal flats along the Delaware River shoreline at the western edge of the airport. The existing structure consists of a wooden boardwalk system on timber piles that extends approximately 1,800 feet into the shallow tidal flats along the Delaware River. At 100-foot intervals, light stations are positioned on concrete dolphins, which support individual light towers. In order to stabilize and prevent further deterioration, reconstruction of the pier is required. During the reconstruction efforts, new Low Impact Resistant (LIR) Approach Light Towers will be installed and the entire electrical system, including new conduit and cable, will be

replaced with an updated Approach Light System (ALS) with Sequence Flashing Lights (ALSF-2).

Purpose and Need

The existing pier structure has eroded due in part to the cyclical tidal action of the Delaware River and other natural processes. In order to prevent further deterioration to the structure, it needs to be replaced. The purpose of this project, therefore, is to replace the existing pier structure and ALS in its current location with materials having a longer life-cycle. The project is needed to comply with Federal Aviation Administration (FAA) safety regulations.

Alternatives

The following alternatives were considered in the EA.

- Alternative 1-No Action: Under the No-Action Alternative, PHL would not rehabilitate the pier structure or replace the approach light system. If no action is taken to improve the current situation, the pier structure would continue to deteriorate, and the airport would not be in compliance with FAA safety regulations. This alternative would not meet FAA safety standards or the Purpose and Need.
- Alternative 2- Rehabilitation of Runway 9R Approach Light Pier: This alternative involves the rehabilitation/replacement of the approach light pier off the end of Runway 9R, to include the installation of new LIR Approach Light Towers, replacement of the electrical system, new conduit and cable, and an updated Approach Light System with Sequence Flashing Lights. This alternative meets the Purpose and Need and is the sponsor's preferred alternative and the FAA selected alternative.

Since the location of the approach light system and supporting pier are fixed by function, and operational requirements dictate the complexity and configuration of an approach lighting system for a particular runway, there are no other feasible alternatives to the proposed project. Given the length, the width, and the operations on Runway 9R-27L, an Approach Lighting System with Sequenced Flashing Lights system is required.

Discussion

The attached EA addresses the effect the proposed actions would have on the human and natural environment. The following impact categories highlight the analysis provided in the EA.

Assessment

The impacts of the proposed federal action on noise, land use compatibility, social, indirect socioeconomic, air quality, water quality, Department of Transportation Section 4(f), historic and archaeological resources, biotic communities, endangered species, wetlands, floodplains, coastal zones, coastal barriers, wild and scenic rivers, prime and unique farmland, energy supply and natural resources, light emissions, solid waste

impacts, hazardous materials, environmental justice, and cumulative impacts were evaluated in the EA. The results of these environmental studies are summarized below. It is the FAA's finding that the proposed action, with mitigation, will not have any significant environmental impacts.

Air Quality

The project is located in an area designated as a moderate nonattainment area for the 8-hour National Ambient Air Quality Standard (NAAQS) for ozone (O₃) and a nonattainment area for particulate matter less than or equal to 2.5 micrometers (PM_{2.5}). Since the project is the rehabilitation of a pier and lighting system, there will be no increases in indirect emissions. The only emissions will be from construction related activities. Typically for lighting replacement/maintenance projects, minor mechanical work is required for the installation effort, followed by electrical work that does not require large off-road construction equipment. Given the location of the project in the river, work on the pier rehabilitation will be conducted from a crane barge temporarily anchored to the tidal flat in the river. The type of heavy equipment that typically generates emissions during construction activities are not being utilized for this project. Additionally, the construction schedule is dictated by seasonal and tidal restrictions and will be completed in less than six months. The proposed project is also considered an exempted action under the General Conformity Rule-40 CFR 93.153(c)(2)(iv): Routine Maintenance and Repair Activities. For these reasons, there will be no significant impacts to air quality.

Biotic Resources

The project area extends into the open waters of the Delaware River. Therefore, the rehabilitation project is unavoidably situated within existing regulated wetlands and waters associated with the freshwater tidal estuarine system of the lower Delaware River. The wetland and riverine system upon which the pier is located is known to support several state listed species of concern under the jurisdiction of PA Game Commission (PAG), PA Fish and Boat Commission (PAFB), and PA Department of Conservation and Natural Resources (PA DCNR). (See "Threatened and Endangered" section below) However, because the project is a maintenance project related to "superstructure" replacement, it would not entail any new permanent impact to the wetland or water resources. Therefore, no significant impacts to biological resources are anticipated. During the design phase, the project was coordinated with the permit and natural resource agencies, and the project plans have incorporated all recommendations to avoid and minimize construction related impacts. Based on agency coordination regarding the temporary occupation of the wetland and riverine habitat, the barge method of construction is unlikely to significantly impact wetland plant communities or displace aquatic or other wildlife.

Threatened and Endangered Species

A search of the Pennsylvania Department of Conservation and Natural Resources' (PA DCNR) PA Natural Diversity Inventory (PNDI) database indicated "Potential Impact" for state listed species under the jurisdiction of the PAG, PAFB, and the PA DCNR. The

screening did not identify any conflicts with species under federal jurisdiction. Further coordination was conducted with each state agency to ascertain more site specific project information on the nature and extent of potential disturbance or impact. The PA DCNR and the PAG determined that, based on the nature of the project and the immediate location, there would be “No Impact Anticipated” on the species under their jurisdiction. The PA Fish and Boat Commission determined that adverse impact to the aquatic species of concern (primarily the state threatened red-bellied turtle) would be avoided provided the construction activities are limited to period from April 15 through October 15 in order to avoid disturbance of turtles, which may be hibernating in the muds of the tidal flat.

Climate/Green House Gases (GHG)

Since the proposed project would not increase airport operational capacity, there will be essentially no net change in operational emissions. In keeping with Council of Environmental Quality guidance, temporary construction activities associated GHG emissions would not be large enough to have any appreciable effect on climate change.

Coastal Resources

The project is located within a coastal zone as defined by the PA Department of Environmental Protection (PADEP) Coastal Resource Management Program (CRMP) (1980). In addition, the entire airport, including the existing approach light pier, is within the state’s Delaware Estuary Coastal Zone Boundary. The project is consistent with the state’s CRMP as it is considered maintenance of an active, serviceable structure. The project qualifies for a federal Nationwide Permit 3 and the state General Permit 11. The federal consistency review is incorporated into the federal Nationwide Permit (NWP-3) for maintenance of existing structures. In Pennsylvania, the federal NWP program has been reviewed and received a programmatic state coastal zone management consistency concurrence acknowledging that the action is consistent with the state CRMP requirements. Based on coordination meetings with the PADEP and Corps of Engineers (COE), it is anticipated that the project will receive its federal consistency as part of the federal permit when it is issued.

Section 4 (f) Resources

No Section 4(f) resources will be impacted.

Farmlands

The project does not involve acquisition or use of farmlands.

Hazardous Materials, Solid Waste, and Pollution Prevention

The project will not involve the use of hazardous materials nor will the project generate hazardous materials. No hazardous waste sites or soil contamination are known to exist where the construction activities would occur. If construction-related activities result in the discovery of previously unknown hazardous substances, then the PHL Division of Aviation would be responsible for removing and disposing of contaminated media in accordance with state laws and regulations for hazardous waste management. Solid waste or debris from construction activities will be removed by the construction contractor.

Socioeconomics, Environmental Justice, and Children's Health and Safety Risks

Since this is a maintenance/rehabilitation project, there will be no changes or impacts to socioeconomics, Environmental Justice communities, or children's health and safety.

Noise and Compatible Land Use

Due to its location, the project will have no land-use ramifications, nor will it increase wildlife attractants. The project will have no effect on type, frequency, or flight paths of aircraft and therefore, will not affect noise levels in the surrounding area.

Historical, Architectural, Archeological or Cultural Properties

There are no properties that are listed in, or eligible for, the National Register of Historic Places in the project area. Since the project will use the existing concrete piers, no potential archeological sites will be affected.

Natural Resources and Energy Supply

The project will not increase demands on natural resources or energy consumption. The new approach lights will be LED energy efficient lighting which will reduce the overall energy consumption at the airport.

Water Resources (Wetlands, Floodplains, Surface Waters, Ground Water, and Wild and Scenic Rivers)

Wetlands: The project is located within the Delaware River. The area is predominately a tidal flat consisting of vegetative flats and open mud flats. Intertidal and vegetative tidal flats are considered wetlands. The total project area is approximately 20 acres. The project will not introduce new fills into the river or wetlands, nor will any new pilings or excavations be required within the riverine or wetland areas. Therefore, no permanent impact to wetlands or waters is expected. However, some unavoidable, temporary construction-related impacts may occur to jurisdictional wetlands as a result of the project. These temporary impacts include the temporary occupation of the river habitat by construction barges, and the minor disturbance created by the temporary anchoring of the barges in order to stabilize a working platform during the construction. These temporary impacts were reviewed in a pre-application meeting with the agencies with jurisdiction and were deemed de minimus, thus allowing the project to qualify for federal and state general permits for maintenance type activities.

Flood plains: The project is located within the river and shoreline of the Delaware River. The area is subject to inundation by the 1% annual chance flood (100-year flood plain). There will be no new fills, encroachments or other modifications in the floodplain or the Delaware River channel; therefore, no adverse impacts are anticipated.

Surface Waters: Given the location of the project and the project type, no surface waters will be impacted.

Ground Water: Minor, surficial trenching will be required on the landside in order to replace electrical conduits. The trenching will be shallow and limited, and no contact with ground water is expected.

Wild and Scenic Rivers: The Delaware River is not considered a Wild and Scenic River; therefore, the project will have no effect on Wild and Scenic Rivers.

Construction Impacts

It is anticipated that construction will be accomplished by use of a floating crane barge that is temporarily anchored to the ground at each work area. It is not yet known what kind of temporary anchoring will be used. Contractors could utilize either spud barge and/or pin-up barge; both use legs that drop down for temporary stability and to prevent the barge from sitting on the mudflat surface. Additionally, a material barge would likely be needed to stage materials or store demolition waste as they remove the old timber superstructure and cross beams, etc. Barges will not be deployed in the project area, but will be floated to the site at high tide from the contractor's source docking facilities (most likely Camden or Gloucester). No large staging area on the shore or uplands is anticipated due to limited roadway access from Hog Island Road and need to cross an active railroad. Minor surficial trenching is required on the landside to replace electrical conduits to power the landing lights. Due to a requirement that work be conducted only at high tide, the project is estimated to take between 4 to 6 months to complete. During the construction period, there will be minor increases in noise and emissions.

Lighting Emissions and Visual Effects

The project will not cause any change in lighting.

Cumulative Impacts

The cumulative impacts of this project, past projects, and known future airport projects will not result in significant environmental impacts.

Public Involvement

No significant impacts have been identified on properties protected under Section 106 of the National Historic Preservation Act, Section 4(f), in floodplains or wetland resources. The proposed project would not cause or contribute to an adverse impact on the environment. The proposed project is not controversial on environmental grounds; therefore, no public meeting is recommended. A pre-application meeting with the state and federal agencies was conducted on March 6, 2016. A public hearing was not conducted since the proposed project does not involve a new airport location, a new runway, or a major runway extension, therefore the requirement for "the opportunity for public hearing" of paragraph 49, "Public Hearing", of FAA order 5050.4b, did not apply. FAA has determined that a public hearing is not appropriate for this action since the proposal does not have substantial environmental controversy.

Mitigation Measures

Impacts associated with this rehabilitation project are temporary and would occur during the construction period. Best Management Practices, such as erosion and sedimentation measures, seasonal restriction on in-water work, and collection of debris and trash during the construction period, will be implemented during project construction. No other mitigation is required.

Permits

Based on agency consultation undertaken at a permit pre-application meeting held on March 6, 2016, the work may be conducted under the state and federal maintenance type permits for existing, serviceable structures within regulated waters or wetlands. The PHL Division of Aviation will be responsible for obtaining a federal Nationwide Permit No. 3 and a state PADEP General Permit No. 11 (or any other permit required). Both permits will incorporate the PAFB recommendation for a seasonal restriction on in-water work to avoid the winter hibernation season of the state threatened red-bellied turtle. There are no specific local municipal permits required. Based on the proposed plans, the anticipated extent of earth disturbance for construction of the landside work is under the one-acre threshold for requiring the submission of an NPDES permit. Project Erosion and Sedimentation and Storm Water Management plans will be retained on site but will not require a formal submission to the Delaware County Conservation District or PADEP.

CONCLUSION AND APPROVAL:

I have carefully and thoroughly considered the facts contained in the attached EA. Based on that information, I find the purposed Federal action is consistent with existing national environmental policies and objectives of Section 101 (a) of the National Environmental Policy Act of 1969 (NEPA) and other applicable environmental requirements. I also find the proposed Federal action with the required mitigation reference above, will not significantly affect the quality of the human environment or include any conditions requiring consultation pursuant to section 102(2)(c) of NEPA. As a result, FAA will not prepare an EIS for this action.

Recommended:



Susan L. McDonald
Environmental Specialist,
Harrisburg ADO

6/28/2016

Date

Approved:



Lori Pagnanelli
Manager,
Harrisburg ADO

6/28/2016

Date

Disapproved:

Lori Pagnanelli
Manager,
Harrisburg ADO

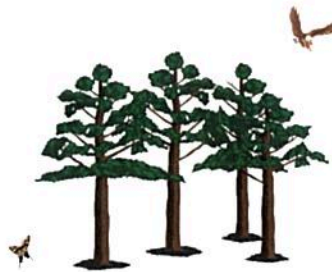
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FEDERAL AVIATION ADMINISTRATION

EASTERN REGION
AIRPORTS DIVISION

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



Airport Name: Philadelphia International Airport Identifier: PHL

Project Title: Runway 9R Approach Light Pier Rehabilitation

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

Lowik D'Amelio
Responsible FAA Official

6/28/2016
Date

INSTRUCTIONS

THIS FORM IS FOR LIMITED USE ON SPECIFIC TYPES OF PROJECTS. AIRPORT SPONSORS MUST CONTACT YOUR LOCAL AIRPORTS DISTRICT OFFICE (ADO) ENVIRONMENTAL PROTECTION SPECIALIST (EPS) BEFORE COMPLETING THIS FORM.

This form was prepared by FAA Eastern Region Airports Division and can only be used for proposed projects in this region.

Introduction: This Short Environmental Assessment (EA), is based upon the guidance in Federal Aviation Administration (FAA) Orders 1050.1F – *Environmental Impacts: Policies and Procedures*, and the *Environmental Desk Reference for Airport Actions* and 5050.4B – *NEPA Implementing Instructions for Airport Actions*. These orders incorporate the Council on Environmental Quality's (CEQ) regulations for implementing the National Environmental Policy Act (NEPA), as well as US Department of Transportation environmental regulations, and other applicable federal statutes and regulations designed to protect the Nation's natural, historic, cultural, and archeological resources. The information provided by sponsors, with potential assistance from consultants, through the use of this form enables the FAA ADO offices to evaluate compliance with NEPA and the applicable special purpose laws.

Use: For situations in which this form may be considered, refer to the APPLICABILITY Section below. The local ADO has the final determination in the applicability of this form to a proposed Federal Action. Proper completion of the Form will allow the FAA to determine whether the proposed airport development project can be processed with a short EA, or whether a more detailed EA or EIS must be prepared. **If you have any questions on whether use of this form is appropriate for your project, or what information to provide, we recommend that you contact the environmental specialist in your local ADO.**

This Form is to be used in conjunction with applicable Orders, laws, and guidance documents, and in consultation with the appropriate resource agencies. Sponsors and their consultants should review the requirements of special purpose laws (See 5050.4B, Table 1-1 for a summary of applicable laws). Sufficient documentation is necessary to enable the FAA to assure compliance with all applicable environmental requirements. Accordingly, any required consultations, findings or determinations by federal and state agencies, or tribal governments, are to be coordinated, and completed if necessary, prior to submitting this form to FAA for review. Coordination with Tribal governments must be conducted through the FAA. We encourage sponsors to begin coordination with these entities as early as possible to provide for sufficient review time. Complete information will help FAA expedite its review. This Form meets the intent of a short EA while satisfying the regulatory requirements of NEPA for an EA. Use of this form acknowledges that all procedural requirements of NEPA or relevant special purpose laws still apply and that this form does not provide a means for circumvention of these requirements.

Submittal: When using this form for an airport project requesting *discretionary funding*, the documentation must be submitted to the local ADO by April 30th of the fiscal year preceding the fiscal year in which funding will be requested. When using this form for an airport project requesting *entitlement funding*, the documentation must be submitted to the local ADO by November 30th of the fiscal year in which the funding will be requested.

Availability: *An electronic version of this Short Form EA is available on-line at <http://www.faa.gov/airports/eastern/environmental/media/short-form-ea-final.docx>. Other sources of environmental information including guidance and regulatory documents are available on-line at http://www.faa.gov/airports_airtraffic/airports/environmental.*

APPLICABILITY

Local ADO EPSs make the final determinations for the applicability of this form. If you have questions as to whether the use of this form is appropriate for your project, contact your local EPS BEFORE using this form. Airport sponsors can consider the use of this form if the proposed project meets either Criteria 1 or Criteria 2, 3, and 4 collectively as follows:

- 1) It is normally categorically excluded (see paragraphs 5-6.1 through 5-6.6 in FAA Order 1050.1F) but, in this instance, involves at least one, but no more than two, extraordinary circumstance(s) that may significantly impact the human environment (see paragraph 5-2 in 1050.1F and the applicable resource chapter in the 1050.1F Desk reference).
- 2) The action is one that is not specifically listed as categorically excluded or normally requires an EA at a minimum (see paragraph 506 in FAA Order 5050.4B).
- 3) The proposed project and all connected actions must be comprised of Federal Airports Program actions, including:
 - (a) Approval of a project on an Airport Layout Plan (ALP),
 - (b) Approval of Airport Improvement Program (AIP) funding for airport development,
 - (c) Requests for conveyance of government land,
 - (d) Approval of release of airport land, or
 - (e) Approval of the use of Passenger Facility Charges (PFC).
- 4) The proposed project is not expected to have impacts to more than two of the resource categories defined in the 1050.1F Desk Reference.

This form cannot be used when any of the following circumstances apply:

- 1) The proposed action, including all connected actions, requires coordination with or approval by an FAA Line of Business or Staff Office other than the Airports Division. Examples include, but are not limited to, changes to runway thresholds, changes to flight procedures, changes to NAVAIDs, review by Regional Counsel, etc.
- 2) The proposed action, including all connected actions, requires coordination with another Federal Agency outside of the FAA.
- 3) The proposed action will likely result in the need to issue a Record of Decision.
- 4) The proposed action requires a construction period exceeding 3 years.

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- 5) The proposed action involves substantial public controversy on environmental grounds.
 - 6) The proposed project would have impacts to, or require mitigation to offset the impacts to more than two resources¹ as defined in the 1050.1F Desk Reference.
 - 7) The proposed project would involve any of the following analyses or documentation:
 - a. The development of a Section 4(f) Report for coordination with the Department of the Interior,
 - b. The use of any Native American lands or areas of religious or cultural significance,
 - c. The project emissions exceed any applicable *de minimis* thresholds for criteria pollutants under the National Ambient Air Quality Standards, or
 - d. The project would require noise modeling with AEDT 2b (or current version).

If a project is initiated using this form and any of the preceding circumstances are found to apply, the development of this form must be terminated and a standard Environmental Assessment or Environmental Impact Statement (if applicable) must be prepared.

¹ A resource is any one of the following: Air Quality; Biological Resources (including Threatened and Endangered Species); Climate; Coastal Resources; Section 4(f); Farmlands; Hazardous Materials, Solid Waste, and Pollution Prevention; Historical, Architectural, Archaeological, and Cultural Resources; Land Use; Natural Resources and Energy Supply; Noise and Noise-Compatible Land Use; Socioeconomics; Environmental Justice; Children's Environmental Health and Safety Risks; Visual Effects; Wetlands; Floodplains; Surface Waters; Groundwater; Wild and Scenic Rivers; and Cumulative Impacts.

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

The proposed maintenance project involves the removal of the existing timber walkway and railings and the construction of a replacement walkway, 4-feet wide. It is anticipated that the replacement walkway will be fiberglass and will have steel railings positioned immediately adjacent to the existing walkway, anchored on the same concrete dolphin supporting piers. The existing concrete structures were inspected and determined to be structurally sound and able to support the load of the new fiberglass walkway as well as the new replacement light standards.

A total of 12 walkways will be installed and will extend approximately 1,100 feet along the existing alignment. In addition to the new walkways, new Low Impact Resistant (LIR) Approach Light Towers will be installed and the entire electrical system, including new conduit and cable, will be replaced with an updated Approach Light System with Sequence Flashing Lights. The last 600 feet of existing walkway/pier structure will not be required for reuse and will be abandoned in place or removed. A final decision on this length of pier will be based on permitting requirements.

It is anticipated that construction will be accomplished by use of a floating crane barge that is anchored temporarily to the ground at each work area. It is not yet known what kind of temporary anchoring will be used. Contractors could utilize either spud barge and/or pin-up barge; both use legs that drop down for temporary stability and to prevent the barge from sitting on the mudflat surface. Additionally:

A material barge would likely be needed to stage materials or store demolition waste as they remove the old timber superstructure and cross beams, etc.;

The crane barge size is estimated at approximately 100' x 40' and the material barge staging the steel beams may be larger at 120' x 40';

As designed the project would not need to refurbish the last 600 feet of pier, which is proposed for removal or abandonment; an old FAA weather station which is no longer in use or needed is located in this area at the end of the pier;

Barges will not be deployed in the project area, but will be floated to the site at high tide from the contractor's source docking facilities (likely Camden or Gloucester);

No large staging area on the shore or uplands is anticipated due to limited roadway access from Hog Island Road and need to cross an active railroad;

Minor surficial trenching will be required on the landside to replace electrical conduits to power the landing lights;

Due to a requirement that work be conducted only at high tide, the project is estimated to take between 4 to 6 months to complete, which is longer than the typical construction period for a maintenance project such as this.

3. Project Purpose and Need:

The existing pier structure has eroded due in part to the cyclical tidal action of the Delaware River and other natural processes. In order to prevent further deterioration to the structure, it needs to be replaced. The purpose of this project therefore is to replace the existing pier structure and ALS in its current location with materials having a longer life-cycle. The project is needed to comply with FAA safety regulations.

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

The approach light pier is located at the western end of the Airport, west of Hog Island Road and an active freight railroad line operated by CSX (the 60th Street Industrial Track). The pier extends westerly into the Delaware River 1,800' from the shore. The Delaware River is a freshwater tidal estuary. Land uses surrounding this portion of the airport are a mix of open space/vacant, manufacturing and commercial (See Figure 1 and Photo 2 representing the project location).



Photo 2: Oblique Aerial of Approach Light Pier – summer condition
Source: Patricia Ann Quigley, Inc. March 2016

5. Alternatives to the Project: Describe any other reasonable actions that may feasibly substitute for the proposed project, and include a description of the “No Action” alternative. If there are no feasible or reasonable alternatives to the proposed project, explain why (attach alternatives drawings as applicable):

Alternatives

The location of the approach light system and supporting pier are fixed by function, and therefore there are no alternatives to the proposed project. Operational requirements dictate the complexity and configuration of an approach lighting system for a particular runway. Given the length, the width, and the operations on Runway 9R-27L, an Approach Lighting System with Sequenced Flashing Lights system is required.

No Action Alternative

Under the No-Action Alternative, PHL would not rehabilitate the pier structure or replace the approach light system. If no action is taken to improve the current situation, the pier structure would continue to deteriorate and the airport would not be in compliance with FAA safety regulations. The No-Action Alternative fails to accomplish the project’s purpose and need.



Prepared by
AECOM

Figure 1: Project Site Location
(Google Earth 2016)

6. Environmental Consequences – Special Impact Categories (refer to the Instructions page and corresponding sections in 1050.1F, the 1050.1F Desk Reference, and the Desk Reference for Airports Actions for more information and direction. Note that when the 1050.1F Desk Reference and Desk Reference for Airports Actions provide conflicting guidance, the 1050.1F Desk Reference takes precedence. The analysis under each section must comply with the requirements and significance thresholds as described in the Desk Reference).

(A) AIR QUALITY

(1) Will the proposed project(s) cause or create a reasonably foreseeable emission increase? Prepare an air quality assessment and disclose the results. Discuss the applicable regulatory criterion and/or thresholds that will be applied to the results, the specific methodologies, data sources and assumptions used; including the supporting documentation and consultation with federal, state, tribal, or local air quality agencies.

Project-related air emissions are typically divided into two categories: 1) direct emissions which are associated with the (short-term) construction of the project, and 2) indirect emissions which are associated with the (long-term) operations of the project. There will be no indirect emissions generated from this project since aircraft operations and/or vehicle traffic volumes will not change as a result of the project; and because no emissions sources are associated with the approach light system.

Direct emissions associated with construction equipment would be temporary. Typically for lighting replacement/maintenance projects, minor mechanical work is required for the installation effort, followed by electrical work that does not require large off-road construction equipment. Given the location of the project in the river, work on the pier rehabilitation will be conducted from a crane barge temporarily anchored to the tidal flat in the river. The type of heavy equipment that typically generates emissions during construction activities are not being utilized for this project. Additionally, the construction schedule is dictated by seasonal and tidal restrictions and will be completed in less than six months.

Given the means, methods and brief construction schedule it is reasonable to conclude that project construction (direct) emissions from this project will be well below de minimis thresholds. According to FAA guidance, agency consultation is not required for de minimis projects. No mitigation measures are proposed and no further analysis is recommended.

(2) Are there any project components containing unusual circumstances, such as emissions sources in close proximity to areas where the public has access or other considerations that may warrant further analysis? If no, proceed to (c); if yes, an analysis of ambient pollutant concentrations may be necessary. Contact your local ADO regarding how to proceed with the analysis.

No. The direct emissions generated from this project will be temporary and are not located near publically accessible areas.

(3) Is the proposed project(s) located in a nonattainment or maintenance area for the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act?

Yes. The proposed project is located in an area designated as a moderate nonattainment area for the 8-hour National Ambient Air Quality Standard (NAAQS) for ozone (O₃) and a nonattainment area for particulate matter less than or equal to 2.5 micrometers (PM_{2.5}).

4) Are all components of the proposed project, including all connected actions, listed as exempt or presumed to conform (See FRN, vol.72 no. 145, pg. 41565)? If yes, cite exemption and go to (B) Biological Resources. If no, go to (e).

Yes. The proposed project is an exempted action under the General Conformity Rule-40 CFR 93.153(c)(2)(iv): Routine Maintenance and Repair Activities.

(5) Would the net emissions from the project result in exceedances of the applicable *de minimis* threshold (reference 1050.1F Desk Reference and the *Aviation Emissions and Air Quality Handbook* for guidance) of the criteria pollutant for which the county is in non-attainment or maintenance? If no, go to (B) Biological Resources. If yes, stop development of this form and prepare a standard Environmental Assessment.

Not applicable.

(B) BIOLOGICAL RESOURCES

Describe the potential of the proposed project to directly or indirectly impact fish, wildlife, and plant communities and/or the displacement of wildlife. Be sure to identify any state or federal species of concern (Candidate, Threatened or Endangered).

The proposed project area is the existing approach zone and runway safety area for Runway 9R which extends into the open waters of the adjacent Delaware River. The proposed project involves the rehabilitation of the existing approach lights and walkway which are supported by a 1,800-foot long pier, constructed in 1971. Therefore, the proposed rehabilitation project is unavoidably situated within existing regulated wetlands and waters associated with the freshwater tidal estuarine system of the lower Delaware River. The wetland and riverine system upon which the pier is located is known to support several state listed species of concern under the jurisdiction of PA Game Commission, PA Fish and Boat Commission, and PA Department of Conservation and Natural Resources. (Refer to Section (N) for more detailed description of the wetland resource). See section (B)(1) below for further information regarding the State-listed rare, threatened and endangered species.

However, because the project is a maintenance project related to “superstructure” replacement, it would not entail any new permanent impact to the wetland or water resources. Therefore, no significant impacts to biological resources are anticipated. During the design phase, the project was coordinated with the permit and natural resource agencies and the project plans have incorporated all recommendations to avoid and minimize construction related impacts.

Construction impacts would be temporary and related to the need for temporary anchoring of floating barges to remove and replace the deteriorated walkway and light poles. Based on agency coordination regarding the temporary occupation of the wetland and riverine habitat, the barge method of construction is unlikely to significantly impact wetland plant communities or displace aquatic or other wildlife.

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- 1) Are there any candidate, threatened, or endangered species listed in or near the project area?

Yes, but no adverse impacts are anticipated based on agency review of the proposed project.

The Pennsylvania Department of Conservation and Natural Resources' (PA DCNR) PA Natural Diversity Inventory (PNDI) database was used as a screening tool to ascertain any known records for threatened or endangered species in the project area. The results, attached as the PNDI Environmental Review Receipt, indicate "Potential Impact" for state listed species under the jurisdiction of the PA Game Commission (PAG), PA Fish and Boat Commission (PAFB) and the PA DCNR. The screening did not identify any conflicts with species under federal jurisdiction (see Attachment A).

As required by the screening receipt, further coordination was conducted with each agency to provide more site specific project information on the nature and extent of potential disturbance. In their review letters, the PA DCNR and the PAG determined that, based on the nature of the project and the immediate location, there would be "No Impact Anticipated" on the species under their jurisdiction. The PA Fish and Boat Commission determined that adverse impact to the aquatic species of concern (primarily the state Threatened red-bellied turtle) would be avoided provided that a time of year restriction on construction work in water is incorporated into the project specifications. This conservation measure requires that the construction period be limited to the turtles' active period from April 15 through October 15 in order to avoid disturbance of turtles which may be hibernating in the muds of the tidal flat.

In summary, based on consultation and coordination with the agencies having jurisdiction over listed or proposed species of rare, threatened, or endangered species in the state of Pennsylvania, it has been determined that the project would not affect any federally or state listed species or any critical habitat that supports these species. (see Attachment A).

- (2) Will the action have any long-term or permanent loss of unlisted plants or wildlife species?

No, refer to answer (B)(1) above and Section N(1)(a) Wetlands.

- (3) Will the action adversely impact any species of concern or their habitat?

No, refer to answer (B)(1) above.

- (4) Will the action result in substantial loss, reduction, degradation, disturbance, or fragmentation of native species habitats or populations?

No, refer to answer (B)(1) above.

- (5) Will the action have adverse impacts on a species' reproduction rates or mortality rate or ability to sustain population levels?

No, refer to answer (B)(1) above.

- (6) Are there any habitats, classified as critical by the federal or state agency with jurisdiction, impacted by the proposed project?

No, refer to answer (B)(1) above.

(7) Would the proposed project affect species protected under the Migratory Bird Act? (If **Yes**, contact the local ADO).

No, refer to answer (B)(1) above.

If the answer to any of the above is “Yes”, consult with the USWFS and appropriate state agencies and provide all correspondence and documentation.

Not applicable.

(C) CLIMATE

(1) Would the proposed project or alternative(s) result in the increase or decrease of emissions of Greenhouse gases (GHG)? If neither, this should be briefly explained and no further analysis is required and proceed to (D) Coastal Resources.

According to the Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas, issued by the Council of Environmental Quality (CEQ), the potential effects of GHG emissions are by nature global and cumulative impacts, and individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Since the proposed project would not increase airport operational capacity essentially resulting in no net change in operational emissions, in keeping with CEQ guidance, temporary construction activities associated GHG emissions would not be large enough to have any appreciable effect on climate change. No further analysis is required.

(2) Will the proposed project or alternative(s) result in a net decrease in GHG emissions (as indicated by quantitative data or proxy measures such as reduction in fuel burn, delay, or flight operations)? A brief statement describing the factual basis for this conclusion is sufficient.

Not applicable.

(3) Will the proposed project or alternative(s) result in an increase in GHG emissions? Emissions should be assessed either qualitatively or quantitatively as described in 1050.1F Desk Reference or Aviation Emissions and Air Quality Handbook.

Not applicable.

(D) COASTAL RESOURCES

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

Yes, the proposed project will occur within a coastal zone as defined by the Pennsylvania Department of Environmental Protection's (PADEP) Coastal Resources Management Program established in 1980. The entire Philadelphia International Airport, including the existing approach light pier, is shown within the state's Delaware Estuary Coastal Zone Boundary Maps 4 and 5. The light pier is depicted as a black line on Boundary Map #5, (see Attachment B).

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

Yes. The proposed project involves the rehabilitation of a currently active, serviceable structure located within the coastal zone. As determined in a Pre-Permit Application meeting held on 3/9/2016 with the U.S. Army Corps of Engineers (USACE), the PADEP, and Tinicum Township Engineering Office, the project is considered a maintenance action and qualifies for a federal Nationwide Permit 3 and the state General Permit 11. The Coastal Resources Management Program within PADEP administers and coordinates the federal consistency review for federal actions within the state's coastal zone. The federal consistency review is incorporated into the federal Nationwide Permit (NWP-3) for maintenance of existing structures. In Pennsylvania, the federal NWP program has been reviewed and received a programmatic state coastal zone management consistency concurrence acknowledging that the action is consistent with the state CZM requirements. Therefore, it is anticipated that the project will receive its federal consistency as part of the USACE permit when it is issued. Both state and federal permits are in process at this time. No local environmental permits or approvals are required. (Refer to Attachment C for the Pre Application Meeting minutes).

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

No, PHL is not located with an identified Coastal Barrier Resources System. Source: <http://www.fws.gov/ecological-services/habitat-conservation/cbra/maps/mapper.html>

(E) SECTION 4(f) RESOURCES

(1) Does the proposed project have an impact on any publicly owned land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or an historic site of national, state, or local significance? Specify if the use will be physical (an actual taking of the property) or constructive (i.e. activities, features, or attributes of the Section 4 (f) property are substantially impaired.) If the answer is "No," proceed to (F) Farmlands.

No. There will be no impact on any Section 4(f) resources from the implementation of this project.

Although the pier and associated landing lights are not located within the airport boundaries, it is situated within a 400-foot wide "landing zone" easement, which was recorded on December 14, 1967 and allows the operational use of the pier for landing aid support. The proposed project is intended to rehabilitate and maintain the existing transportation use of the easement area and is not a new or expanded use. All construction work will be conducted within the 400-foot wide easement.

Recently, Tinicum Township has acquired the Westinghouse Tract, a primarily undeveloped parcel west of Tinicum Island Road and south of 2nd Street that encompasses the western end of the Airport, including the Runway 9R safety area and clear zone. The Township intends to develop a public waterfront park on a portion of the property, and currently only has a conceptual plan for the site. The land acquisition was made with funds provided by the PA DCNR through the state's Keystone Recreation, Park and Conservation Fund Act (The Keystone Act) which required the placement of a conservation easement over the

entire parcel, with the exception of the Airport's safety area and prior legal easements. The negotiation and recordation of the conservation easement and the exempted areas is in progress and is being coordinated with the City Law Department and the Division of Aviation.

(2) Is a *De Minimis* impact determination recommended? If "yes", please provide; supporting documentation that this impact will not substantially impair or adversely affect the activities, features, or attributes of the Section 4 (f) property; a Section 106 finding of "no adverse effect" if historic properties are involved; any mitigation measures; a letter from the official with jurisdiction concurring with the recommended *de minimis* finding; and proof of public involvement. (See Section 5.3.3 of 1050.1F Desk Reference). If "No," stop development of this form and prepare a standard Environmental Assessment.

Not applicable.

(F) FARMLANDS

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

No. There are no farmlands in the vicinity of Philadelphia International Airport. This project does not entail the acquisition, conversion or use of farmland or farmland soils.

(G) HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

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

No hazardous waste sites or soil contamination are known to exist where the construction activities would occur. If construction-related activities result in the discovery of previously unknown hazardous substances, then the Division of Aviation would be responsible for removing and disposing of contaminated media in accordance with State laws and regulations for hazardous waste management.

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

There would be a temporary increase in solid waste disposal during the construction period. However, the volume of solid waste from construction activities would be nominal. The construction contractor would be responsible for using proper disposal methods, and as discussed previously, the methods could include use of a materials barge to handle debris removal off-shore.

(3) Will the project produce an appreciable different quantity or type of hazardous waste? Will there be any potential impacts that could adversely affect human health or the environment?

No. The project is not anticipated to produce any hazardous waste and therefore will have no potential to adversely affect human health or the environment.

(H) HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

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

An airport-wide cultural resource survey was conducted in 2008 as part of the FAA's Capacity Enhancement Program (CEP) Environmental Impact Statement (EIS) to identify cultural resources located on and/or adjacent to the Philadelphia International Airport. According to that survey, the nearest historic property to the approach light pier is the Westinghouse Electric and Manufacturing Company's South Philadelphia Works. This property was recommended as National Register – Eligible as a representative example of a prominent early- to mid-twentieth-century manufacturing complex that benefited from wartime governmental industrial programs. The National Registry boundary in relation to the approach light pier is depicted below. Since the proposed project would not encroach upon the Westinghouse Works property, there would be no direct or indirect effect on the integrity of the eligible historic property.



Source: Philadelphia International Airport, Capacity Enhancement Program, Environmental Impact Statement, Determination of Effects for Direct and Indirect Impact APEs Technical Report. September 2008.

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

As part of the 2008 Cultural Resource Surveys for the Capacity Enhancement Program (CEP) Environmental Impact Statement (EIS), a Phase I Underwater Archaeological Investigations Report was prepared. Two areas of potential effect were identified within the Delaware River, the nearest to the approach light pier was an area upstream from Little Tinicum Island, and east of pier. The Underwater Archaeology Report concluded that no further investigation was necessary but recommended that Phase IB underwater archaeological investigations be conducted if avoidance of underwater resources is not possible during construction activities. The construction activities associated with this project are not in the areas of concern, are temporary, and are limited in scope. No further analysis is required.

(I) LAND USE

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

No. The proposed maintenance project would have no land-use ramifications. Due to its location, short-term and unavoidable impacts include the temporary occupation of the Delaware River (a natural resource) by construction barges and the minor disturbance created by the temporary anchoring of the barges to allow stable working platform during the construction work. These temporary impacts were reviewed in the agency Pre-Application Meeting and are considered de minimus.

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

The approach light pier is located in the Delaware River, but the project would not create a wildlife hazard due to the nature of the rehabilitation and repair work.

(2) Include documentation to support sponsor's assurance under 49 U.S.C. § 47107 (a) (10), of the 1982 Airport Act, that appropriate actions will be taken, to the extent reasonable, to restrict land use to purposes compatible with normal airport operations.

Not applicable. This project will have no effect on land use.

(J) NATURAL RESOURCES AND ENERGY SUPPLY

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

No effect. The project will not increase demands on natural resources or energy consumption. In fact the new approach lights will be LED energy efficient lighting and will contribute to a reduction in overall energy consumption at the airport.

(K) NOISE AND NOISE-COMPATIBLE LAND USE

Will the project 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 will 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? (Use AEM as a screening tool and AEDT 2b as appropriate. See FAA Order 1050.1F Desk Reference, Chapter 11, or FAA Order 1050.1F, Appendix B, for further guidance). Please provide all information used to reach your conclusion. If yes, contact your local ADO.

No. The proposed project is a maintenance project and does not involve airport location, runway location, major runway extension, runway strengthening, or any other capacity enhancing elements which would permit operations by larger or noisier jet aircraft. Further, the proposed project would have no appreciable effect on the type, frequency, or flight paths of aircraft arriving or departing the airport. No further analysis is required.

(L) SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, and CHILDREN’S HEALTH and SAFETY RISKS

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

No. The proposed project entails temporary construction. There would be no changes in land uses adjacent to the airport and no alteration in local transportation patterns that would substantially reduce the level of service of roads serving the airport.

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

No induced or secondary impacts are expected to occur as a result of the proposed project. There would be no changes in land uses adjacent to the airport, no change to business or economic activity, and no effect on population movement or growth.

(3) Would the project have a disproportionate impact on minority and/or low-income communities? Consider human health, social, economic, and environmental issues in your evaluation. Refer to DOT Order 5610.2(a) which provides the definition for the types of adverse impacts that should be considered when assessing impacts to environmental justice populations.

No land would be acquired and no businesses or residences would be displaced as a result of this project. No off-airport impacts are anticipated. Because no project-related adverse social impacts have been identified, no disproportionate effects would occur.

(4) Would the project have the potential to lead to a disproportionate health or safety risk to children?

No. This project would pose no health or safety risk to children.

If the answer is “YES” to any of the above, please explain the nature and degree of the impact. Also provide a description of mitigation measures which would be considered to reduce any adverse impacts.

(M) VISUAL EFFECTS INCLUDING LIGHT EMISSIONS

(1) Would the project have the potential to create annoyance or interfere with normal activities from light emissions for nearby residents?

No. The project site is a pier located in the Delaware River. There are no residences in the vicinity of the project site that could be impacted from light emissions.

(2) Would the project have the potential to affect the visual character of nearby areas due to light emissions?

No. The visual character of the area surrounding the pier can be described as undeveloped, vegetated, and open water. The approach lights are mounted on the southern side of the pier furthest away from the shoreline on towers where the lights are at an elevation that would not affect activities along the shoreline or on the water.

(3) Would the project have the potential to block or obstruct views of visual resources?

No. The approach light pier is located in the Delaware River but it is constructed in a way as to not block views to the river from the shoreline or to the shoreline from the river.

If the answer is “YES” to any of the above, please explain the nature and degree of the impact using graphic materials. Also provide a description of mitigation measures which would be considered to reduce any adverse impacts.

(N) WATER RESOURCES (INCLUDING WETLANDS, FLOODPLAINS, SURFACE WATERS, GROUNDWATER, AND WILD AND SCENIC RIVERS)

(1) WETLANDS

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

Yes. The existing pier is located within the Delaware River adjacent to the western end of the airport. This portion of the Delaware River is predominantly a tidal flat consisting of both vegetated flats and open mudflats. Intertidal flats are a type of coastal wetland that are nearly flat, submerged at high tide and exposed at low tide. In this section of the Delaware River many intertidal flats appear at low tide as expansive, mud or sand/gravel bars, unvegetated except for benthic algae. In the project area the existing approach light pier structure is situated within a tidal flat that is densely vegetated by macrophytic freshwater vegetation, dominated by the perennial emergent species, spatterdock (yellow pond-lily) (*Nuphar lutea*). Vegetated tidal wetlands are important in primary production and nutrient recycling and therefore important habitats to support overall estuarine biodiversity. The approximate extent of the tidal wetlands in the project area is depicted on Figure 2.

The project will not introduce new fills into the river or wetlands, nor will any new pilings or excavations be required within the riverine or wetland areas. Therefore, no permanent impact to wetlands or waters is proposed for this project.

However, some unavoidable temporary construction-related impacts may occur to jurisdictional wetlands as a result of the project. These temporary impacts include the temporary occupation of the river habitat by construction barges and the minor disturbance created by the temporary anchoring of the barges to allow stable working platform during the construction work. These temporary impacts were reviewed in the agency Pre-Application Meeting and considered de minimus, allowing the project to qualify for federal and state general permits for maintenance type activities.

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

Yes. According to discussions and conclusions reached at an interagency Pre-Application Meeting, held on site on March 9, 2016, both the state and federal agencies determined that the project involved the maintenance of an existing waterway obstruction and therefore qualified for Corps NWP-3 and DEP GP-11 (see Pre-Application Meeting Record). De minimus wetlands impacts are allowed under these permits which would not trigger mitigation requirements, other than restoration of any temporarily disturbed areas and adherence to erosion and sediment control measures.

(c) If there are wetlands impacts, are there feasible mitigation alternatives? Explain.

There are no permanent wetlands impacts.

The temporary wetland impacts are unavoidable, related to the need to temporarily secure the work barges along the existing pier for the rehabilitation work. Mitigative actions that have been incorporated into the construction documents include seasonal restrictions to avoid species of concern, limitations on barge work to occur only at periods of high tide, and limited temporary impacts to vegetation/substrate by the unavoidable need to secure the barges with retractable spuds or supports. The barges are not to be allowed to set directly on the tidal marsh, but will be elevated to avoid and minimize potential wetland habitat disturbance.

(d) If there are wetlands impacts, describe the measures to be taken to comply with Executive Order 11990, Protection of Wetlands.

Not applicable.



Aerial 1: Project area captured at low tide, exposing the extent of regulated tidal wetlands, shown outlined in red. Total area is approximately 20 acres. (Source: Google Earth 9/1/2010). Mean low water is at elevation -2.36.



Aerial 2: Project area tidal wetlands covered at high tide. (Source: Google Earth 4/11/2010) Mean high water is at elevation +3.16. Tide range is 5.52 feet.

Figure 2: Jurisdictional Wetlands and Waters in the Project Area

(2) FLOODPLAINS

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

Yes. The project is located within the river and shoreline of the Delaware River, in an area shown as Zone AE, subject to inundation by the 1% annual chance flood (100-year flood). See Attachment D.

(b) If Yes, would the project cause notable adverse impacts on natural and beneficial floodplain values as defined in Paragraph 4.k of DOT Order 5620.2, *Floodplain Management and Protection*?

No. There are no new fills, encroachments or other modifications in the floodplain or the Delaware River channel; therefore. The work involves maintenance of an existing serviceable structure; therefore, no adverse impacts are anticipated by project implementation.

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

Not applicable.

(3) SURFACE WATERS

(a) Would the project impact surface waters such that water quality standards set by Federal, state, local, or tribal regulatory agencies would be exceeded or would the project have the potential to contaminate a public drinking water supply such that public health may be adversely affected?

No. The primary work involves superstructure replacement work with very limited earth disturbance activities which could create sedimentation or erosion into regulated surface waters. The minor earth disturbance is related to minor excavation and trenching on the landside, above the limits of regulated waters, for the electrical work and for pier access. These disturbed areas will be contained by the use of stormwater management BMPs including silt fencing, during construction to avoid and minimize temporary, construction-related water quality effects.

(b) Would the water quality impacts associated with the project cause concerns for applicable permitting agencies or require mitigation in order to obtain a permit?

No. The agencies with jurisdiction on water quality participated in a field-view of the project site and determined the level of permitting required for the project. Agency participation, comments and permitting directives are included in Attachment C.

If the answer to any of the above questions is “Yes”, consult with the USEPA or other appropriate Federal and/or state regulatory and permitting agencies and provide all agency correspondence.

Not applicable.

(4) GROUNDWATER

(a) Would the project impact groundwater such that water quality standards set by Federal, state, local, or tribal regulatory agencies would be exceeded or would the project have the potential to contaminate an aquifer used for public water supply such that public health may be adversely affected?

No. The proposed project involves superstructure rehabilitation of an existing structure. No new subsurface construction is required within the riverine portion of the project. This part of the river is not over the EPA-designated New Jersey Coastal Plain Sole Source Aquifer, and would therefore not have potential for adversely affecting public water supplies. Minor surficial trenching will be required on the landside to replace electrical conduits to power the landing lights. Due to the shallow and limited trenching involved, no contact with groundwater is anticipated and therefore, no adverse impacts to public water supplies are anticipated.

(b) Would the groundwater impacts associated with the project cause concerns for applicable permitting agencies or require mitigation in order to obtain a permit?

No groundwater impacts are anticipated.

(c) Is the project to be located over an EPA-designated Sole Source Aquifer?

No, refer to 4(a).

If the answer to any of the above questions is “Yes”, consult with the USEPA or other appropriate Federal and/or state regulatory and permitting agencies and provide all agency correspondence as an attachment to this form.

Not applicable.

(5) WILD AND SCENIC RIVERS

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

No. The proposed project is not located in any portion of a federal or state listed Wild and Scenic River designation. The nearest federally designated segment of the National Wild and Scenic Rivers System is the Delaware River (Lower) which extends from the vicinity of Stroudsburg, PA downstream to above the fall line near Trenton, NJ, over 50 miles upstream of the project site. Therefore, the project would not affect that river segment in the Wild and Scenic River system.

Source: (<http://www.dcnr.state.pa.us/brc/conservation/rivers/scenicrivers/index.htm>)

(O) CUMULATIVE IMPACTS

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

The nature of the proposed project does not lend itself to adverse impacts on natural, cultural or social resources. Because no potentially significant adverse effects have been linked to the proposed action in this EA, it is unlikely that the incremental impact of the proposed project would cause or contribute to a significant adverse impact on the environment when added to any past, ongoing, or future projects or actions at the airport. No further analysis is recommended.

7. PERMITS

List all required permits for the proposed project. Has coordination with the appropriate agency commenced? What feedback has the appropriate agency offered in reference to the proposed project? What is the expected time frame for permit review and decision?

Based on agency consultation undertaken at a Permit Pre-Application Meeting held on March 6, 2016, the work may be conducted under the state and federal maintenance type permits for existing, serviceable structures within regulated waters or wetlands. Accordingly, the Philadelphia International Airport, Division of Aviation will be applying for a federal Nationwide Permit No. 3 and a state PADEP General Permit No. 11. Both permits will incorporate the PA Fish and Boat recommendation for a seasonal restriction on in-water work to avoid the winter hibernation season of the State Threatened red-bellied turtle.

There are no specific local municipal permits required, however, at the Pre-Application Meeting, the Township Engineer requested that construction debris and personal trash from the contractors be strictly controlled and collected for removal. Accordingly, the project bid documents have been revised to include such provisions.

Based on the proposed plans, the anticipated extent of earth disturbance for construction of the landside work is well under the one-acre threshold for requiring the submission of an NPDES permit. Therefore, the project Erosion and Sedimentation and Storm Water Management plans will be retained on site but do not require a formal submission to the Delaware County Conservation District or PADEP.

8. MITIGATION

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

The primary impacts of this rehabilitation project are temporary and would occur during the construction period. Because the project includes all BMPs such as Erosion and Sedimentation measures, seasonal restriction on in-water work, and collection of debris and trash during the construction period, the project would not cause significant impacts on the environment. Therefore, no additional mitigation measures, beyond those incorporated into the design, are required for the implementation of this project.

9. PUBLIC INVOLVEMENT

Describe the public review process and any comments received. Include copies of Public Notices and proof of publication.

No significant impacts have been identified on properties protected under Section 106 of the National Historic Preservation Act, Section 4(f), in floodplains or wetland resources. The proposed project would not cause or contribute to an adverse impact on the environment. The proposed project is not controversial on environmental grounds; therefore, no public meeting is recommended.

An announcement of the FAA's decision will be placed in local newspapers. Copies of the Final EA and the FAA's decision will be available on the airport's website and at the FAA Airports District Office in Harrisburg.

10. LIST OF ATTACHMENTS


- **Attachment A:** PNDI Screening and Agency Correspondence
- **Attachment B:** Delaware Estuary Coastal Zone Boundary Maps 4 and 5
- **Attachment C:** Agency Pre-Application Meeting Minutes
- **Attachment D:** Floodplains

Project Title: Runway 9R Approach Light Pier Rehabilitation

Identifier: PHL

11. PREPARER CERTIFICATION

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



Signature

6/13/2016
Date

Lynn A. Keeley
Name


Sr. Environmental Planner
Title

AECOM Technical Services, Inc.
Affiliation

215-696-3524
Phone #

12. AIRPORT SPONSOR CERTIFICATION

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



Signature for R. Scheinfeld

6/14/16
Date

Raymond Scheinfeld
Name

Planning and Environmental Services Manager
Title

City of Philadelphia, Division of Aviation
Affiliation

215-906-7604
Phone #

Attachment A

PNDI Screening and Agency Correspondence

1. PROJECT INFORMATION

Project Name: **RW 9R Approach Light Pier Rehab**

Date of review: **3/8/2016 1:09:55 PM**

Project Category: **Transportation, Airports (runways, taxiways, terminals, control towers, beacons, fuel depots)**

Project Area: **7.8 acres**

County: **Delaware** Township/Municipality: **Tinicum**

Quadrangle Name: **BRIDGEPORT** ~ ZIP Code: **19153**

Decimal Degrees: **39.859319 N, -75.281105 W**

Degrees Minutes Seconds: **39° 51' 33.6" N, -75° 16' 52" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Department of Conservation and Natural Resources	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Fish and Boat Commission	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Note that regardless of PNDI search results, projects requiring a Chapter 105 DEP individual permit or GP 5, 6, 7, 8, 9 or 11 in certain counties (Adams, Berks, Bucks, Carbon, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill and York) must comply with the bog turtle habitat screening requirements of the PASPGP.

RESPONSE TO QUESTION(S) ASKED

Q1: "Accurately describe what is known about wetland presence in the project area or on the land parcel by selecting ONE of the following. ""Project"" includes all features of the project (including buildings, roads, utility lines, outfall and intake structures, wells, stormwater retention/detention basins, parking lots, driveways, lawns, etc.), as well as all associated impacts (e.g., temporary staging areas, work areas, temporary road crossings, areas subject to grading or clearing, etc.). Include all areas that will be permanently or temporarily affected -- either directly or indirectly -- by any type of disturbance (e.g., land clearing, grading, tree removal, flooding, etc.). Land parcel = the lot(s) on which some type of project(s) or activity(s) are proposed to occur ."

Your answer is: **"4. Someone qualified to identify and delineate wetlands has investigated the site, and determined that wetlands ARE located in or within 300 feet of the project area. (A written report from a wetland specialist, and detailed project maps should document this.) "**

Q2: Aquatic habitat (stream, river, lake, pond, etc.) is located on or adjacent to the subject property and project activities (including discharge) may occur within 300 feet of these habitats

Your answer is: **1. Yes**

Q3: The proposed project is in the range of the Indiana bat. Describe how the project will affect potential Indiana bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this.

Your answer is: **1. No forests, woodlots or trees will be affected by the project.**

Q4: "Will the entire project area (including any discharge), plus a 300 foot buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?"

Your answer is: **2. No**

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send

project information to this agency for review (see WHAT TO SEND).

PGC Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name: Sensitive Species**

Common Name:

Current Status: Special Concern Species*

PA Department of Conservation and Natural Resources

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx.)

Scientific Name: *Amaranthus cannabinus*

Common Name: Waterhemp Ragweed

Current Status: Special Concern Species*

Proposed Status: Special Concern Species*

Scientific Name: *Aristida dichotoma* var. *curtissii*

Common Name: Three-awned Grass

Current Status: Special Concern Species*

Proposed Status: Endangered

Scientific Name: *Bidens laevis*

Common Name: Beggar-ticks

Current Status: Special Concern Species*

Proposed Status: Endangered

Scientific Name: *Echinochloa walteri*

Common Name: Walter's Barnyard-grass

Current Status: Endangered

Proposed Status: Endangered

Scientific Name: *Eleocharis obtusa* var. *peasei*

Common Name: Wrights Spike Rush

Current Status: Endangered

Proposed Status: Endangered

Scientific Name: *Eleocharis parvula*

Common Name: Little-spike Spike-rush
Current Status: Endangered
Proposed Status: Endangered

Scientific Name: *Heteranthera multiflora*
Common Name: Multiflowered Mud-plantain
Current Status: Endangered
Proposed Status: Endangered

Scientific Name: *Lycopus rubellus*
Common Name: Bugleweed
Current Status: Endangered
Proposed Status: Endangered

Scientific Name: *Pluchea odorata*
Common Name: Shrubby Camphor-weed
Current Status: Special Concern Species*
Proposed Status: Endangered

Scientific Name: *Quercus phellos*
Common Name: Willow Oak
Current Status: Endangered
Proposed Status: Endangered

Scientific Name: *Sagittaria calycina* var. *spongiosa*
Common Name: Long-lobed Arrow-head
Current Status: Endangered
Proposed Status: Endangered

Scientific Name: *Sagittaria subulata*
Common Name: Subulate Arrowhead
Current Status: Special Concern Species*
Proposed Status: Special Concern Species*

Scientific Name: *Schoenoplectus fluviatilis*
Common Name: River Bulrush
Current Status: Special Concern Species*
Proposed Status: Special Concern Species*

Scientific Name: *Schoenoplectus smithii*
Common Name: Smith's Bulrush
Current Status: Endangered
Proposed Status: Endangered

Scientific Name: *Triplasis purpurea*
Common Name: Purple Sandgrass
Current Status: Endangered
Proposed Status: Endangered

Scientific Name: *Zizania aquatica*
Common Name: Indian Wild Rice
Current Status: Special Concern Species*
Proposed Status: Special Concern Species*

PA Fish and Boat Commission

RESPONSE: Further review of this project is necessary to resolve the potential impacts(s). Please send project information to this agency for review (see WHAT TO SEND).

PFBC Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name: Sensitive Species**
Common Name:
Current Status: Threatened

Scientific Name: *Umbra pygmaea*
Common Name: Eastern Mudminnow
Current Status: Special Concern Species*

Scientific Name: Sensitive Species**
Common Name:
Current Status: Endangered

Scientific Name: Sensitive Species**
Common Name:
Current Status: Endangered

U.S. Fish and Wildlife Service

RESPONSE: No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern

populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, send the following information to the agency(s) seeking this information (see AGENCY CONTACT INFORMATION).

Check-list of Minimum Materials to be submitted:

- SIGNED** copy of this Project Environmental Review Receipt
- Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
- Project location information (name of USGS Quadrangle, Township/Municipality, and County)
- USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.

- A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
- Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
- Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <http://www.naturalheritage.state.pa.us>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
 Bureau of Forestry, Ecological Services Section
 400 Market Street, PO Box 8552, Harrisburg, PA.
 17105-8552
 Fax:(717) 772-0271

U.S. Fish and Wildlife Service
 Pennsylvania Field Office
 110 Radnor Rd; Suite 101, State College, PA 16801
 NO Faxes Please.

PA Fish and Boat Commission
 Division of Environmental Services
 450 Robinson Lane, Bellefonte, PA. 16823-7437
 NO Faxes Please

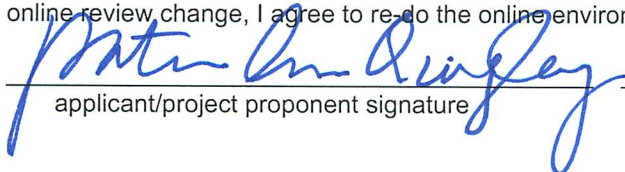
PA Game Commission
 Bureau of Wildlife Habitat Management
 Division of Environmental Planning and Habitat Protection
 2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
 Fax:(717) 787-6957

7. PROJECT CONTACT INFORMATION

Name: Patricia Ann Quigley
 Company/Business Name: PAQ Inc.
 Address: 1080 Quarry Hall Road
 City, State, Zip: Norristown, PA 19403-1061
 Phone:(610) 584-1829 Fax:(610) 584-6331
 Email: PAQINC@AOL.COM

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

 March 8, 2016
 applicant/project proponent signature date



Pennsylvania Fish & Boat Commission

Division of Environmental Services
Watershed Analysis Section
450 Robinson Lane
Bellefonte, PA 16823

June 7, 2016

IN REPLY REFER TO
SIR# 46141

Patricia Ann Quigley, Inc.
Patricia Quigley
1080 Quarry Hall Road
Norristown, Pennsylvania 19403

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 20160308552352
RW 9R Approach Light Pier Rehab
DELAWARE County: Tincum Township**

Dear Patricia Quigley:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search “potential conflict” or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Eastern redbelly turtle (*Pseudemys rubriventris*, PA threatened)

We are concerned that eastern redbelly turtles could be using the project area for overwintering (brumation). Any dewatering or disturbance to the sediments during the brumation of the turtles could cause harm or even death to turtles that are in a dormant state and unable to move away. Therefore, I recommend that no construction be conducted in the water during the overwintering period of the redbelly turtle (October 15 through April 15). Any instream **construction activities should take place between April 15 and October 15 in order to allow turtles to avoid the project area while they are active.** Any turtles found within the staging area of the project should be safely moved outside the work zone in appropriate habitat.

Provided that the overwintering season can be avoided as recommended, best management practices are followed, and an approved strict erosion and sedimentation control plan is maintained, then I do not anticipate the proposed activity to have any significant adverse impacts to the eastern redbelly turtle.

Our Mission:

www.fish.state.pa.us

To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Jordan R. Allison at 814-359-5236 and refer to the SIR # 46141. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

A handwritten signature in black ink that reads "Jordan Allison". The signature is written in a cursive style and is contained within a thin black rectangular border.

Jordan R. Allison
Watershed Analysis Section

JRA/sh



Division of Environmental
Planning and Habitat
Protection
717-783-5957

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission
2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

*"To manage all wild birds, mammals and their habitats
for current and future generations."*

ADMINISTRATIVE BUREAUS:

ADMINISTRATION.....	717-787-5670
HUMAN RESOURCES.....	717-787-7836
FISCAL MANAGEMENT.....	717-787-7314
CONTRACTS AND PROCUREMENT.....	717-787-6594
LICENSING.....	717-787-2084
OFFICE SERVICES.....	717-787-2116
WILDLIFE MANAGEMENT.....	717-787-5529
INFORMATION & EDUCATION.....	717-787-6286
WILDLIFE PROTECTION.....	717-783-6526
WILDLIFE HABITAT MANAGEMENT.....	717-787-6818
REAL ESTATE DIVISION.....	717-787-6568
AUTOMATED TECHNOLOGY SERVICES.....	717-787-4076

www.pgc.state.pa.us

April 13, 2016

Ms. Patricia Quigley
PAQ, Inc.
1080 Quarry Hall Road
Norristown, PA 19403

PNDI Number: 20160308552352

Re: Philadelphia International Airport – Runway 9R Approach Light Pier Rehabilitation
Tinicum Township, Delaware County, PA

Dear Ms. Quigley,

Thank you for submitting the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 20160308552352 for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

No Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, the PGC has determined that no impact is likely. Therefore, no further coordination with the PGC will be necessary for this project at this time.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be

sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,



Tracey Librandi Mumma
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3614
Fax: 717-787-6957
E-mail: tlibrandi@pa.gov

A PNHP Partner



TLM/tlm

April 29, 2016

PNDI Number: 20160308552352

Patricia Quigley

PAQ, Inc.

1080 Quarry Hall Road

Norristown, PA 19403

Email: paqinc@aol.com (hard copy will not follow)

**Re: RW 9R Approach Light Pier Rehab
Tinicum Township, Delaware County, PA**

Dear Patricia Quigley,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **20160308552352** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, DCNR has determined that no impact is likely. No further coordination with our agency is needed for this project.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Jaci Braund, Ecological Information Specialist, by phone (717-214-3813) or via email (c-jbraund@pa.gov).

Sincerely



Greg Podnieszinski, Section Chief
Natural Heritage Section

Delaware Estuary Coastal Zone Boundary Maps 4 and 5



Delaware Estuary Coastal Zone

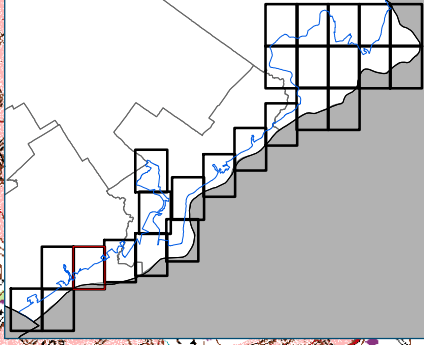
BOUNDARY MAP #4

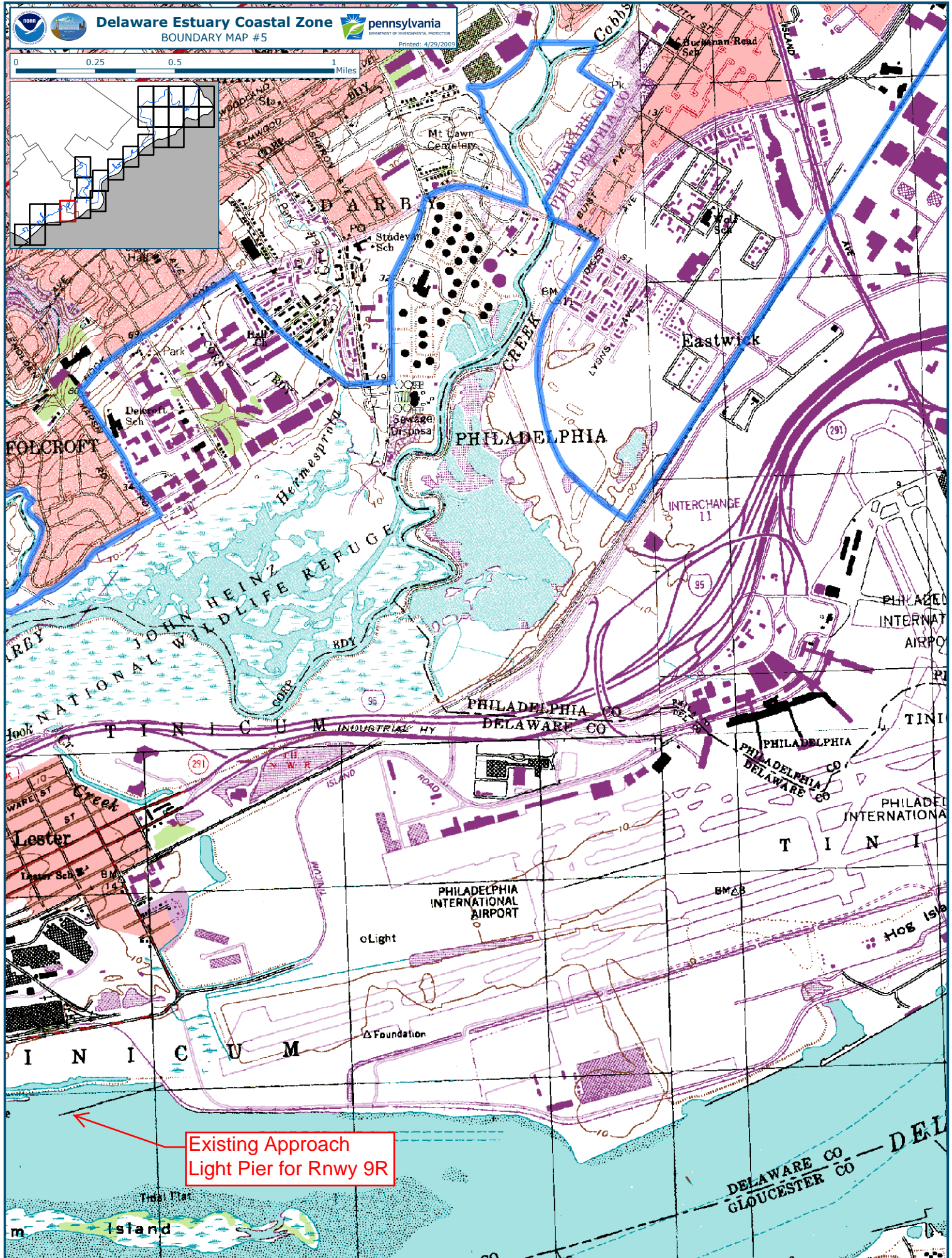
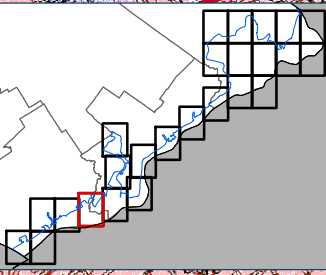


pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Printed: 4/29/2009





Existing Approach
Light Pier for Rnwy 9R

DELAWARE CO
GLOUCESTER CO

Attachment C

Agency Pre-Application Meeting Minutes

Meeting Record

Reference: Philadelphia International Airport, Philadelphia, PA
 Pre-Application Meeting with U.S. Army Corps of Engineers (USACE),
 Pennsylvania Department of Environmental Protection (PADEP), &
 Township of Tincum Engineering

Project: Runway 9R Approach Light System Foundation Pier Rehabilitation
 Tincum Township, Delaware County, PA

Date of Meeting: March 9, 2016 (8:30 low tide)

Location: 9R Pier
 Hog Island Road

Attendees: As listed

<i>Name</i>	<i>Organization</i>	<i>Telephone</i>	<i>E-Mail</i>
Sanjay Chaudhury	Atkins, Aviation Services	215-606-9098	Sanjay.Chaudhury@atkinsglobal.com
Randy Brown	PADEP SERO	484-250-5163	rabrown@pa.gov
Don Knorr	PADEP SERO	484-250-5147	doknorr@pa.gov
Pat Quigley	PAQ	610-584-1829	PAQINC@aol.com
Thomas Joseph	PHL DOA Engineering	215-937-5572	Thomas.Joseph@phl.org
Danielle Bower	PHL DOA Planning	215-937-6068	Danielle.Bower@phl.org
Herb MacCombie	Tincum Twp.	610-356-9550	HEM.engineers@verizon.net
James MacCombie	Tincum Twp.	610-356-9550	HEM.engineers@verizon.net
Edward Bonner	USACE Phila District	215-656-5932	Edward.E.Bonner@usace.army.mil

Meeting Purpose:

The purpose of the Pre-Permit Application meeting was to review the project in order to assess the applicable permit type and level of detail for technical documentation, and to identify any particular project implementation issues prior to making a formal submission.

Preliminary Project Description:

This project involves the rehabilitation and reconstruction of the existing, active approach light system foundation pier for Runway 9R at the Philadelphia International Airport. The existing pier structure was constructed in 1971 and has become deteriorated and in need of significant repair and rehabilitation. The existing structure consists of a wooden boardwalk system on timber piles that extends approximately over ¼ mile (1,800 feet) into the shallow tide flats along the Delaware River to the

extreme western end of the Airport. At every 100 feet along the pier is an existing Light Station on a concrete dolphin which supports individual Approach Light Towers. The light towers are designed to tilt down to the walkway level for maintenance access.

The proposed rehabilitation work involves the removal of the existing timber walkway and railings and the construction of a replacement fiberglass walkway, 4-feet wide, with steel railings positioned immediately adjacent the existing walkway, anchored on the same concrete dolphin supporting piers. A total of 12 walkways will be installed and will extend approximately 1,100 feet along the existing alignment. In addition to the new walkways, new Low Impact Resistant (LIR) Approach Light Towers will be installed and the entire electrical system, including new conduit and cable, will be replaced with a an updated Approach Light System with Sequence Flashing Lights. The last 600 feet of existing walkway/pier structure will be not be required for reuse and will be abandoned in place or removed (depending on permitting requirements).

At this time, only general and preliminary information is known on construction means and methods; however, it is anticipated that the work will be conducted using a crane barge temporarily anchored to the tidal flat and moved along the pier from shore to end as the work progresses. Total construction duration is estimated at 4 – 6 months.



Photo 1: View from the east end of the existing 1,800-foot long timber walkway toward the western end showing the series of approach light standards attached to concrete dolphins, each 100 feet apart. Photo was taken at low tide which exposes a large expanse of tidal marsh (tips of the spatterdock plants are visible at the numerous dots in the mud surface.)



Photo 2: Oblique aerial photograph of the 9R Approach Light Pier area (the western end of the nearly quarter-mile long structure extends beyond the photo). Note the curve of Hog Island Road and the straight diagonal line marking the railroad line. This image shows the summer conditions of the project area and the extent of the vegetated tidal flat. The two subtidal channels and unvegetated shallows are also clearly visible. (Photo from PA Coastal Resources Management)

Summary of Discussion:

Thomas Joseph, DOA Engineering PM, made introductions and described the project background. The original timber pile-supported pier structure was constructed in 1971 and has been determined by FAA to be in deteriorated and potentially unsafe conditions. Sanjay Chaudhury, Atkins design engineer, reviewed the overall project dimensions and current design plans which call for the demolition of the old wooden access walkway and the reconstruction of a new steel and fiberglass walkway to be aligned along the existing concrete dolphins. The current design calls for the placement of 11 steel spans, each 95 feet in length and weighing 28,000 lbs. The existing concrete structures were inspected and determined to be structurally sound and able to support the load of the new walkway as well as the new replacement light standards.

Pat Quigley, DOA permit lead, pointed out that the existing pier is entirely situated within a vegetated tidal flat located along a somewhat protected shoreline in a back channel behind Little Tinicum Island. The Mean High Tide Line along the northern shoreline in the project area has been field delineated. The extensive wetland tidal flat is not walkable and due to limited access, the boundaries have been defined by use of aerial mapping of the limits of observable vegetation. The dominant tide flat vegetation is common spatterdock (*Nuphar advena*). As visible from the walkway, two main subtidal channels cross the tide flat, one the discharge channel of Long Hook Creek which passes under the walkway before the first light standard, and a second defined channel that drains from Tinicum Township's proposed wetland park on the former Westinghouse property. This second channel crosses under the structure between the 5th and 6th light standard. Based on the 1971 ground and bathymetric contour mapping, most of the existing pier is above the -1.0 contour with the western end within the -2.0 contour. The -2.0 contour appears to roughly coincide with the upper limits of low tide.

Pat further noted that the project would NOT involve any new permanent fills or structures within any regulated waters or wetlands; at this time, based on anticipated construction methods, the major

impact of this project would be temporary and related to temporary barge anchoring to place the steel beams. The purpose of the field meeting with the state and federal regulatory agencies is to confirm whether this project meets the criteria for definition as a “maintenance” project and therefore qualifying for a Statewide General Permit and Federal Nationwide Permit.

Sanjay and Thomas outlined the anticipated construction methods as currently known:

- Construction likely to be accomplished by use of a floating crane barge that is anchored temporarily to the ground at each work area. It is not known what kind of temporary anchoring will be used. Contractors have mentioned both spud barge and pin-up barge; both use legs that drop down for temporary stability and to prevent the barge from sitting on the mudflat surface at low tide;
- An additional material barge would likely be needed to stage materials or store demolition waste as they remove the old timber superstructure and cross beams, etc.;
- The crane barge size is estimated at approximately 100' x 40' and the material barge staging the steel beams may be larger at 120' x 40';
- As designed the project would not need to refurbish the last 600 feet of pier, which is proposed for removal or abandonment;
- Barges will not be deployed in the project area, but will be floated to the site at high tide from the contractor's source docking facilities (likely Camden or Gloucester).
- No large staging area on the shore or uplands is anticipated due to limited roadway access from Hog Island Road and need to cross an active railroad.
- Other than a floating containment boom to contain work related debris, there are no specific E&S measures identified at this time;
- Due to the need to work at high tide, the project is estimated to take about 4 – 6 months to complete.

The group toured the existing walkway and discussions followed regarding the project construction plans, anticipated construction methods, and nature of likely wetland and aquatic life impacts.

1. Herb MacCombie, Tinicum township Engineering office, asked if DOA had accurate property and parcel descriptions for the project area. He noted that his office has accurate right of way maps and boundary descriptions for the railroad line which he can make available to DOA if needed.
2. Herb MacCombie also asked if the Long Hook tide gate would be upgraded as part of this project; Thomas Joseph said it was not included in this work.
3. Pat asked if the COE would require the removal of the western end of the pier where the last 600 feet would not be required for the project. Ed Bonner, USACOE, responded that the COE would normally only request removal of an abandoned pier if it posed a hazard to navigation, which does not seem to be the case for this project. Pile removal can be highly impacting on aquatic life depending on the method used. Vibrating them out creates auditory impacts to fish and disturbs the sediment; breaking them below waterline is also highly disturbing. COE generally recommends cutting them at the water line to minimize substrate disturbance. Thomas said the decking and cross braces, etc. would be demolished but it would be a cost

savings to allow the pilings to remain. The agencies agreed that it would likely be more disturbance impact in the removal of the piles and that leaving piles in place would provide habitat benefits.

4. Herb MacCombie reported that the Township is planning to develop the adjacent former Westinghouse parcel into a water park to include recreational kayak and paddle boating between the park and the Little Tinicum Island back channel. Boaters may use this tide flat area at high tide. The pier and pilings would have aesthetic and educational interest. Pat noted that the pier project should include specifications for signage to alert the public of its purpose for guiding aircraft and that the pier itself is not accessible to the public.
5. Herb MacCombie asked if the project was required to be designed to comply with federal ADA requirements. Thomas Joseph responded that due to the need to cross an active railroad line, the project is not conducive or appropriate for ADA access.
6. There was an overall consensus among the regulators and Township attendees that the primary impacts would be temporary in nature. If work is conducted as planned, at high tide, aquatic wildlife would be able to move out of the area to avoid/minimize conflicts.
7. Pat referenced the PNDI database review which listed several potential State-listed species of concern including red-bellied turtle, eastern mud minnow, and several tidal marsh plant species. In past projects involving temporary in-water disturbance (such as tide gate repair), the PA Fish and Boat Commission has generally imposed a seasonal restriction to require that construction work occur only in the "active" season when the turtles are able to move away from the disturbance. The temporary tidal flat disturbance will likely affect immobile plants more than the animal species listed. However, the agencies commented that monotypic stands of spatterdock, like the one under this pier project, tend to be dominant and therefore restricts the presence of other species. Despite the lack of specific construction methods or precise disturbance limits quantification, it was agreed that a "worse" case scenario be presented to the T&E agencies in order to initiate the coordination documentation which will be required and included in the permit application.
8. Ed Bonner added to the T&E discussion to explain that as a federal agency, his office must coordinate with the National Marine Fisheries office regarding potential impacts of their permit decisions on federal T&E species or their critical habitat. He advised the permit application to be clear on the project "action area" such that the impact area is minimized as much as possible. He noted that impacts to the federally listed sturgeon may be minimal since the project construction is above the water with minor temporary in water work. The COE permit may include a seasonal restriction for in-water work to avoid the spring migration season if there is pile driving or other major in water construction (which is NOT proposed for this project.)
9. Thomas Joseph emphasized the need for early coordination so the DOA design team can know of any potential "seasonal restrictions" to the construction period which may affect the construction phasing and bidding process.
10. Pat asked the group about potential E&S measures for the anticipated barge work. Given the twice a day tidal fluctuations and the generally shallow conditions, the use of traditional turbidity curtains would be challenging to deploy and control during tidal cycles. Ed Bonner said the use of turbidity curtains would likely create more sediment disturbance than it would contain. A floating boom was discussed but it may not be effective for trapping suspended sediments. (Note that the contractor may use a boom to contain floating construction debris.) The other regulators generally agreed and no other options were recommended at this time. The best approach for E&S control would be to minimize the temporary disturbance (anchoring

and re-anchoring) as much as possible and to avoid setting the barge on top of the two subtidal channels (see photo 2) which connect to deeper waters.

11. Herb MacCombie asked that construction debris and personal trash from the contractors be strictly controlled. He asked that DOA specifications include removal of existing large metal plastic, shopping carts, wire, or other “non-natural” debris from the tidal flat within the work area. (For example – see Photo 3, right, showing a metal pole and discarded light fixture left in mud, which should be removed).

Photo 3: View into the tide flat showing the metal debris left on site which Tinicum Twp. is requesting to be removed as part of the clean-up of the project area during construction.



Pre-Application Meeting Findings and Further Actions:

1. Randy Brown, DEP, determined that the project qualifies for a Statewide General Permit No. 11 “Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments” since the 9R pier is an existing structure. Minor deviations in the structure’s original confirmation or area is allowed as necessary to repair or replace the structure provided the environmental impacts are minimal and meet the terms and conditions of the GP.
2. Randy noted that unless one currently exists for the original project, this work will likely require a Submerged Lands License to authorize the use of submerged lands of the Commonwealth. In Pennsylvania, submerged lands are defined as “waters and permanently or periodically inundated lands owned by the Commonwealth, including ands in the beds of navigable lakes and rivers and beds of streams declared public highways which are held in trust by the Commonwealth.” Public ownership generally extends only as far landward as the low water mark. Pat noted that the tidal flat is quite shallow and that at low tide, the low water mark appears to be south of the pier. Further review and coordination will be required to ensure appropriate compliance.
3. Randy will check his office archived files for any previously issued SLL for this structure.
4. Ed Bonner, USACE, determined that the project qualifies for a Nationwide Permit 3 “Maintenance” for the repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure, or fill...provided that the structure is not to be put to uses differing from those from the original.” Ed noted that this permit requires Preconstruction Notification. He also noted the additional condition in Pennsylvania, called the “Essential Fish Habitat Regional Condition” which requires that any activity on the Delaware River authorized under the NWP 3 must comply with the time-of-year restrictions developed in conjunction with the Delaware Basin Fish and Wildlife Management Cooperative and the COE for the federally endangered Atlantic sturgeon. For this reach of the Delaware River the time of year restriction for in water work is between March 15 and May 31. Based on today’s discussion, Ed agrees that the project as envisioned does not appear to have any major in-water work and only temporary minor impacts to the sturgeon; therefore, his office is likely to determine no adverse impact.

However, he cautioned that until he gets the more detailed permit submission, the DOA may wish to plan the construction schedule around the worst case scenario and include this seasonal restriction.

5. Ed Bonner further noted that the currently authorized Nationwide Permits in Pennsylvania will expire in March 18, 2017, unless they are re-authorized beforehand. If the DOA submits their permit application and receives a COE permit prior to the expiration date, and provided the project shows evidence of "initiation" (which can be the action of Contract Award), the project may be "grandfathered" for an additional (1) year under the current NWP authorization.
6. Pat will follow up with the T&E agencies to confirm any seasonal, time of year restrictions on construction. She will coordinate with Sanjay on the most detailed plans and construction information to send.
7. Thomas Joseph and his project team will review and input the time schedule for permit preparation and review as well as any likely seasonal restrictions in order to prepare a realistic project implementation schedule. According to Thomas, the "best or preferred" schedule is to start and complete the project in 2017. Sanjay noted that a big schedule element is the long lead time required for the approach lights, which take (1) year from order initiation. Complicating this is the need for a final decision from FAA on whether the lighting system will be a 3 or a 5-loop system. Thomas will take all of this into account in the revised schedule.
8. Thomas will follow up on property boundary or deed descriptions and may reach out to Herb MacCombie for accurate property map information.
9. Thomas will follow up on the question of ADA compliance requirements for this pier rehabilitation project.
10. Pat will contact DOA Planning and City Law department for any archived copy of an earlier submerged lands license for the original pier. Pat will also follow up with the DEP on clarification of the landward limit that would trigger the SSL requirement.¹

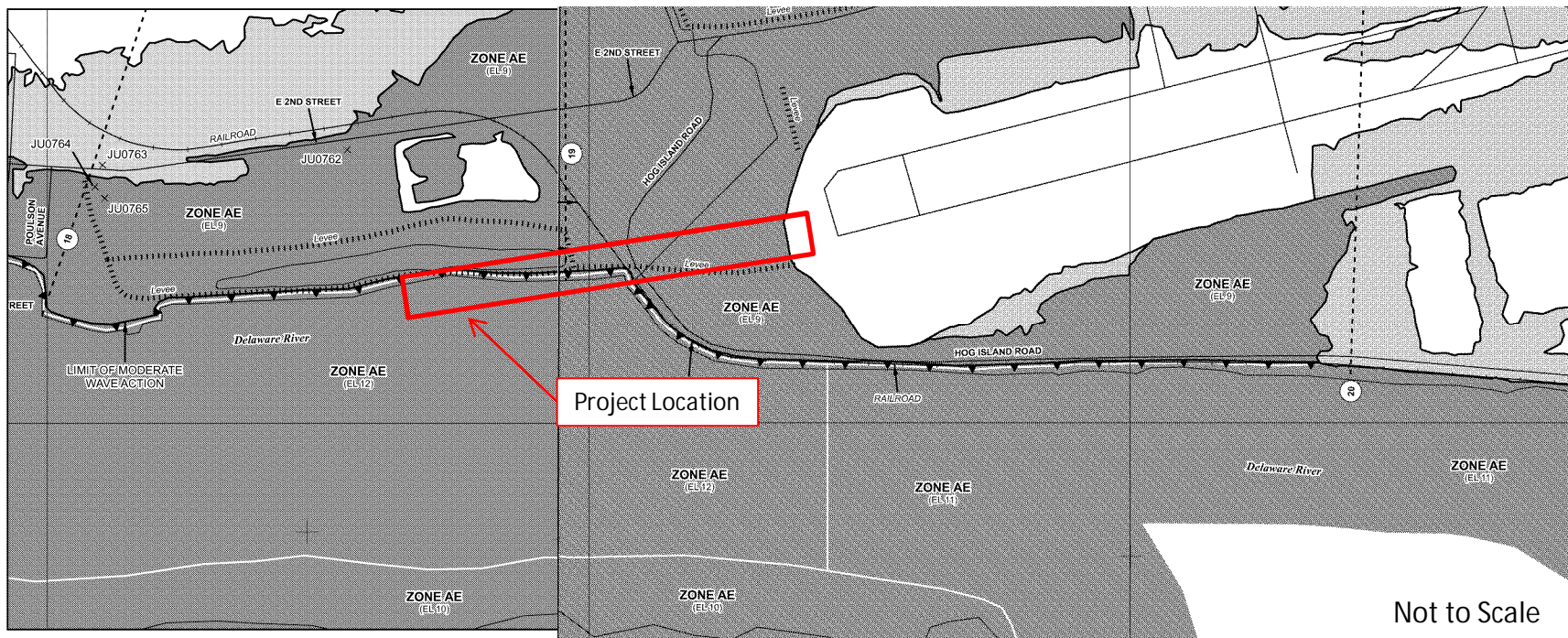
Based on the comments and guidance received at this pre-application meeting, the DOA/Atkins team expects to proceed with completion of final design and development of a revised project schedule. Thomas Joseph instructed Pat to move forward on the coordination with the T&E agencies to confirm all seasonal restrictions or mitigation requirements.

¹ Subsequent to the field meeting, Randy Brown, DEP SERO, was able to locate in DEP archives a copy of the Submerged Lands License for the original Approach Light System, dated March 1, 1971, issued by the PA Department of Forests and Waters, Navigation Commission for the Delaware River. A copy of this license will be attached to the permit application for the pier reconstruction.

These minutes have been prepared for the purpose of recording the information discussed at the meeting and to guide future project planning. Should there be any revisions to this record, please notify Pat Quigley at 610-584-1829 or PAQINC@aol.com within 10 days of transmittal or it will be understood that the information has been accepted as a matter of record.

Attachment D

Floodplains



Zone AE: An area that will be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year. The 1% annual chance flood is also referred to as the base flood or 100-year flood.

Source: FEMA Flood Insurance Rate Maps
 Map No. 42045C0206G Panel 206 of 215 (west panel)
 Map No. 42045C0207G Panel 207 of 215 (east panel)
 Maps revised September 2, 2015