U.S. Department of Transportation
Federal Highway Administration

DelDOT
Delaware Department of Transportation

PARK AVENUE RELOCATION

NATURAL RESOURCES TECHNICAL REPORT

JUNE 2018

PARK AVENUE RELOCATION

Natural Resources Technical Report

Delaware Department of Transportation (DelDOT)

Town of Georgetown in Sussex County, Delaware
Project Number: T201304601
Federal Project Number: STP-S318(03)

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Appendices

Appendix A – Agency Correspondence

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List of Acronyms

CWA	Clean Water Act
DelDOT	Delaware Department of Transportation
DNREC	Delaware Department of Natural Resources and Environmental Control
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIDS	Forest Interior Dwelling Species
FPPA	Farmland Protection Policy Act
FY	Fiscal Year
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Conservation
JD	Jurisdictional Determination
LOD	Limits of Disturbance
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
PAB	Palustrine Aquatic Bed
PEM	Palustrine Emergent
PFO	Palustrine Forested
PSS	Palustrine Scrub Shrub
PUB	Palustrine Unconsolidated Bottom
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
TMDL	Total Maximum Daily Load
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOUS	Waters of the United States

1.0 Introduction

The Delaware Department of Transportation (DelDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating the relocation and upgrade of Park Avenue in the southern portion of the Georgetown area in Sussex County, Delaware. Pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, and in accordance with FHWA regulations, an Environmental Assessment (EA) has been prepared to analyze and document the potential social, economic, and environmental effects associated with the proposed transportation improvements.

The purpose of this Technical Report is to identify and assess the impact to natural resources within the study area. Information in this report, described below, supports discussions presented in the EA.

- **Section 1** provides an overview of the study and Purpose and Need of the project;
- **Section 2** describes the wetlands and other waters of the U.S. within the study area and evaluates the potential for impacts;
- **Section 3** describes the tax ditches within the study area and evaluates the potential for impacts;
- **Section 4** describes the water quality within the study area and evaluates the potential for impacts;
- **Section 5** describes the floodplains within the study area and evaluates the potential for impacts;
- **Section 6** describes the threatened, endangered, and special status species within the study area and evaluates the potential for impacts;
- **Section 7** describes the wildlife habitat within the study area and evaluates the potential for impacts;
- **Section 8** describes the farmlands within the study area and evaluates the potential for impacts; and,
- **Section 9** describes the anticipated permits that would be required.

1.1 Description of the Study Area

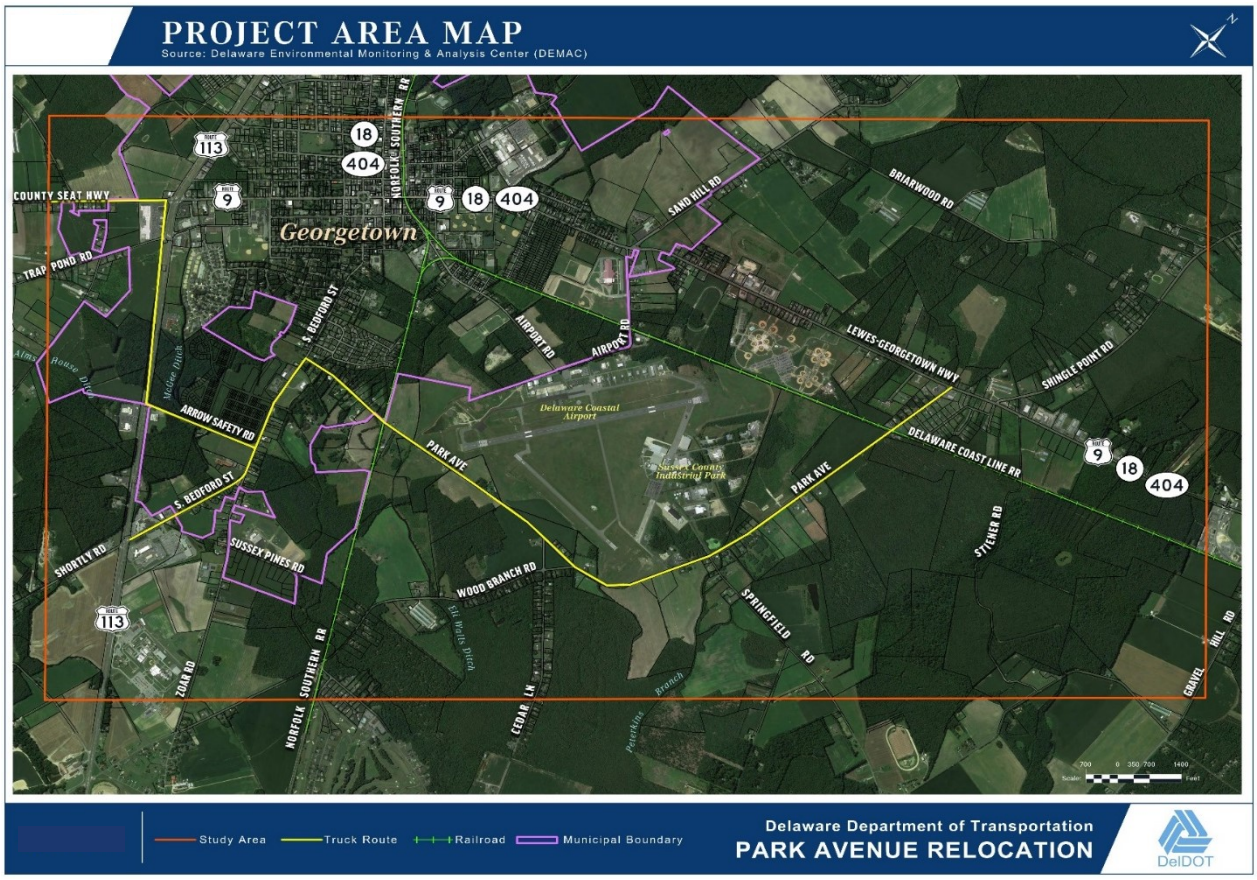
The project's Study Area extends from one-half-mile east of Park Avenue to one-quarter-mile west of US 113, and includes the majority of the Town of Georgetown, the Delaware Coastal Airport, and the Sussex County Industrial Park (refer to **Figure 1-1**). The Study Area was developed based upon review of the land use in the area. The area in the vicinity and to the south of Park Avenue, South Bedford Street, and Arrow Safety Road is predominantly industrial or is planned to be industrial with pockets of residences, farmland, wetlands, and forested areas, as well as a new residential development planned north of Arrow Safety Road. The roadways further south of Park Avenue and South Bedford Street, such as Wood Branch Road, support low density residential development. Residential mixed with commercial uses border US 9 and DuPont Boulevard (US 113); while the majority of the vacant developable land between these roadways is designated for future residential development (Sussex County, 2008).

1.2 Background

Park Avenue, also known as US Route 9 Truck Bypass, is the designated truck route for tractor trailers moving through the area, providing access to the Sussex County Industrial Park, southeast of the Delaware Coastal Airport. Sussex County's 2017-2022 Capital Transportation Program Request has identified Park Avenue as a priority for improvement (Sussex County, 2015). DelDOT's Capital Transportation Plan for fiscal year (FY) 2017-2022, the currently approved plan, authorizes funding for preliminary engineering and right-of-way for the project (DelDOT, 2017). The report and plan note that the roads used for the truck bypass should be upgraded, with appropriate turn lanes and signalized intersections, and that the truck

route should be realigned, removing the truck route from the existing residential areas of Park Avenue and South Bedford Street (Sussex County, 2015 and DelDOT, 2017).

Figure 1-1: Project Area Map



1.3 Existing Conditions

US 9 travels through the Town of Georgetown connecting Laurel, Delaware with Lewes, Delaware. West of US 113, US 9 is known as County Seat Highway; east of US 113, US 9 is known as Lewes-Georgetown Highway (refer to **Figure 1-1**). To eliminate truck traffic through the center of Georgetown, DelDOT designated a truck bypass which begins at County Seat Highway (US 9) west of Georgetown, then follows US 113, Road 87 (Arrow Safety Road), Road 431 (South Bedford Street), and Park Avenue, and reconnects with Lewes-Georgetown Highway (US 9) east of Georgetown. The five-mile bypass requires that trucks turn at five intersections and cross two railroads at-grade, the Norfolk Southern Line east of South Bedford Street on Park Avenue and the Delaware Coast Line south of Lewes-Georgetown Highway (US 9) on Park Avenue. The bypass is the only access route to the Sussex County Industrial Park and is a main route to the Delaware Coastal Airport (formerly the Sussex County Airport).

1.4 Purpose and Need

The purpose of the Park Avenue relocation, being undertaken by DelDOT, is to improve the traffic operations and safety of the US 9 truck bypass from east of Georgetown to US 113.

The primary need for the Park Avenue project is to improve traffic operations and safety. The existing truck route between US 9 and US 113 has several turning movements that hinder traffic operations, the roadway width is narrow and does not meet current design for a truck route, and the average number of crashes along the truck route between US 113 and US 9 is higher than the state and Sussex County averages. Secondary needs are to support economic growth and to support federal, state, and local initiatives by focusing on improving transportation infrastructure to provide safe and convenient road access across the region and to areas zoned for business/industrial use.

1.5 Alternatives Considered for Evaluation

Conceptual alternatives that could potentially address the Purpose and Need for study were developed and then screened and compared by DelDOT during the conceptual design phase based on criteria developed to determine whether or not the identified elements of Purpose and Need would be met. The alternatives evaluated as well as the screening criteria are described in **Chapter 2.0** of the EA. Following is a description of the two alternatives carried forward for evaluation.

1.5.1 No-Build Alternative

Under the No-Build Alternative, no improvements to or relocation of Park Avenue would be undertaken; however, routine maintenance of the US 9 truck route would continue. The No-Build Alternative would not satisfy the identified needs of the project as it would not improve traffic operations and safety along Park Avenue. The Build Alternative is also inconsistent with local plans and would not accommodate growth at the Delaware Coastal Airport (Town of Georgetown, 2010; Sussex County, 2008, 2015, and 2016). The No-Build Alternative has been carried forward in this EA as a benchmark for assessing the transportation benefits and environmental impacts of Build Alternative 6, the Preferred Alternative.

1.5.2 Preferred Alternative

The Preferred Alternative would begin at Arrow Safety Road and straighten the alignment of the truck bypass by creating an additional leg at the intersection with South Bedford Street. The alternative would then travel along a new alignment to connect to Park Avenue east of the Norfolk Southern Railroad tracks. This alternative would avoid the runway object free area (ROFA) as well as the central portion of the runway protection zone (RPZ) associated with the proposed growth of the Delaware Coastal Airport, and minimize wetland impacts.

This truck route relocation would improve traffic operations by improving the roadway alignment and typical section, providing a continuous route around Georgetown, connecting US 113 west of Georgetown to US 9 east of Georgetown, and improving the Park Avenue and US 9 intersection and the Park Avenue and South Bedford Street/Arrow Safety Road intersection. The Preferred Alternative is consistent with local plans and allows for the future growth of the Delaware Coastal Airport as proposed by Sussex County, thus potentially encouraging economic development in the region (Town of Georgetown, 2010; Sussex County, 2008, 2015, and 2016).

2.0 Wetlands and Surface Waters

The U.S. Army Corps of Engineers (USACE) administers regulatory authority over activities affecting waters of the United States (WOUS) pursuant to Section 404 of the Clean Water Act (CWA) of 1977, as amended. Section 404 of the CWA prohibits the discharge of dredged or fill material into WOUS if there is a practicable avoidance alternative. If there is no practicable avoidance alternative, a permit is required for the discharge of dredge or fill material into WOUS. A jurisdictional determination (JD) of the boundaries of wetlands and

WOUS is required from USACE to support the permit application. Subsequently, the type and quantity of impacts to jurisdictional surface waters are documented in the permit application.

Additionally, in Delaware, wetlands and waters receive further protection under regulations in the state's *Wetlands Act of 1973* and *Subaqueous Lands Act* (enacted in 1969). A permit is required from Delaware Department of Natural Resources and Environmental Control (DNREC) prior to conducting certain activities, including dredging, draining, filling, construction, drilling, and excavation, in these wetlands and waters. Furthermore, DNREC provides 401 certification (DNREC, 2017b).

2.1 Methodology

An in-office review of available resource information was conducted to evaluate the potential for regulated features to occur within the study area. This data included US Geological Survey (USGS) topographic mapping, National Wetlands Inventory (NWI) mapping, US Department of Agriculture (USDA) Natural Resources and Conservation Service (NRCS) soils mapping and data, National Hydrography Dataset (NHD) mapping, and aerial imagery.

Following the in-office review, DelDOT conducted a field delineation in February 2014, March 2014, and December 2016 of the Preferred Alternative Alternative's potential area of impact to identify the location and extent of jurisdictional features. The delineation was performed in accordance with the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0), the USACE 1987 Wetland Delineation Manual, and subsequent applicable regulatory guidance.

2.2 Existing Conditions

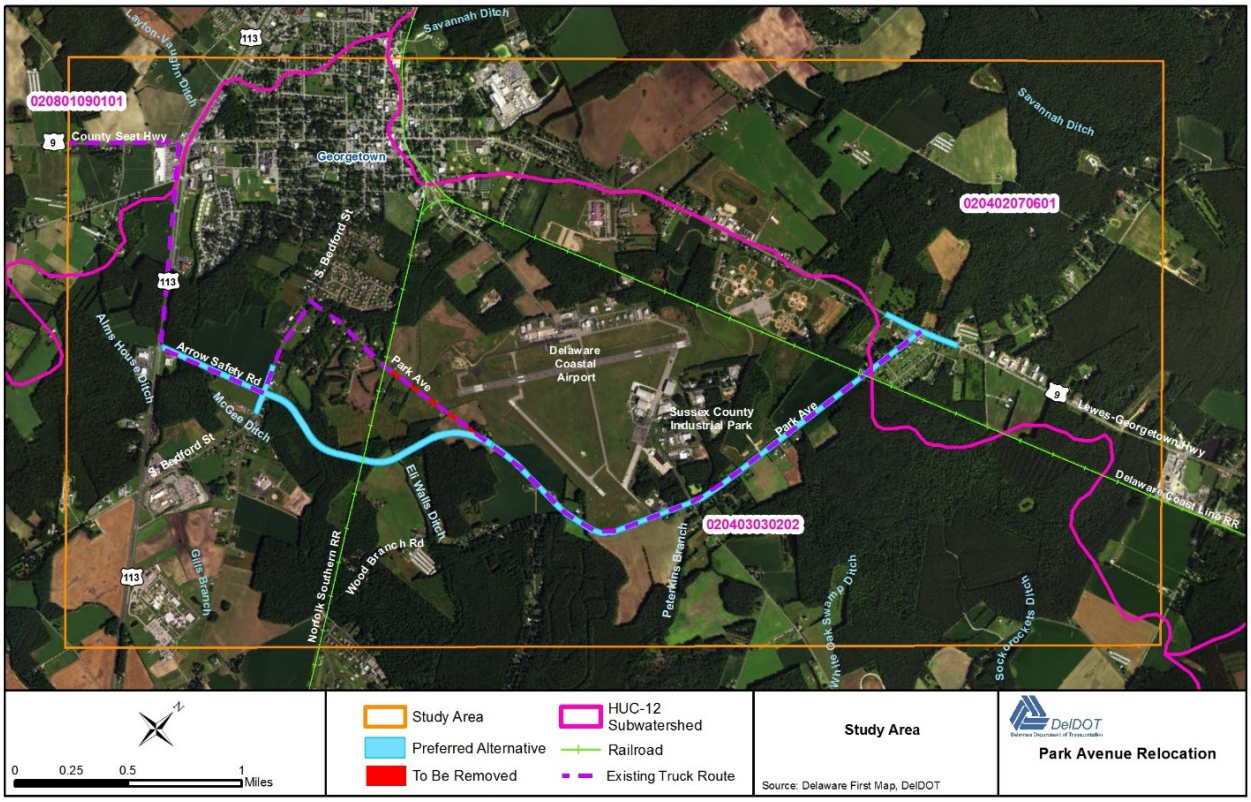
The study area is located within three subbasins, three watersheds, and three subwatersheds as summarized in **Table 2-1** and illustrated in **Figure 2-1**. Prominent perennial streams of the study area include McGee Ditch, Alms House Ditch, Gills Branch, Eli Walls Ditch, Layton-Vaughn Ditch, Peterkins Branch, Savannah Ditch, White Oak Swamp Ditch, and Sockorockets Ditch. These streams are also illustrated on **Figure 2-1**. All streams within the study area ultimately flow to the Delaware Bay, Chesapeake Bay, or Atlantic Ocean.

Table 2-1: Summary of Hydrologic Unit Codes (HUC) within the Study Area

Subbasin (HUC 8)	Watershed (HUC 10)	Subwatershed (HUC 12)
Nanticoke (HUC 02080109)	Deep Creek (HUC 0208010901)	Upper Deep Creek (HUC 020801090101)
Broadkill-Smyrna (HUC 02040207)	Broadkill River – Delaware Bay (HUC 0204020706)	Round Pole Branch – Broadkill River (HUC 020402070601)
Chincoteague (HUC 02040303)	Indian River Bay (HUC 0204030302)	Cow Bridge Branch – Indian River (HUC 020403030202)

Source: USGS

Figure 2-1: Subwatersheds



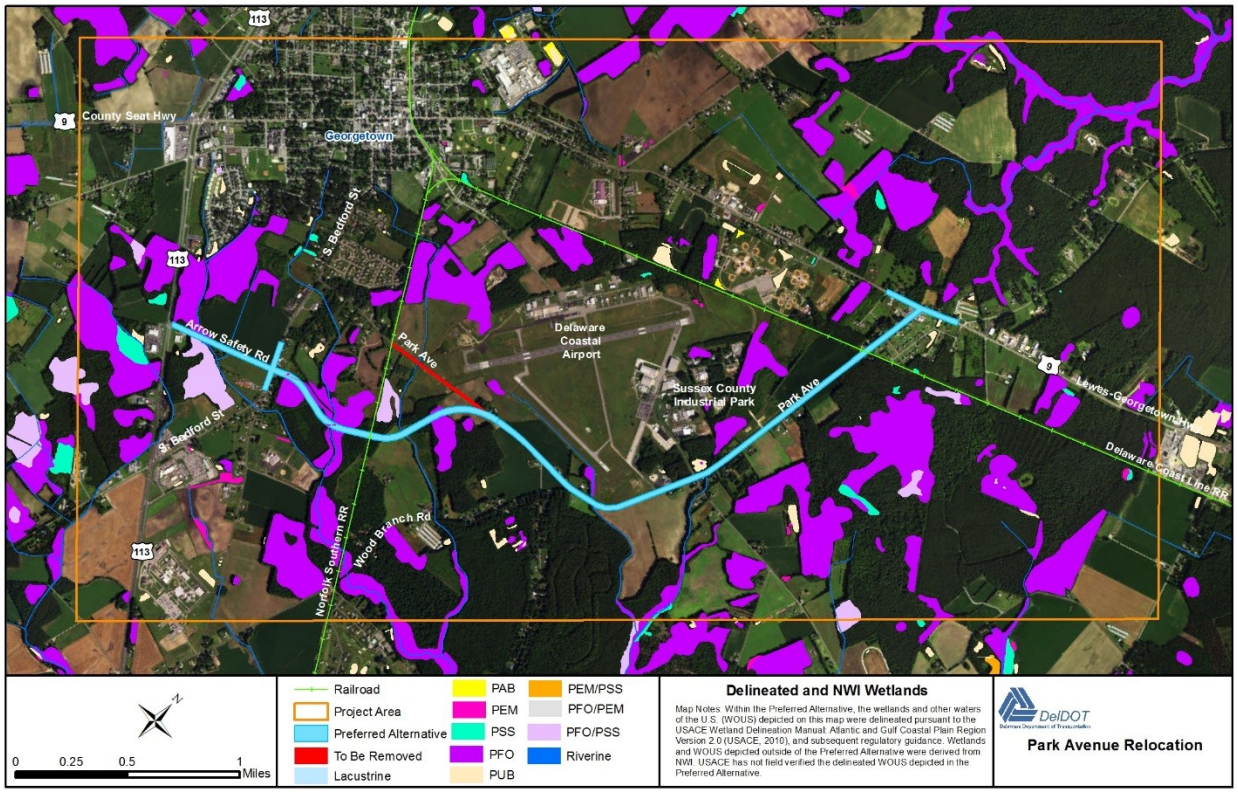
2.2.1 Wetlands

Based on the results of the desktop review and field delineation described in **Section 2.1**, there are approximately 1,063 acres of wetlands within the study area, including 889 acres of palustrine forested (PFO) wetlands, 22 acres of palustrine scrub shrub (PSS) wetlands, 50 acres of combined PFO/PSS, 11 acres of palustrine emergent (PEM) wetlands, 54 acres of riverine wetlands, and 37 acres of freshwater pond (palustrine unconsolidated bottom [PUB]/palustrine aquatic bed [PAB]). Wetlands within the study area are depicted on **Figure 2-2**.

Palustrine Forested Wetlands (PFO)

Broad leaved deciduous, needle leaved evergreen, and broad leaved evergreen; temporarily flooded, saturated, seasonally flooded, seasonally flooded/saturated, and semipermanently flooded PFO wetlands, including those that are partially drained/ditched and excavated, occur throughout the study area. These features occur mostly as riparian systems, although isolated pockets of PFO wetlands occur in forested flatwoods. Dominant tree species encountered include red maple (*Acer rubrum*), sweet gum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), black gum (*Nyssa sylvatica*), and pond pine (*Pinus serotina*). The sparsely vegetated understory consists primarily of American holly (*Ilex opaca*), sweet bay magnolia (*Magnolia virginiana*), highbush blueberry (*Vaccinium corymbosum*), water oak (*Quercus nigra*), slender woodoats (*Chasmanthium laxum*), Japanese stiltgrass (*Microstegium vimineum*), red maple, sweet gum, and black gum. Roundleaf greenbrier (*Smilax rotundifolia*), cat greenbrier (*Smilax glauca*), and Japanese honeysuckle (*Lonicera japonica*) are common vines.

Figure 2-2: Delineated and NWI Wetlands



Palustrine Scrub Shrub Wetlands (PSS)

Broad leaved deciduous, broad leaved evergreen, and needle leaved evergreen; temporarily flooded, saturated, seasonally flooded, seasonally flooded/saturated, and semipermanently flooded PSS wetlands, including those that are partially drained/ditched, occur throughout the study area. These PSS wetlands occur mostly in floodplains where mechanical clearing and forestry practices limit forested growth. Common woody vegetation identified within the PSS wetlands includes red maple and sweet gum. The emergent vegetation in PSS wetlands consists of blunt broom sedge (*Carex tribuloides*), common rush (*Juncus effusus*),and beaked panic grass (*Panicum anceps*).

Palustrine Emergent Wetlands (PEM)

Persistent; saturated, seasonally flooded, and semipermanently flooded PEM wetlands, including those that are partially drained/ditched and excavated, are common throughout the study area. These systems occur mostly as riparian systems, although isolated pockets in abandoned agriculture fields are present. Active agricultural activities (hay production and livestock pasturing) have limited the growth of woody vegetation in these areas. A variety of herbaceous plant species occur in the PEM wetlands. Common herbaceous species include blunt broom sedge, broomsedge bluestem (*Andropogon virginicus*), broom sedge (*Carex scoparia*), blunt spike rush (*Eleocharis obtusa*), rough flatsedge (*Cyperus retrofractus*), common rush, strawcolored flatsedge (*Cyperus strigosus*), Japanese stiltgrass, woolgrass (*Scirpus cyperinus*), and meadow beauty (*Rhexia virginica*). Other common woody seedlings include red maple and sweet gum.

Freshwater Ponds (PUB/PAB)

Freshwater ponds (PUB semipermanently flooded or permanently flooded, including those excavated and PAB permanently flooded, including those excavated) occur within the study area. Many of these exist as excavated farm ponds with no vegetation present.

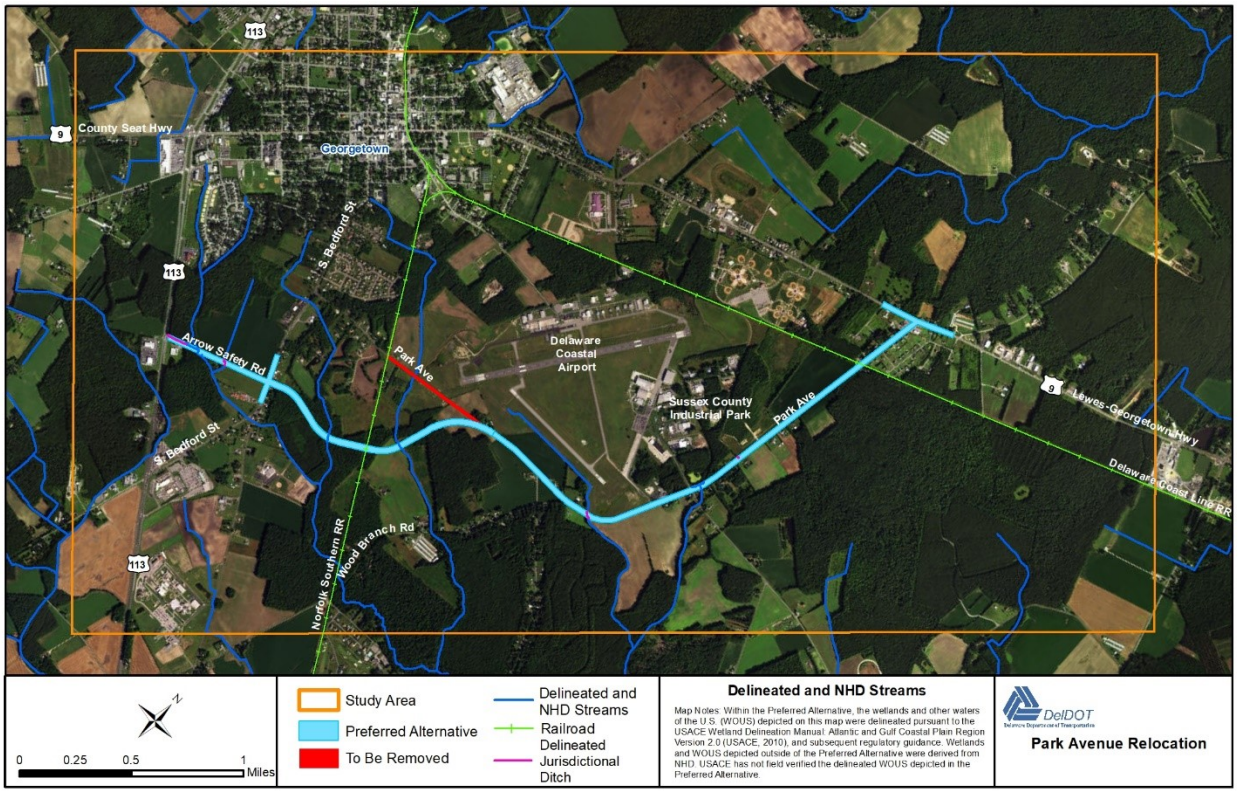
Riverine Wetlands

Riverine lower perennial, intermittent, and unknown perennial wetlands, including unconsolidated bottom and streambed, seasonally flooded and permanently flooded, and excavated systems occur within the study area. These riverine wetlands within the study area consist of wetlands and deepwater habitats contained within channels that lack trees, shrubs, or any persistent vegetation. Many of these consist of tax ditches and streams with flows that prevent the establishment of vegetation.

2.2.2 Surface Waters

Based on the results of the desktop review and field delineation described in **Section 2.1**, there are approximately 20 miles of regulated stream channels within the study area (refer to **Figure 2-3**). Many of these streams have been degraded, straightened, and ditched for agricultural practices. Approximately 0.25 miles of jurisdictional ditches were also identified within the study area.

Figure 2-3: Delineated and NHD Streams



2.3 Future Conditions

2.3.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, this alternative would result in no impacts to wetlands, streams, or jurisdictional ditches.

2.3.2 Preferred Alternative

Implementation of the Preferred Alternative would result in impacts to 0.29 acres of wetlands, 0.3 acres (1,185 linear feet) of stream, and 0.08 acres (847 linear feet) of jurisdictional ditch. These impacts are based on the conceptual design and may change as design progresses. Additionally, wetlands, streams, and jurisdiction ditches have not yet been confirmed by USACE and are subject to change.

Primary impacts to streams resulting from roadway construction would likely include discharges and excavation of dredged or fill material for culverted stream crossings. Secondary effects would likely include stormwater discharge from the new roadway and right-of-way.

As the design is refined, impacts to wetlands and streams would be avoided to the maximum extent practicable. The use of retaining walls and steep side slopes may be considered to avoid impacts from lateral encroachment. Compensation for any unavoidable impacts to streams and wetlands would be provided in accordance with the 2008 Compensatory Mitigation Rule (described in **Section 9.0 Anticipated Permits**).

3.0 Tax Ditches

In 1951, the Delaware General Assembly enacted the Drainage Law to establish, finance, and maintain drainage organizations (tax ditches). Tax ditches are watershed-based organizations formed by a prescribed legal process in the Superior Court and are comprised of all landowners of a particular watershed or subwatershed. The operations of a tax ditch are overseen by ditch managers and a secretary/treasurer (DNREC, 2017a).

Delaware has 288 tax ditch organizations. They manage over 2,000 miles of channels and provide benefits to over 100,000 people and almost half of the state-maintained roads. Tax ditch channels range from 6 to 80 feet wide and 2 to 14 feet deep, depending on the acreage being drained and the topography. Due to the size of some tax ditches, some tax ditches are considered to be subaqueous lands (DNREC, 2017a).

3.1 Methodology

Tax ditches within the study area were identified using ArcGIS Online's Delaware Tax Ditch Map.

3.2 Existing Conditions

The study area contains approximately 20 miles of tax ditches (refer to **Figure 3-1**). Many of the tax ditches within the study area are ditched streams.

3.3 Future Conditions

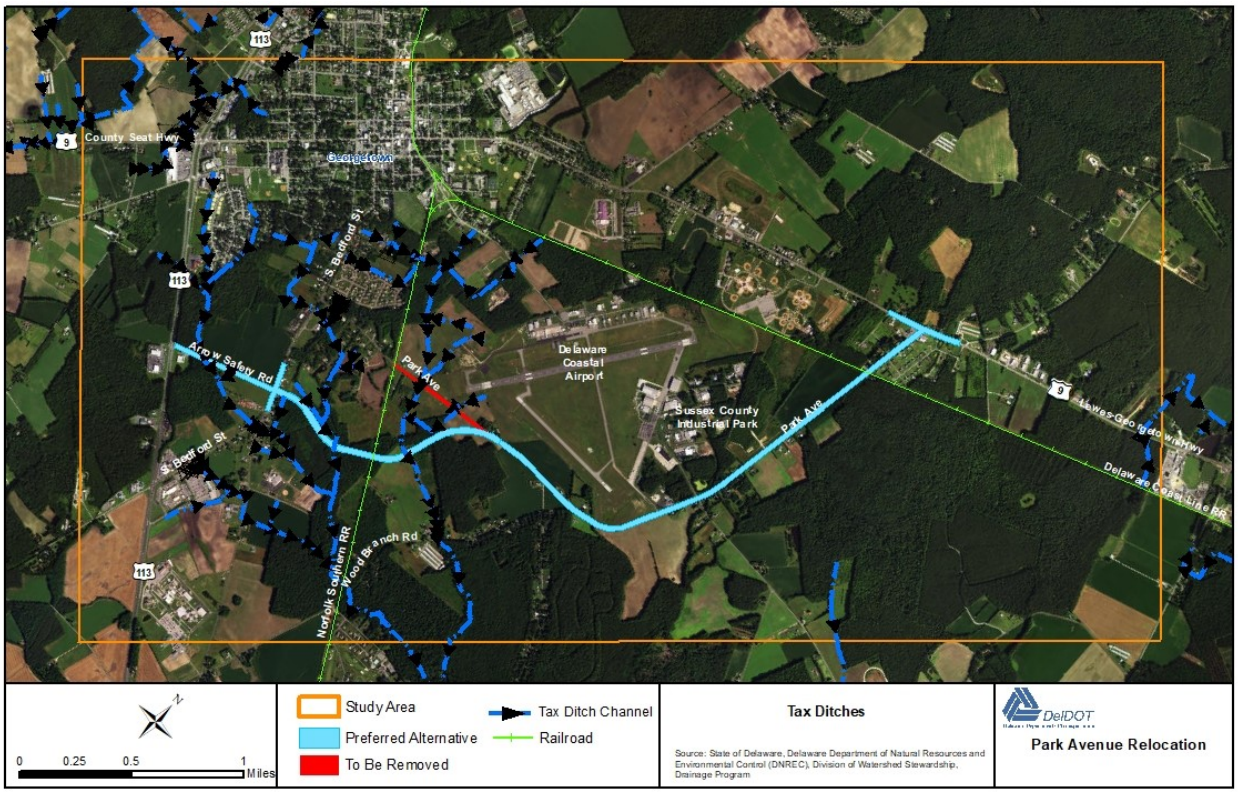
3.3.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, this alternative would have no impact on tax ditches.

3.3.2 Preferred Alternative

The Preferred Alternative has the potential to impact approximately 0.15 acres (451 linear feet) of tax ditches. If the Preferred Alternative is constructed, DelDOT would commit to maintaining the continuity and flow of tax ditches, and would ensure maintenance activities are still possible.

Figure 3-1: Tax Ditches



4.0 Water Quality

As directed by Section 305(b) of the CWA, states, territories, and other jurisdictions of the United States are required to submit reports on the quality of their waters to the U.S. Environmental Protection Agency (EPA) every two years. When surface waters fail to meet water quality standards sufficient to support designated use categories, the waters are classified as “impaired waters” under Section 303(d) of the CWA. In Delaware, designated use categories include agricultural water supply; cold water fish; fish, aquatic life, and wildlife; harvestable shellfish waters; industrial water supply; primary contact recreation; public water supply; secondary contact recreation; and waters of exceptional recreational or ecological significance.

States monitor water quality, identifying impairments and sources of impairments, and developing and implementing Total Maximum Daily Load (TMDL) reports for those impaired waters. TMDLs are the allowable loadings or loading strategies for waterbodies classified as water quality limited. A TMDL Report is a special study to determine the amount of a pollutant that the impaired water can assimilate and still meet water quality standards.

4.1 Methodology

To determine if impaired waters exist within the study area, the EPA WATERS Geospatial Dataset, which contains the most current impaired waters shapefiles from the 2004 Delaware Water Quality Assessment Report, was reviewed. Shapefiles from the EPA WATERS Geospatial Dataset were overlaid with the study area to determine the impaired waters within the study area. Additionally, Delaware's *FirstMap Open Data* was reviewed to determine if groundwater recharge areas, wellhead protection areas, and groundwater management zones occur within the study area. Data.gov was checked to determine sole source aquifers within the study area.

4.2 Existing Conditions

Impaired waters do exist within the study area. The impaired stream segments, impaired segment length, causes of impairments, and TMDL status for streams within the study area are listed in **Table 4-1** and depicted in **Figure 4-1**.

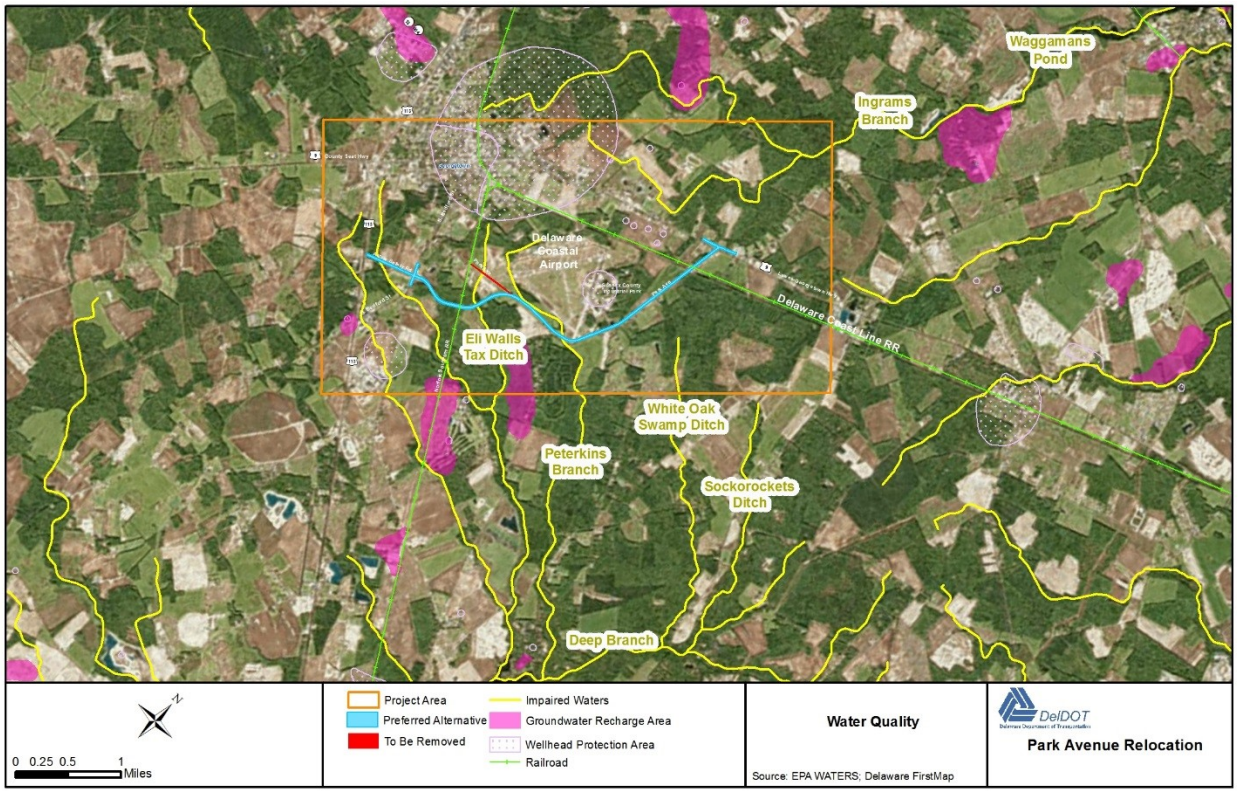
Table 4-1: Impaired Stream Segments within the Study Area

Impaired Stream Segment	Impaired Segment Length (Within Study Area)	Causes of Impairment	TMDL Status
Ingrams Branch – Western Tributary	1,706 LF	Dissolved Oxygen	TMDL Completed for Ammonia and Biological Oxygen Demand
		Habitat	TMDL Needed
Deep Branch – Plus Peterkins Branch, White Oak Swamp Ditch, and Sockorockets Ditch	27,347 LF	Bacteria	TMDL Completed for Bacteria
		Dissolved Oxygen	TMDL Needed
		Nutrients	TMDL Completed for Nitrogen and Phosphorus
Eli Walls Tax Ditch	32,354 LF	Bacteria	TMDL Completed for Bacteria
		Nutrients	TMDL Completed for Nitrogen and Phosphorus
Ingrams Branch – Headwaters to Waggamans Pond	7,094 LF	Bacteria	TMDL Completed for Bacteria
		Dissolved Oxygen	TMDL Completed for Ammonia and Biological Oxygen Demand
		Nutrients	TMDL Completed for Nitrogen and Phosphorus

Source: EPA WATERS Geospatial Dataset, 2004

Groundwater recharge areas and wellhead protection areas were identified within the study area; however, no groundwater management zones or sole source aquifers were identified within the study area.

Figure 4-1: Water Quality



4.3 Future Conditions

4.3.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, this alternative would have no direct or indirect effect on water quality, groundwater recharge areas, or wellhead protection areas.

4.3.2 Preferred Alternative

No groundwater recharge areas or wellhead protection areas would be directly impacted as a result of the Preferred Alternative. However, the Preferred Alternative would result in temporary impacts to water quality during roadway construction activities through increased sedimentation from land disturbing activities and the potential for occurrences of fuel spills or hydraulic spills from construction equipment. During construction, the contractor would adhere to standard erosion and sediment control and stormwater measures and the associated required monitoring protocols, as prescribed in the current regulations.

Generally, DelDOT's practice is to maintain both water quality and quantity post-development equal to or better than pre-development, as described in the current guidance, Erosion and Sediment Control and Stormwater Management Design Guide (State of Delaware, 2016b).

5.0 Floodplains

Floodplains provide natural means of detaining floodwaters and thus protect downstream properties from damage. Development in floodplains reduces flood storage capacity and places development in the floodplain and downstream properties at risk. Federal policies, Executive Order (EO) 11988, as amended,

EO 13690, and FHWA policy as set forth in 23 CFR §650, require avoidance of effects associated with the modification of and development in floodplains if a practicable alternative (such as shifting alignments to reduce or avoid the floodplains) exists to the proposed action. Federal Emergency Management Agency (FEMA) standards also limit increases in base flood levels to less than 1.0 foot above pre-development levels, provided that hazardous velocities are not produced.

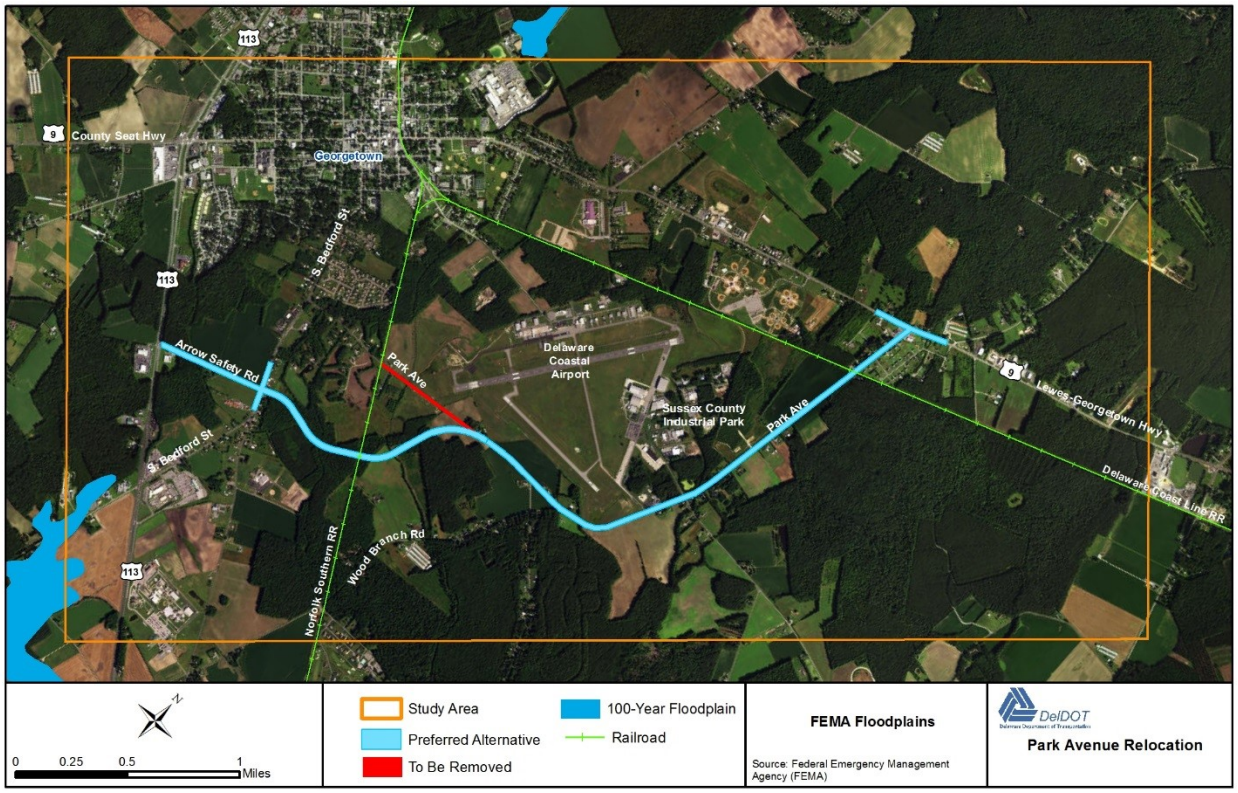
5.1 Methodology

To determine if floodplains exist within the study area, FEMA Flood Boundary and Flood Maps were reviewed. Shapefiles of the FEMA floodplain data were overlaid with the study area to determine the FEMA floodplains within the study area.

5.2 Existing Conditions

The 100-year flood, or base flood, is the area covered by a flood that has a one percent chance of occurring in any given year; this is commonly referred to as the 100-year floodplain. The 100-year floodplain includes the floodway, which is the area that experiences the deepest water and the highest velocities. The floodplain also includes the flood fringe, which is located just outside the floodway. The study area contains approximately 21 acres of 100-year floodplain, no floodway, and no 500-year floodplain. Floodplains within the study area are depicted on **Figure 5-1**.

Figure 5-1: FEMA Floodplains



5.3 Future Conditions

5.3.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, this alternative would have no impacts on floodplains.

5.3.2 Preferred Alternative

The Preferred Alternative would not impact any 100-year floodplain, 500-year floodplain, or floodway. During final design, a hydrologic and hydraulic analysis would be required by DelDOT to provide adequate design of the hydraulic openings of culverts and proper conveyance of floodwaters to minimize potential impacts to the floodplains and floodplain hazards.

6.0 Threatened, Endangered, and Special Status Species

The U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) regulate and protect federally listed threatened, endangered, and special status species under the Endangered Species Act (ESA) of 1973 with the primary goal of conserving and recovering listed species. The ESA, with few exceptions, prohibits activities affecting threatened, endangered, and special status species unless authorized by a permit. The legal federal status of a species is determined by USFWS and NMFS.

In addition to federal oversight, threatened, endangered, and special status species are also regulated at the state level by a number of different agencies and organizations. The Delaware Division of Fish and Wildlife has adopted the federal list as well as a state list of endangered and threatened species, with the primary focus of managing Delaware's wildlife to maintain optimum populations of all species and conserve biodiversity.

6.1 Methodology

To identify any documented threatened, endangered, or special status species within the study area, DelDOT queried USFWS' Information for Planning and Conservation (IPaC) database and coordinated with DNREC. Based on query results, DelDOT conducted a presence/absence survey for the state and federally listed swamp pink (*Helonias bullata*).

6.2 Existing Conditions

The only state or federal threatened, endangered, or special status species that was identified to be within the vicinity of the project study area is swamp pink (refer to **Appendix A**). Swamp pink is a perennial member of the lily family that is found within Delaware, Georgia, Maryland, New Jersey, North Carolina, South Carolina, and Virginia. Suitable habitat consists of forested wetlands with 20-100 percent canopy cover with a year-round, shallow, regular, and stable groundwater table. Plants commonly found with swamp pink include sweetbay magnolia (*Magnolia virginiana*), sphagnum moss, cinnamon fern (*Osmunda cinnamomea*), skunk cabbage (*Symplocarpus foetidus*), and laurels (*Laurus* sp.). Threats to this species include habitat destruction and runoff from development (USFWS, 2017b). The USFWS noted that even if no direct effects to potential swamp pink habitat are identified, any projects on this property must be designed to minimize impacts from hydrologic changes, siltation, and runoff (quantity and quality) on the watershed.

A presence/absence survey and habitat assessment for swamp pink was conducted by DelDOT in June 2017. No swamp pink individuals were found and the wetlands within the project study area were determined to be unsuitable for swamp pink.

6.3 Future Conditions

6.3.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, this alternative would have no impacts on threatened or endangered species.

6.3.2 Preferred Alternative

Given the habitat requirements and presence/absence of swamp pink survey results, it is unlikely that the proposed project would result in impacts to threatened and endangered species. As noted above in **Section 3.4.3**, erosion and sediment control and stormwater measures will be implemented during construction and post construction, stormwater management facilities will be used to treat runoff from the roadway, minimizing impacts to siltation and runoff on the watershed. Additionally, bridges and culverts would be designed to ensure adequate hydraulic openings are in place so that hydrologic flow patterns are not disrupted. Further coordination would be conducted with resource agencies during the 404/401 permitting process.

7.0 Wildlife Habitat

The study area has experienced noticeable alterations over the past several hundred years, primarily due to human activity. Agricultural and pastoral practices throughout the study area, as well as urbanization along the railroad, US 113, and US 9 have removed, altered, and encroached on the various terrestrial wildlife habitats found within the study area.

7.1 Methodology

To determine the current land cover composition of the study area, a GIS analysis was conducted using Delaware's *FirstMap Open Data*. The Delaware Land Use, Land Cover 2012 dataset and the Delaware Ecological Network Dataset were used to determine protected lands and habitats within the study area.

7.2 Existing Conditions

As illustrated in **Table 7-1**, cropland and pasture are the predominant terrestrial systems within the study area. However, wetlands and forest make up a large remainder of the study area.

Cropland and Pasture

Wildlife species found within the study area are adapted and tolerant to the mixed farmland and fragmented forest habitat. These lands can serve as important forage areas for wildlife species. Although wildlife foraging has the potential to damage crops, foraging by insectivorous birds and mammals and consumption of weed seeds by wildlife are beneficial to agriculture.

In addition to attracting foraging wildlife, agricultural fields attract predators. Foxes, coyotes, and raccoons frequently use agricultural fields for hunting small mammals and birds that are attracted to agricultural fields. Likewise, birds of prey such as hawks and owls frequently hunt and roost near agricultural fields, hunting small mammals and other prey species.

Table 7-1: Land Cover within the Study Area

Land Use Category	Acres	Percent of study area
Cropland and Pasture	2331.7	29%
Vegetated Land with Wet Features	1736.9	22%
Forest	1403.6	17%
Commercial/Industrial	332.0	4%
Housing	1026.5	13%
Recreation	97.5	1%
Airport	471.5	6%
Institutional/Government	250.0	3%
Other Developed (Utilities, Roads, Railroads, etc.)	322.2	4%
Transition	35.6	<1%
Total	**8,007.5**	**100%**

Source: Delaware Land Use, Land Cover 2012

The boundary between active agricultural fields and adjacent habitats often creates "edge" habitat or edges. Edges are areas where two habitat types meet, such as an agricultural field and a forest. Edges are unique because they combine some of the characteristics of two or more habitats. Edges are inhabited by some of the animals and plants that are characteristic of each original habitat, plus species that are specially adapted to live in edges. Therefore, edges usually have more diverse wildlife communities than unbroken blocks of habitat. The brushy nature of some field edges provides nesting, brooding, feeding, and escape cover for a wide variety of animals. Predators often concentrate their hunting activities near edges because of the abundance and variety of prey animals that are attracted to this special habitat (Jones, et al.1994).

Edges are also important because they form a refuge for many soft-mast producing plants that cannot survive in mature forests or cultivated fields. Most of these plants need full sunlight to thrive and cannot tolerate the shade and competition within a forest or the repeated disturbance associated with cultivation and grazing. Soft-mast is an important source of food for many wildlife species during the summer (Jones, et al. 1994). Important soft-mast plants include blackberry (*Rubus* sp.) and blueberry (*Vaccinium* sp.). Despite being relatively small (only a few feet wide in most cases), edge habitat between agricultural fields and adjacent forest lands provides habitat and foraging for a diverse assemblage of species. The edge habitat offers forage and cover for white-tailed deer (*Odocoileus virginianus*) and a variety of smaller mammals - including eastern cottontail (*Sylvilagus floridanus*), mice (*Mus* sp.), moles (*Scalopus aquaticus*), voles (*Microtus* sp.), and shrews (*Sorex* sp.). Additionally, edges provide nesting and foraging for many different bird species such as sparrows and finches.

Forest

Evergreen, deciduous, and mixed forests occur throughout the study area in both uplands and wetlands. The vast majority of these stands are now managed for logging operations, but still provide habitat for wildlife.

Forests typical of the study area are comprised of tree species such as sweet gum, red maple, loblolly pine, black gum, pond pine, speckled alder (*Alnus incana*), scarlet oak (*Quercus coccinea*), cherry (*Prunus serotina),* American beech (*Fagus grandifolia*), tulip poplar (*Liriodendron tulipifera*), and American holly. Common understory species include the aforementioned species, water oak, sweetbay magnolia, slender woodoats, greenbrier (*Smilax* sp.), Japanese stiltgrass, Japanese honeysuckle, highbush blueberry, coastal sweet-pepperbush (*Clethra alnifolia*), blunt broomsedge, sweet wood-reed (*Cinna arundinacea*), seedbox (*Ludwigia alternifolia*), and switchgrass (*Panicum virgatum*).

The wildlife utilizing these habitats is relatively diverse, but is primarily composed of habitat generalists. The forests provide important sources of both hard and soft mast that are eaten by many bird and mammal species. Additionally, the oaks (*Quercus* sp.) and beech trees often develop heart rot, allowing cavities to form that many species use as denning or nesting sites. Common mammals that utilize these habitats include white-footed mouse (*Peromyscus leucopus*), gray squirrel (*Sciurus carolinensis*), raccoon (*Procyon lotor*), and white-tailed deer. Bird species commonly found in these forests include the wild turkey (*Meleagris gallopavo*), Cooper's hawk (*Accipiter cooperii*), whip-poor-will (*Caprimulgus vociferous*), great crested flycatcher (*Myiarchus crinitus*), tufted titmouse (*Parus bicolor*), eastern wood peewee (*Contopus virens*), downy woodpecker (*Picoides pubescens*), hairy woodpecker (*Picoides villosus*), northern flicker (*Colaptes auratus*), pileated woodpecker (*Dryocopus pileatus*), white-breasted nuthatch (*Sitta carolinensis*), ovenbird (*Seiurus aurocapillus*), blue-gray gnatcatcher (*Polioptila caerulea*), and black and white warbler (*Mniotilla varia*). Reptiles and amphibians commonly occurring in these habitats include eastern box turtle (*Terrapene carolina*), five-lined skink (*Eumeces fasciatus*), and black racer (*Coluber constrictor*).

Vegetated Land with Wet Features

Vegetated land with wet features, as well as PFO, PSS, and PEM wetlands, occur throughout the study area (delineated wetlands are described in **Section 2.2.1**). These vegetated areas and wetlands provide important sources of food that are eaten by many bird and mammal species. Common mammals, birds, and reptiles of the study area are similar to that of the forest habitat.

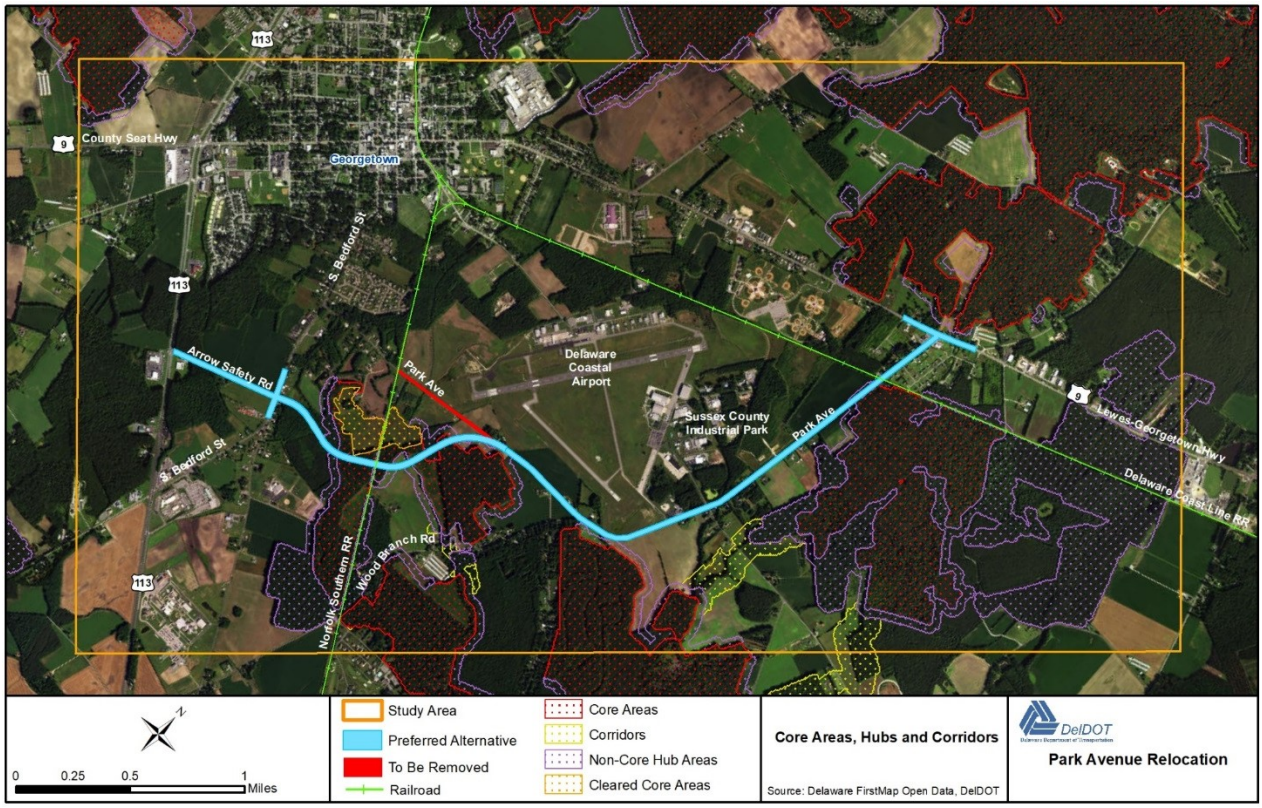
Wildlife Corridors

Due to a long history of agricultural and silvicultural activities, most uplands within the region are so highly fragmented that they afford little contribution with respect to wildlife corridors. Riparian corridors, on the other hand, have been less altered over history and presently serve as components of several prominent wildlife corridors within the region. Research has shown that riparian corridors perform a valuable role in sustaining wildlife diversity, especially in areas that have a reduced amount of natural habitat. These riparian areas often provide the primary corridors for wildlife migration between isolated areas of natural habitat.

The Delaware Ecological Network maintains a GIS database of "core areas, which contain relatively intact natural ecosystems, and provide high-quality habitat for native plants and animals; hubs, which are slightly fragmented aggregations of core areas, plus contiguous natural cover; and corridors, which link core areas together, allowing wildlife movement and seed and pollen transfer between them" (The Conservation Fund, 2017). **Figure 7-1** illustrates the core areas, hubs, and wildlife corridors within the study area. A previous project for the Delaware Coastal Airport required the clearing of a portion of the core area; this area is shown in orange stippling on Figure 3-12.

Due to the large width and vegetative composition of the core areas, hubs, and corridors, they may also represent important sites for forest interior dwelling species (FIDS). These species typically require large, relatively unfragmented tracts of hardwood or mixed hardwood forest located within heavily forested landscapes or regions to successfully breed and maintain viable populations. They prefer hardwood/mixed hardwood tracts in excess of 100 acres or they require large contiguous linear tracts of hardwood or mixed hardwood forest that are a minimum of 600 feet wide, as many of these species prefer nest sites to be located greater than 300 feet from the forest edge. This diverse group includes Neotropical migrants such as tanagers, warblers, and vireos that breed in North America and winter in the Caribbean, Central and South America; as well as residents and short-distance migrants such as woodpeckers, some hawks, and owls (C. Jones, 2001).

Figure 7-1: Core Areas, Hubs, and Corridors

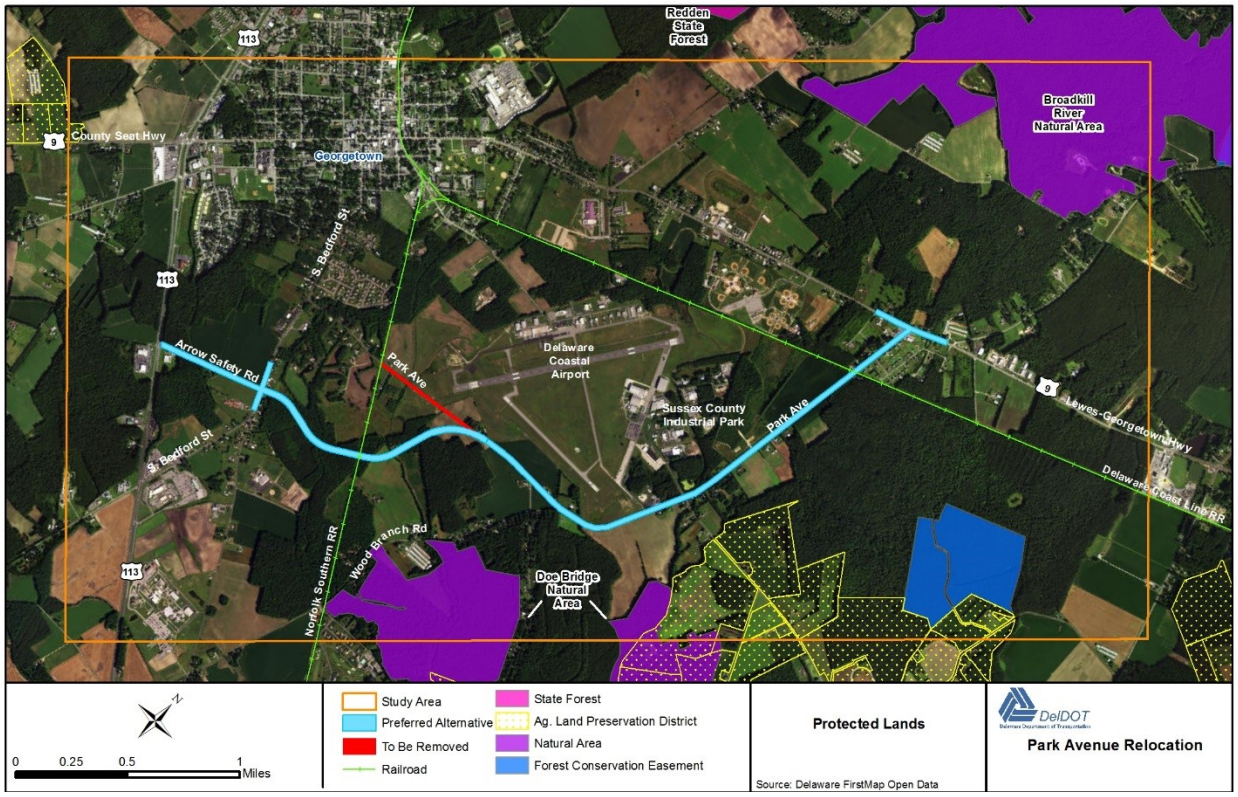


Although most FIDS are still fairly common, populations of some forest interior bird species have been declining during the last 30-40 years. The main factor contributing to the decline of FIDS is forest fragmentation and loss of mature forests. Forest fragmentation reduces the size of forest patches, reducing the total area of contiguous habitat available to birds and increases the isolation of habitat, reducing the quality of that which remains (C. Jones, 2001).

Protected Lands

According to Delaware's *FirstMap Open Data*, there are no state forests within the study area; the closest state forest, Redden State Forest, is 1/3 of a mile away. Additionally, there are no forest land preservation areas or nature preserves within the study area. There is one forest conservation easement, four agricultural land preservation districts, and two natural areas (Doe Bridge Natural Area and Broadkill River Natural Area) within the study area (State of Delaware, 2017) (**Figure 7-2**).

Figure 7-2: Protected Lands



7.3 Future Conditions

7.3.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, this alternative would have no impacts on wildlife habitat.

7.3.2 Preferred Alternative

As illustrated in **Table 7-2**, cropland and pasture are the predominant terrestrial systems impacted by the Preferred Alternative. However, other types of land use would also be impacted by the proposed project. Implementation of the Preferred Alternative would not impact wildlife corridors within the study area, but would impact three hub areas and three core areas. Impacts to hub and core areas are expected to be minimal since roads and railroads already bisect these areas. The Preferred Alternative would cross along the edges of the hub and core areas, and would not cross through undisturbed, old-growth forest.

Additionally, the Preferred Alternative would not impact the forest conservation easement (over 2/3 mile away), the agricultural land preservation districts (all four are over 1/4 mile away), the Doe Bridge Natural Area (over 1/4 mile away), or the Broadkill River Natural Area (over 1 mile away).

Table 7-2: Land Use Impacted by the Preferred Alternative

Land Use Category	Acres	Percent of Preferred Alternative
Cropland and Pasture	26	38%
Housing	17	25%
Vegetated/Forested Land	16	24%
Airport	3	4%
Commercial/Industrial/Other	6	9%
Total	**68**	**100%**

Source: Delaware Land Use, Land Cover 2012

Impacts to habitat and land use change would be avoided, where possible. Compensation for wetland impacts may be necessary, as described in **Section 2.3.2** and **Section 9.2**. Mitigation for trees, if necessary, would be carried out in accordance to the 2002 Delaware *Landscaping and Reforestation Act*.

8.0 Farmlands

The Farmland Protection Policy Act of 1981 [7 (USC) 4201] is administered by the USDA NRCS. Section 2 of the Act states that "the purpose of this act is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that federal programs are administered in a manner that, to the extent practicable, will be compatible with state, unit of local government, and private programs and policies to protect farmland."

8.1 Methodology

The USDA NRCS's online Web Soil Survey was consulted to determine the types of soil located within the study area. Web Soil Survey was developed to identify land that can be used for the production of the Nation's food supply. Soils are classified based upon their properties, qualities, and suitability for farming. Urban areas, built up areas, water areas, as well as other areas that are not suitable for farming are classified as "not prime farmland". Areas with soil that are suitable and available for farming are classified as prime farmland or farmland of statewide importance. Areas with soils that could support farming if the area was irrigated or drained are classified as "prime farmland if irrigated", and "prime farmland if drained", respectively. Additional coordination was conducted with USDA NRCS to determine impact ratings to prime farmland soil.

Delaware's *FirstMap Open Data* was reviewed to determine agricultural preservation districts within the study area.

8.2 Existing Conditions

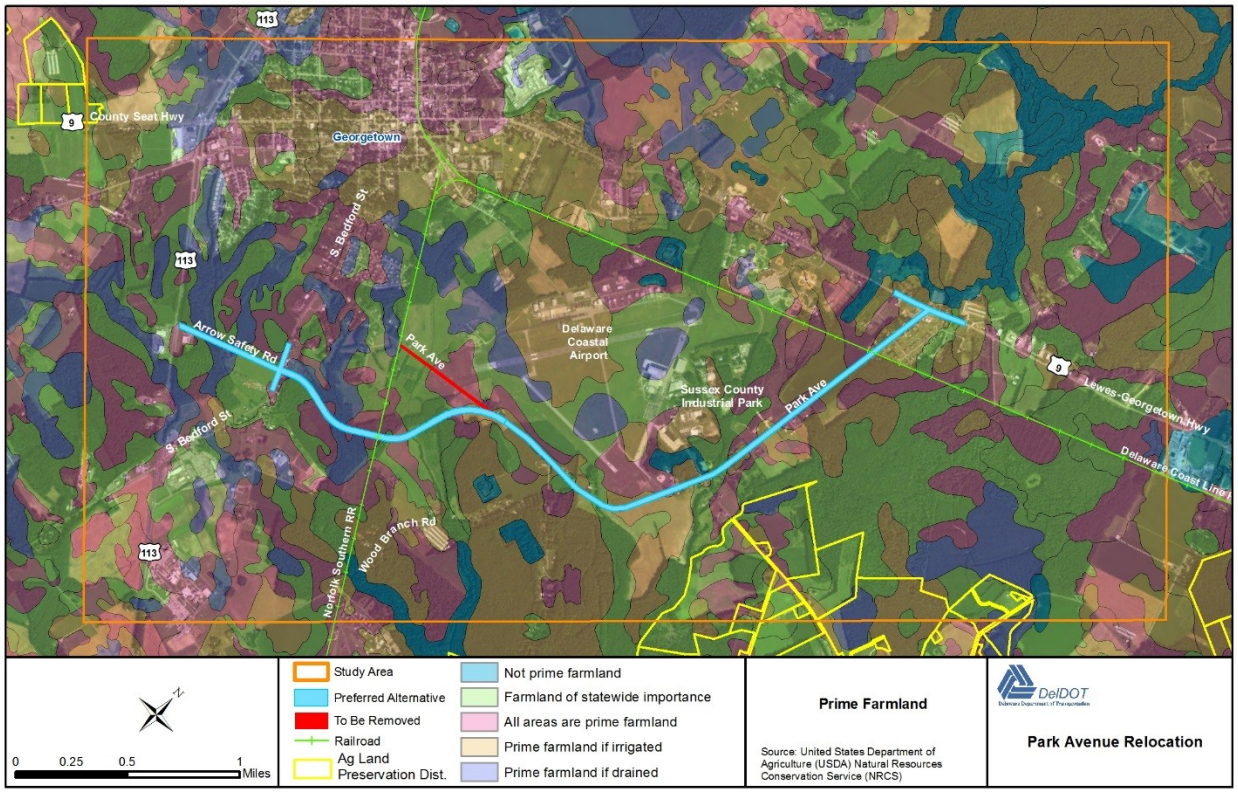
Several soil types designated as Prime Farmland and Farmland of Statewide Importance are found throughout the study area. Soil types and designations are shown in **Table 8-1** and illustrated on **Figure 8-1**. Additionally, four agricultural land preservation districts were identified within the study area.

Table 8-1: Prime Farmland within the Study Area

Prime Farmland	Symbol	Map Unit Name	Acres in Study Area	Percent of Study Area
Not Prime Farmland	AsA	Askecksy loamy sand, 0 to 2 percent slopes	8.8	0.1%
	EvB	Evesboro loamy sand, 0 to 5 percent slopes	37.4	0.5%
	EvD	Evesboro loamy sand, 5 to 15 percent slopes	59.0	0.7%
	LO	Longmarsh and Indiantown soils, frequently flooded	119.8	1.5%
	RuA	Runclint loam sand, 0 to 2 percent slopes	52.6	0.7%
	UbB	Udorthents, borrow area, 0 to 5 percent slopes	63.6	0.8%
	UzC	Udorthents, 0 to 10 percent slopes	2.5	0.0%
	W	Water	8.6	0.1%
	Za	Zekiah sandy loam, frequently flooded	20.8	0.3%
Farmland of Statewide Importance	CdB	Cedartown loamy sand, 0 to 5 percent slopes	5.2	0.1%
	FadA	Fallsington sandy loams, 0 to 2 percent slopes, Northern Tidewater Area	268.5	3.4%
	FdgA	Fallsington loams, 0 to 2 percent slopes, Northern Tidewater Area	3.0	0.0%
	HuA	Hurlock loamy sand, 0 to 2 percent slopes	1889.0	23.6%
	HvA	Hurlock sandy loam, 0 to 2 percent slopes	27.6	0.3%
	KsA	Klej loamy sand, 0 to 2 percent slopes	75.3	0.9%
	LfA	Lenni sandy loam, 0 to 2 percent slopes	62.7	0.8%
	LhA	Lenni silt loam, 0 to 2 percent slopes	136.7	1.7%
	McA	Marshyhope loam, 0 to 2 percent slopes	83.9	1.0%
	MdA	Marshyhope sandy loam, 0 to 2 percent slopes	8.5	0.1%
All Areas are Prime Farmland	DnA	Downer loamy sand, 0 to 2 percent slopes	52.9	0.7%
	HmA	Hammonton loamy sand, 0 to 2 percent slopes	1291.8	16.1
	HnA	Hammonton sandy loam, 0 to 2 percent slopes	122.6	1.5%
	IeA	Ingleside loamy sand, 0 to 2 percent slopes	197.7	2.5%
	KfA	Keyport fine sandy loam, 0 to 2 percent slopes	48.9	0.6%
	KpA	Keyport silt loam, 0 to 2 percent slopes	27.0	0.3%
	WddA	Woodstown sandy loam, 0 to 2 percent slopes, Northern Tidewater Area	226.6	2.8%
	WodA	Woodstown loam, 0 to 2 percent slopes, Northern Tidewater Area	58.3	0.7%
Prime Farmland if Irrigated	FhA	Fort Mott-Henlopen complex, 0 to 2 percent slopes	101.6	1.3%
	FhB	Fort Mott-Henlopen complex, 2 to 5 percent slopes	81.2	1.0%
	HpA	Henlopen loamy sand, 0 to 2 percent slopes	76.5	1.0%
	HpB	Henlopen loamy sand, 2 to 5 percent slopes	55.5	0.7%
	PpA	Pepperbox loamy sand, 0 to 2 percent slopes	143.2	1.8%
	PpB	Pepperbox loamy sand, 2 to 5 percent slopes	23.0	0.3%
	PrA	Pepperbox-Rockawalkin complex, 0 to 2 percent slopes	83.8	1.0%
	PsA	Pepperbox-Rosedale complex, 0 to 2 percent slopes	1378.1	17.2%
	PsB	Pepperbox-Rosedale complex, 2 to 5 percent slopes	191.8	2.4%
	RkA	Rockawalkin loamy sand, 0 to 2 percent slopes	13.6	0.2%
	RoA	Rosedale loamy sand, 0 to 2 percent slopes	14.5	0.2%
Prime Farmland if Drained	MmA	Mullica mucky sandy loam, 0 to 2 percent slopes	709.6	8.9%
	MuA	Mullica-Berryland complex, 0 to 2 percent slopes	176.5	2.2%

Source: Web Soil Survey

Figure 8-1: Prime Farmland



8.3 Future Conditions

8.3.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, this alternative would have no impacts on farmlands or agricultural land preservation districts.

8.3.2 Preferred Alternative

Based upon USDA NRCS definitions, the Preferred Alternative would impact approximately 30.2 acres of soils classified as prime farmland soil and/or soils of statewide importance and 38.3 acres of soils classified as either prime farmland if drained (MmA) or irrigated (PsA and PsB). A USDA NRCS Farmland Conversion Impact Rating Form has been completed and submitted to USDA NRCS to determine impact ratings to prime farmland soils. USDA NRCS replied on July 5, 2017, noting that the area in question is not farmland, thus the Farmland Protection Policy Act (FPPA) does not apply to this project (refer to **Appendix A**). Additionally, the Preferred Alternative would not impact the four agricultural land preservation districts within the study area; these are over 1/4 of a mile away from the Preferred Alternative.

9.0 Anticipated Permits

9.1 Permits

The Preferred Alternative would result in impacts to approximately 0.67 acres of wetlands, streams and jurisdictional ditches; however, each crossing would be less than the USACE Nationwide Permit 14 (NWP) 0.5-acre threshold. DelDOT met with the USACE on September 1, 2017 to discuss the project. USACE provided a preliminary determination that the project could qualify for a NWP 14.

Individual drainage areas per crossing are less than 800 acres and therefore a DNREC Wetlands Subaqueous Lands permit is not required under Delaware Code Chapter 72, Section 7217, Special Exemption (a), as amended by Senate Bill 186.

9.2 Compensatory Wetland Mitigation

The federal and state permit programs rely on the use of compensatory mitigation to offset unavoidable aquatic impacts by replacing lost functions with replicated functions elsewhere. Appropriate mitigation is coordinated by the agencies. Compensatory mitigation would be required for permanent impacts to streams and wetlands resulting from the project. Compensatory mitigation is typically required in the same or adjacent HUC within the same watershed and physiographic province as the impact.

Regulations providing guidance for compensatory mitigation were jointly issued by USACE and EPA and became effective 2008. These regulations, referred to as the Mitigation Rule, established a national framework and hierarchy of preferences regarding how compensatory mitigation is addressed for project impacts to jurisdictional surface waters. The Mitigation Rule provides the following preference for compensatory mitigation options:

- Purchase of compensatory mitigation bank credits.
- Purchase of an approved in-lieu fee fund credits.
- Watershed approach based mitigation by the permittee.
- On-site mitigation/in-kind mitigation by the permittee.
- Off-site mitigation/out-of-kind mitigation by the permittee.

Should mitigation bank credits and in-lieu fee payment methods not be available to satisfy compensatory mitigation requirement, DelDOT would identify a suitable site to develop required mitigation. Delaware wetland compensation ratios are not to exceed 3:1 (Environmental Law Institute, 2010).

In accordance with the existing regulations and standard permit conditions, all areas with temporary impacts would be required to be restored to the areas' original contours and re-vegetated with the same or similar species.

9.3 Tree Mitigation

As discussed in **Section 7.3.2**, mitigation may also be required for tree impacts. According to the Title 17, Chapter I, Subchapter VII of the Delaware Code and the DelDOT Road Design Manual, removal of 10 or fewer trees for a roadway construction project would require planting at least one new tree for every tree removed. Removal of more than 10 but fewer than 50 trees for a roadway construction project would require planting two trees for each tree removed. Removal of 50 or more trees for a roadway construction project would require reforestation of at least one acre of land for every acre of trees removed.

9.4 Erosion and Sediment Control

Activities that may generate erosion and sediment are regulated under Title 7, Chapter 40 of the Delaware Code. This legislation is administered by Delaware's Sediment and Stormwater Management program, which operates within the Division of Watershed Stewardship's Drainage and Stormwater Section. The program employs a comprehensive approach to sediment control and stormwater management that includes sediment control and inspection during construction, post-construction inspection of permanent stormwater facilities, stormwater quantity and water quality control, and education/training related to stormwater (State of Delaware, 2016a).

Delaware is an authorized state under the federal National Pollutant Discharge Elimination System (NPDES) stormwater permitting programs, with the exception of pre-treatment and federal facilities. Delaware Code of Law, Title 7, Part VII, Chapter 60, "Environmental Control" provides the authority for Delaware's NPDES permits, which is carried out by the Division of Water Resources, Surface Water Discharges Section (State of Delaware, 2016a). Land-disturbing activities greater than 5,000 square feet must comply with the latest version of the Delaware Sediment and Stormwater Regulations; DelDOT Standard Construction Details; DelDOT Standard Specifications and Design Guidance for drainage, erosion, and stormwater management; and the most current version of the DelDOT Erosion and Sediment Control and Stormwater Management Design Guide, and must have a project-specific erosion, sediment, and stormwater management plan. All regulated land-disturbing activities associated with the project, including on and off site access roads, staging areas, borrow areas, stockpiles, and soil intentionally transported from the project would be covered by the project specific erosion, sediment, and stormwater management plan. Additionally, construction activities with disturbances one acre or greater require NPDES Construction General Permit coverage to discharge stormwater from the construction site (State of Delaware, 2016c).

10.0 References

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Appendix A – Agency Correspondence

Glinkin, Kimberly

From: Stetzar, Edna (DNREC) <Edna.Stetzar@state.de.us>
Sent: Tuesday, June 5, 2018 10:16 AM
To: Glinkin, Kimberly; Fleming, Kate M. (DNREC); cbfoprojectreview@fws.gov
Cc: Furlong, Erika (DelDOT); Smith, Anna (DelDOT); Caruano, John (DelDOT); Callens, Laura; Wills, Robert
Subject: RE: NORMAL: Park Avenue Relocation (T201304601)

All-The Division of Fish and Wildlife does not have fish community data for Eli Walls Ditch or McGee Ditch, however, there are several dams (Morris Mill Pond, Millsboro Pond) downstream of the project area that impede migration of diadromous fish species. Therefore, it is unlikely that the project area supports these species. No time of year restrictions are requested by the Division's Fisheries Section. Measures that maintain the natural shoreline as much as feasible and that result in stringent erosion and sediment control, could benefit the resident fish community. A review of the potential impacts to rare, threatened and endangered species, unique natural communities, and other significant natural resources is provided by Kate Fleming in a separate document/e-mail.

Please contact me if you have any questions.
Sincerely,
Edna

Edna J. Stetzar
Fisheries Biologist
DNREC-Division of Fish and Wildlife
4876 Hay Point Landing Rd
Smyrna, DE 19977
(302) 735-8654
Edna.Stetzar@state.de.us

We Bring You Delaware's Great Outdoors through Science and Service

Find us on Facebook http://www.facebook.com/DelawareFishWildlife

Glinkin, Kimberly

From: Glinkin, Kimberly
Sent: Tuesday, May 1, 2018 11:26 AM
To: 'Kate.Fleming@state.de.us'; 'Edna.Stetzar@state.de.us'; 'cbfoprojectreview@fws.gov'
Cc: 'Furlong, Erika (DelDOT)'; Smith, Anna (DelDOT); Caruano, John (DelDOT); Laura Callens (lcallens@wrallp.com); Robert Wills (rwills@wrallp.com)
Subject: NORMAL: Park Avenue Relocation (T201304601)
Attachments: Park Ave -IPaC.PDF; Park Ave - Swamp Pink Findings.pdf; Park Ave -State RTE Correspondence.pdf; Park Ave - Preferred Alternative.pdf; Park Ave Topo_Map.pdf

Good afternoon,

On behalf of Delaware Department of Transportation (DelDOT), Whitman, Requardt and Associates, LLP (WRA) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969, as amended, (NEPA) and in accordance with FHWA regulations, to analyze the potential social, economic, and environmental effects associated with the Park Avenue Relocation project. WRA and DelDOT have previously contacted your offices regarding the project (see attached State RTE Correspondence). DelDOT is requesting an updated review and response concerning the presence of rare, threatened or endangered species within the project area for the project described below. Additionally please forward any information you have regarding State Natural Heritage Sites, Delaware Natural Estuarine Research Reserves, and Fisheries within the project area.

Project Description
DelDOT, in cooperation with the Federal Highway Administration (FHWA), is evaluating the relocation and upgrade of Park Avenue in the southern portion of the Georgetown area in Sussex County, Delaware. The purpose of the Park Avenue relocation, being undertaken by DelDOT, is to improve the traffic operations and safety of the US 9 truck bypass from east of Georgetown to US 113. The Preferred Alternative would begin at Arrow Safety Road and straighten the alignment of the truck bypass by creating an additional leg at the intersection with South Bedford Street (see attached figures). The alternative would then travel along a new alignment to connect to Park Avenue east of the Norfolk Southern Railroad tracks. The alignment would then travel along Park Avenue to US 9. Arrow Safety Road and Park Avenue would be widened to accommodate two 12-foot travel lanes with 10-foot shoulders on each side of the travel lane. The new alignment would require culverted crossings of Eli Walls Ditch and McGee Ditch, and widening of Arrow Safety Road and Park Avenue would likely impact the culverted crossing of McGee Ditch and Peterkins Ditch, respectively. Implementation of the Preferred Alternative would result in impacts to 0.29 acres of wetlands, 0.3 acres (1,185 linear feet) of streams, and 0.08 acres (847 linear feet) of jurisdictional ditches. Primary impacts to streams resulting from roadway construction would likely include discharges and excavation of dredged or fill material for culverted stream crossings. Secondary effects would likely include stormwater discharge from the new roadway and right-of-way.

Trevor, the IPaC list from 2017 and 2018 is attached. There was an initial hit for swamp pink. A presence/absence survey and habitat assessment for swamp pink was conducted by DelDOT in June 2017. No swamp pink individuals were found and the wetlands within the project study area were determined to be unsuitable for swamp pink (see attached Swamp Pink Findings).

If you have questions or need more information to complete your review, please do not hesitate to contact me. Thank you very much for your assistance.

Best,

Kim Glinkin | *Associate*

Whitman, Requardt & Associates, LLP
(Direct) 973.781.1037
(Mobile) 973.568.6796

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127
http://www.fws.gov/chesapeakebay/
http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

In Reply Refer To: April 30, 2018
Consultation Code: 05E2CB00-2017-SLI-0594
Event Code: 05E2CB00-2018-E-02585
Project Name: Park Avenue Relocation NRTR

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2017-SLI-0594

Event Code: 05E2CB00-2018-E-02585

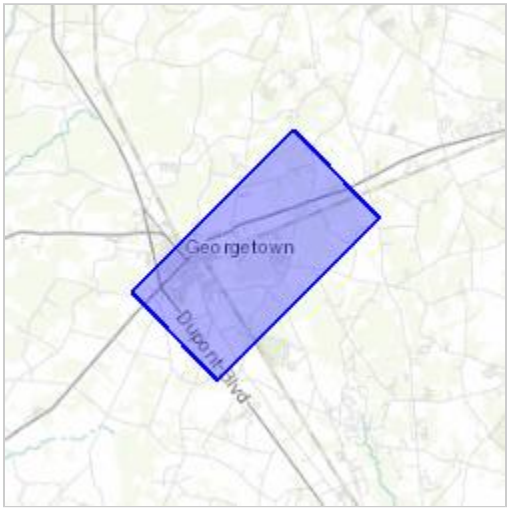
Project Name: Park Avenue Relocation NRTR

Project Type: TRANSPORTATION

Project Description: The purpose of the Park Avenue relocation, being undertaken by DelDOT, is to improve the traffic operations and safety of the US 9 truck bypass from east of Georgetown to US 113. The primary need for the Park Avenue project is to improve traffic operations and safety. The existing truck route between US 9 and US 113 has several turning movements that hinder traffic operations, the roadway width is narrow and does not meet current design for a truck route, and the average number of crashes along the truck route between US 113 and US 9 is higher than the state and Sussex County averages. Secondary needs are to support economic growth and to support federal, state, and local initiatives by focusing on improving transportation infrastructure to provide safe and convenient road access across the region and to areas zoned for business/industrial use.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.69157262426667N75.35937549785527W



Counties: Sussex, DE

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Flowering Plants

NAME	STATUS
Swamp Pink *Helonias bullata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4333	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

REFUGE INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1B
- PEM1C
- PEM1Bd
- PEM1F
- PEM1Cx

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1B
- PFO1C
- PFO4/1Ad
- PFO3/1Bd
- PFO1/4Bd
- PFO3/SS3B
- PFO4/1B
- PFO1/3B
- PFO1A
- PFO3/1C
- PFO4B
- PFO1/4B
- PFO1/SS1B
- PFO1/3A
- PFO1/4C
- PFO1/SS1Bd
- PFO1/SS4C
- PFO4Bd
- PFO3/1B

- PSS1F
- PFO1/3Bd
- PSS1Bd
- PSS1Ed
- PSS1B
- PFO1Cd
- PFO1/4A
- PFO1E
- PFO1/3E
- PFO1/4E
- PFO1Ex
- PSS1C
- PSS1/4B
- PFO1/3C
- PFO3B
- PFO1Bd
- PFO4/1Bd
- PSS1/3Bd
- PFO4E
- PFO1/SS3B
- PFO1/4Cd
- PSS1/FO3Bd
- PFO1/SS1C
- PSS1A
- PFO1F
- PSS1E
- PFO4/1A
- PFO4A

FRESHWATER POND

- PUBHx
- PABHx
- PUBF
- PUBFx
- PUBH
- PABH

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

April 19, 2017

Whitman Requardt and Associates
9030 Stony Point Parkway, Suite 220
Richmond, VA 23235

RE: Park avenue Relocation NRTR

Dear Emily Drahos:

This responds to your letter, received January 24, 2017, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the above referenced project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

The federally threatened swamp pink *(Helonias bullata)* has been documented to occur in the project area. Swamp pink is a perennial wildflower that inhabits a variety of freshwater wetlands, including spring seepages, swamps, bogs, wet meadows and margins of small streams. We recommend that any wetlands to be filled or otherwise affected by the proposed project be surveyed for the presence of swamp pink by a professional botanist. Enclosed is a list of qualified individuals who have experience with swamp pink surveys. Even if no direct effects to potential swamp pink habitat are identified, any projects on this property must be designed to minimize impacts of hydrologic changes, siltation, and runoff (quantity and quality) on the watershed. Any such potential impacts on swamp pink habitat should be analyzed as a part of your environmental assessment. If such impacts may occur, further Section 7 consultation with the U.S. Fish and Wildlife Service may be required.

Except for occasional transient individuals, no other federally proposed or listed endangered or threatened species are known to exist within the project impact area. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

TAKE PRIDE® IN AMERICA

Effective August 8, 2007, under the authority of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (Service) removed (delist) the bald eagle in the lower 48 States of the United States from the Federal List of Endangered and Threatened Wildlife. However, the bald eagle will still be protected by the Bald and Golden Eagle Protection Act, Lacey Act and the Migratory Bird Treaty Act. As a result, starting on August 8, 2007, if your project may cause "disturbance" to the bald eagle, please consult the "National Bald Eagle Management Guidelines" dated May 2007.

If any planned or ongoing activities cannot be conducted in compliance with the National Bald Eagle Management Guidelines (Eagle Management Guidelines), please contact the Chesapeake Bay Ecological Services Field Office at 410-573-4573 for technical assistance. The Eagle Management Guidelines can be found at:
http://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities. This proposed permit process will not be available until the Service issues a final rule for the issuance of these take permits under the Bald and Golden Eagle Protection Act.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Andy Moser at (410) 573-4537.

Sincerely,

G. La Rouche

Genevieve LaRouche
Supervisor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 ADMIRAL COCHRANE DRIVE
ANNAPOLIS, MD 21401
PHONE: (410)573-4599 FAX: (410)266-9127
URL: www.fws.gov/chesapeakebay/;
www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

Consultation Code: 05E2CB00-2017-SLI-0594 January 24, 2017
Event Code: 05E2CB00-2017-E-00946
Project Name: Park Avenue Relocation NRTR

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Park Avenue Relocation NRTR

Official Species List

Provided by:

Chesapeake Bay Ecological Services Field Office
177 ADMIRAL COCHRANE DRIVE
ANNAPOLIS, MD 21401
(410) 573-4599
http://www.fws.gov/chesapeakebay/
http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

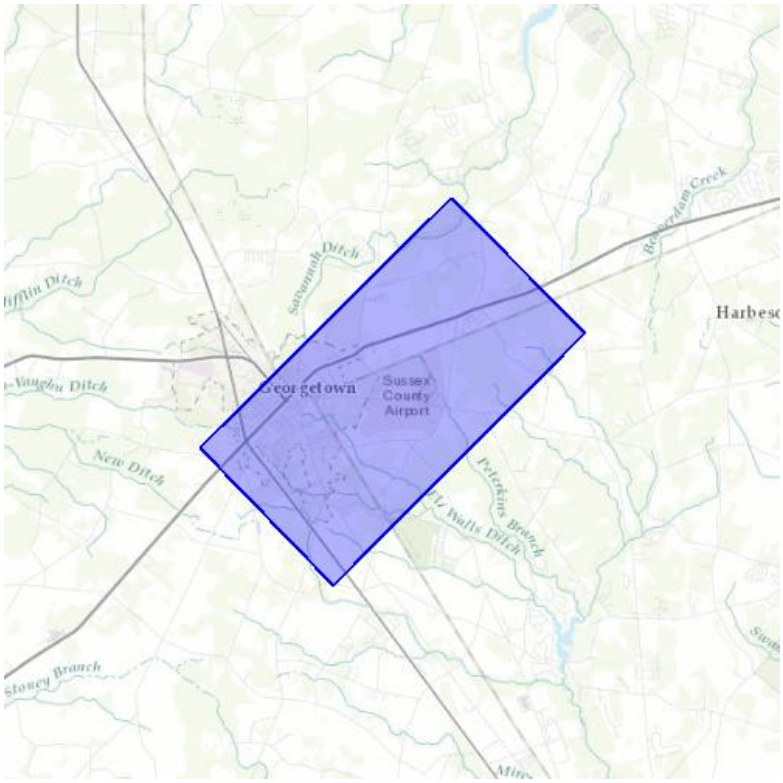
Consultation Code: 05E2CB00-2017-SLI-0594
Event Code: 05E2CB00-2017-E-00946

Project Type: TRANSPORTATION

Project Name: Park Avenue Relocation NRTR
Project Description: The purpose of the Park Avenue relocation, being undertaken by DelDOT, is to improve the traffic operations and safety of the US 9 truck bypass from east of Georgetown to US 113. The primary need for the Park Avenue project is to improve traffic operations and safety. The existing truck route between US 9 and US 113 has several turning movements that hinder traffic operations, the roadway width is narrow and does not meet current design for a truck route, and the average number of crashes along the truck route between US 113 and US 9 is higher than the state and Sussex County averages. Secondary needs are to support economic growth and to support federal, state, and local initiatives by focusing on improving transportation infrastructure to provide safe and convenient road access across the region and to areas zoned for business/industrial use.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-75.40771851299661 38.68039568761563, -75.34424667085545 38.729653662908554, -75.3107785642442 38.70309278424306, -75.37388173074189 38.65349158562478, -75.40771851299661 38.68039568761563)))

Project Counties: Sussex, DE

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	Status	Has Critical Habitat	Condition(s)
Swamp pink *(Helonias bullata)* Population: Wherever found	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

United States Department of Interior
Fish and Wildlife Service

Project name: Park Avenue Relocation NRTR

Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.

Appendix B: NWI Wetlands

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery and/or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Exclusions - Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Precautions - Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of

this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

The following NWI Wetland types intersect your project area in one or more locations. To understand the NWI Classification Code, see https://ecos.fws.gov/ipac/wetlands/decoder. To view the National Wetlands Inventory on a map go to http://www.fws.gov/wetlands/Data/Mapper.html.

Wetland Types	**NWI Classification Code**
Freshwater Emergent Wetland	PEM1B
Freshwater Emergent Wetland	PEM1C
Freshwater Emergent Wetland	PEM1Bd
Freshwater Emergent Wetland	PEM1F
Freshwater Emergent Wetland	PEM1Cx
Freshwater Forested/Shrub Wetland	PFO1B
Freshwater Forested/Shrub Wetland	PFO1C
Freshwater Forested/Shrub Wetland	PFO4/1Ad
Freshwater Forested/Shrub Wetland	PFO3/1Bd
Freshwater Forested/Shrub Wetland	PFO1/4Bd
Freshwater Forested/Shrub Wetland	PFO3/SS3B
Freshwater Forested/Shrub Wetland	PFO4/1B
Freshwater Forested/Shrub Wetland	PFO1/3B
Freshwater Forested/Shrub Wetland	PFO1A
Freshwater Forested/Shrub Wetland	PFO3/1C

Freshwater Forested/Shrub Wetland	PFO4B
Freshwater Forested/Shrub Wetland	PFO1/4B
Freshwater Forested/Shrub Wetland	PFO1/SS1B
Freshwater Forested/Shrub Wetland	PFO1/3A
Freshwater Forested/Shrub Wetland	PFO1/4C
Freshwater Forested/Shrub Wetland	PFO1/SS1Bd
Freshwater Forested/Shrub Wetland	PFO1/SS4C
Freshwater Forested/Shrub Wetland	PFO4Bd
Freshwater Forested/Shrub Wetland	PFO3/1B
Freshwater Forested/Shrub Wetland	PSS1F
Freshwater Forested/Shrub Wetland	PFO1/3Bd
Freshwater Forested/Shrub Wetland	PSS1Bd
Freshwater Forested/Shrub Wetland	PSS1Ed
Freshwater Forested/Shrub Wetland	PSS1B
Freshwater Forested/Shrub Wetland	PFO1Cd
Freshwater Forested/Shrub Wetland	PFO1/4A
Freshwater Forested/Shrub Wetland	PFO1E
Freshwater Forested/Shrub Wetland	PFO1/3E
Freshwater Forested/Shrub Wetland	PFO1/4E
Freshwater Forested/Shrub Wetland	PFO1Ex
Freshwater Forested/Shrub Wetland	PSS1C
Freshwater Forested/Shrub Wetland	PSS1/4B

Freshwater Forested/Shrub Wetland	PFO1/3C
Freshwater Forested/Shrub Wetland	PFO3B
Freshwater Forested/Shrub Wetland	PFO1Bd
Freshwater Forested/Shrub Wetland	PFO4/1Bd
Freshwater Forested/Shrub Wetland	PSS1/3Bd
Freshwater Forested/Shrub Wetland	PFO4E
Freshwater Forested/Shrub Wetland	PFO1/SS3B
Freshwater Forested/Shrub Wetland	PFO1/4Cd
Freshwater Forested/Shrub Wetland	PSS1/FO3Bd
Freshwater Forested/Shrub Wetland	PFO1/SS1C
Freshwater Forested/Shrub Wetland	PSS1A
Freshwater Forested/Shrub Wetland	PFO1F
Freshwater Forested/Shrub Wetland	PSS1E
Freshwater Forested/Shrub Wetland	PFO4/1A
Freshwater Forested/Shrub Wetland	PFO4A
Freshwater Pond	PUBHx
Freshwater Pond	PABHx
Freshwater Pond	PUBF
Freshwater Pond	PUBFx
Freshwater Pond	PUBH
Freshwater Pond	PABH

USDA

United States Department of Agriculture

Natural Resources
Conservation Service

Delaware State Office

1221 College Park
Drive, Suite 100
Dover, DE19904
Voice 302.678-4160
Fax 855.389.3386

July 5, 2017

RECEIVED
JUL 10 2017
WHITMAN, REQUARDT & ASSOCIATES, LLP

Laura Callens, PWD, CFM
Senior Project Environmental Scientist
801 South Caroline Street
Baltimore, MD 21231

Subject: FPPA review

Reference: Park Avenue Relocation Study Project #: T201304601

Dear Laura Callens,

NRCS received your request to conduct an FPPA review for Park Avenue Relocation Study.

In regards to prime farmland and farmland of state wide important, FPPA does not apply in this situation.

The area is question is not "Farmland".

"Farmland" does not include land already in or committed to urban development or water storage.

Therefore, FPPA does not apply to this project.

However, it should be noted that large area of hydric soils do occur in all six proposed routes. Therefore it is incumbent upon you to determine if jurisdictional wetlands occur in your project area. If they do, you will need to get approval from ACOE and subsequent permits before construction operations can commence.

If you have any questions, or are in need of further assistance, please call.

Respectfully Submitted,

PSK

Phillip S. King
State Soil Scientist
DE/MD/DC

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF FISH & WILDLIFE
89 Kings Highway
Dover, Delaware 19901

OFFICE OF THE DIRECTOR

Phone: (302) 739-9910
Fax: (302) 739-6157

January 6, 2015

Ms. Therese Fulmer
800 Bay Road
PO Box 778
Dover, DE 19903

Re: Park Avenue Relocation project

Dear Ms. Fulmer:

Thank you for contacting the Wildlife Species Conservation and Research Program (WSCRP) about information on rare, threatened and endangered species, unique natural communities, and other significant natural resources as they relate to the proposed relocation of Park Avenue in Georgetown.

A review of our database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities at this project site. As a result, at present, this project does not lie within a State Natural Heritage Site, nor does it lie within a Delaware National Estuarine Research Reserve which are two criteria used to identify "Designated Critical Resource Waters" in the Army Corps of Engineers (ACOE) Nationwide Permit General Condition No. 22. A copy of this letter shall be included in any permit application or pre-construction notification submitted to the Army Corps of Engineers for activities on this property.

Forest Impacts
The proposed alignment alteration may cut through or be adjacent to forested areas that are contiguous with the Doe Bridge Natural Area. State Natural Areas are composed of areas of land and/or water, whether in public or private ownership, which have retained or reestablished its natural character (although it need not be undisturbed), has unusual flora or fauna, or has biotic, geological, scenic or archaeological features of scientific or educational value. WSCRP recommends that all practicable effort be made to minimize tree removal, especially in locations that are off the alignment of existing roads.

We are continually updating our records on Delaware's rare, threatened and endangered species, unique natural communities and other significant natural resources. If the start of the project is delayed more than a year past the date of this letter, please contact us again for the latest information.

Sincerely,

Matthew Bailey

Matthew Bailey
DelDOT Environmental Review Coordinator
(302) 735-8677
(302) 382-4151 cell
matthew.bailey@state.de.us

Wills, Robert

From: Stetzar, Edna (DNREC) <Edna.Stetzar@state.de.us>
Sent: Thursday, June 19, 2014 3:55 PM
To: Callens, Laura; Bailey, Matthew (DNREC)
Cc: Spadafino, George (DelDOT); Caruano, John (DelDOT); Fulmer, Terry (DelDOT); Ford, Joy (DelDOT); Wills, Robert; Nies, Nicholas; Mielke, Matthew
Subject: RE: NORMAL: Park Avenue Relocation Project, DelDOT Contract #T201304601

Hi All-No seasonal fisheries restrictions are requested for this project. A review of the potential impacts to rare, threatened and endangered species, unique natural communities, and other significant natural resources will be provided by Matt Bailey (Species Conservation and Research Program) in a separate document or e-mail.

Thanks for the opportunity to review this project,
Edna

Edna J. Stetzar
Fish and Wildlife Biologist
DNREC-Division of Fish and Wildlife
4876 Hay Point Landing Rd
Smyrna, DE 19977
(302) 735-8654
Edna.Stetzar@state.de.us

From: Callens, Laura [mailto:lcallens@wrallp.com]
Sent: Tuesday, June 17, 2014 3:32 PM
To: Bailey, Matthew (DNREC); Stetzar, Edna (DNREC)
Cc: Spadafino, George (DelDOT); Caruano, John (DelDOT); Fulmer, Terry (DelDOT); Ford, Joy (DelDOT); Wills, Robert; Nies, Nicholas; Mielke, Matthew
Subject: NORMAL: Park Avenue Relocation Project, DelDOT Contract #T201304601

Dear Matt and Edna,

This email is being submitted for your information regarding an upcoming DelDOT project. A brief description of the proposed work to occur at this location is as follows:

Park Avenue Relocation Project (Contract T201304601) (maps and photos attached): The Delaware Department of Transportation (DelDOT), in cooperation with the Federal Highway Administration (FHWA) as the lead federal agency, is initiating the subject project. On behalf of DelDOT, Whitman, Requardt and Associates, LLP (WR&A) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969, as amended, (NEPA) and in accordance with FHWA regulations, to analyze the potential social, economic, and environmental effects associated with the proposed project.

The proposed project consists of relocating and upgrading US 9 (Park Avenue). The improvements begin at the intersection of South Bedford Street and Arrow Safety Road, relocating Park Avenue about 2,400 feet to the east of the current Park Avenue/South Bedford Street intersection. In addition to the relocation, the project includes the addition of shoulders and turn lanes where appropriate along Arrow Safety Road and Park Avenue

up to the intersection with US 9. Intersection improvements to provide appropriate turn lanes and signalization at the Park Avenue intersections with South Bedford Street and US 9 would also be incorporated. The US 9 Truck Route from US 9 to US 113 would then be along Park Avenue and Arrow Safety Road thereby eliminating the designation along South Bedford Street. The project alignment crosses multiple streams: McGee Ditch, Eli Walls Ditch, Peterkins Branch, and an unnamed tributary to Peterkins Branch.

Federal and/or State involvement for this project includes Section 404 CWA permitting and NEPA documentation. Please forward any information or records that you may have regarding the presence of rare, threatened or endangered species within the project area to the above address. In addition to the rare species information, please forward any information that you may have regarding State Natural Heritage Sites, Delaware Natural Estuarine Research Reserves, and Fisheries.

If you have any questions or require additional information please do not hesitate to call me at 443-224-1633. Thank you for your assistance; we look forward to working with your agency to successfully complete this project.

Thank you,

Laura C. Callens, CFM| *Project Environmental Scientist*

Whitman, Requardt & Associates, LLP

801 South Caroline Street

Baltimore, MD 21231

(Direct) 443.224.1633

lcallens@wrallp.com

www.wrallp.com

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WRA_Disclaimer_v20070222a

Appendix B – Swamp Pink (*Helonias bullata*) Search Findings

Brief Report of Findings

Georgetown Area *Helonias bullata* Search

by

Ron Wilson
June 27, 2017

SITE DESCRIPTIONS

The following paragraphs contain brief descriptions of 8 wetland areas just south of Georgetown, DE (see accompanying map) that were searched on June 27, 2017 for the presence/absence of Swamp Pink (*Helonias bullata*).

Area 1 – This section was a marginally wet woods along a road ROW. Three plants of the state-rare Green Fringed Orchid (*Platanthera lacera*) were found, but no habitat for *Helonias* was present.

Area 2 – This area was a wet depression and ditch along the edge of an ag field. No habitat found.

Area 3 – 2 disturbed sections on either side of a deep ditch that appeared to have ruts from previous logging operations. No habitat found.

Area 4 – Fairly high quality wet woods, but no suitable habitat for *Helonias*.

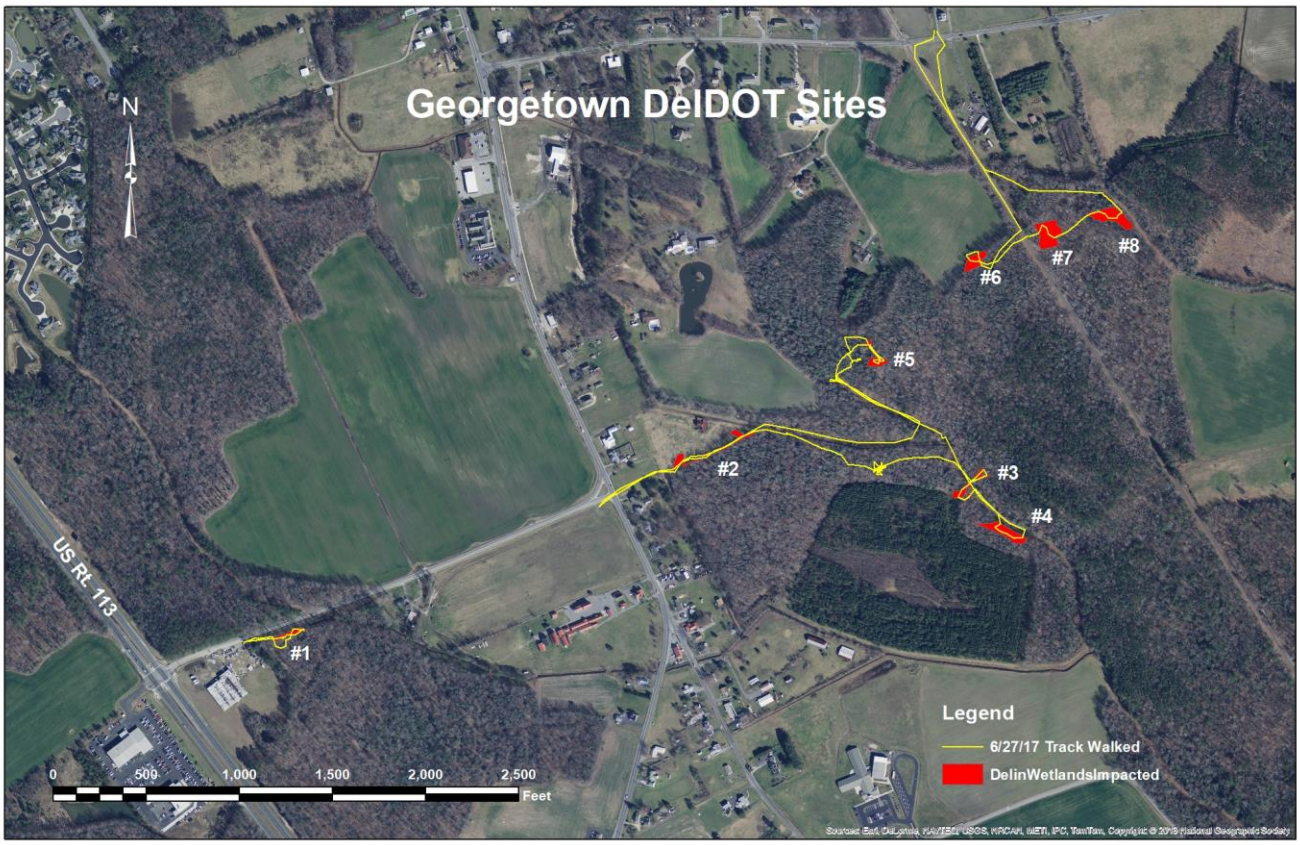
Area 5 – This section was an ill-defined wet area in the middle of a clear-cut that could best be described as a thicket. No habitat found.

Area 6 – This section was a wet depression in a recently clear-cut area. It was the wettest section searched and contained many wet plants, including the highly invasive Ricefield Bulrush (*Schoenoplectus mucronatus*).

Area 7 – Another shallow depression in a clear-cut area that was dominated by Walter's sedge (*Carex striata*), Soft rush (*Juncus effusus*), and Maryland Meadow Beauty (*Rhexia mariana*). No suitable habitat found.

Area 8 – Another shallow swale dominated almost entirely by Soft Rush. No habitat found.

SUMMARY

No Swamp Pink was found and none of the 8 areas searched contained any habitat that was even remotely suitable for it. One state-rare species was found in Area 1.

MAP