Interstate 80 Reconstruction Project
SR 0080, Section 17M
Monroe County, Pennsylvania

Phase 1 Bog Turtle (*Clemmys muhlenbergii*) Habitat Assessment

Prepared for:
PennDOT District 5-0
1002 Hamilton Street
Allentown, PA 18101

Prepared by:
AECOM
1700 Market Street
Philadelphia, Pennsylvania 19103

March, 2014

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I. Introduction

The Pennsylvania Department of Transportation (PennDOT) District 5-0 and the Federal Highway Administration (FHWA) are in the preliminary engineering and environmental clearance phase for the proposed Interstate 80 (I-80), Section 17M Reconstruction project, a 3.5 mile roadway reconstruction traversing parts of three (3) municipalities (Stroud Township, Stroudsburg Borough and East Stroudsburg Borough) in Monroe County, Pennsylvania (***Figure 1***).

Environmental studies are being conducted as part of the project's preliminary design efforts to fully assess the impacts the proposed project would have on environmental resources within the project area. Field investigations for the project identified the presence of 23 palustrine wetland areas within the project study area.

As this project is located in Monroe County, it has been identified by the US Fish and Wildlife Service (USFWS) to be within the known range of the federally threatened and state endangered Bog turtle (*Clemmys muhlenbergii*). Therefore, wetlands within the action area were evaluated for their potential to provide habitat to support the Bog turtle.

Initial wetland field investigations identified the 23 wetlands within 300 feet of the worst-case potential limit of disturbance ***(Figure 2)***. As such, a Phase 1 Bog Turtle Habitat Evaluation was conducted for these wetlands between September 2013 and January 2014 in order to determine their Bog turtle habitat potential. Results of the Phase 1 Bog Turtle Habitat Evaluation found that potential Bog turtle habitat existed within four (4) of the wetland systems and Phase II surveys are recommended.

This *Phase 1 Bog Turtle Habitat Assessment Report* has been prepared pursuant to Section 7 of the Endangered Species Act of 1973 and the USFWS Bog turtle survey guidelines. The report presents the findings of the field investigation conducted to determine if Bog turtle habitat is present within the project area.

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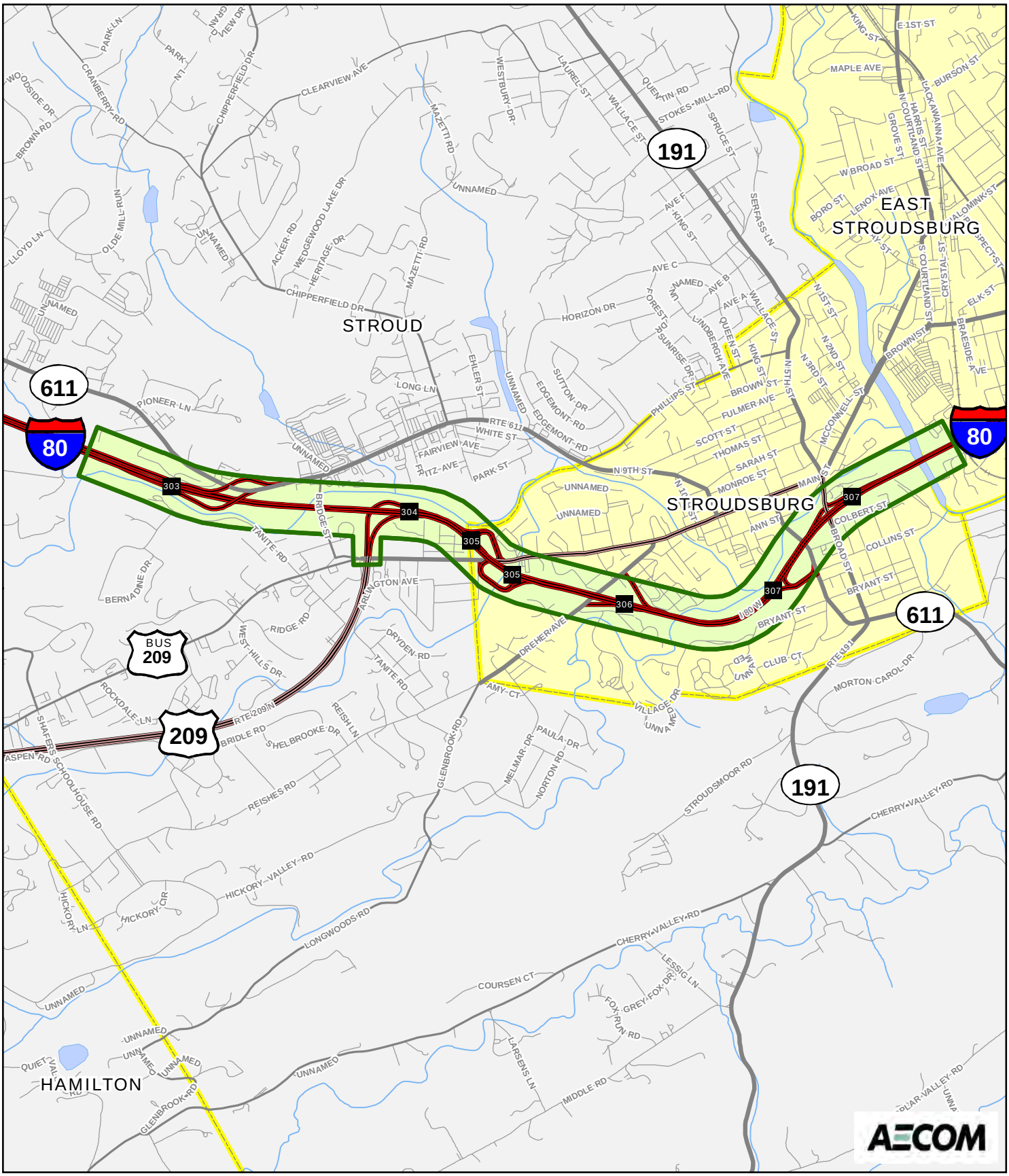

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 1: Project Study Area

Project Location

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0 0.25 0.5

Miles

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II. BOG TURTLE HABITAT (PHASE 1) SURVEY REPORT

Project and Site Information

This Phase 1 survey was conducted on behalf of:

Name: PennDOT District 5

☐ landowner developer ■ state agency ☐ local government

☐ other (_____)

Address: 1002 Hamilton Street

City/State/Zip: Allentown, PA 18101

Telephone: 610-871-4458 Jerry Neal

Project / Property Name: Interstate 80, Section 17M Reconstruction Project

Project / Property Location:

Address: Interstate 80 west of Exit 303 to east of Exit 307 and Brodhead Creek bridge and surrounding area

City/State/Zip: Stroudsburg, Pa 18360

Township/Municipality: Stroud Township, Stroudsburg Borough, East Stroudsburg Borough

County: Monroe

Watershed (minor): Pocono, McMichael and Brodhead Creeks

Watershed (major): Middle Delaware River

Project Area / Property – Size and Extent

The project area is an approximately 3.5-mile long roadway reconstruction including five interchanges traversing through three municipalities (Stroud Township, Stroudsburg Borough & East Stroudsburg Borough). (***Figure 1***). To identify the project area, all potential alternatives (see **Project Description**, below) were combined using Geographic Information Systems (GIS) to generate a single polygon encompassing the outer limits of pavement / shoulder construction. This was then buffered 50 feet to create an approximate limit of disturbance (LOD). From this LOD, a 300 foot buffer was applied to identify the Action Area for Phase I Bog turtle habitat surveys.

Current Land Use and Setting

The project area is located in a corridor of I-80 starting from just west of the Exit 303 interchange to east of Exit 307 and the Brodhead Creek bridge in East Stroudsburg. The project area includes the 303, 304, 305, 306 and 307 interchanges. Existing land use/land cover can be classified as mostly urban in the eastern portion of the project area, especially in the two boroughs of Stroudsburg and East Stroudsburg. The project area becomes more rural heading westward along I-80.

The roadway in this region serves as a major carrier of local and regional commuter traffic; local, regional, and national freight; and local and regional tourism. The project corridor serves as a gateway to the Pocono resort areas as well as the Delaware Water Gap National Recreational Area.

The project area is characterized by multiple streams which often run parallel to the I-80 corridor. Bedrock is shallow throughout much of the surveyed area and can be observed in and along the streams. Wide floodplains surround the stream channels except where steep slopes, both natural and manmade, encroach and soils tend to be rocky. Because of the shallow bedrock, springs and seeps are not uncommon.

Project Description

The I-80 Section 17M project includes 3.5 miles of full roadway reconstruction, widening, and interchange reconfiguration within eastern Monroe County, Pennsylvania. Originally constructed in the 1960s, the roadway has suffered significant deterioration in recent years, and no longer meets multiple current design criteria. The purpose of the project is to provide a safe and efficient transportation system on both local and regional connections in the area by reducing future congestion, improving safety, and bringing I-80 up to current standards.

Potential improvements being considered include interchange reconstructions or elimination, ramp relocations, additional travel and auxiliary lanes, and local road improvements. Stormwater facilities will also be incorporated throughout the project area.

Permit Area (for wetland/stream encroachments):

Thirty-eight (38) watercourses and 23 wetlands were identified within the project area (***Figure 2***). The main watercourses are Pocono Creek, Little Pocono Creek, McMichael Creek, and Brodhead Creek. These creeks are part of the Middle Delaware River Watershed. The remaining watercourses are unnamed tributaries (UNT) to these streams. Detailed information on the project area wetlands is found below. Many are systems located in or adjacent to the streams and floodplains, and most have been altered by past development found throughout the project area, including the original construction of I-80.

It is assumed that a full Section 404 / Chapter 105 Joint Permit Application (JPA) will be required. There are four (4) major waterway crossings which will be replaced as part of the project, as well as smaller stream crossings and wetland impacts. The specific impacts are to be determined upon the identification of a Preferred Alternative, at the conclusion of the Environmental Assessment process.

Wetland Information

Wetland investigations were conducted for the project study corridor in the fall of 2013 to identify the presence of wetlands. A total of 23 palustrine wetland systems were delineated as a result of this investigation. All of the delineated wetlands were fully examined for Bog turtle habitat.

One additional open water wetland was identified outside the project area LOD but within the Action Area. This pond, east of US 209 near the southernmost extent of the Action Area, was neither delineated nor surveyed for Bog turtle habitat due to lack of access. However, based on the type of wetland and low potential for direct or indirect impacts, it is assumed a habitat assessment is not required.

In addition, areas south of Pocono Creek near Exit 303 and north of McMichael Creek between Exits 306 and 307 were not investigated in detail. Cursory investigations did not reveal notable wetland systems, but small floodplain wetlands may be present adjacent to the streams. Both channel sections have been avoided for all proposed alternatives, and no work would be permitted on the stream side opposite I-80. In addition, it is assumed the stream channel itself would serve as buffer for any indirect erosional or hydrologic impacts from the roadway construction.

During project development, if a higher potential for impacts is identified at any of these areas, additional investigations will be undertaken.

Wetlands were identified and delineated between September 17 and October 2, 2013 by:

Name: Mike Landis, David Jacobs, Chris Howsare, Chris Salvatico, Autumn Thomas, Rich Ozimok, Emily Choudry (MT), Kelly Lockman (MT), Laren Myers (MT)

Affiliation: AECOM

Address: 1700 Market Street

City/State/Zip: Philadelphia, PA. 19103

Telephone: (215) 606 - 0412

Email: christine.howsare@aecom.com

(MT) – McCormick Taylor serving as subconsultant to AECOM

Wetlands were identified based on the USACE 1987 Wetland Delineation Methodology and Northcentral and Northeast Regional Supplement, V. 2 (2012).
Wetland information is summarized in ***Table 1***.

Phase 1 Survey

The Phase 1 survey was conducted between September 2013 and January 2014 by:

Name(s): Chris Howsare, Chris Salvatico,

Affiliation: AECOM

Address: 1700 Market Street

Suite 1600

City/State/Zip: Philadelphia, PA. 19103

Telephone: (215) 606-0412

A Phase 1 survey of all wetlands located within the Action Area (except as noted above) was conducted. A summary of the Phase 1 survey results is included in ***Tables 2 & 3***. Detailed information about each wetland follows the tables. Completed field forms for each wetland are included in ***Appendix B***.

Table 1. SR 0080 Sec. 17M Roadway Reconstruction Project
Wetland Size and Location

Wetland ID	Wetland Size (acres)	Lat/Long[1]	Is the entire wetland on-site?
Pocono Creek Watershed			
3-13	0.02	40° 59’ 20.945” N / 75° 14’ 37.705” W	Yes
3-12	0.04	40° 59’ 19.99” N / 75° 14’ 36.694” W	Yes
3-11	0.08	40° 59’ 19.52” N / 75° 14’ 37.604” W	Yes
3-10	0.12	40° 59’ 23.559” N / 75° 14’ 36.248” W	Yes
3-09	1.19	40° 59’ 21.326” N / 75° 14’ 13.270” W	Yes
3-08	0.02	40° 59’ 03.965” N / 75° 13’ 38.241” W	Yes
3-07	0.01	40° 59’ 05.610” N / 75° 13’ 36.990” W	Yes
3-06	0.10	40° 59’ 06.860” N / 75° 13’ 39.395” W	Yes
3-05	0.03	40° 59’ 09.340” N / 75° 13’ 22.684” W	Yes
3-04	0.12	40° 59’ 10.840” N / 75° 13’ 18.021” W	Yes
3-03	0.01	40° 58’ 53.690” N / 75° 12’ 47.030” W	Yes
3-02	3+	40° 58’ 48.899” N / 75° 12’ 47.498” W	Yes
3-01	0.003	40° 58’ 55.010” N / 75° 12’ 43.370” W	Yes
McMichael Creek Watershed			
2-09	0.001	40° 58’ 50.890” N / 75° 12’ 25.370” W	Yes
2-08	0.02	40° 58’ 44.588” N / 75° 12’ 02.103” W	Yes
2-07	0.05	40° 58’ 42.580” N / 75° 12’ 03.835” W	Yes
2-06	0.79	40° 58’ 41.508” N / 75° 11’ 54.684” W	Yes
2-05	2.61	40° 58’ 44.120” N / 75° 11’ 45.720” W	Yes
2-04	0.38	40° 58’ 45.502” N / 75° 11’ 48.479” W	Yes
2-03	0.01	40° 58’ 46.671” N / 75° 11’ 44.396” W	Yes
2-02	0.56	40° 58’ 52.188” N / 75° 11’ 34.078” W	Yes
2-01	0.56	40° 58’ 59.325” N / 75° 11’ 33. 800” W	Yes
Brodhead Creek Watershed			
1-01	0.04	40° 59’ 16.861” N / 75° 11’ 01.692” W	Yes

1 The lat/long is approximate center of wetland in NAD 83 datum.

Table 2. Summary of Phase 1 Survey Results

Wetland ID	Wetland Size[1]	Wetland Type & Amount (% or acres)	Extent of mucky Soils[2] (by Wetland Type)	Survey Effort *(in person-hrs)*	Potential Bog Turtle Habitat?
3-13	0.02	PEM – 100%	0%	0.08	No
3-12	0.04	PEM – 33% PSS – 33% PFO – 33%	0% PEM 0% PSS/PFO	0.08	No
3-11	0.08	PEM – 33% PSS – 33% PFO – 33%	0% PEM 0% PSS/PFO	0.17	No
3-10	0.12	PEM – 100%	30 - 49%	0.17	Yes
3-09	1.19	PEM –30% PFO –70%	0% PEM 0% PFO	0.33	No
3-08	0.02	PEM –100%	0% PEM	0.25	No
3-07	0.01	PEM –50% PFO – 50%	0% PEM 0% PFO	0.08	No
3-06	0.10	PEM –33% PSS – 33% PFO – 33%	0% PEM 0% PSS/PFO	0.25	No
3-05	0.03	PEM –100%	0% PEM	0.25	No
3-04	0.12	PEM –50% PFO – 50%	10-29% PEM 10-29% PSS/PFO	0.33	No
3-03	0.01	PEM – 100%	0% PEM	0.25	No
3-02	3+	PEM –10% PSS – 10% PFO –10% POW- 70%	50-70% PEM 30-49% PSS/PFO	0.50	Yes
3-01	0.003	PEM – 100%	0% PEM	0.50	No
2-09	0.001	PEM –100%	10-29% PEM	0.25	No
2-08	0.02	PEM – 100%	0% PEM	0.33	No
2-07	0.05	PEM –50% PFO –50%	30-49% PEM 30-49% PFO	0.50	No
2-06	0.79	PEM –33% PSS – 33% PFO – 33%	30-49% PEM 30-49% PSS/PFO	0.75	Yes
2-05	2.61	PEM – 33% PSS – 33% PFO – 33%	30-49% PEM 10-29% PSS/PFO	0.75	Yes
2-04	0.38	PEM –50% PFO – 50%	0% PEM 0% PFO	0.17	No
2-03	0.01	PEM – 50% PFO – 50%	10-29% PEM 10-29% PFO	0.33	No
2-02	0.56	PEM –50% PFO –50%	10-29% PEM 10-29% PFO	0.50	No
2-01	0.56	PEM –50% PFO –50%	0% PEM 0% PFO	0.25	No
1-01	0.04	PEM – 100%	0% PEM	0.25	No

1 All sizes are estimates. Sizes with a plus behind them are the approximate area evaluated with the wetland extending beyond the area of delineation.

2 mucky is used to describe soils that can be easily penetrated with a probe. For Phase 1 surveys, a 1-inch diameter blunt-ended wooden pole (e.g., broom or tool handle) is used. mucky is NOT used to refer to a specific soil type or soil classification.

Table 3. Summary of Wetland Characteristics

Wetland	Classification[1]	Dominant Vegetation	Hydrology Source	Soils
3-13	PEM – 100%	Rice cut grass, New England aster, Arrow leaved tearthumb, Purpleleaf willow herb	Spring seep, groundwater	Very wet silt loam with 50% organic matter in upper layer of soil profile.
3-12	PEM – 33% PSS – 33% PFO – 33%	Japanese stiltgrass, Common privet, Sugar maple	Saturation, depression area	50% organic matter in upper layer of soil profile. Silt loam and silty clay loam make up soil profile.
3-11	PEM – 33% PSS – 33% PFO – 33%	Tufted hair grass, Jewelweed	Supported by watercourse WW3-16 discharges into WW3-13	Moist silt loam 0-4", saturated 4-7", rock below 7".
3-10	PEM – 100%	Forget me not, bittercress, Japanese stiltgrass, fowl bluegrass	Spring seep, groundwater	Mucky silt loam 6-8" located in 30-49% of wetland. Gravel below 7".
3-09	PEM –30% PFO –70%	Jewelweed, Spicebush, Multi flora rose, Red maple	Supported by numerous drainage features, primarily WW3-06	Soil texture is sandy throughout profile.
3-08	PEM –100%	Switchgrass, Common purslane, Pennsylvania bittercress	Spring fed in Pocono Creek floodplain.	Soil texture is sand throughout profile. Rock below 7".
3-07	PEM –50% PFO – 50%	Rice cutgrass, Japanese knotweed,	Spring fed in Pocono Creek floodplain.	Saturated loam and sandy loam.
3-06	PEM –33% PSS – 33% PFO – 33%	Bearded flatsedge, Three seeded mercury, New England Aster, Northern spicebush, Red maple	Supported by numerous drainage features, ground water table at 7".	Saturated silt loam and stony sand.
3-05	PEM –100%	Japanese stiltgrass, Black birch	Saturation, supported by adjacent drainage	Sand and sandy loam
3-04	PEM –50% PFO – 50%	Japanese stiltgrass, Jewelweed, Yellow birch	Supported by spring seep, groundwater and adjacent drainage	Saturated silty clay, 10-29% muck
3-03	PEM – 100%	Sensitive fern, Common bugle weed, Rambler rose, Silky dogwood	Supported by drainage feature WW3-01	Silty clay loam, fill material at 6-12"
3-02	PEM –10% PSS – 10% PFO –10% POW- 70%	Hay scented fern, Skunk Cabbage, Pin Oak, Japanese stilt grass, Silky dogwood	Seeps, surface flow, stream feed	Silty clay loam 30-70% mucky soils
3-01	PEM – 100%	Grass species	Supported by high water table and drainage feature WW3-01	Sandy loam

Table 3. Summary of Wetland Characteristics

Wetland	Classification[1]	Dominant Vegetation	Hydrology Source	Soils
2-09	PEM –100%	Jewelweed, Virginia creeper	Supported by spring seep and high water table.	Sandy clay loam throughout soil profile. 10-29% mucky soils
2-08	PEM – 100%	Lesser clearweed, Japanese knotweed	Supported by drainage feature, in McMichael Creek floodplain.	Sandy clay loam throughout soil profile.
2-07	PEM –50% PFO –50%	Japanese knotweed, American sycamore	Supported by high water table in stream channel	Sandy texture throughout soil profile. 30-49% mucky soils
2-06	PEM –33% PSS – 33% PFO – 33%	Cattail, Stilt grass, Privet, River Birch	Supported by spring seeps and drainage features WW2- 06, 07, and 10.	Silty clay loam 30-49% mucky soils
2-05	PEM – 33% PSS – 33% PFO – 33%	Cattail, Golden-Fruit sedge, Wild grape, barberry, Silver maple, Black willow	Supported by numerous sources, spring seeps, ground water and drainages.	Silty clay texture throughout soil profile. 30-49% mucky soils
2-04	PEM –50% PFO – 50%	Japanese stiltgrass, rice cutgrass, honeysuckle, Nannyberry, Green ash, Red maple, American elm	Supported by spring seeps and adjacent floodplain.	Sandy silt texture throughout soil profile.
2-03	PEM – 50% PFO – 50%	Purple loosestrife, Japanese knotweed, barberry, Black willow, American sycamore	Supported by spring seep and drainage to McMichael Creek.	Sand and silt texture. 10-29% mucky soil.
2-02	PEM –50% PFO –50%	Rice cutgrass, Swamp smartweed, Red-osier dogwood, Speckled alder	Supported by groundwater table and local drainage.	Silty texture on cut/fill soil unit. 10-29% mucky soils.
2-01	PEM –50% PFO –50%	Rice cutgrass, beggartick, Nut sedge, Virginia wild rye, American sycamore	Supported by drainage from watercourse WW2-00.	Saturated gravel.
1-01	PEM – 100%	White aster, Purple loosestrife	Supported from drainage from Brodhead Creek.	Sandy texture Cut/Fill Material

1 Classifications: PEM = Palustrine Emergent; PSS = Palustrine Scrub/Shrub; PFO = Palustrine Forested

Bog Turtle Survey
Wetland/Habitat Data

Wetland Site: 3-13

Photograph: 1 and 2

Date of Data Collection: October 2nd and 22, 2013

Classification: PEM

Location/Setting: Wetland 3-13 is located just south of Interstate 80 and west of Whitestone Corner Road in Stroud Township. It is located within both the interstate right-of-way and residential property just at the toe-of-slope. A watercourse is adjacent to the east and marks the wetland's eastern boundary. The landscape is made up of an emergent cover type. At the time of investigation the wetland was approximately 0.02 acres in size.

Dominant Vegetation: Rice cutgrass (*Leersia oryzoides,* OBL), New England aster (*Symphyotrichum novae-angliae,* FACW), Arrow leaved-tearthumb (*Persicaria sagittata,* OBL), and Purpleleaf willowherb (*Epilobium coloratum,* FACW).

Soils Description: The following soil profile for Wetland 3-13 was observed in the immediate vicinity of the project limits:

Horizon Depth	Matrix Color	Redox Color	Texture
0-4 inches	10 YR 2/1	N/A	Organic matter
4-8 inches	10 YR 4/1	N/A	Supersaturated, stony

Hydrological Description: 3-13 receives hydrologic support from a visible spring seep and associated groundwater input.

General Comments: Wetland 3-13 does contain hydrophytic vegetation dominated by Rice cutgrass and Arrow-leaved tearthumb, species common to Bog turtle habitat; but generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology is supported primarily by a spring seep discharge and adjacent groundwater. The soils were saturated but not mucky within the wetland due to the shallow rock and gravelly soils. The overall conditions of the wetland, combined with its small size, do not fit the criteria to be considered potential Bog turtle habitat.

Photo 1 –Wetland 3-13 facing northwest near UNT Pocono Creek.

Photo 2 –Wetland 3-13 facing southeast near UNT Pocono Creek

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 3-12

Photograph: 3 and 4

Date of Data Collection: October 2nd and 22, 2013

Classification: PEM/PSS/PFO

Location/Setting: Wetland 3-12 is located just south of Interstate 80 and west of Whitestone Corner Road in Stroud Township. Wetland 3-12 is located southwest of Wetland 3-13 near the confluence of two watercourses. The landscape is an even mix of forested, scrub/shrub and emergent cover types. At the time of investigation the wetland was approximately 0.04 acres in size.

Dominant Vegetation: Japanese stiltgrass (*Microstegium vimineum,* FAC), Common privet (*Ligustrum vulgare,* FACU), and Sugar maple (*Acer saccharum,* FACU).

Soils Description: The following soil profile for Wetland 3-12 was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-1 inches	7.5 YR 2.5/1 7.5 YR 4/6	N/A	Organic matter/Silt Loam
1-3 inches	7.5 YR 6/1	7.5 YR 5/1	Silt Loam
3-9 inches	7.5 YR 5/1	Gley 1, 4/N, 7.5 YR 4/1	Silty Clay Loam
9+ inches			Rock

Hydrological Description: 3-12 receives hydrologic support from its geomorphic position and adjacent watercourses.

General Comments: 3-12 does contain hydrophytic vegetation such as Jewelweed and sedge species but generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology does not appear to be supported by groundwater input. The soils, although saturated, are not mucky. As such, the overall conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 3 – Wetland 3-12 facing northwest.

Photo 4 – Wetland 3-12 facing north.

Bog Turtle Survey
Wetland/Habitat Data

Wetland Site: 3-11

Photograph: 5 and 6

Date of Data Collection: October 2nd and 22, 2013

Classification: PEMPSS/PFO

Location/Setting: Wetland 3-11 is located south of Interstate 80 and west of Whitestone Corner Road in Stroud Township. In addition, Wetland 3-11 is also located southeast of Wetlands 3-12 and 3-13 near the confluence of two watercourses. The wetland is split into a western and an eastern half by a watercourse with the eastern half being the larger of the two. The landscape is an even mix of forested, scrub/shrub and emergent cover types. At the time of investigation the wetland was approximately 0.08 acres in size.

Dominant Vegetation: Jewelweed *(Impatiens capensis*, FACW), and Tufted hair grass (*Deschampsia caespitosa,* FACW).

Soils Description: The following soil profile for Wetland 3-11 was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-4 inches	10 YR 3/2	10 YR 4/6,	Silt Loam
4-7 inches	10YR 5/1	7.5 YR 3/2, 10 YR 4/6	Silt Loam
7+ inches			Rock

Hydrological Description: 3-11 receives hydrologic support from spring seeps, associated groundwater and watercourses WW-1 and WW3-13.

General Comments: Wetland 3-11 does contain hydrophytic vegetation species common to Bog turtle habitat such as Jewelweed, Rice cut grass, and Sensitive fern but generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology is supported by a combination of groundwater and adjacent watercourses. The soils, although saturated, are not mucky. As such, the overall conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 5 – View of Wetland 3-11 facing east.

Photo 6 – View of Wetland 3-11 facing north.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 3-10

Photograph: 7 and 8

Date of Data Collection: September 17, 2013 and October 22, 2013

Classification: PEM

Location/Setting: Wetland 3-10 is located just north of Interstate 80 and east of Whitestone Corner Road in Stroud Township. It is located in the maintained front yard of a residential property which includes the foundation of a former spring house. There is a small area of ponded water up to 6 to 12 inches deep, with mucky soils that range between 6 and 8 inches. The landscape is made up of an emergent cover type. At the time of investigation the wetland was approximately 0.12 acres in size.

Dominant Vegetation: Blue fowl grass *(Poa palustris*, FACW), Japanese stiltgrass (*Microstegium vimineum*, FAC), Pennsylvania bittercress *(Cardamine pensylvanica*, FACW), and Tufted forget me not *(Myosotis laxa*, OBL).

Soils Description: The following soil profile was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-2 inches	7.5 YR 3/1	N/A	Organic matter/Silt Loam
2-7 inches	7.5 YR 6/1	7.5 YR 3/1, 7.5 YR 4/4	Silt Loam
7-13 inches	7.5 YR 4/1	7.5 YR 4/4	Saturated gravel

Hydrological Description: Hydrology for wetland 3-10 is supported by a spring discharge and associated adjacent groundwater.

General Comments: Wetland 3-10 does contain hydrophytic vegetation dominated by Blue fowlgrass, Japanese stiltgrass, Pennsylvania bittercress, and Tufted forget-me-not; and containing flat sedge and spike rush species. Hydrology is supported primarily by a spring seep discharge and high groundwater. The soils were saturated and mucky in 30 – 49% of the wetland. Although the wetland is artificially ponded due to the foundation ruins, deep mucky soils are present. And while the location between maintained lawn and steep slope makes Bog turtle presence appear unlikely, Phase II investigations are recommended to support the ultimate project finding.

Photo 7 – View of Wetland 3-10 facing southwest.

Photo 8 – View of Wetland 3-10 facing northwest. Note saturated mucky conditions.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 3-09

Photograph: 9 to 12

Date of Data Collection: September 25 and October 22, 2013

Classification: PFO/PEM

Location/Setting: Wetland 3-09 is located behind a township maintenance yard at the end of Gaunt Road in Stroud Township. It is a large complex system with many waterways running through and feeding into it. A large braided stream system bisects the wetland, creating many small pools. The northwestern and northeastern boundaries are marked by sheer rock walls that run up either side. The wetland is basically boomerang-shaped with the elbow pointing northeast. Seeps were observed in several locations. Much of the substrate is native rock. The landscape is approximately three quarters forested with the remainder being emergent. At the time of investigation the wetland was approximately 1.19 acres in size.

Dominant Vegetation: Red maple, (*Acer Rubrum,* FAC), Northern spicebush, (*Lindera benzoin,* FACW), Multiflora rose (*Rosa multiflora,* FACU) and Jewelweed *(Impatiens capensis,* FACW).

Soils Description: The following soil profile was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-6 inches	10 YR 3/3	N/A	Sand
6-16 inches	10 YR 4/2	10 YR 5/3	Sand

Hydrological Description: 3-09 receives hydrologic support from visible spring seeps, groundwater and numerous adjacent watercourses.

General Comments: Wetland 3-09 does contain some vegetation commonly associated with Bog turtle habitat including Jewelweed; but, generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology is supported by a combination of groundwater and adjacent watercourses. The soils, although saturated, are not mucky as they are primarily a thin layer of organics on rock. As such, the overall conditions of the wetland, combined with the significant level of disturbance found in close proximity, do not fit the criteria to be considered potential Bog turtle habitat.

Photo 9 – View of Wetland 3-09 facing southwest.

Photo 10 – View of Wetland 3-09 facing southeast

Photo 11 – View of Wetland 3-09 facing north.

Photo 12 – View of Wetland 3-09 note iron in seep.

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Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 3-08

Photograph: 13 and 14

Date of Data Collection: September 19, 2013 and January 13, 2014

Classification: PEM

Location/Setting: Wetland 3-08 is located in the floodplain adjacent to Pocono Creek south of I-80 in Stroud Township. The landscape is 100% emergent. Discharge from Wetland 3-08 flows into Pocono Creek. At the time of investigation the wetland was approximately 0.02 acres in size.

Dominant Vegetation: Switchgrass *(Panicum virgatum*, FAC), Pennsylvania bittercress *(Cardamine pensylvanica*, FACW), and Common purslane (*Portulaca oleracea*, FACU).

Soils Description: The following soil profile was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-7 inches	10 YR 4/1	10 YR 6/1, 10 YR 2/1	Sand
7+ inches			Rock

Hydrological Description: 3-08 receives hydrologic support from a visible spring seep and likely from flooding of Pocono Creek (WW3-00).

General Comments: Wetland 3-08 contains hydrophytic vegetation species common to Bog turtle habitat, such as sedges, Arrow-leaved tearthumb, and Reed canarygrass; but generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology is supported by combination of groundwater and adjacent watercourses. The soils, although periodically saturated, are not mucky due to the nature of the gravel / sandy substrate. Combined with the very small size, the overall conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 13 – View of Wetland 3-08 facing northeast.

Photo 14 – View of Wetland 3-08 note watercress.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 3-07

Photograph: 15 and 16

Date of Data Collection: September 25, and October 22, 2013

Classification: PEM/PFO

Location/Setting: Wetland 3-07 is located in the floodplain adjacent to Pocono Creek just north of the I-80/Pocono Creek bridge in Stroud Township. The landscape is split evenly between forested and emergent cover types. Discharge from Wetland 3-07 flows into Pocono Creek. At the time of investigation the wetland was approximately 0.01 acres in size.

Dominant Vegetation: Japanese knotweed *(Fallopia japonica*, FACU), and Rice cutgrass (*Leerrsia oryzoides,* OBL).

Soils Description: The following soil profile was observed for Wetland 3-07 during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-2 inches	7.5 YR 2.5/1	N/A	Loam
2-8 inches	7.5 YR 4/1	N/A	Sand
8-14 inches	7.5 YR 3/1	Gley 1 3N	Sandy

Hydrological Description: 3-07 receives hydrologic support from periodic flooding of Pocono Creek.

General Comments: Wetland 3-07 contains hydrophytic vegetation species common to Bog turtle habitat, such as Jewelweed and Rice cutgrass; but generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology appears to be supported solely by adjacent watercourses. The soils are neither saturated nor mucky. Combined with the very small size, the overall conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 15 – Wetland 3-07 facing east.

Photo 16 – Wetland 3-07 facing southeast.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 3-06

Photograph: 17 and 18

Date of Data Collection: September 25 and October 22, 2013

Classification: PEM/PSS/PFO

Location/Setting: Wetland 3-06 sits in a bowl at the toe-of-slope of a shopping center located just to the north. Additionally, it is just outside the floodplain associated to Pocono Creek and is located just west of Bridge Street in Stroud Township. The landscape is split evenly between forested, scrub/shrub and emergent cover types. At the time of investigation the wetland was approximately 0.10 acres in size.

Dominant Vegetation: Bearded flatsedge *(Cyperus squarrosus*, OBL), Three seeded mercury *(Acalypha virginica*, FACU), New England aster *(Symphyotrichum novi-belgii*, FACW), Northern spicebush *(Lindera benzoin*, FACW), Crabapple *(Malus floribunda*, UPL), and Red maple (*Acer rubrum*, FAC).

Soils Description: The following soil profile was observed in Wetland 3-06 during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-4 inches	10 YR 3/1	10 YR 5/2, 7.5 YR 5/6	Saturated Silt Loam
4-7 inches	10 YR 3/1	10 YR 4/2	Silt Loam
7-13 inches	Gley 1 3N	None	Saturated gravel

Hydrological Description: 3-06 receives hydrologic support from upslope drainage into the depression that makes up the wetland coupled with high groundwater.

General Comments: Wetland 3-06 does contain hydrophytic vegetation commonly found in Bog turtle habitat including sedges, rushes, and Jewelweed; but generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology does not appear to be supported by springs or groundwater. The soils, although periodically saturated, were not mucky. The overall conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 17 – View of Wetland 3-06 facing northwest.

Photo 18 – View of Wetland 3-06 facing northwest.

Bog Turtle Survey
Wetland/Habitat Data

Wetland Site: 3-05

Photograph: 19

Date of Data Collection: September 25, 2013 and January 14, 2014

Classification: PEM

Location/Setting: Wetland 3-05 is located just north of Interstate 80 west of the 304 interchange in Stroud Township. Wetland 3-05 is located in the floodplain adjacent to Pocono Creek. The landscape is 100% emergent cover. Discharge from Wetland 3-05 flows into Pocono Creek. At the time of investigation the wetland was approximately 0.03 acres in size.

Dominant Vegetation: Japanese stiltgrass (*Microstegium vimineum,* FAC), and Black birch (*Betula nigra,* FACW).

Soils Description: The following soil profile was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-7 inches	10 YR 4/3	none	Sandy
7-12 inches	10 YR 3/2	7.5 YR 5/8, 10YR 4/3	Sandy Loam

Hydrological Description: 3-05 receives hydrologic support from upslope drainage and periodic high flows from Pocono Creek onto the terrace that makes up the wetland. The wetland serves essentially as a high flow pathway for flood flows.

General Comments: Wetland 3-05 does not contain hydrophytic vegetation, common to Bog turtle habitat. Hydrology is supported primarily by upland drainage and periodic flooding of Pocono Creek. The soils are neither saturated nor mucky. The overall conditions of the wetland, combined with its small size, do not fit the criteria to be considered potential Bog turtle habitat.

Photo 19 – View of Wetland 3-05 facing east.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 3-04

Photograph: 20 and 21

Date of Data Collection: September 25, 2013 and January 13, 2014

Classification: PEM/PFO

Location/Setting: Wetland 3-04 is located north of Interstate 80 at the 304 interchange in Stroud Township. Wetland 3-04 is located outside the Pocono Creek floodplain at the toe-of-slope of a steep embankment to the north. The landscape is a combined emergent/forested cover. At the time of investigation the wetland was approximately 0.12 acres in size.

Dominant Vegetation: Japanese stiltgrass (*Microstegium vimineum,* FAC), Jewelweed *(Impatiens capensis*, FACW), and Yellow birch (*Betula alleghaniensis,* FAC).

Soils Description: The following soil profile was observed for wetland 3-04 during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-4 inches	10 YR 2/1	none	Silty Clay
4-10 inches	10 YR 2/1	10 YR 3/1,	Silty Clay
10-13 inches	10 YR 3/1	10 YR 4/2	Sandy Silt

Hydrological Description: 3-04 receives hydrologic support from a spring seep and associated groundwater, it is also supported by drainage from the surrounding area. Discharge from 3-04 flows into Pocono Creek.

General Comments: Wetland 3-04 does not contain hydrophytic vegetation common to Bog turtle habitat. Hydrology is supported by combination of groundwater and adjacent floodflow. There is a clearly defined seep which flows through the wetland. The soils within the flow path are saturated and mucky to 6 inches. However, all surrounding substrate is gravelly and the entirety of the wetland lies within the 100 year floodplain of Pocono Creek, making it subject to periodic flushing. Habitat potential is further compromised by the wetland's location between the creek and a high steep slope. The overall conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 20 – View of Wetland 3-04 facing south

Photo 21– View of Wetland 3-04 facing east.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 3-03

Photograph: 22

Date of Data Collection: September 17, 2013

Classification: PEM

Location/Setting: Wetland 3-03 is located in the infield area of Interstate 80 exit 305 in Stroudsburg Borough. Additionally, Wetland 3-03 is located in the 100 year floodplain for Little Pocono Creek. Discharge from 3-03 flows into Little Pocono Creek. The landscape is 100% emergent cover. At the time of investigation the wetland was approximately 0.01 acres in size.

Dominant Vegetation: Sensitive fern *(Onoclea sensibilis,* FACW), Common bugle weed *(Ajuga reptans,* NL), Multi-flora rose *(Rosa multiflora*, FACU), and Silky dogwood (*Cornus amomum,* FACW).

Soils Description: The following soil profile was observed for Wetland 3-03 during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-6 inches	7.5 YR 4/2	7.5 YR 5/8	Sandy Clay Loam
6-12 inches	10 YR 6/3	10 YR 6/8	Silty Clay Loam FILL*
12-18 inches	7.5 YR 6/3	10 YR 6/8	Sandy Clay Loam

- Problem soil primarily fill – up to 40% reduced iron

Hydrological Description: 3-03 likely receives hydrologic support from a spring seep and associated groundwater.

General Comments: Wetland 3-03 does contain hydrophytic vegetation, such as Sensitive fern and Arrow-leaved tearthumb; but generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology is supported by an apparent spring seep, although flow was not evident, and high groundwater. The soils were neither saturated nor mucky. Along with its very small size and location in the floodplain, the overall conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 22 – View of Wetland 3-03 within MP 305 Interchange facing east.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 3-02

Photograph: 23 to 26

Date of Data Collection: September 17, 2013 and January 13, 2014

Classification: PEM/PSS/PFO/POW

Location/Setting: Located south of Interstate 80 exit 305 in Stroudsburg Borough, this large wetland complex is associated with two watercourses including Little Pocono Creek. Discharge from Wetland 3-02 flows into a UNT to Little Pocono Creek and then into Little Pocono Creek. The landscape is made up of a large pond along with forested, scrub/shrub and emergent cover types. The eastern boundary is a steep incline leading up to a housing development in a cul-de-sac. The northern boundary is the I-80 interchange toe-of-slope while the western and southern boundaries continue into vacant open space. At the time of investigation the delineated portion of the wetland was approximately 0.53 acres in size with an approximate area of 2.5 acres of additional coverage outside the study area.

Dominant Vegetation: Skunk cabbage (*Symplocarpus foetidus*, OBL), Pin oak (*Quercus palustris*, FACW), Japanese stilt grass (*Microstegium vimineum*, FAC)

Soils Description: The following soil profile was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-10 inches	10 YR 3/1	N/A	Silt Clay Loam

Hydrological Description: 3-02 receives hydrologic support from visible springs and adjacent waterways.

General Comments: Although the central portion of Wetland 3-02 is open water, much of the surrounding edge contains deep saturated soils up to 9 inches. Fluid areas during periods of hard freeze clearly indicate continuous spring flow. Skunk cabbage dominates portions of the emergent habitat. While not an ideal location, at the toe of highway slope, and clearly altered by past construction, a sufficiently natural system exists which could serve as habitat. Phase II investigations are recommended for this wetland.

Photo 23 – View of Wetland 3-02 facing southeast from UNT Little Pocono Creek.

Photo 24 – View of Wetland 3-02 facing southeast.

Photo 25 – View of Wetland 3-02 facing east.

Photo 26 – View of Wetland 3-02 facing northeast.

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Bog Turtle Survey
Wetland/Habitat Data

Wetland Site: 3-01

Photograph: 27 and 28

Date of Data Collection: September 17, 2013

Classification: PEM

Location/Setting: Wetland 3-01 is located in the infield area between commercial properties north of the interstate in Stroudsburg Borough. Additionally, Wetland 3-01 is located in the floodplain adjacent to Little Pocono Creek. Discharge from Wetland 3-01 flows into this creek as well. The landscape is a maintained lawn with 100% emergent cover. At the time of investigation the wetland was approximately 0.003 acres in size.

Dominant Vegetation: Grass species.

Soils Description: The following soil profile was observed in Wetland 3-01 during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-16 inches	2.5 YR 2.5/1	5 YR 5/8	Sandy Silt Loam

Hydrological Description: 3-01 receives hydrologic support from Little Pocono Creek and the associated high water table.

General Comments: Wetland 3-01 does not contain hydrophytic vegetation common to Bog turtle habitat. Hydrology is supported by Little Pocono Creek and high water. The soils, although periodically saturated, are firm and not mucky. In combination with its extremely small size, conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 27– View of Wetland 3-01 facing southwest along I-80.

Photo 28– Photo of Wetland 3-01 facing north between I-80 and West Main Street (US 209).

Bog Turtle Survey
Wetland/Habitat Data

Wetland Site: 2-09

Photograph: 29 and 30

Date of Data Collection: September 17, 2013

Classification: PEM

Location/Setting: Wetland 2-09 is located between Interstate 80 and Garden Street in Stroudsburg Borough. Wetland 2-09 starts behind a UGI substation, runs along the toe-of-slope of I-80 and terminates at the inlet of a drain pipe. The landscape is mostly maintained lawn with 100% emergent cover. At the time of investigation the wetland was approximately 0.001 acres in size.

Dominant Vegetation: Jewelweed *(Impatiens capensis*, FACW)

Soils Description: The following soil profile was observed in Wetland 2-09 during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-8 inches	10 YR 3/1	N/A	Sandy Clay Loam
8-16 inches	10 YR 3/1	7.5 YR 5/8	Sandy Clay Loam

Hydrological Description: 2-09 receives hydrologic support from groundwater and local drainage.

General Comments: Wetland 2-09 does contain hydrophytic vegetation such as Jewelweed but generally lacks a vegetative composition expected of Bog turtle habitat. Hydrology appears to be supported by a spring seep and adjacent groundwater. The soils are saturated and mucky but only to a depth of 3 to 4 inches and appear to be comprised primarily of silt from roadway runoff which likely also contributes to the hydrology. Because of the extremely small size of the wetland, its proximity to urban development, and the overall conditions, the wetland does not fit the criteria to be considered potential Bog turtle habitat.

Photo 29 – View of Wetland 2-09 facing west northwest between Erie Street and I-80.

Photo 30 – View of water source at wetland 2-09. Note iron deposits on substrate.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 2-08

Photograph: 31

Date of Data Collection: October 2, 2013

Classification: PEM

Location/Setting: Wetland 2-08 is located beneath the Interstate 80 bridge over McMichael Creek in Stroudsburg Borough. It is bisected by a UNT to McMichael Creek where its discharge flows. It is mostly sandy soils within the floodplain of McMichael Creek. At the time of investigation the wetland was approximately 0.02 acres in size.

Dominant Vegetation: Japanese knotweed *(Fallopia japonica*, FACU), and Lesser clearweed (*Pilea fontana*, FACW).

Soils Description: The following soil profile for Wetland 2-08 was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-5 inches	10 YR 4/2	N/A	Sandy Clay Loam
5-12 inches	10 YR 3/2	10 YR 5/8	Sandy Clay Loam
12-16 inches	10 YR 4/1	N/A	Sandy Clay

Hydrological Description: 2-08 receives hydrologic support from the UNT to McMichael Creek and flooding of McMichael Creek main stem.

General Comments: Wetland 2-08 does not contain hydrophytic vegetation common to Bog turtle habitat. Hydrology is supported by McMichael Creek and its tributary; there does not appear to be a significant groundwater contribution. The soils are neither saturated nor mucky. In combination with its small size, conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 31 – View of Wetland 2-08 facing north along UNT McMichael Creek.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 2-07

Photograph: 32 and 33

Date of Data Collection: October 2, 2013

Classification: PEM/PFO

Location/Setting: Wetland 2-07 is located south of Interstate 80 and just west of McMichael Creek in Stroudsburg Borough. It is made up of an emergent and forested cover type with an additional emergent and forested fringe, and appears to act as a secondary channel for McMichael Creek which captures floodflow. At the time of investigation the wetland was approximately 0.05 acres in size.

Dominant Vegetation: Japanese knotweed *(Fallopia japonica*, FACU), and American sycamore (*Plantus occidentalis,* FACW).

Soils Description: The following soil profile was observed in Wetland 2-07 during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-3 inches	Gley 1 2.5/10Y		Stony Sand
3-10 inches	10 YR 4/2	5 YR 4/6	Stony Sand

Hydrological Description: 2-07 receives hydrologic support from a high water table and periodic flooding of McMichael Creek.

General Comments: Wetland 2-07 does not contain hydrophytic vegetation common to Bog turtle habitat. Hydrology is supported by McMichael Creek and a high water table associated with the stream. The soils, although saturated, are mucky but only to a depth of 3 to 4 inches and only where water ponds. In combination with its small size, conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 32 – View of Wetland 2-07 facing northeast towards I-80.

Photo 33 – View of Wetland 2-07 facing southwest along UNT McMichael Creek.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 2-06

Photograph: 34 to 37

Date of Data Collection: September 23 and 24, 2013

Classification: PEM/PSS/PFO

Location/Setting: Wetland 2-06 is located on LaBar Village property between the toe-of-slope of I-80 and Village Drive. It is a large crescent-shaped system around a large upland area that is being fed by multiple waterways including a UNT to McMichael Creek which has dispersed flow creating the western half of the wetland. It is hydrologically connected to Wetland 2-05. The landscape is an even mix of forested, scrub/shrub and emergent cover types. At the time of investigation the wetland was approximately 0.79 acres in size.

Dominant Vegetation: Cattail (*Typha angustifolia*, OBL), Japanese stiltgrass (*Microstegium vimineum*, FAC), River birch (*Betula nigra*, FACW)

Soils Description: The following soil profile was observed in Wetland 2-06 during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-2 inches	10 YR 4/2	N/A	Organic matter/Silt Loam
2-10 inches	10 YR 4/1	N/A	Silt Loam

Hydrological Description: 2-06 receives hydrologic support from numerous seeps, associated shallow groundwater and numerous drainages located throughout the system.

General Comments: Portions of wetland 2-06 exhibit deep mucky soils with rice cutgrass and other dense emergent vegetation creating suitable habitat. Although not dominated by sedges or rushes, the topography and cover are generally favorable. In addition to the dispersed stream flow, seeps contribute to the extensive saturation. The wetland system meets the criteria for vegetation, hydrology and soils. Phase II investigations are recommended.

Photo 34 – View of Wetland 2-06 facing northwest.

Photo 35 – View of Wetland 2-06 facing west.

Photo 36 – View of Wetland 2-06 facing northwest.

Photo 37 – View of Wetland 2-06 facing west.

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Bog Turtle Survey
Wetland/Habitat Data

Wetland Site: 2-05

Photograph: 38 to 41

Date of Data Collection: September 23, 2013

Classification: PEM/PSS/PFO

Location/Setting: Wetland 2-05 is located on LaBar Village property between the toe-of-slope of I-80 and Village Drive. It is a large diverse system being fed by multiple waterways also including run-off from both the interstate and Village Drive. It is hydrologically connected to Wetland 2-06. The landscape is an even mix of forested, scrub/shrub and emergent cover types. At the time of investigation the wetland was approximately 2.61 acres in size.

Dominant Vegetation: Narrow-leaf cattail *(Typha angustifolia*, OBL), Golden-fruit sedge *(Carex aurea*, FACW), River-bank grape (*Vitis riparia*, FACW), European barberry *(Berberis vulgaris*, FACU), Silver maple *(Acer saccharinum*, FACW), and Black willow (*Salix nigra*, OBL).

Soils Description: The following soil profile was observed for Wetland 2-05 during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-8 inches	2.5 YR 2.5/1	2.5 YR 4/8	Silty Clay
8+ inches			Water

Hydrological Description: 2-05 receives hydrologic support from numerous seeps, associated shallow groundwater and numerous drainages located throughout the system.

General Comments: Wetland 2-05 contains hummocky spring-fed emergent habitat in several large sections. Although the setting has been altered by road construction, this large wetland complex maintains a natural system. The wetland system meets the criteria for vegetation, hydrology and soils. Phase II investigations are recommended.

Photo 38 – View of Wetland 2-05 facing southwest.

Photo 39 – View of Wetland 2-05 facing northwest toward Interstate 80.

Photo 40 – View of Wetland 2-05 facing southeast.

Photo 41 – View of Wetland 2-05 facing north.

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Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 2-04

Photograph: 42 and 43

Date of Data Collection: September 26, 2013 and January 13, 2014

Classification: PEM/PFO

Location/Setting: Wetland 2-04 is located north of Interstate 80 between the roadway and McMichael Creek in Stroudsburg Borough. Wetland 2-04 is partially inside the McMichael Creek floodplain. Discharge from Wetland 2-04 flows into McMichael Creek. The landscape is an even mix of forested and emergent cover types. At the time of investigation the wetland was approximately 0.38 acres in size.

Dominant Vegetation: Japanese stiltgrass *(Microstegium vimineum*, FAC), Rice cutgrass *(Leersia oryzoides*, OBL), Clearweed *(Pilea pumalia*, FACW), Ostrich fern *(Matteuccia struthiopteris*, FACW), Green ash *(Fraxinus pennsylvanica*, FACW), Red maple *(Acer rubrum* FAC), and Slippery elm (*Ulmus rubra*, FAC).

Soils Description: The following soil profile of Wetland 2-04 was observed during the field view:

Horizon Depth	**Matrix Color**	**Redox Color**	**Texture**
0-18 inches	10 YR 4/1	N 2.5, 5 YR 3/4	Sandy Loam

Hydrological Description: 2-04 receives hydrologic support from high groundwater and periodic flooding.

General Comments: Wetland 2-04 does contain hydrophytic vegetation such as Rice cutgrass commonly found in Bog turtle habitat but generally lacks a vegetative composition expected of Bog turtle habitat. Hydrology appears to be supported by floodwaters and high groundwater, although not seeps. The soils are periodically saturated and ponded, but not mucky. Because of the overall conditions, the wetland does not fit the criteria to be considered potential Bog turtle habitat.

Photo 42– View of Wetland 2-04 facing north.

Photo 43– View of Wetland 2-04 facing southeast toward Interstate 80.

Bog Turtle Survey
Wetland/Habitat Data

Wetland Site: 2-03

Photograph: 44 and 45

Date of Data Collection: September 26, 2013 and January 13, 2014

Classification: PEM/PFO

Location/Setting: Wetland 2-03 is located north of Interstate 80 between the roadway and McMichael Creek in Stroudsburg Borough. Wetland 2-03 is located just outside the McMichael Creek floodplain and just east of Wetland 2-04. Discharge from Wetland 2-03 flows into McMichael Creek. The landscape is an even mix of forested and emergent cover types. At the time of investigation the wetland was approximately 0.01 acres in size.

Dominant Vegetation: Purple loosestrife *(Lythrum salicaria*, OBL), Japanese barberry *(Berberis thunbergii*, FACU), Japanese knotweed *(Fallopia japonica*, FACU), American sycamore *(Plantanus occidentalis*, FACW), and Black willow (*Salix nigra*, FACW).

Soils Description: The following soil profile of Wetland 2-03 was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-10 inches	10 YR 2/1	none	Sand
10-18 inches	10 YR 6/1	10 YR 4/1	Silt

Hydrological Description: 2-03 receives hydrologic support from a spring seep high groundwater.

General Comments: Wetland 2-03 does contain hydrophytic vegetation such as Purple loosestrife and woolgrass commonly found in Bog turtle habitat but generally lacks a vegetative composition expected of Bog turtle habitat. Hydrology is provided by a spring seep and adjacent drainage. The soils are saturated and mucky within the immediate zone of the seep, but outside the flow path are gravelly and firm. While mucky soils are present, the small size and isolated nature of the wetland make it unlikely to be habitat. No further investigations are recommended.

Photo 44 – View of Wetland 2-03 facing southeast towards Interstate 80.

Photo 45 – View of Wetland 2-03 facing southwest towards Interstate 80.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 2-02

Photograph: 46 and 47

Date of Data Collection: September 24 and October 22, 2013

Classification: PEM/PFO

Location/Setting: Wetland 2-02 is located in a bowl situated in the infield area of Exit 307 in Stroudsburg Borough and appears to have been constructed as a stormwater conveyance. Wetland 2-02 is located just inside the McMichael Creek floodplain and discharge from 2-02 flows into a UNT to McMichael Creek. The landscape is an even mix of forested and emergent cover types. At the time of investigation the wetland was approximately 0.56 acres in size.

Dominant Vegetation: Rice cutgrass *(Leersia oryzoides*, OBL), Swamp smartweed *(Polygonum hydropiperoides*, OBL), Red-osier dogwood *(Cornus sericea*, FACW), Speckled alder (*Alnus rugosa*, FACW), and Water forget-me-not (*Mysotis scorpiodes*, OBL).

Soils Description: The following soil profile of Wetland W-202 was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-3 inches	Gley 2, 3/5 PB	none	Silt
3-14 inches	Gley 2, 5/ PB	10 YR 5/6	Silt

Hydrological Description: 2-02 receives hydrologic support from stormwater and overland flow along with high water table.

General Comments: Wetland 2-02 does contain hydrophytic vegetation such as Rice cutgrass, Arrow-leaved tearthumb, and Reed canary grass commonly found in Bog turtle habitat but generally lacks a vegetative composition expected of Bog turtle habitat. Hydrology appears to be a combination of groundwater and overland flow. The soils are saturated and mucky, but primarily where silt from runoff has deposited. Because of the overall condition and location of the wetland within an active highway interchange, the wetland is not considered potential Bog turtle habitat.

Photo 46 – Wetland 2-02 inside MP 307 interchange facing southwest.

Photo 47 – Wetland 2-02 inside MP 307 interchange facing northwest.

Bog Turtle Survey
Wetland/Habitat Data

Wetland Site: 2-01

Photograph: 48 and 49

Date of Data Collection: September 25 and October 22, 2013

Classification: PEM/PFO

Location/Setting: Wetland 2-01 is located under the Seventh Street Bridge in Stroudsburg Borough. The wetland is situated between the roadway embankment and the edge of the creek. It is an extensive system with multiple channels as well as high and low benches. Wetland 2-01 is located inside the McMichael Creek floodplain. The landscape is an even mix of forested and emergent cover types. At the time of investigation the wetland was approximately 0.56 acres in size.

Dominant Vegetation: Rice cutgrass *(Leersia oryzoides*, OBL), Beggartick (*Bidens frondosa* FACW), Yellow nutsedge *(Cyperus esculentus*, FACW), Virginia wildrye *(Elymus virginicus*, FACW), Black birch *(Betula nigra*, FACW), American sycamore *(Platanus occidentalis*, FACW), and Green ash *(Fraxinus pennsylvanica*, FACW).

Soils Description: The following soil profile was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-18 inches	5 Y 2.5/2	none	Mucky gravel

Hydrological Description: 2-01 receives hydrologic support from the flooding of McMichael Creek (watercourse WW2-00).

General Comments: Wetland 2-01 does contain hydrophytic vegetation, such as sedges and Rice cutgrass, but generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology is supported by McMichael Creek. The soils, although saturated are not mucky. As such, the overall conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat. This wetland was previously evaluated as part of the SR 611 (7th Street) bridge replacement project.

Photo 48 – View of Wetland 2-01 facing southeast toward SR 611.

Photo 49 – Wetland 2-01 facing northwest.

Bog Turtle Survey

Wetland/Habitat Data

Wetland Site: 1-01

Photograph: 50

Date of Data Collection: September 24 and October 22, 2013

Classification: PEM

Location/Setting: Wetland 1-01 is located north of Interstate 80 along Brodhead Creek in East Stroudsburg Borough between Brodhead Creek and the levee. The landscape is 100% emergent cover. At the time of investigation the wetland was approximately 0.04 acres in size.

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Dominant Vegetation: White panicle aster *(Symphyotrichum lanceolatum*, FACW), and Purple loosestrife (*Lythrum salicaria*, OBL).

Soils Description: The following soil profile was observed during the field view:

Horizon Depth	Matrix Color	Redox Color	Texture
0-2 inches	10 YR 4/3	none	Sand
2-12 inches	10 YR 3/3	none	Sand

Hydrological Description: 1-01 receives hydrologic support from Brodhead Creek.

General Comments: Wetland 1-01 does contain hydrophytic vegetation, such as Jewelweed and Stiltgrass, but generally lacks a vegetative composition expected of ideal Bog turtle habitat. Hydrology is supported by Brodhead Creek. The soils are not regularly saturated. The overall conditions of the wetland do not fit the criteria to be considered potential Bog turtle habitat.

Photo 50 – View of Wetland 1-01 facing northwest along Brodhead Creek.

Conclusions to Phase 1 Habitat Survey

Table 4 presents a summary of the habitat survey, identifying the presence or absence of the necessary hydrologic, vegetation and soils conditions. Based upon the data collected four (4) wetlands appear to have conditions suitable for Bog turtle habitat.

Table 4 – Summary of Suitable Bog Turtle Habitat

Wetland	**Hydrology**	**Soils**	**Vegetation**	**Habitat Potential**
3-13	Yes	No	No	No
3-12	No	No	No	No
3-11	Yes	No	No	No
3-10	Yes	Yes	Yes	Yes
3-09	Yes	No	No	No
3-08	Yes	No	No	No
3-07	No	No	No	No
3-06	No	No	No	No
3-05	No	No	No	No
3-04	Yes	Yes	No	No
3-03	No	No	No	No
3-02	Yes	Yes	Yes	Yes
3-01	No	No	No	No
2-09	Yes	No	No	No
2-08	No	No	No	No
2-07	No	No	No	No
2-06	Yes	Yes	Yes	Yes
2-05	Yes	Yes	Yes	Yes
2-04	Yes	No	No	No
2-03	Yes	Yes	Yes	No
2-02	No	No	No	No
2-01	No	No	No	No
1-01	No	No	No	No

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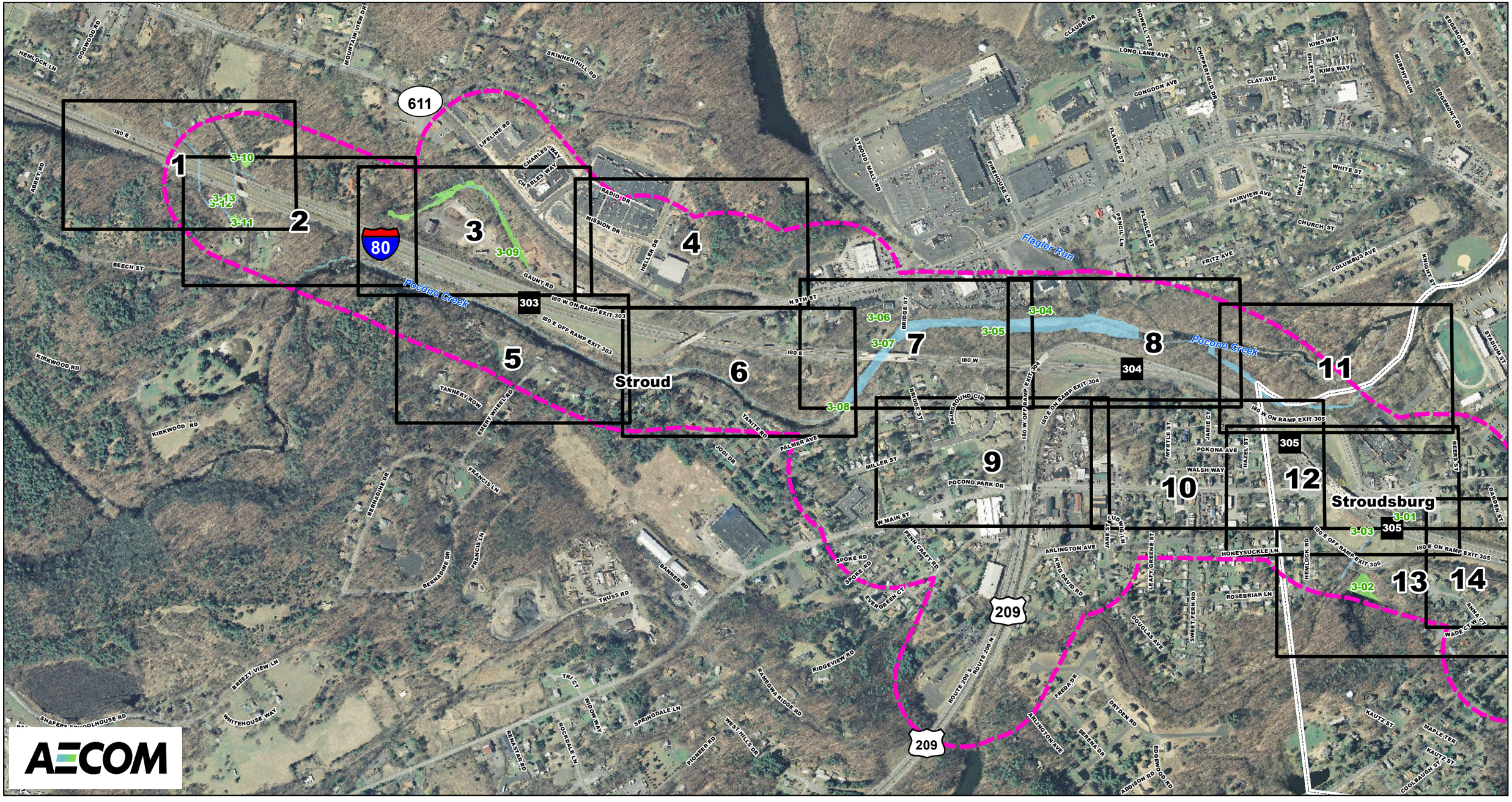


N

0 350 700

Feet

Sheet Number

300ft Buffer of LOD

Delineated Waterway

Delineated Wetland

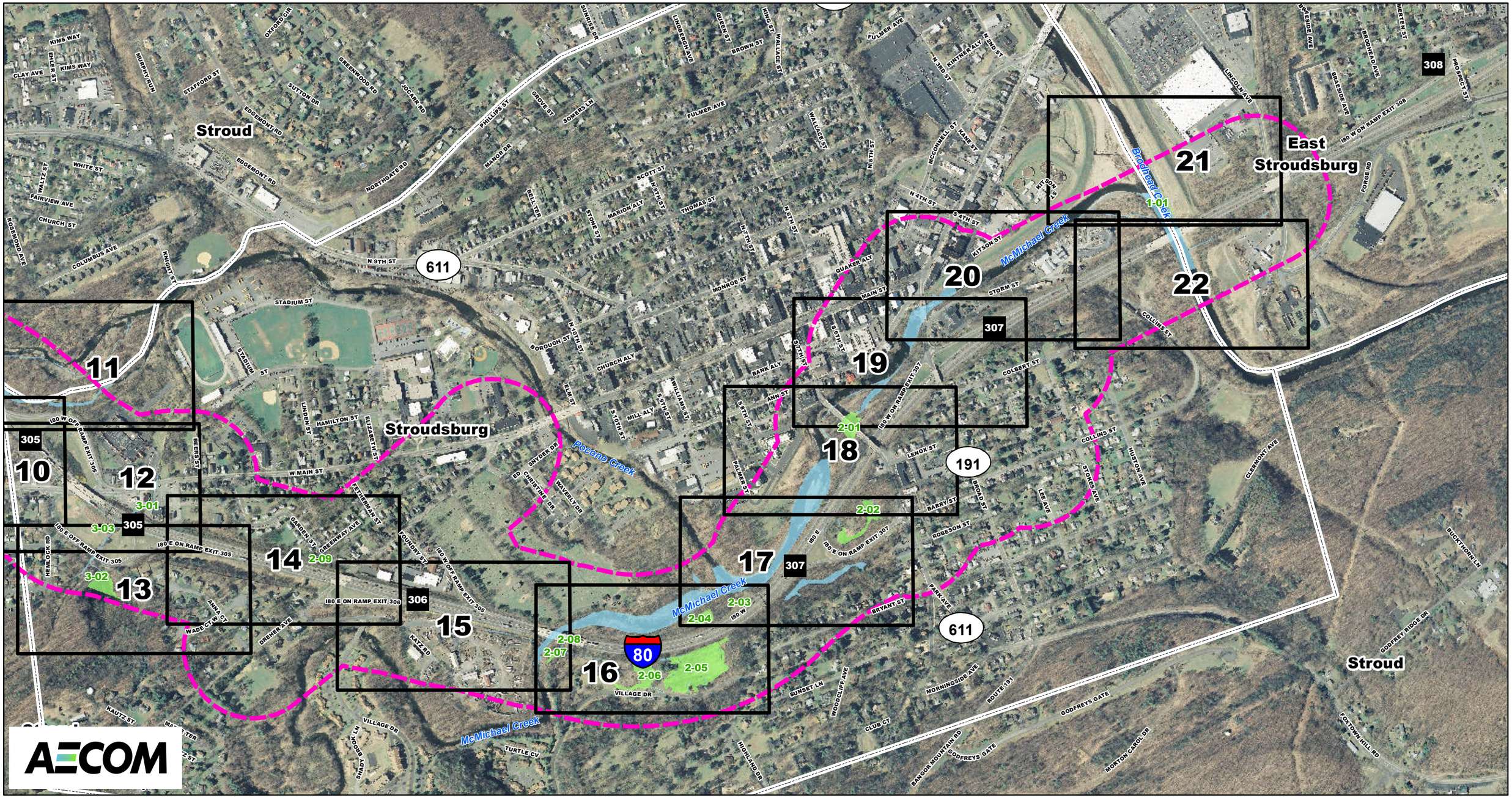
Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways Key

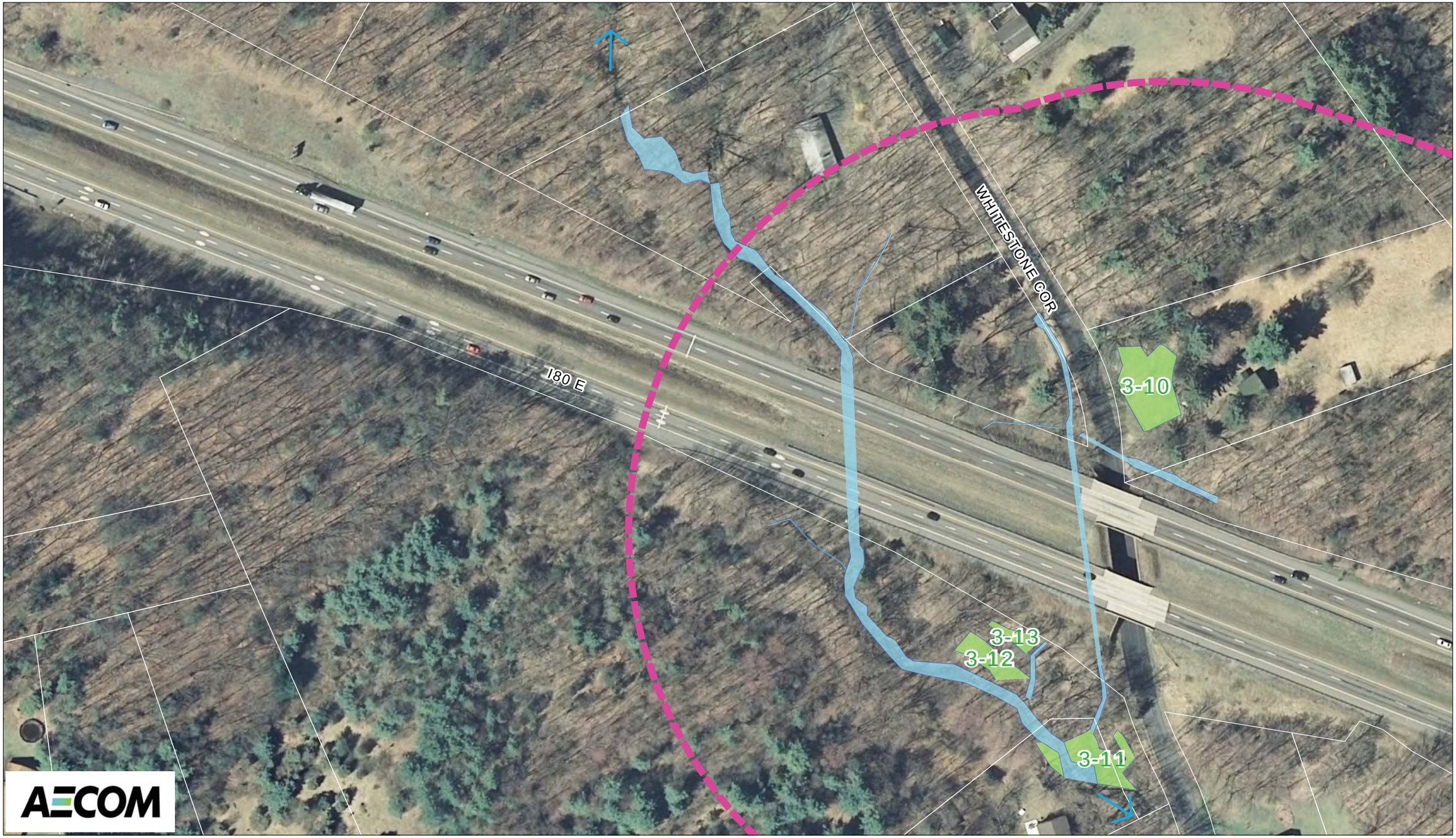
Sheet 1 of 2

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



Interstate 80, Section 17M
Phase 1 - Bog Turtle Habitat Assessment
Figure 2: Wetlands and Waterways Key
Sheet 2 of 2

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 1 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

Delineated Wetland

300ft Buffer of LOD

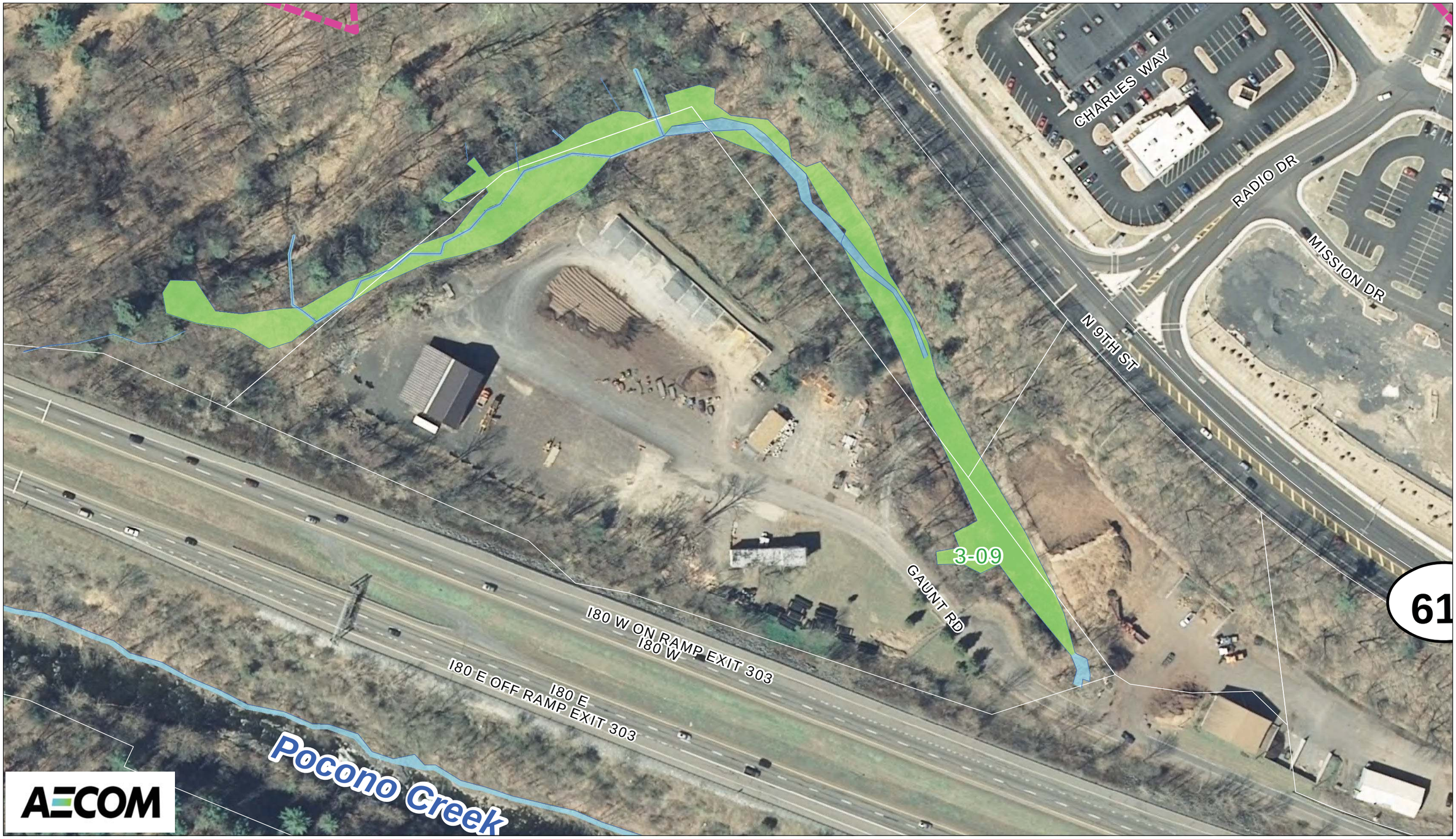
Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 2 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

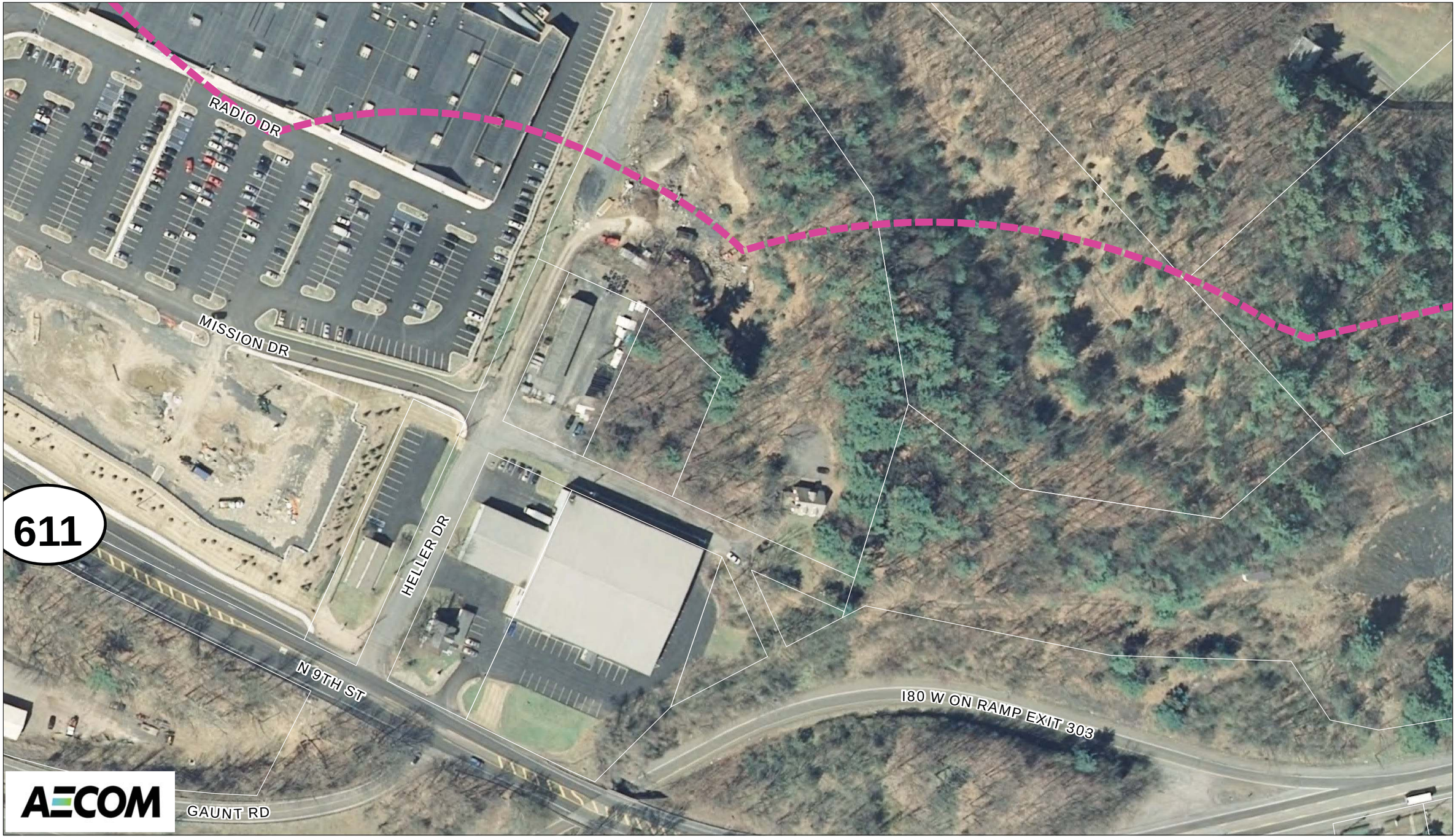
Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 3 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



N

0 50 100

Feet

Delineated Waterway

Delineated Wetland

300ft Buffer of LOD

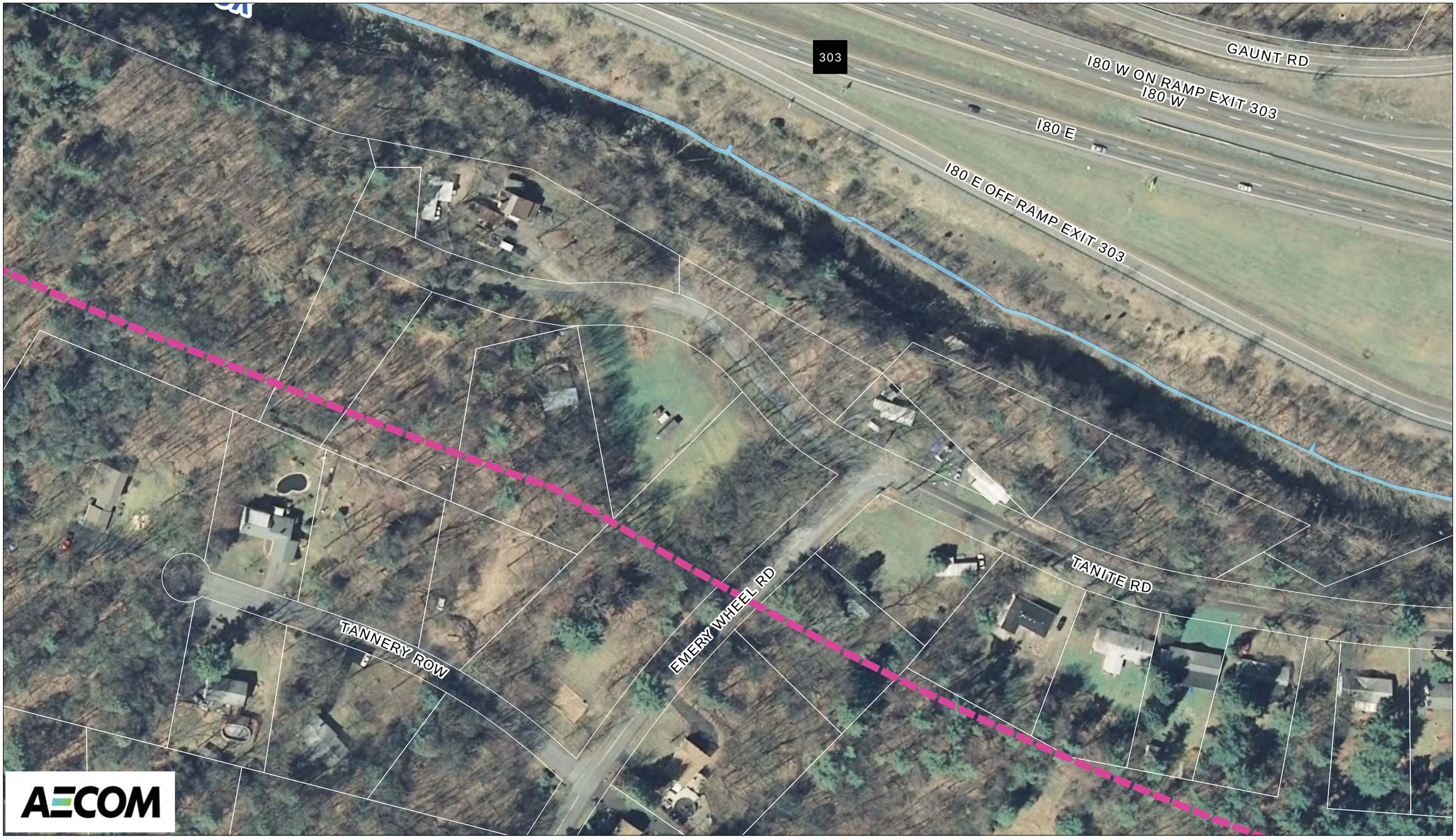
Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 4 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 5 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 6 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

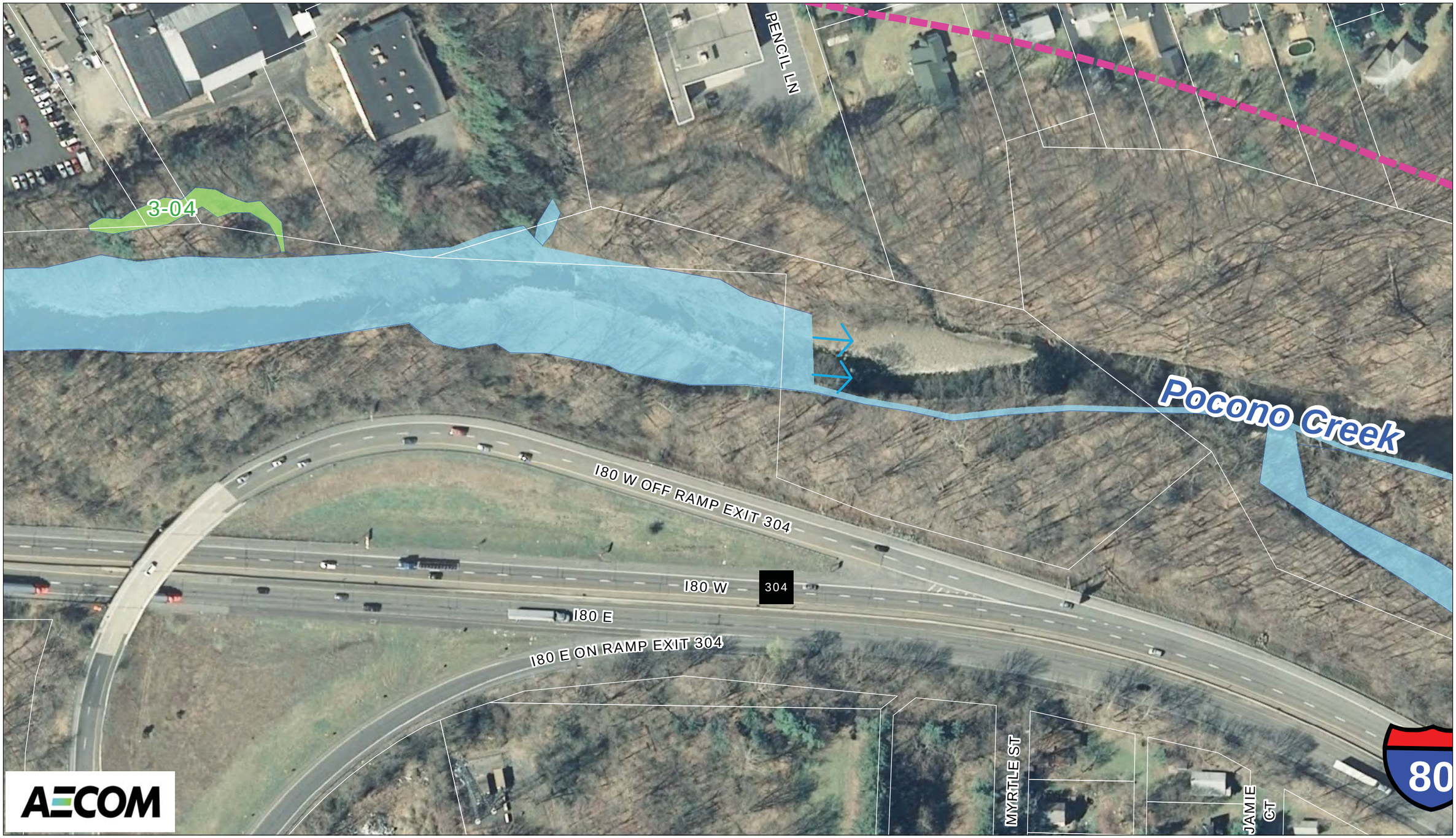
Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 7 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



AECOM

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 8 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 9 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

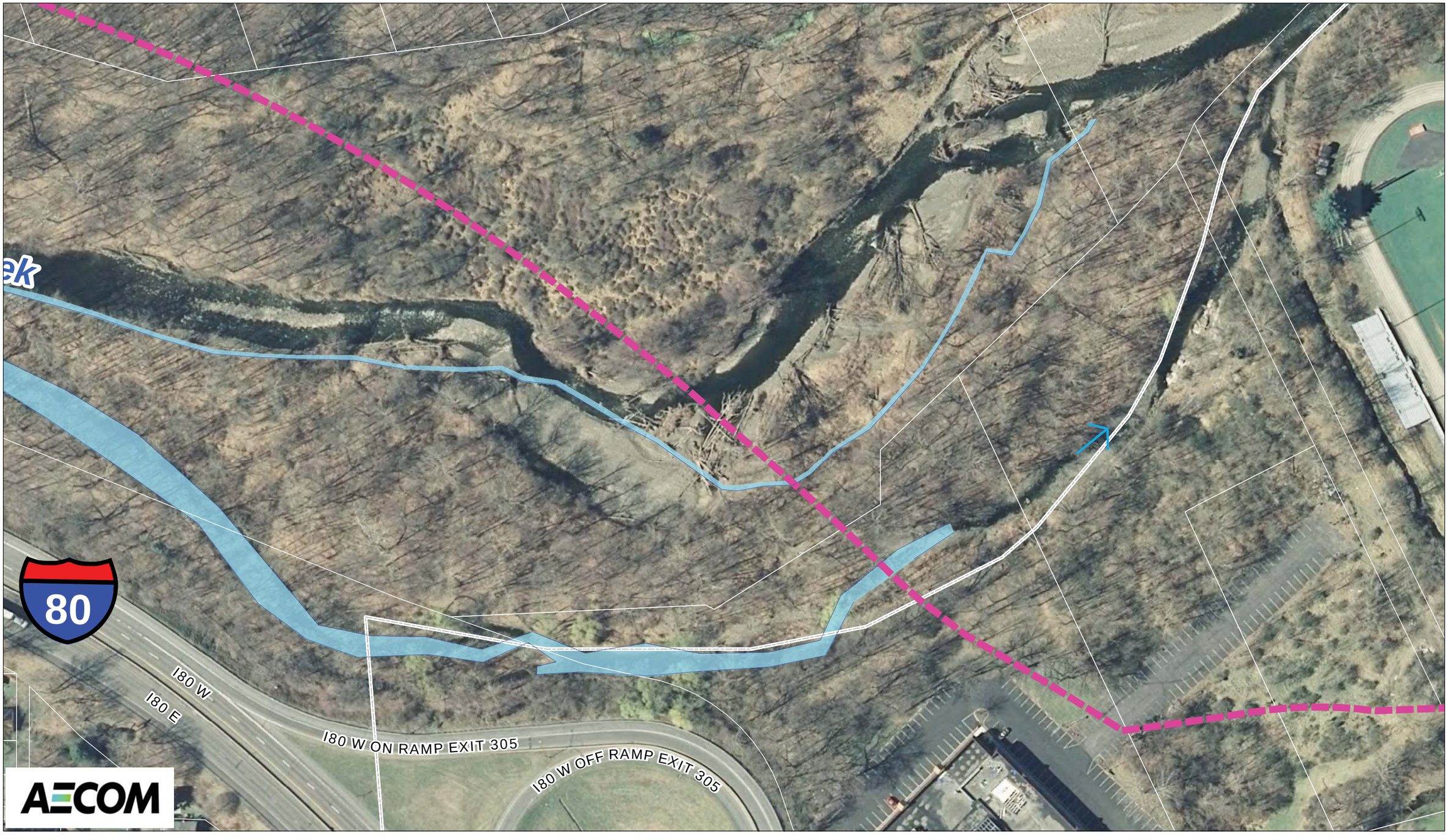
Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 10 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 11 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

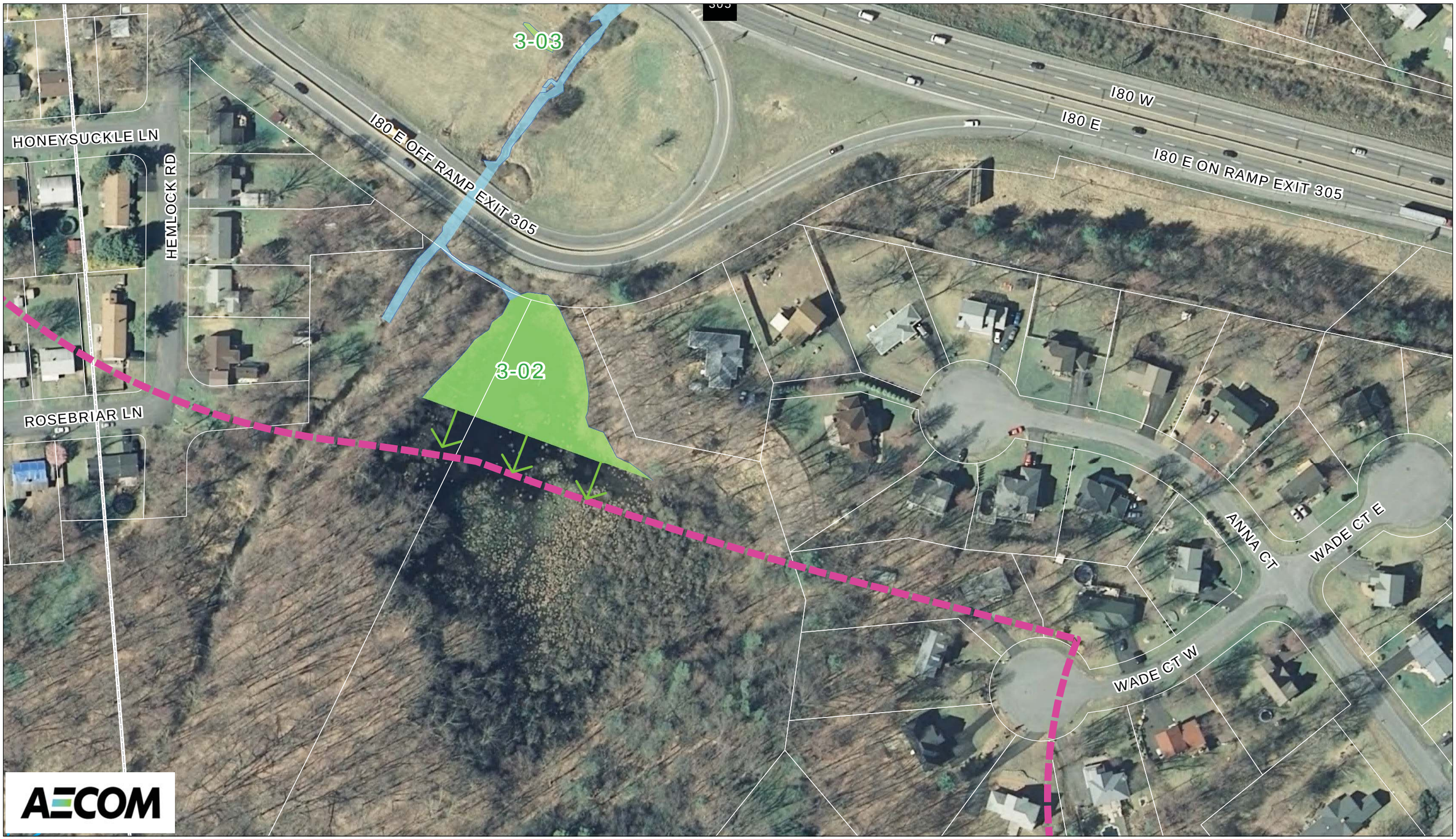
Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 12 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 13 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 14 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 15 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 16 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 17 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 18 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 19 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

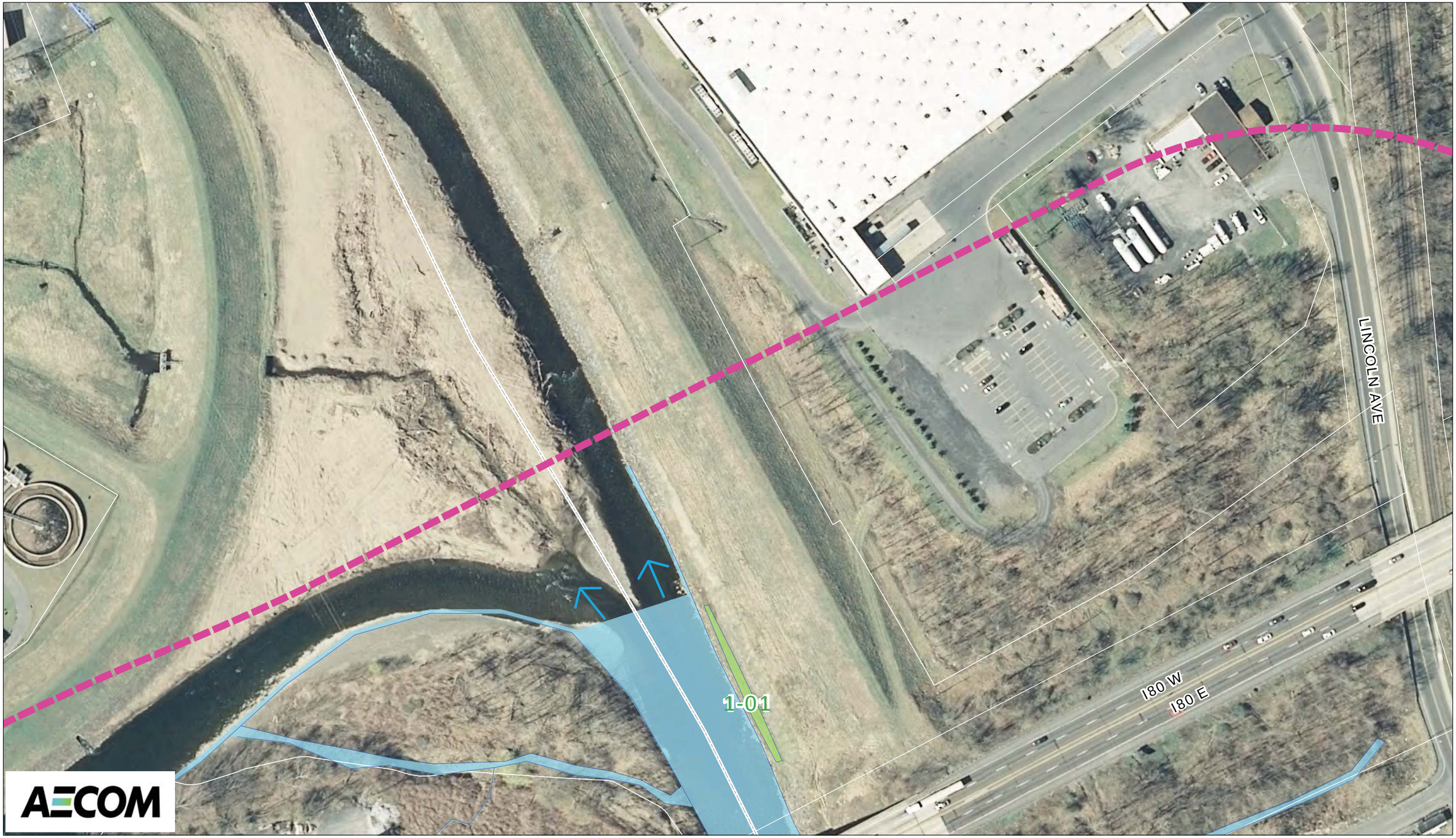
Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 20 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

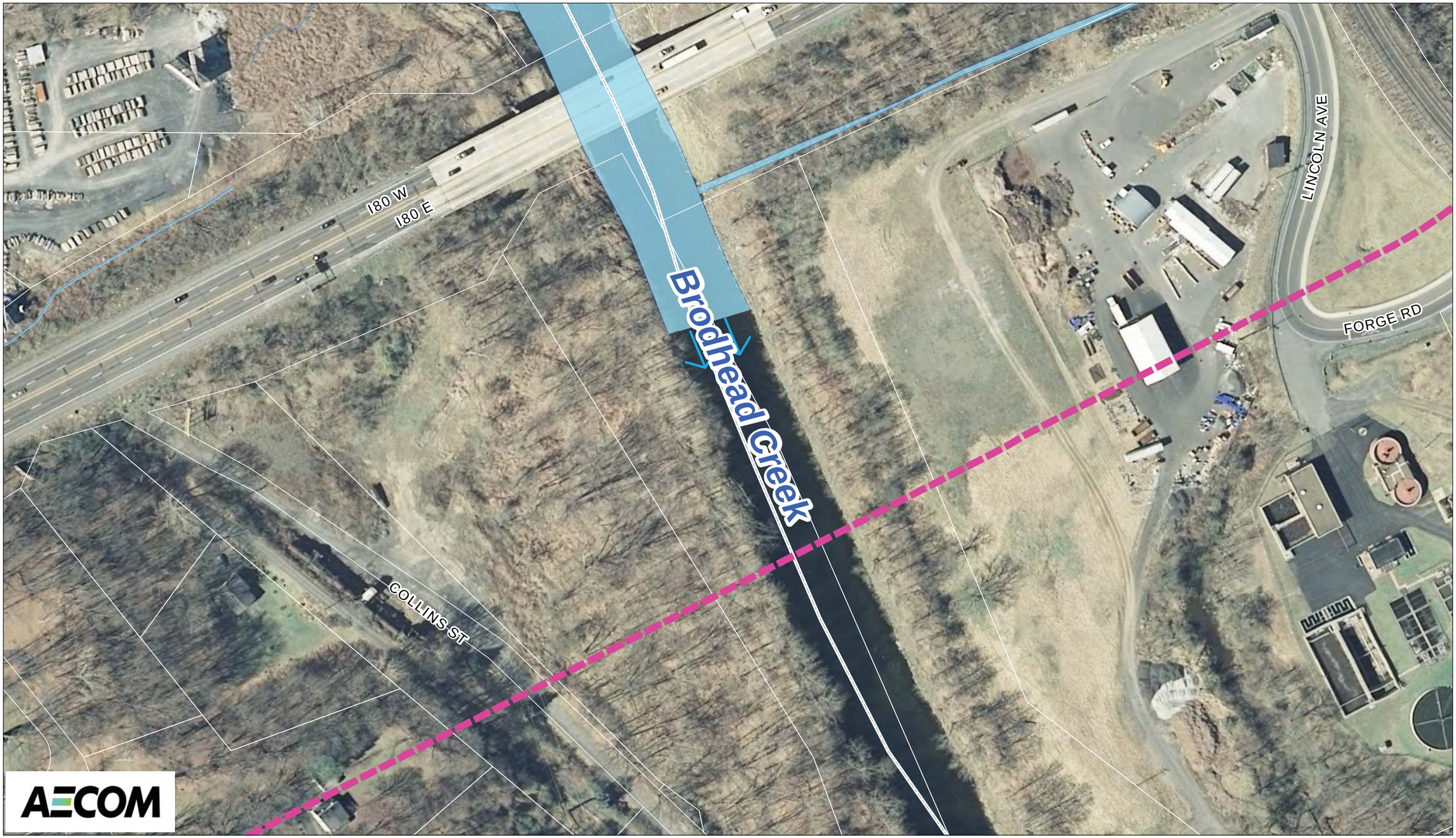
Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 21 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).



AECOM

N

0 50 100

Feet

Delineated Waterway

300ft Buffer of LOD

Delineated Wetland

Interstate 80, Section 17M

Phase 1 - Bog Turtle Habitat Assessment

Figure 2: Wetlands and Waterways

Sheet 22 of 22

Source: PASDA, Monroe Co. (Aerial: PAMAP 2008).

Appendix A

USFWS / PFBC Bog Turtle Habitat Evaluation – Field Forms

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp.

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-13 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.02 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 20.945"N Long 75 14' 37.705"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 2:00 pm Time Out: 2:05 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Stream, residential, highway embankment

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 100% ☐ PSS _____ ☐ PFO _____ ☐ POW _____

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe highway embankment

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-13 ***(con't)***

Hydrology

■ Y ☐ N Springs or seeps ■ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ☐ Likely ■ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ■ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): VoB - VOLUSIA GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ☐NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
■ sedges ■ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ■ rice cutgrass ■ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Bentgrass,
Additional dominant species: NE Aster, Purpleleaf Willowherb, Clearweed

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare _____ October 22, 2013
Investigator's Name (print) Investigator's Signature Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp., Stroudsburg & East Stroudsburg Boroughs

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-12 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.04 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 19.99"N Long 75 14' 36.694"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 1:55 pm Time Out: 2:00 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Stream, residential

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 33% ■ PSS 33% ■ PFO 33% ☐ POW ____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-12 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
☐ Y ■ N Saturated soils present? If yes, year-round? ☐ Likely ☐ Unlikely ☐ Unknown
☐ Y ■ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators ponded water

Soils Mapping Unit (optional): VoB - VOLUSIA GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ■ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ■ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Japanese Stiltgrass,
Additional dominant species: Sugar Maple, Wrinkle Leaf Goldernrod

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

INVESTIGATOR'S OPINION

☐ YES ☑ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare — Investigator's Name (print)
Chris Howsare — Investigator's Signature
October 22, 2013 — Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp.

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-11 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.08 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 19.527"N Long 75 14' 37.604"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 1:45 pm Time Out: 1:55 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Stream, residential

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 33% ■ PSS 33% ■ PFO 33% ☐ POW ____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-11 ***(con't)***

Hydrology

■ Y ☐ N Springs or seeps ■ visible or ■ likely ? Watercress present? ■ Yes ☐ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ■ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators ponded water

Soils Mapping Unit (optional): VoB - VOLUSIA GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ■ jewelweed ☐ sphagnum moss
☐ sensitive fern ■ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Tuft Hair Grass,
Additional dominant species: NE Aster, Bentgrass, Ground Ivy, Clearweed

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare — Investigator's Name (print)
Chris Howsare — Investigator's Signature
October 22, 2013 — Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp.

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-10 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.12 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 23.559N Long 75 14' 36.248W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 1:30 pm Time Out: 1:40 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ☐ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Residential

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 100% ☐ PSS _____ ☐ PFO _____ ☐ POW _____

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe Contained spring house ruins

■ Y ☐ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe Mowed residential yard

Project Name I-80 Reconstruction Project ***Wetland*** 3-10 ***(con't)***

Hydrology

■ Y ☐ N Springs or seeps ■ visible or ☐ likely ? Watercress present? ■ Yes ☐ No
■ Y ☐ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ■ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ■ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): VoB - VOLUSIA GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ■30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 6 to 8 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ■6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ☐YES ■NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ■50-70% ☐>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
■ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Sweetbay Magnolia,
Additional dominant species: Eastern Hemlock, Honeysuckle, Barberry, Bluegrass, Japanese Stiltgrass, Bittercress, Forget-Me-Not, Wild Grape

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare _____ October 22, 2013
Investigator's Name (print) Investigator's Signature Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp.

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-09 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 1.19 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 21.326"N Long 75 14' 13.27"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 12:30 pm Time Out: 12:50 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Stream, maintenance yard, high rocky cliffs

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 30% ☐ PSS _____ ■ PFO 70% ☐ POW _____

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe Embankment fill

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-09 ***(con't)***

Hydrology

■ Y ☐ N Springs or seeps ■ visible or ☐ likely ? Watercress present? ■ Yes ☐ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ■ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (3 " deep)
■ rivulets (2 " deep) ■ larger pools/ponds (3 " deep)
☐ Y ■ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): WyB - WYOMING GRAVELLY SANDY LOAM, 3 TO 8 PERCENT SLOPES
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%	Few very small pockets where probe sinks > 3"	

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ■ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ■ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ■ multiflora rose ■ Sugar Maple, Sycamore, Oak,
Additional dominant species: Common Spicebush, American Hornbeam

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare _____ October 22, 2013
Investigator's Name (print) Investigator's Signature Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp.

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-08 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.02 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 3.965" N Long 75 13' 38.241" W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: January 13, 2014 Time In: 12:15 pm Time Out: 12:30 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Stream, forested, floodplain

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 100% ☐ PSS _____ ☐ PFO _____ ☐ POW _____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-08 ***(con't)***

Hydrology

☑ Y ☐ N Springs or seeps ☑ visible or ☐ likely ? Watercress present? ☑ Yes ☐ No
☐ Y ☑ N Spring houses in or adjacent to wetland?
☑ Y ☐ N Saturated soils present? If yes, year-round? ☐ Likely ☑ Unlikely ☐ Unknown
☑ Y ☐ N Water visible on surface? Check all that apply: ☑ small puddles/depressions (3 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ☑ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): Po-Pope silt loam
Field observations confirm mapped type? ☑ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ☑NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ☑YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☑>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ☑NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☑ sedges ☐ rushes ☑ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☑ tearthumb ☑ reed canary grass ☐ *Phragmites* ☑ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ☑ _____
Additional dominant species: PA bittercress, PA smartweed, Clearweed, Water Pepper, Japanese Knotweed, Switchgrass, Forget-me-not

Herptiles

Were any bog turtles observed? ☐ YES[7] ☑ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		January 13, 2014
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp.

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-07 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.01 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 5.61"N Long 75 13' 36.997"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 12:15 pm Time Out: 12:20 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Stream, forested, floodplain

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 50% ☐ PSS _____ ■ PFO 50% ☐ POW _____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-07 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
☐ Y ■ N Saturated soils present? If yes, year-round? ☐ Likely ☐ Unlikely ☐ Unknown
☐ Y ■ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators located on bank of stream (Pocono Creek)

Soils Mapping Unit (optional): Po - POPE SILT LOAM
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ■ jewelweed ☐ sphagnum moss
☐ sensitive fern ■ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Switchgrass,
Additional dominant species: Japanese Knotweed, NE Aster, Wild Grape

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☐YES ☑NO ☐UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The soils criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		October 22, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp.

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-06 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.10 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 6.86"N Long 75 13' 39.395"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 12:00 pm Time Out: 12:15 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Stream, forested

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 33% ■ PSS 33% ■ PFO 33% ☐ POW ____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-06 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ☐ Likely ■ Unlikely ☐ Unknown
☐ Y ■ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ■ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): Po - POPE SILT LOAM
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
■ sedges ■ rushes ■ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ■ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
■ alder ☐ dogwood ■ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Crabapple, NY Aster
Additional dominant species: Green Ash, Sugar Maple, Silver Maple, Black Walnut, Speckled Alder, Spicebush, Clearweed

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☐YES ☑NO ☐UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The soils criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		October 22, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp.

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-05 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.03 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 9.34" N Long 75 13' 22.684" W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: January 13, 2014 Time In: 12:45 pm Time Out: 1:00 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Floodplain along Pocono Creek

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 100% ☐ PSS _____ ☐ PFO _____ ☐ POW _____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-05 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
☐ Y ■ N Saturated soils present? If yes, year-round? ☐ Likely ☐ Unlikely ☐ Unknown
☐ Y ■ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ■ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): Cy-Cut and fill land
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ■ multiflora rose ☐ _____
Additional dominant species: Black Birch, Japanese Stiltgrass, Japanese Knotweed, Switchgrass, Deertongue, Clearweed, Garlic Mustard

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☐YES ☑NO ☐UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The soils criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		January 13, 2014
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroud Twp.

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-04 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.12 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 10.84" N Long 75 13' 18.021" W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: January 13, 2014 Time In: 1:50 pm Time Out: 2:10 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Site along north side of Pocono Creek, floodplain

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 50% ☐ PSS _____ ■ PFO 50% ☐ POW _____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-04 ***(con't)***

Hydrology

☑ Y ☐ N Springs or seeps ☐ visible or ☑ likely ? Watercress present? ☐ Yes ☑ No
☐ Y ☑ N Spring houses in or adjacent to wetland?
☑ Y ☐ N Saturated soils present? If yes, year-round? ☐ Likely ☑ Unlikely ☐ Unknown
☑ Y ☐ N Water visible on surface? Check all that apply: ☑ small puddles/depressions (2 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ☑ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): Cy-Cut and fill land
Field observations confirm mapped type? ☑ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☑YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ☑10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 4 to 6 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☑3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ☑YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☑>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☑YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ☑10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 4 to 6 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☑3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☑ skunk cabbage ☐ cattail ☐ sweet flag ☑ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ☐ _____
Additional dominant species: Birch, Water Pepper, Knotweed, Clearweed, Japanese Stiltgrass, Poison Ivy

Herptiles

Were any bog turtles observed? ☐ YES[7] ☑ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)
Spring seep flow pathway has deep soft soils throughout, however the entire wetland lies within the Pocono Creek floodplain and has rocky substrate surrounding it. It is bounded by the creek and a high steep rocky slope.

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		January 13, 2014
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-03 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.01 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 53.69"N Long 75 12' 47.03"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: September 17, 2013 Time In: 1:00 pm Time Out: 1:15 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Highway gore area of Exit 305 on I-80

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 100% ☐ PSS _____ ☐ PFO _____ ☐ POW _____

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe Wetland is located in the gore of Exit 305

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-03 ***(con't)***

Hydrology

☒ Y ☐ N Springs or seeps ☐ visible or ☒ likely ? Watercress present? ☐ Yes ☒ No
☐ Y ☒ N Spring houses in or adjacent to wetland?
☐ Y ☒ N Saturated soils present? If yes, year-round? ☐ Likely ☐ Unlikely ☐ Unknown
☐ Y ☒ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ☒ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): Cy - CUT AND FILL LAND
Field observations confirm mapped type? ☒ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ☒NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ☒YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☒>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ☒NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☒ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☒ dogwood ☐ red maple ☐ willow ☐ poison sumac ☒ multiflora rose ☒ Bugle Weed,
Additional dominant species: Sensitive fern, Spreading Bent grass

Herptiles

Were any bog turtles observed? ☐ YES[7] ☒ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☐YES ☑NO ☐UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The soils criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		September 17, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-02 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 3+ **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 48.899"N Long 75 12' 47.498"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: September 17, 2013 Time In: 12:30 pm Time Out: 1:00 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Open water, wooded, highway

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 10% ■ PSS 10% ■ PFO 10% ■ POW 70%

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe Possible damming effect of roadway culvert

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 3-02 ***(con't)***

Hydrology

■ Y ☐ N Springs or seeps ■ visible or ■ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ■ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
■ rivulets (___" deep) ■ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators open water

Soils Mapping Unit (optional): Sh - SHEFFIELD SILT LOAM & WyE - WYOMING GRAVELLY SANDY LOAM, 25 TO 70 PERCENT SLOPES
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ■50-70% ☐>70%	**Mucky** soils range in depth from: 3 to 6 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ■3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ■30-49% ☐50-70% ☐>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it is **mucky**? ☐<10% ☐10-29% ■30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 3 to 9 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ■3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
■ sedges ■ rushes ■ skunk cabbage ■ cattail ☐ sweet flag ☐ jewelweed ■ sphagnum moss
☐ sensitive fern ■ rice cutgrass ☐ tearthumb ■ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ■ dogwood ☐ red maple ☐ willow ☐ poison sumac ■ multiflora rose ■ Black Oak, Pin Oak,
Additional dominant species: Hay Scented Fern, Japanese Stiltgrass

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____

_____

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		September 17, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 3-01 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.003 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 55.01"N Long 75 12' 43.37"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: September 17, 2013 Time In: 12:00 pm Time Out: 12:30 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Stream, commercial, highway

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 100% ☐ PSS _____ ☐ PFO _____ ☐ POW _____

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe Wetland is in an area that is maintained

■ Y ☐ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe Wetland is in an area that is maintained

Project Name I-80 Reconstruction Project ***Wetland*** 3-01 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ☐ Likely ■ Unlikely ☐ Unknown
☐ Y ■ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ■ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): Ph - PHILO SILT LOAM
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Grass species
Additional dominant species: _____

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☐YES ☑NO ☐UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The soils criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		September 17, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 2-09 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.0007 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 50.89"N Long 75 12' 25.37"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: September 17, 2013 Time In: 2:00 pm Time Out: 2:15 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Wetland is located around a small pipe on Garden Street

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 100% ☐ PSS _____ ☐ PFO _____ ☐ POW _____

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe Pipe located here

■ Y ☐ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe Area around wetland is maintained lawn

Project Name I-80 Reconstruction Project ***Wetland*** 2-09 ***(con't)***

Hydrology

■ Y ☐ N Springs or seeps ☐ visible or ■ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ☐ Likely ■ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): ChA - CHENANGO GRAVELLY LOAM, 0 TO 3 PERCENT SLOPES
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ■10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 3 to 4 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ■3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ___ to ___ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ■ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Silver Maple, Sumac
Additional dominant species: Virginia Creeper, Wild Grape

Herptiles

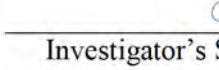
Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)
Although soil can be probed to several inches it is primarily road silt from runoff.

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare — Investigator's Name (print)
 — Investigator's Signature
September 17, 2013 — Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ **Y** ☐ **N**[3]

WETLAND ID: 2-08 **PHOTOS TAKEN:** ■ **Yes** ☐ **No** **WETLAND SIZE:** 0.015 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 44.588"N Long 75 12' 2.103"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 2, 2013 Time In: 12:10 pm Time Out: 12:30 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Wetland sits along a tributary of McMichael Creek under I-80

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 100% ☐ PSS _____ ☐ PFO _____ ☐ POW _____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 2-08 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
☐ Y ■ N Saturated soils present? If yes, year-round? ☐ Likely ☐ Unlikely ☐ Unknown
☐ Y ■ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators located in the floodplain of McMichael Creek

Soils Mapping Unit (optional): Cy - CUT AND FILL LAND
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Clearweed
Additional dominant species: Japanese Knotweed, Mild Waterpepper

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☐YES ☑NO ☐UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The soils criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		October 2, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 2-07 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.05 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 42.58"N Long 75 12' 3.835"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 2, 2013 Time In: 12:00 pm Time Out: 12:30 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Wetland sits in an old stream channel next to McMichael Creek

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 50% ☐ PSS _____ ■ PFO 50% ☐ POW _____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

■ Y ☐ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe Large amounts of yard waste (branches, leaves) are deposited nearby

Project Name I-80 Reconstruction Project ***Wetland*** 2-07 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ■ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators open pool, back channel to McMichael Creek

Soils Mapping Unit (optional): ReA - REXFORD GRAVELLY SILT LOAM, 0 TO 3 PERCENT SLOPES
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ■30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 3 to 4 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ■3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ■50-70% ☐>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it is **mucky**? ☐<10% ☐10-29% ■30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 3 to 4 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ■3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Sycamore, River Birch
Additional dominant species: Silver Maple, Japanese Knotweed, Penn Smartweed, Mild Waterpepper

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)
Soils can be probed several inches but consist primarily of stream sediment. Soft soils are present in mostly unvegetated pools where water sits after flooding events.

INVESTIGATOR'S OPINION

☐ YES ☑ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare — Investigator's Name (print)
Investigator's Signature
October 2, 2013 — Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 2-06 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.79 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 41.508"N Long 75 11' 54.684"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: September 23, 2013 Time In: 12:45 pm Time Out: 1:30 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Wetland sits along a tributary of McMichael Creek and along the toe of slope of I-80

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 33% ■ PSS 33% ■ PFO 33% ☐ POW ____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 2-06 ***(con't)***

Hydrology

■ Y ☐ N Springs or seeps ■ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ■ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
■ rivulets (2 " deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators open pools

Soils Mapping Unit (optional): ReA, Cy - REXFORD GRAVELLY SILT LOAM, CUT AND FILL LAND
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ■30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 6 to 8 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ■6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ■50-70% ☐>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it is **mucky**? ☐<10% ☐10-29% ■30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 6 to 8 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ■6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ■ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ■ rice cutgrass ■ tearthumb ☐ reed canary grass ■ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ River Birch, Mountain Maple
Additional dominant species: Water Pepper, Stiltgrass, Fern, Wild Grape

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____

_____

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		September 23, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 2-05 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 2.61 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 44.12"N Long 75 11' 45.72"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: September 23, 2013 Time In: 12:00 pm Time Out: 12:45 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Wetland sits inside a bowl and along the toe of slope of I-80

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 33% ■ PSS 33% ■ PFO 33% ☐ POW ____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 2-05 ***(con't)***

Hydrology

■ Y ☐ N Springs or seeps ■ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ■ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
■ rivulets (2 " deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators open pools

Soils Mapping Unit (optional): WyE, WyC, ReA - WYOMING GRAVELLY SANDY LOAM, REXFORD GRAVELLY SILT LOAM
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ■30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 3 to 6 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ■3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ■50-70% ☐>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it is **mucky**? ☐<10% ■10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 3 to 6 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ■3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
■ sedges ☐ rushes ☐ skunk cabbage ■ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ■ tearthumb ☐ reed canary grass ■ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ■ willow ☐ poison sumac ☐ multiflora rose ■ Silver Maple, Barberry,
Additional dominant species: Hydrangea, Garlic Mustard, Duel Weed, Wild Grape, Narrow-Leaf Cattail, Paper Birch

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		September 23, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 2-04 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.38 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 45.502" N Long 75 11' 48.479" W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: January 13, 2014 Time In: 2:50 pm Time Out: 3:00 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Creek, Floodplain

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 50% ☐ PSS _____ ■ PFO 50% ☐ POW _____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 2-04 ***(con't)***

Hydrology

☒ Y ☐ N Springs or seeps ☐ visible or ☒ likely ? Watercress present? ☐ Yes ☒ No
☐ Y ☒ N Spring houses in or adjacent to wetland?
☒ Y ☐ N Saturated soils present? If yes, year-round? ☐ Likely ☒ Unlikely ☐ Unknown
☒ Y ☐ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☒ larger pools/ponds (2" deep)
☐ Y ☒ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): WyC-Wyoming gravelly sandy loam, 8 to 15 percent slopes & Cy-Cut and fill land
Field observations confirm mapped type? ☒ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ☒NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ☒YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☒>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ☒NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☒ jewelweed ☐ sphagnum moss
☐ sensitive fern ☒ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☒ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ☒ Ostrich Fern, Water Pepper,
Additional dominant species: Green Ash, Slippery Elm, Yellow Birch, Red Oak, Honeysuckle, Nannyberry, Japanese Stiltgrass, Clearweed, Nettle

Herptiles

Were any bog turtles observed? ☐ YES[7] ☒ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		January 13, 2014
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ■ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 2-03 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.01 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 46.671" N Long 75 11' 44.396" W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: January 13, 2014 Time In: 3:00 pm Time Out: 3:20 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Creek, Floodplain

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 50% ☐ PSS ____ ■ PFO 50% ☐ POW ____

☐ Y ■ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe _____

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 2-03 ***(con't)***

Hydrology

■ Y ☐ N Springs or seeps ■ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
☐ Y ■ N Saturated soils present? If yes, year-round? ☐ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
☐ Y ■ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): Cy-Cut and fill land
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ■10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 6 to 8 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ■6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it is **mucky**? ☐<10% ■10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 6 to 8 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ■6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
■ sedges ☐ rushes ☐ skunk cabbage ■ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ■ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ■ willow ☐ poison sumac ☐ multiflora rose ■ Purplestem Aster,
Additional dominant species: American Sycamore, Japanese barberry, Japanese Knotweed, Woolgrass

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☒ observed ☐ previously observed: Dead snake, species undetermined

Additional Comments/Observations: (use additional sheets if necessary)
The extremely small size and location of this wetland make it unlikely habitat. It is situated between the floodplain of McMichael Creek and the embankment for I-80.
All surrounding soils are stony, sandy floodplain deposition and provide no supporting substrate.

INVESTIGATOR'S OPINION

☑ YES ☐ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☑ YES ☐ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		January 13, 2014
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 2-02 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.56 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 52.188"N Long 75 11' 34.078"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 3:00 pm Time Out: 3:30 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Interchange 307 infield

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 50% ☐ PSS _____ ■ PFO 50% ☐ POW _____

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe Roadway runoff pipe

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 2-02 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ☐ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators compressed vegetation

Soils Mapping Unit (optional): Cy - Cut and Fill Land
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it (PEM) is **mucky**? ☐<10% ■10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 6 to 9 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ■6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ■YES ☐NO	How much of it is **mucky**? ☐<10% ■10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: 6 to 9 "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ■6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ■ rice cutgrass ■ tearthumb ■ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ■ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ Smartweed,
Additional dominant species: Forget-Me-Not, Speckled Alder

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)
Although portions of the soils can be probed to 6+ inches, it is primarily silt within the flow pattern of the stormwater discharge.

INVESTIGATOR'S OPINION

☐ YES ☑ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		October 22, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 2-01 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.56 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 58' 59.325"N Long 75 11' 33.8"W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 2:30 pm Time Out: 2:45 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Park, highway embankment (Rotary Park)

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 50% ☐ PSS _____ ■ PFO 50% ☐ POW _____

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe Recent bridge construction

■ Y ☐ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe Recent bridge construction

Project Name I-80 Reconstruction Project ***Wetland*** 2-01 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
■ Y ☐ N Saturated soils present? If yes, year-round? ■ Likely ☐ Unlikely ☐ Unknown
■ Y ☐ N Water visible on surface? Check all that apply: ■ small puddles/depressions (2 " deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators ponded water, flow lines

Soils Mapping Unit (optional): Hy - Holly Silt Loam
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
■ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ■ rice cutgrass ☐ tearthumb ☐ reed canary grass ☐ *Phragmites* ☐ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ American Sycamore,
Additional dominant species: Beggar's Ticks, Water Pepper

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)
This wetland was previously evaluated as part of the SR 611 (7th Street) bridge replacement project.

INVESTIGATOR'S OPINION

☐ YES ☑ NO ☐ UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The soils criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐ YES ☑ NO ☐ UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		October 22, 2013
Investigator's Name (print)	Investigator's Signature	Date

Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

USFWS / PFBC Bog Turtle Habitat Evaluation Field Form[1]

(revised 06/01/2006)

Project/Property Name: I-80 Reconstruction Project

Project type: Transportation

Applicant/Landowner Name: PennDOT Dist. 5-0

County: Monroe Quad: Stroudsburg, PA & East Stroudsburg, PA Township/Municipality: East Stroudsburg Borough

PNDI # 20130327397134 Potential conflict with USFWS species? ■ Y ☐ N

ACTION AREA[2]

Action area size: 691 ac. **Does the Phase 1 survey include all wetlands in the action area?** ■ Y ☐ N[3]

WETLAND ID: 1-01 **PHOTOS TAKEN:** ■ Yes ☐ No **WETLAND SIZE:** 0.04 **acres**

Wetland size estimation – If actual acreage is not known at time of investigation, check one:

☐ < 0.1 acre ☐ 0.1-0.5 acre ☐ >0.5 to <1 acre ☐ 1-2 acres ☐ 2-4 acres ☐ 5+ acres ☐ 10+ acres

WETLAND LOCATION: Lat 40 59' 16.861" N Long 75 11' 1.692" W

(approximate center of wetland) GPS Datum (check one): ☐ NAD 27 ■ NAD 83 ☐ WGS 84

SURVEY CONDITIONS & LIMITATIONS

Date of survey: October 22, 2013 Time In: 4:00 pm Time Out: 4:15 pm

Last precipitation: ☐ < 24 hours ■ 1-7 days ☐ > 1 week ☐ unknown Drought conditions? ☐ Y ■ N ☐ Unknown

How much of this wetland is located *off-site* (*i.e.*, outside the property boundaries or right-of-way)?

■ none of it – the entire wetland is within the property boundaries (skip next 2 questions)

☐ some of it – _____ acres or _____ % of the wetland appears to be located off-site

If part of this wetland continues off-site, how much of the *off-site portion* was surveyed (on foot)?

☐ none of it ☐ all of it ☐ part of it (_____% or _____ acres of the off-site portion)

How much of the *off-site portion* of this wetland is visible (*e.g.*, from the subject property or from a public road)?

☐ all of it ☐ part of it (at least _____ acres) ☐ none of it

Are there any wetlands located off-site and close enough to be affected by this project? ☐ Y ■ N ☐ Unknown

If yes, *could* they be potential bog turtle habitat? ☐ Y ■ N ☐ Unknown

Describe surrounding landscape (wetlands, forest, subdivision, agricultural field, fallow field, etc.):

Levee, Creek

WETLAND CHARACTERISTICS

Wetland type(s) present and % cover: ■ PEM 100% ☐ PSS _____ ☐ PFO _____ ☐ POW _____

■ Y ☐ N Are there any signs of disturbance to *hydrology* (ditching, filling, ponds, roads, etc.)? If yes, describe Levee along creek

☐ Y ■ N Are there any signs of disturbance to *vegetation* (mowing, pasturing, burning, etc.)? If yes, describe _____

Project Name I-80 Reconstruction Project ***Wetland*** 1-01 ***(con't)***

Hydrology

☐ Y ■ N Springs or seeps ☐ visible or ☐ likely ? Watercress present? ☐ Yes ■ No
☐ Y ■ N Spring houses in or adjacent to wetland?
☐ Y ■ N Saturated soils present? If yes, year-round? ☐ Likely ☐ Unlikely ☐ Unknown
☐ Y ■ N Water visible on surface? Check all that apply: ☐ small puddles/depressions (___" deep)
☐ rivulets (___" deep) ☐ larger pools/ponds (___" deep)
■ Y ☐ N Evidence of flooding? If yes, describe indicators_____

Soils Mapping Unit (optional): Cy - Cut and Fill Land
Field observations confirm mapped type? ■ YES ☐ NO ☐ Unknown

Soils – PEM Portion of Wetland			
Mucky[4]*?* ☐YES ■NO	How much of it (PEM) is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"
Non-mucky[6]*?* ■YES ☐NO	How much of it (PEM) is **non-mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ■>70%		

Soils – PSS and PFO Portion of Wetland			
Mucky[4]*?* ☐YES ☐NO	How much of it is **mucky**? ☐<10% ☐10-29% ☐30-49% ☐50-70% ☐>70%	**Mucky** soils range in depth from: ____ to ____ "	**Most** of the **mucky part(s)** of the wetland can be probed[5]: ☐3-5" ☐6-8" ☐9-11" ☐≥12"

Wetland Vegetation (characterize the wetland as a whole)

Check (X) if present (≥ 5% areal coverage), and also circle if dominant (≥ 20% coverage).
☐ sedges ☐ rushes ☐ skunk cabbage ☐ cattail ☐ sweet flag ☐ jewelweed ☐ sphagnum moss
☐ sensitive fern ☐ rice cutgrass ■ tearthumb ☐ reed canary grass ☐ *Phragmites* ■ purple loosestrife
☐ alder ☐ dogwood ☐ red maple ☐ willow ☐ poison sumac ☐ multiflora rose ■ White Panicle Aster,
Additional dominant species: Giant Goldenrod

Herptiles

Were any bog turtles observed? ☐ YES[7] ■ NO If yes, how many? _____
Other herptiles ☐ observed ☐ previously observed: _____

Additional Comments/Observations: (use additional sheets if necessary)

_____
_____

INVESTIGATOR'S OPINION

☐YES ☑NO ☐UNSURE The hydrology criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The soils criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE The vegetation criterion[8] for bog turtle habitat is met.
☐YES ☑NO ☐UNSURE This wetland is potential bog turtle habitat.

I certify that to the best of my knowledge, all of the information provided herein is accurate and complete.

Chris Howsare		October 22, 2013
Investigator's Name (print)	Investigator's Signature	Date

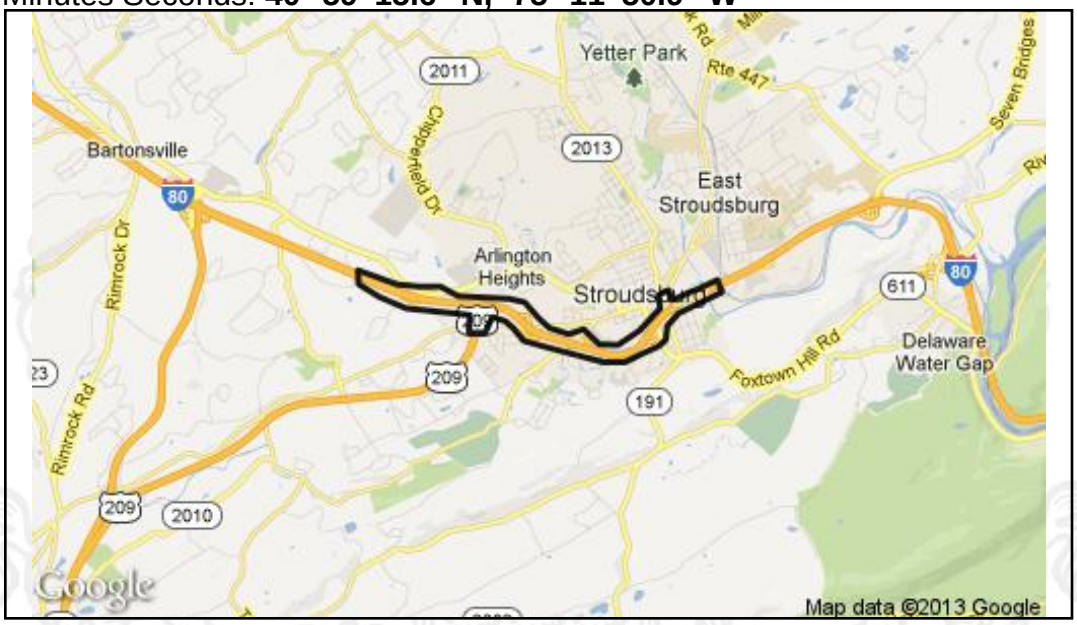
Contact info: C/O AECOM, 1700 Market Street, Suite 1600, Philadelphia, PA 19103

Appendix B

PNDI Receipt and Coordination Letters

1. PROJECT INFORMATION

Project Name: **Interstate 80**
Date of review: **3/27/2013 2:10:17 PM**
Project Category: **Transportation,Road -- construction/alignment (New Roads, Interchanges(including ramps) staging areas)**
Project Area: **417.0** acres
County: **Monroe** Township/Municipality: **Stroudsburg,East Stroudsburg,Stroud**
Quadrangle Name: **STROUDSBURG** ~ ZIP Code: **18301,18360**
Decimal Degrees: **40.987673 N, -75.197467 W**
Degrees Minutes Seconds: **40° 59' 15.6" N, -75° 11' 50.9" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Department of Conservation and Natural Resources	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Fish and Boat Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
U.S. Fish and Wildlife Service	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**

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

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

RESPONSE TO QUESTION(S) ASKED

Q1: "Will the entire project area (including any discharge), plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?"
Your answer is: **2. No**

Q2: Will the entire project occur within an existing building, parking lot, driveway, road, street, or maintained (periodically mowed) lawn?
Your answer is: **2. No**

3. AGENCY COMMENTS

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

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

PA Game Commission

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

PGC Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)
Scientific Name: Myotis septentrionalis
Common Name: Northern Myotis
Current Status: Special Concern Species*
Proposed Status: Special Concern Species*

PA Department of Conservation and Natural Resources

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

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

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

Scientific Name: Satyrodes eurydice
Common Name: Eyed Brown
Current Status: Special Concern Species*
Proposed Status: Special Concern Species*

PA Fish and Boat Commission

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

PFBC Species: (Note: The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)
Scientific Name: Stygobromus allegheniensis
Common Name: Allegheny Cave Amphipod
Current Status: Special Concern Species*
Proposed Status: Special Concern Species*

U.S. Fish and Wildlife Service

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

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.
** Sensitive Species - Species identified by the jurisdictinal agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

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

Check-list of *Minimum* Materials to be submitted:

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

The inclusion of the following information may expedite the review process.
____A basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

4. DEP INFORMATION

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

5. ADDITIONAL INFORMATION

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

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

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

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

U.S. Fish and Wildlife Service

Endangered Species Section
315 South Allen Street, Suite 322, State College, PA. 16801-4851
NO Faxes Please.

PA Fish and Boat Commission

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

PA Game Commission

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

7. PROJECT CONTACT INFORMATION

Name: Christopher Salvatico, GISP
Company/Business Name: AECOM
Address: 1700 Market Street, Suite 1600
City, State, Zip: Philadelphia, PA 19103
Phone:(215) 735-0832 Fax:(215) 735-0883
Email: christopher.salvatico@aecom.com

8. CERTIFICATION

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

April 17, 2013

applicant/project proponent signature date

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
315 South Allen Street, Suite 322
State College, Pennsylvania 16801-4850

May 3, 2013

Christopher Salvatico
AECOM
1700 Market Street
Suite 1600
Philadelphia, PA 19103

RE: USFWS Project #2013-0652
PNDI #20130327397134

Dear Mr. Salvatico:

This responds to your letter of April 17, 2013, requesting information about fish and wildlife resources within the area affected by the proposed I-80, Section 17M, reconstruction project located in Stroud Township; Stroudsburg and East Stroudsburg Boroughs, Monroe County, Pennsylvania. The Pennsylvania Department of Transportation (PennDOT) proposes to reconstruct 3.5 miles of roadway, including five interchanges to relieve congestion, alleviate safety issues, and bring the roadway up to current standards.

The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species and the Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) to ensure the protection of migratory bird species.

Federally Listed and Proposed Species

The proposed project is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. Bog turtles inhabit shallow, spring-fed fens, sphagnum bogs, swamps, marshy meadows, and pastures characterized by soft, muddy bottoms; clear, cool, slow-flowing water, often forming a network of rivulets; high humidity; and an open canopy. Bog turtles usually occur in small, discrete populations occupying suitable wetland habitat dispersed along a watershed. The occupied "intermediate successional stage" wetland habitat is usually a mosaic of micro-habitats ranging from dry pockets, to areas that are saturated with water, to areas that are periodically flooded. Some wetlands occupied by bog turtles are located in agricultural areas and are subject to grazing by livestock.

Because wetlands occur within the project area, their potential suitability as bog turtle habitat should be assessed, as described under "*Bog Turtle Habitat Survey*" (Phase 1 survey) of the enclosed *Guidelines for Bog Turtle Surveys*. This Phase 1 survey should evaluate all wetlands within the project action area. The project "action area" includes all areas that will be directly or indirectly affected by the proposed project (including all phases of multi-phased projects) and all project-associated features, such as roads, water and sewer lines, utility lines, stormwater and sedimentation basins, buildings and other structures, driveways, parking lots, yards/lawns, and wells.

Due to the skill required to correctly identify potential bog turtle habitat, we recommend that the Phase 1 survey be done by a qualified surveyor (see enclosed list). Survey results should be submitted to the Service for review and concurrence. If the Phase 1 survey is done by someone who is not on this list, it is likely that a site visit by a Fish and Wildlife Service biologist will be necessary to verify their findings. Due to the limited availability of staff from this office, such a visit may not be possible for some time. Use of a qualified surveyor will expedite our review of the survey results.

If potential bog turtle habitat is found in the project action area, efforts should be made to avoid any direct or indirect impacts to those wetlands (see enclosed *Bog Turtle Conservation Zones*). Avoidance of direct and indirect effects means no disturbance to or encroachment into the wetlands (e.g., filling, ditching or draining) for any project-associated features or activities. Adverse effects may also be anticipated to occur when lot lines include portions of the wetland; when an adequate upland buffer is not designated around the wetland (see *Bog Turtle Conservation Zones*); or when roads, stormwater/sedimentation basins, impervious surfaces, or wells affect the hydrology of the wetland.

If potential habitat is found, submit (along with your Phase 1 survey results) a detailed project description and detailed project plans documenting how direct and indirect impacts to the wetlands will be avoided. If adverse effects to these wetlands cannot be avoided, a more detailed and thorough survey will be necessary, as described under "*Bog Turtle Survey*" (Phase 2 survey) of the *Guidelines*. The Phase 2 survey should be conducted by a qualified biologist with bog turtle field survey experience (see enclosed list of qualified surveyors). Submit survey results to the Service for review and concurrence.

In cases where adverse effects to federally listed species cannot be avoided, further consultation with the Service would be necessary to avoid potential violations of section 9 (prohibiting "take" of listed species) and/or section 7 (requiring federal agencies to consult) of the Endangered Species Act. Information about the section 7 and section 10 consultation processes (for federal and non-federal actions, respectively) can be obtained by contacting this office or accessing the Service's Endangered Species Home Page (http://endangered.fws.gov).

Assessment of Risks to Migratory Birds

The Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts,

and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented.

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (*e.g.* breeding, foraging, migrating, etc.); and landscape features. Please review the enclosed information for general recommendations for avoiding and minimizing impacts to migratory birds within and around the project area. Please be aware that since these are general guidelines, some of them may not be applicable to the current project design or they may have already been included in the project design.

This response relates only to endangered and threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing other potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Jennifer Kagel of my staff at 814-234-4090.

Sincerely,

Roberta E. Hylton
Acting Field Office Supervisor

Enclosures

Appendix C

List of Preparers and Surveyor Qualifications

Christine L. Howsare: Sr. Environmental Scientist
Education: M.S. Environmental Policy
Professional Experience: 14 years
Responsibilities: Field Investigations, Report Preparation

Prior Bog Turtle Habitat Assessments: 10 (Berks, Bucks, Chester, Lehigh, Monroe, Montgomery Counties, PA); includes Phase II survey experience with Autumn Thomas

Chris Howsare has been involved in all phases of environmental investigation and clearance since entering the field. She has conducted stream surveys involving macroinvertebrate counts, chemical analysis, and physical characteristics inventory. She has been involved in the development of wetland and stream mitigation plans, and monitored the sites built for success. Identification of various natural resources, including the delineation of wetlands and the evaluation of the applicability of federal and / or state jurisdiction, as well as the potential for Bog turtle habitat, have been critical components in several of her projects.

Ms. Howsare also participated in the Pennsylvania Association of Environmental Professional's Bog Turtle Program Training Course (2002) conducted by the PFBC and USFWS and the PENNDOT sponsored Phase I Bog Turtle Training Course (2007, 2013) conducted by Qualified Bog Turtle Expert Teresa Amitrone and the USFWS and Andy Brookens and Ben Berra of Skelly and Loy. She has conducted numerous Phase I Habitat Assessments on transportation projects throughout much of the known range in Pennsylvania, and has had a unique opportunity to work with Ms. Amitrone for several years as a construction monitor during a major highway improvement project in Berks County, which was adjacent to several known Bog turtle sites. She also worked closely with both the Pennsylvania Fish and Boat Commission, responsible for the state-level protection of the Bog turtle, and the US Fish and Wildlife Service. With Bog turtle populations and hibernacula adjacent to / severed by - the S.R. 222 reconstruction, construction monitoring was a critical component in agency approval of the project.

Christopher C. Salvatico: Sr. Environmental Planner
Education: M.S. Geography
Professional Experience: 22 years
Responsibilities: Field Investigations, Report Preparation, Resource Mapping

Mr. Salvatico is a transportation planner with over 20 years of experience in geographic information systems (GIS), cartography, planning, field mapping and natural resource investigations. His project experience includes a wide range of large-scale transportation and infrastructure projects including highways, bridges, and interchanges, as well as a multitude of comprehensive plans on a scale ranging from individual corridors to multi-county master plans. Mr. Salvatico is a recognized expert in the field of geographic information systems, data management, cartography, and geography. He provides impact analysis for engineers, planners, and environmental professionals, and routinely participates in wetland delineations and mitigation site monitoring.

James E. Boyer: Sr. Environmental Scientist
Education: M.Eng., Environmental Pollution Control
Professional Experience: 24 years
Responsibilities: Report Preparation

Mr. Boyer is a transportation professional with extensive experience in environmental clearance and permitting investigations and documentation.