

PIDGEON MITIGATION BANK
FINAL PROSPECTUS
FAYETTE COUNTY, TENNESSEE



PREPARED FOR:

MR. BOBBY PIDGEON
THE PIDGEON COMPANY
MOSCOW, TENNESSEE

APRIL 2025



Civil & Environmental Consultants, Inc.

TABLE OF CONTENTS

1.0	OWNER.....	1
2.0	AGENT	1
3.0	PROJECT LOCATION	1
4.0	ACCESS TO PROPERTY	1
5.0	PROJECT GOALS	1
6.0	PROJECT OBJECTIVES.....	2
7.0	SITE CONSTRAINTS.....	4
8.0	WATERSHED ASSESSMENT	4
9.0	EXISTING AND PROPOSED CONDITIONS.....	4
10.0	BIOLOGICAL DATA	5
11.0	MAPS	5
12.0	SITE PHOTOS.....	5
13.0	BASELINE INFORMATION	5
14.0	PROPOSED MITIGATION APPROACH	8
15.0	SITE PROTECTION.....	10
16.0	LONG-TERM MANAGEMENT	10
17.0	HISTORIC PROPERTIES.....	11
18.0	THREATENED AND ENDANGERED SPECIES.....	11

APPENDICES

Appendix A – Figures
Appendix B – Site Photos
Appendix C – SQT Rapid Assessments
Appendix D – SQT Workbooks
Appendix E– Jurisdictional Determination Report
Appendix F – USFWS IPaC Report
Appendix G – Agency Comment Letters

FIGURES

Figure 1 – Land Ownership Map
Figure 2 – Existing Aquatic Resources Maps
Figure 3 – NRCS Soil Map
Figure 4 – NWI Map
Figure 5 – Mitigation Site Topographic Map
Figure 6 – Mitigation Site Aerial Map
Figure 7 – 1992 Historical Aerial Map
Figure 8 – 2007 Historic Aerial Map
Figure 9 – Service Area Map
Figure 10 – Baseline Ecological Assessment Map (SQT)

1.0 OWNER

The Pidgeon Mitigation Bank (referred to herein as “Bank”) is owned by The Pidgeon Company and will be the Bank Sponsor. The principal manager of the Pidgeon Company is Bobby Pidgeon.

2.0 AGENT

The agent for the Bank project is Josh Rowe, biologist at Civil and Environmental Consultants, Inc. (CEC).

3.0 PROJECT LOCATION

The Bank site is located in Fayette County, Tennessee, approximately 5 miles southeast of Moscow and 50 miles southeast of Memphis, Tennessee. Access to the site is located on TN-57 at 35.054621, -89.322155 dd. Table 1 below provides a summary of other location details.

Table 1. Pidgeon Mitigation Bank Summary

Level III Ecoregion:	74b Loess Plains
Watershed (8-digit Hydrologic Unit Code (HUC)):	Wolf River (HUC 08010210)
Watershed (12-digit HUC):	Mount Tena Creek - Wolf River (HUC 080102100208)
Location:	18600 TN-57, Moscow, Tennessee 38057
Project Area:	Approximately 561 acres
Coordinates:	35.0357773, -89.3195012

4.0 ACCESS TO PROPERTY

The Bank site is comprised of five parcels under ownership of the Pidgeon family, which are currently owned by George and Corinna Pidgeon and access should be coordinated through the family. Parcel 177 016.01 is 55.2 acres, Parcel 190 013.03 is 520.2 acres, Parcel 171 003.00 is 575.03 acres, Parcel 176 010.00 is 56.77 acres, and Parcel 176 008.00 is 313.67 acres, comprising a total of 1,520.87 acres. The site can be accessed off TN-57. The proposed easement area is approximately 525 acres.

5.0 PROJECT GOALS

This Final Prospectus is an update to the March 2024 Draft Prospectus and addresses the Interagency Review Team (IRT) comments that were sent in an email following the October 2024 onsite meeting. The agency comment letters are attached in Appendix G. The purpose of the Bank is to provide stream and wetland mitigation credits to satisfy compensatory mitigation requirements for authorized impacts to Waters of the U.S. and Waters of the State permitted under

§404/401 of the Clean Water Act by the U.S. Army Corps of Engineers (USACE) and Tennessee Department of Environment and Conservation (TDEC), in conjunction with the following federal and state agencies: U.S. Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), Natural Resources and Conservation Service (NRCS), and Tennessee Wildlife Resources Agency (TWRA); all of which comprise the IRT. The Bank will provide mitigation credits by restoring and re-establishing, and preserving streams, wetlands, and adjacent riparian areas throughout the proposed site.

The primary goal of the Bank is to improve ecological functions and values within the local Wolf River and adjacent watersheds within the proposed service areas by restoring a self-sustaining stream and wetland ecosystem that provides water quality benefits within the local watershed and downstream. An additional goal of the Bank is to provide functional lift capable of restoring natural channel hydrology, hydraulic, geomorphic, physiochemical, and biological characteristics of stream resources onsite.

The Bank will consist of enhancement, re-establishment, creation, and preservation of approximately 356 acres of wetlands, preservation of approximately 12,000 feet of the Wolf River (8,300 feet right bank only), and the restoration and re-establishment of approximately 5,265 linear feet of unnamed tributaries to the Wolf River using natural channel design techniques. This includes approximately 4,065 linear feet of intermittent/perennial stream and 1,170 feet ephemeral stream being restored and re-established implementing Priority I and Priority III restoration approaches.

6.0 PROJECT OBJECTIVES

The purpose for the development of the Bank is to improve aquatic and riparian habitat, reduce sediment inputs, decrease bank erosion, and provide for the recovery of natural stream functions. Function-based objectives for the stream restoration components of the project include improving stream hydrology (overland and subsurface connections and processes), promoting floodplain connectivity and storage, supporting sediment transport continuity, and providing for riparian forest succession.

The Bank stream restoration aims to restore the ecological integrity of the degraded aquatic ecosystem. The purpose of the project is to restore the stream ecosystem to a resilient and self-sustaining natural system able to accommodate stress and naturally adapt to change. The project targets improvements to ecosystem processes, such as nutrient cycles, natural ecological succession, water levels and flow patterns, and sediment dynamics within the natural range of variability.

Proposed activities that will be implemented to address the causes of stream degradation and achieve project objectives are detailed in Table 2 below and include:

- Re-meander dynamically stable stream channels to improve bedform diversity, lateral stability, and floodplain connectivity along project streams that have been channelized and adversely impacted by historic agriculture;
- Remove hydrologic modifications (culverts, floodplain drainage ditches, berms, ponds, farm spoil areas) to improve overland and subsurface water exchange and sediment transport continuity;
- Increase channel sinuosity to reduce flow velocities, promote the formation of natural riffles and pools, and improve lateral and vertical stability;
- Re-establish riparian buffers on both banks of all project streams, to be composed of planted native bottomland hardwood forest community; and
- Permanently protect restored streams, wetlands, and riparian areas under a conservation easement, including approximately 12,000 feet of the Wolf River (8,300 feet right bank only).

Table 2. Pidgeon Stream Mitigation Quantitative Objectives

Goals	Objectives
Improve floodplain connectivity	Reduce bank height ratio (BHR) to 1.2 or less and increase entrenchment ratio to >2.2
Improve bedform diversity	Improve pool depth ratio and natural pool to pool spacing; establish riffles, runs, pools and glides, restore meander patterns and increase belt width; add large woody debris
Improve lateral stability	Reduce dominant Bank Erosion Hazard Index (BEHI) score from high to moderate or less
Improve riparian vegetation buffer width and protection	Enhance riparian buffers with native vegetation, protect site with a permanent conservation easement

The purpose of the Bank's wetland restoration is to improve and protect critical wetland habitat, reduce sediment inputs, and provide for the recovery of natural stream and wetland functions of the nearby Wolf River. Function-based objectives for the wetland restoration include restoring historically impacted agricultural areas, promoting storage of flood waters, and providing for riparian forest succession.

Meeting project objectives will improve wetland functions, including groundwater/surface water exchange, wildlife habitat, and riparian vegetation. The wetland restoration aims to re-establish the ecological integrity of the degraded ecosystem. The purpose of the project is to restore the wetland ecosystem to a resilient and self-sustaining natural system able to accommodate stress and naturally adapt to change. The project targets improvements to ecosystem processes, such as nutrient cycles, natural ecological succession, water levels and flow patterns, and sediment dynamics within the natural range of variability.

Proposed activities that will be implemented to address the causes of wetland degradation and achieve project objectives are detailed in Table 3 and include:

- Preserve, re-establish, and enhance bottomland hardwood forests;
- Plant native tree and shrub species to provide nesting grounds for birds and other wildlife; and
- Improve water quality through conversion of agricultural fields to forested wetlands.

Table 3. Pidgeon Wetland Mitigation Quantitative Objectives

Goals	Objectives
Increase habitat diversity	Restore bottomland hardwood forest, scrub/shrub zones, and open emergent areas
Improve amphibian breeding grounds and reptile refugia	Create microtopographic relief and small open pools
Increase species diversity	Survival rate of 220 stems/acre of diverse native tree and shrub species
Improve water quality	Increase hydrologic retention and decrease run-off

7.0 SITE CONSTRAINTS

No property constraints have been identified within the proposed easement area. No utilities, other than those located along the existing TN-57, encumber the site.

8.0 WATERSHED ASSESSMENT

A site assessment was conducted August 7 through 9 and September 26 through 28, 2023, to identify and document existing resources and prepare a jurisdictional determination report. The report is included in Appendix E. A watershed assessment form is included with collected baseline data located in Appendices C and D.

9.0 EXISTING AND PROPOSED CONDITIONS

Tennessee Stream Quantification Tool (TN-SQT) Rapid Assessments were completed for multiple streams at the Bank (Figure 10). The field forms for reaches that are proposed for restoration and/or re-establishment within the conservation easement are located in Appendix C. Completed SQT Workbooks detailing existing and proposed conditions for each stream reach within the easement are located in Appendix D.

10.0 BIOLOGICAL DATA

Benthic macroinvertebrate data was not collected for quantitative analysis; however, qualitative observations for many of the respective project streams indicated that bedform diversity was lacking, and the channels contained significant sandy substrates and aggradation. As a result of channelization and siltation, few riffle-pool sequences remain to provide appropriate aquatic habitat. Benthic macroinvertebrate data may be collected and provided in future submittals for the proposed project.

11.0 MAPS

Maps for the prospective Bank are located in Appendix A.

12.0 SITE PHOTOS

Site photos are located in Appendix B.

13.0 BASELINE INFORMATION

a. Service Area

The Bank will focus on the restoration, re-establishment, and preservation of stream and wetland resources within the 8-Digit HUC 08010210 (Wolf River). The Wolf River watershed will be the primary service area of the Bank. Secondary service areas include adjacent HUC-8s: 08010100 (Lower Mississippi River), 08010209 (Loosahatchie), and 08010211 (Nonconnah Creek). The primary and secondary service areas served by the Bank (Figure 9) will include all or portions of the following counties: Fayette, Hardeman, Haywood, Shelby, Tipton, and Lauderdale, Tennessee, and Benton, Tipah, Marshall, and De Soto, Mississippi. The Bank may also service other watersheds that are not listed as primary or secondary service areas but are within the Mississippi River Basin with the use of proximity factor multipliers according to the 2019 Tennessee Stream Mitigation Guidelines or as deemed appropriate by TDEC and USACE.

b. Watershed Assessment Form

The Bank lies within a primarily rural watershed that consists of mostly row crop and cattle grazing activities with small areas of low density residential, commercial, and industrial land; however, the contributing watershed for the Bank is dominated by low-density residential and agricultural land with a moderate patchwork of forested land. Primarily, agricultural practices have contributed to the degradation of streams and

wetlands within the watershed through increased peak runoff, channelization, erosion, siltation, nutrient overloading, and loss of productive habitat.

c. Site Selection Criteria

The Wolf River has experienced increased erosion and sedimentation as a result of the afore-mentioned changes in its natural watershed conditions. Poor overall watershed conditions and lack of vertical and lateral stability and riparian vegetation made it a strong candidate for establishing a mitigation bank.

d. Adjacent Land Uses

Surrounding land use is dominated by agricultural land, single family residential, and a patchwork of forested land. Immediately adjacent land use has been dominated by agricultural practices and residential homesites for at least 50 years.

e. Jurisdictional Delineation

Delineations were performed at the proposed Bank in late 2023 by CEC. A jurisdictional waters report for the entire property dated March 26, 2024, is located in Appendix E. Since that time, limits of the conservation easement were revised to a smaller area. On October 30, 2024, TDEC members of the IRT visited the site for prospectus review and verification of features within the updated conservation easement. During this meeting, a portion of STR-3 was changed to a wet-weather conveyance (WWC-33/EPH-20). The features included in the March 2024 report are shown on Figures 2-1 and 2-2. The verified features within the updated easement along with the corresponding features table are shown on Figure 2-3 (Appendix A). CEC requests a Hydrologic Determination (HD) from TDEC and a Preliminary Jurisdictional Determination (PJD) from the USACE for the features listed on Figure 2-3.

Wetlands

a. Site Selection Criteria

Several wetlands and remnant wetlands were identified onsite that have been historically cut, mowed, row cropped, and impacted by cattle. Much of the surrounding land has been historically clear-cut for crops and streams channelized and wetlands drained to improve agricultural productivity. Historic knowledge of the site and a thorough site investigation revealed that most of the site has experienced drainage manipulation via drainage ditches or with direct overland flow diversions into the channelized streams. Evidence of historic drainage of the site made it a strong candidate for wetland restoration. Additionally, much of the site contains mapped hydric soil

Swamp (Rosebloom ponded (Sw)) and Collins (Cu). Furthermore, a site assessment evaluating the current soil and hydrologic conditions and a thorough onsite evaluation of mitigation potential confirmed that the site would have a high probable rate of success, can meet the proposed performance standards, and would be an ideal location for proposed restoration.

b. Wetland Size

The Bank, in its entirety, is approximately 525 acres in size. Wetland aspects of the project are comprised of 246.9 acres of wetland preservation, 72.2 of wetland re-establishment, and 37.4 acres of wetland enhancement totaling approximately 356.5 acres of proposed wetlands onsite.

c. Hydrology

The main source of hydrologic impairment throughout the site is historical land use, drainage ditches, and stream channelization, which have effectively altered the natural hydrologic conditions of the site. Primary hydrologic sources that exist at the site are an elevated groundwater table, precipitation, and overland run-on. Four piezometers are proposed for the wetland restoration area to monitor ground water levels.

d. Wetland Classification

The current land use at the Bank is row crops and livestock production. Vegetative cover is sparse in the cropped portion of the site. Eight wetlands consisting of both palustrine emergent (PEM) and forested (PFO) were delineated onsite as part of the baseline assessment. The PEM wetlands include WTL-1 (approximately 0.73 acre); WTL-2 (approximately 0.17 acre); WTL-3 (approximately 0.08 acre); WTL-4 (approximately 0.02 acre); WTL-6 (approximately 0.22 acre); WTL-7 (approximately 0.97 acre); and WTL-8 (approximately 0.11 acre). The largest wetland onsite, WTL-5, is a PFO and comprises approximately 282.63 acres. WTL-1, WTL-5, and WTL-7 will be included in the proposed mitigation project.

e. Adjacent Land Uses

Surrounding land use is dominated by agricultural land, single family residential, and a patchwork of forested land. Immediately adjacent land use has been dominated by agricultural practices and residential for at least 50 years.

14.0 PROPOSED MITIGATION APPROACH

Streams

a. Mitigation Approach

Restoration of the unnamed tributaries to the Wolf River will consist of raising the streambeds to re-establish floodplain connectivity where feasible, improving vertical and lateral stability, and providing instream habitat, which will be achieved by installing grade control, toe protection, and other structures (e.g., log riffles, log vanes, root wads, and other bioengineering techniques). Restoration will also include re-establishing natural channel dimensions, patterns, and profiles using natural channel design techniques. Additional stream length is anticipated to be created by the proposed restoration. All mitigation approaches will include establishing riparian buffers at least an average of 50 feet wide on each side of the stream reaches.

Additionally, the downstream right bank and upper portions of both banks of the Wolf River are proposed for preservation stream credit as they will be permanently protected under the conservation easement.

Table 4. Stream Mitigation Summary

Potential Stream Credit Summary: TN SQT Method (Excluding Wolf River)					
Reach ID	Existing Stream Length (feet)	Proposed Stream Length (feet)	Change in Functional Condition (PCS - ECS)	Functional Feet (Credits)	Credit with Adjacent Wetland Restoration 10% Lift*
STR-1	202	350	0.33	137.6	-
STR-2	0	140	0.49	68.6	-
STR-3 R1	1,500	1,586	0.40	645.6	-
STR-3 R2*	0	2,000	0.53	1,060.6	106
WWC-2/EPH-2	775	1171	0.11	200.1	-
Totals	2,477	5,247	-	2,111.9	106

*Restored wetlands within stream buffers increases stream credits by a factor of 10%. These areas are excluded from wetland mitigation credits. Stream reaches with restored wetland in buffer are denoted with an asterisk. Please refer to SQT workbook data for reach calculations.

Potential Stream Credit Summary: Wolf River Preservation					
Reach ID	Existing Stream Length (feet)	Proposed Stream Length (feet)	Preservation Ratio for ETW*	Functional Feet (Credits)**	Credit with Adjacent Wetland Restoration 10% Lift
Wolf River Right Bank Preservation	8,300	4,150	1.0	415	41.5
Wolf River Both Banks Preservation	3,700	3,700	1.0	370	37
Totals	2,477	5,247	-	785	78.5
Total Proposed Stream Credits				3081.4	

*ETW-Exceptional Tennessee Waters

** Preservation credits calculated at 10:1 ratio

b. Functional Lift

Restoration of unnamed tributaries to the Wolf River will consist of re-establishing natural channel dimensions, pattern, and profile, and will allow geomorphological characteristics to naturally develop. Instream wood and rock structures will be introduced to provide vertical and lateral stability and provide instream habitat. Establishing floodplain connectivity will provide flood relief and reduce flow velocities. Providing floodplain connectivity, increasing re-oxygenation zones and reducing siltation effects will increase overall water quality of the respective streams, which drain directly to the Wolf River. Planting live stakes and establishing riparian buffers will provide riparian habitat and shade, which reduces water temperatures and also improves water quality. Replacing adjacent agricultural practices with restored wetlands will also reduce nutrient loading and stream eutrophication. The detailed design of the restoration reaches will be based on reference channel morphology data and hydraulic geometry data from applicable TDEC regional curves.

Wetlands

a. Mitigation Approach

Areas containing mapped hydric/partially soil proposed for restoration will re-establish a hydrologic regime that will reclaim the natural hydrologic, soil, and vegetative characteristics commonly found in bottomland hardwood forests. This will be achieved by ceasing agricultural production and planting of desirable bottomland hardwood species.

Table 5. Stream Mitigation Summary

Feature	Proposed Mitigation and Ratio	Proposed Acreage (acres)	Proposed Credits
WLT-1	Enhancement (4:1)	0.73	0.18
WTL-5	Enhancement (4:1)	36.67	9.17
WTL-5	Preservation ETW (8:1)	245.96	30.75
WTL-5	Re-establishment (1:1)	72.20	72.20
WTL-7	Preservation (10:1)	0.97	0.10
Total		356.53	112.4

b. Functional Lift

Establishing the Bank will restore a riverine bottomland hardwood forest wetland community that will provide high functioning riparian habitat along the Wolf River and its tributaries. Completion of this project will improve and vary hydrologic inputs, increase biodiversity in plant communities, increase amphibian and reptile populations by providing refugia and breeding grounds and pools, increase floodplain productivity and functionality, improve water quality draining to the Wolf River, and protect the area from future habitat alteration.

15.0 SITE PROTECTION

A Conservation Easement for the Bank will be designed to restrict conflicting activities within riparian buffers, protect the improved aquatic habitats, and restrict future disturbances that may compromise the functions and services of the aquatic resources. The Pidgeon Company will maintain financial responsibility of the mitigation site throughout the monitoring and adaptive management phase until final approval and closure of the site by the IRT is granted. Once final closure is granted, an endowment fund will be available for protection and maintenance of the mitigation site, consistent with the Conservation Easement. An approved land trust or other conservation organization will be given the long-term steward and perpetual endowment fund to oversee and enforce the Conservation Easement and conduct long-term management.

The Property Assessment and Warranty document is currently being processed and will be provided at the Mitigation Banking Instrument (MBI) stage.

16.0 LONG-TERM MANAGEMENT

An endowment fund will be established by the Bank Sponsor through mitigation credit sales to provide revenue for the long-term stewardship of the land. An endowment fund will be established, funded by mitigation credit sales, to cover costs associated with the long-term care of the site.

17.0 HISTORIC PROPERTIES

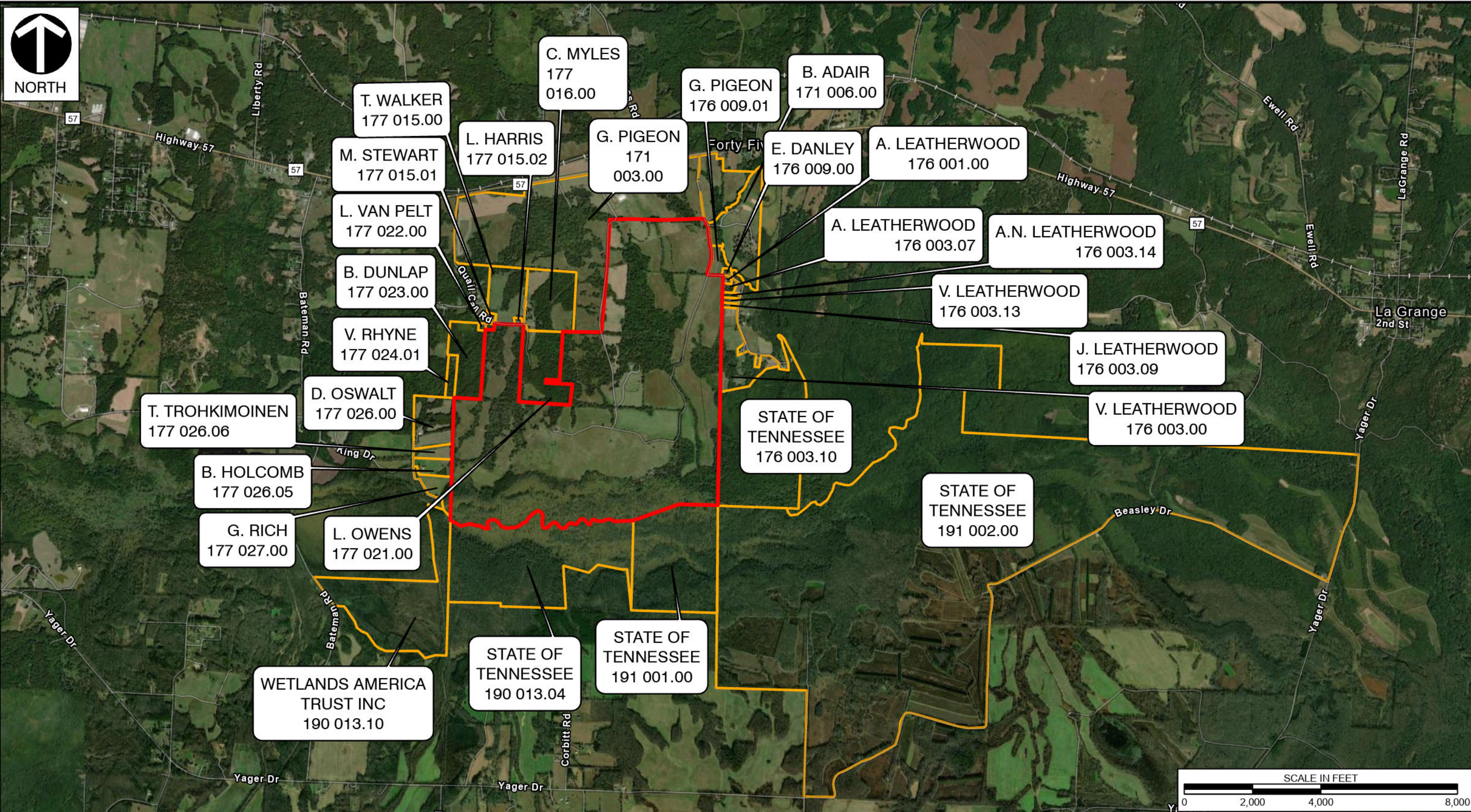
A review of the National Register of Historic Places (NRHP) revealed that a few historically significant properties are located within the vicinity of the Bank. The sites include FY-367 (Franklin Crossett House), FY-368 (Mary Jean Okamoto House), and 369 (Paul Douglas Mason House), all of which are roughly 2 miles from the Bank. The Bank site has been in agricultural production since the early 1900's, and the proposed project will not affect any known historic properties.

18.0 THREATENED AND ENDANGERED SPECIES

According to the USFWS Information for Planning and Consultation (IPaC) database review, no critical habitat overlaps with the proposed Bank location (Appendix F). Federally listed species that may exist in the project area include Northern Long-eared Bat (*Myotis septentrionalis*), Tricolored Bat (*Perimyotis subflavus*), Alligator Snapping Turtle (*Macrochelys temminckii*), and Monarch Butterfly (*Danaus plexippus*). The TDEC rare species data viewer lists Capillary Hairsedge (*Bulbostylis ciliatifolia varcoarctata*), Prickly Hornwort (*Ceratophyllum echinatum*), Plukenet's Galingale (*Cyperus plukenetii*), Cluster Fescue (*Festuca paradoxa*), Piebald Madtom (*Noturus gladiator*), Blue Mud-plantain (*Heteranthera limosa*), Multiflowered Mud-plantain (*Heteranthera missouriensis*), Fatmucket (*Lampsilis siliquoidea*), Southern Twayblade (*Listera australis*), Southern Rainbow (*Villosa vibex*), Sand Post Oak (*Quercus margarettiae*), Willow Aster (*Symphotrichum praealtum*), and the Southern Bog Lemming (*Synaptomys cooperi*). No potential bat habitat is anticipated to be disturbed as a result of the proposed project. Also, because improvements of site, adverse impacts to listed species are not anticipated. A comprehensive threatened and endangered species report will be included in the draft MBI, and agency consultation will be completed prior to any construction.

APPENDIX A


FIGURES 1-10



LEGEND

— Study Boundary

— Adjacent Properties



Civil & Environmental Consultants, Inc.

2704 Cherokee Farm Way, Suite 101 · Knoxville, TN 37920
(865) 977-9997 · (844) 828-7979 · fax: (865) 977-9919
www.cecinc.com

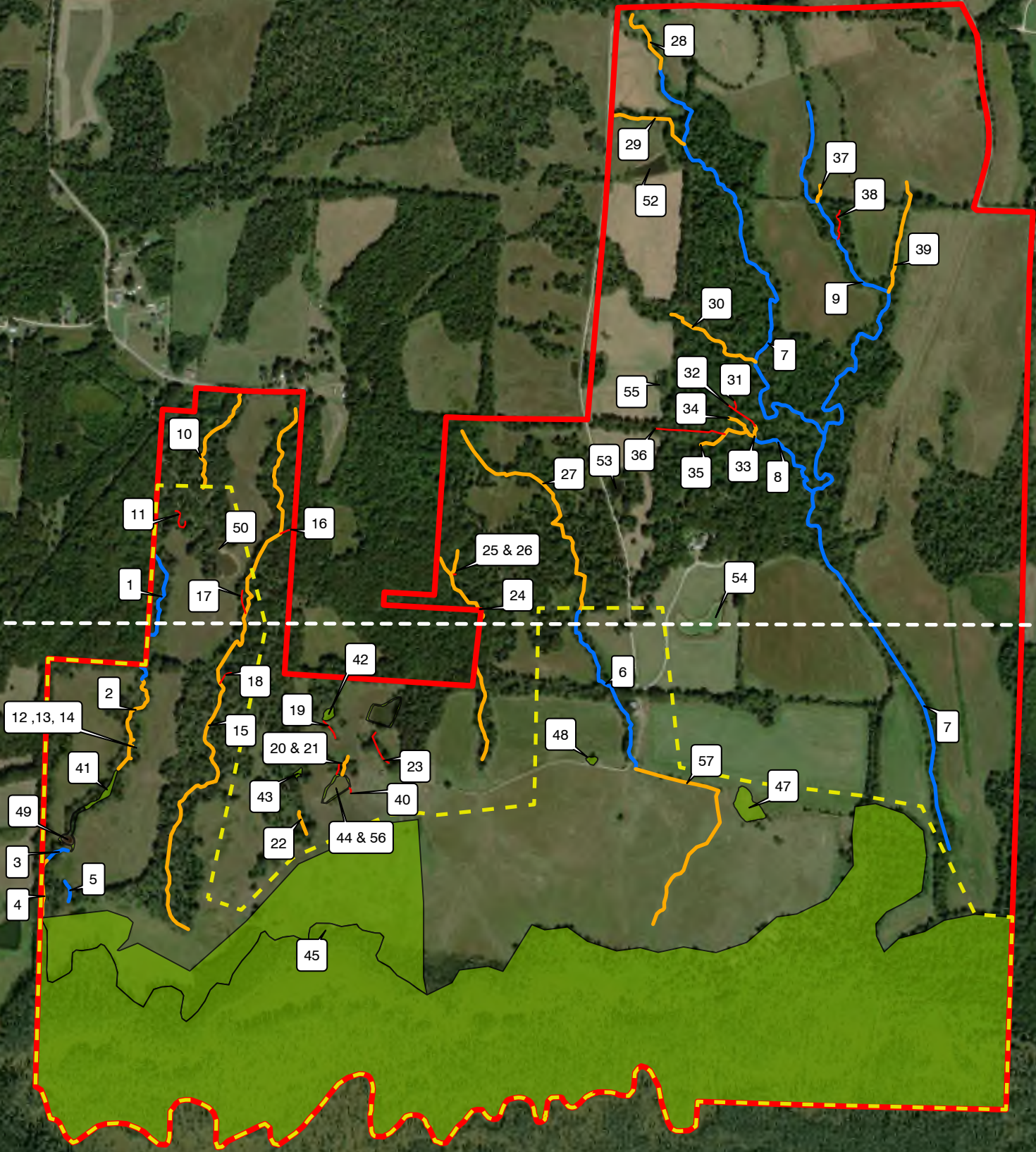
THE PIDGEON COMPANY
MITIGATION PROSPECTUS
MOSCOW, FAYETTE COUNTY, TENNESSEE

ADJACENT PROPERTIES MAP

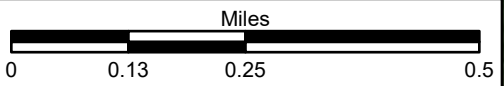
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NUMBERS IN THE CALLOUT CORRESPOND TO FEATURES LISTED IN THE TABLES ON FIGURE 2 (2 OF 3, 3 OF 3)



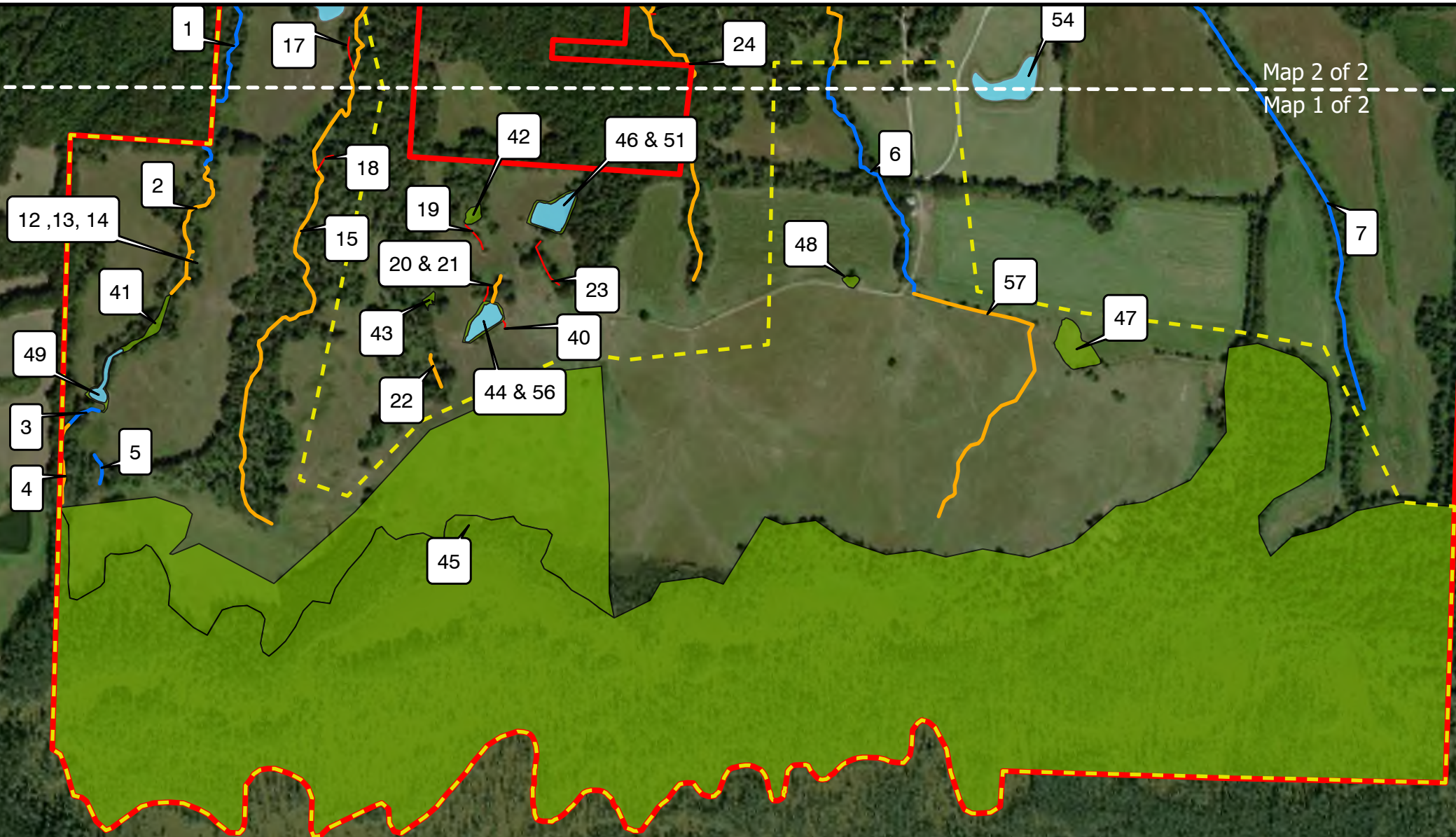
LEGEND		 Civil & Environmental Consultants, Inc. 2704 Cherokee Farm Way, Suite 101 · Knoxville, TN 37920 (865) 977-9997 · (844) 828-7979 · fax: (865) 977-9919 www.cecinc.com		THE PIDGEON COMPANY DRAFT PROSPECTUS MOSCOW, FAYETTE COUNTY, TENNESSEE	
Existing Features				EXISTING AQUATIC RESOURCES MAP	
 Study Boundary	Drainage Features			APPROVED BY:	GSB
 Conservation Easement	 Intermittent/Perennial Stream			FIGURE NO:	2
 Wetlands	 Wet Weather Conveyance/Ephemeral			PROJECT NO:	327-634
	 Wet Weather Conveyance				
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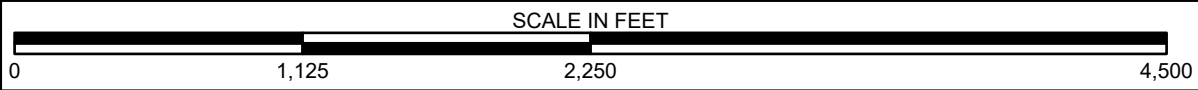


Map 2 of 2
Map 1 of 2



Feature Name (Map #)	Start	End	(l.f.)	Feature Name (Map #)	Start	End	(l.f.)
WWC-1/EPH-1 (2)	35.0356774 -89.3330484	35.0336905 -89.3335922	885	WWC-7/EPH-6 (15)	35.0417466 -89.3291947	35.0302206 -89.331582	4,999
STR-1A (3)	35.0318497 -89.3348651	35.0316234 -89.3354173	202	WWC-10/UDF-4 (18)	35.0358886 -89.3306701	35.0356521 -89.3309588	130
WWC-1/EPH-1A (4)	35.0316234 -89.3354173	35.0304239 -89.3354867	458	WWC-11/UDF-5 (19)	35.0348872 -89.3281561	35.0345265 -89.3278184	169
STR-2 (5)	35.0311737 -89.334921	35.0307371 -89.3348067	175	WWC-12/EPH-7 (20)	35.0341293 -89.3274681	35.0337289 -89.327609	158
STR-3 (6)	35.0374983 -89.3214197	35.0306686 -89.3191756	1,500	WWC-19/UDF-13 (21)	35.0339749 -89.3277008	35.0337354 -89.3277634	90
STR-4 (7)	35.049491 -89.3197452	35.0325459 -89.311094	8,179	WWC-13/EPH-8 (22)	35.032888 -89.3287275	35.0324034 -89.3285104	190
WWC-4/EPH-3 (12)	35.0343391 -89.3332139	35.0343347 -89.33327	17	WWC-14/UDF-6 (23)	35.034678 -89.3267476	35.0340198 -89.3263721	295
WWC-5/EPH-4 (13)	35.0342 -89.3332346	35.0342065 -89.3333245	27	WWC-32/UDF-12 (40)	35.0334362 -89.3273951	35.0333215 -89.3273629	47
WWC-6/EPH-5 (14)	35.033925 -89.3332669	35.0339379 -89.3333351	21	WWC-33/EPH-20 (57)	35.034123 -89.319749	35.0328484 -89.3175437	1989

Feature Name (Map #)	Coordinates	Acres
WTL-1 (41)	35.0320804 -89.3351225	0.45
WTL-2 (42)	35.0349005 -89.3281433	0.174
WTL-3 (43)	35.0336282 -89.3288502	0.08
WTL-4 (44)	35.0335484 -89.3273973	0.2
WTL-5 (45)	35.032014 -89.3279845	282.63
WTL-6 (46)	35.0349778 -89.3269889	0.218
WTL-7 (47)	35.0333861 -89.3171306	0.967
WTL-8 (48)	35.0342076 -89.3209538	0.105
Pond-1 (49)	35.0320968 -89.3348788	0.297
Pond-3 (51)	35.0351037 -89.3265145	0.74
Pond -8 (56)	35.0334308 -89.3277434	0.49



LEGEND

- Study Boundary

Conservation Easement

Existing Features

Wetlands

Pond
- Drainage Features

Intermittent/Perennial Stream

Wet Weather Conveyance/Ephemeral

Wet Weather Conveyance



Civil & Environmental Consultants, Inc.
2704 Cherokee Farm Way, Suite 101 · Knoxville, TN 37920
(865) 977-9997 · (844) 828-7979 · fax: (865) 977-9919
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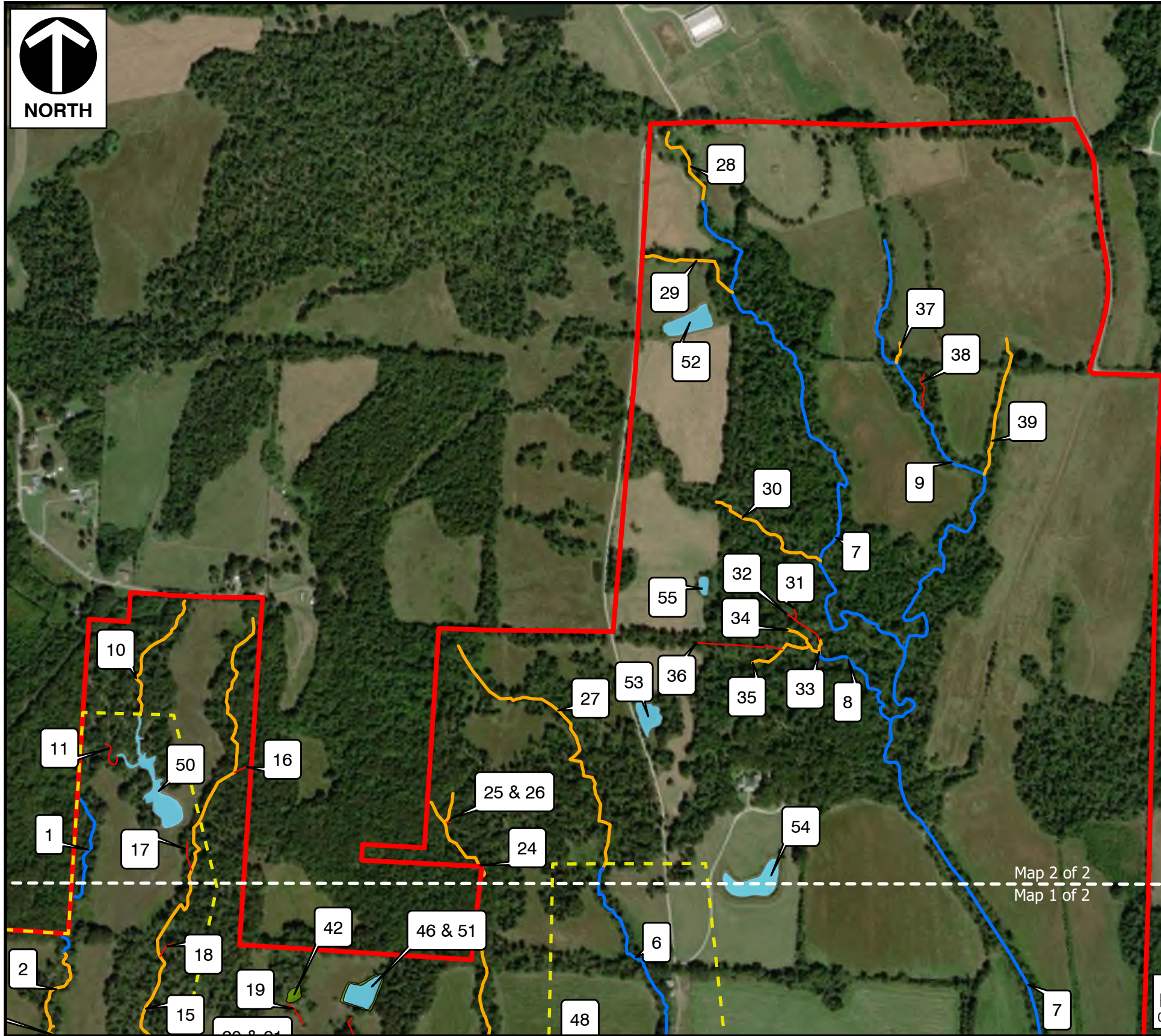
THE PIDGEON COMPANY
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MOSCOW, FAYETTE COUNTY, TENNESSEE

EXISTING AQUATIC RESOURCES MAP

DRAWN BY:	CGK	CHECKED BY:	DRS	APPROVED BY:	GSB	FIGURE NO:	2	1 of 3
DATE:	4/23/2025	SCALE:	1:9,000	PROJECT NO:	327-634			

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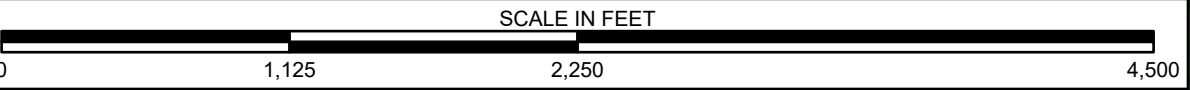
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Feature Name (Map #)	Start		End		(l.f.)
STR-1 (1)	35.0384052	-89.3328008	35.0356774	-89.3330484	1,253
STR-4 (7)	35.0494910	-89.3197452	35.0325459	-89.3110940	8,179
STR-5 (8)	35.0414814	-89.3168989	35.0402861	-89.3152631	832
STR-6 (9)	35.0488570	-89.3157733	35.0415777	-89.3157733	3,736
WWC-2/EPH-2 (10)	35.0420048	-89.3306801	35.0339291	-89.3315830	917
WWC-3/UDF-1 (11)	35.0394094	-89.3323073	35.0391792	-89.3320319	239
WWC-8/UDF-2 (16)	35.0390811	-89.3291776	35.0389850	-89.3294836	98
WWC-9/UDF-3 (17)	35.0377110	-89.3304433	35.0372049	-89.3303346	188
WWC-15/EPH-9 (24)	35.0385716	-89.3252664	35.0341682	-89.3238767	1,929
WWC-16/UDF-7 (25)	35.0382175	-89.3247537	35.0382051	-89.3248806	38
WWC-17/EPH-10 (26)	35.0387347	-89.3247244	35.0382051	-89.3248806	202
WWC-18/EPH-11 (27)	35.0413712	-89.3247151	35.0374983	-89.3214197	2,136
WWC-20/EPH-12 (28)	35.0506524	-89.3205347	35.0494910	-89.3197452	575
WWC-21/EPH-13 (29)	35.0484309	-89.3210445	35.0478431	-89.3190360	736
WWC-22/EPH-14 (30)	35.0440904	-89.3192344	35.0431087	-89.3169287	857
WWC-23/UDF-8 (31)	35.0422460	-89.3174741	35.0420306	-89.3174288	82
WWC-24/UDF-9 (32)	35.0421792	-89.3177037	35.0417062	-89.3168898	303
WWC-25/EPH-15 (33)	35.0417062	-89.3168898	35.0414814	-89.3168989	88
WWC-26/EPH-16 (34)	35.0418637	-89.3175964	35.0414814	-89.3168989	268
WWC-27/EPH-17 (35)	35.0412577	-89.3183277	35.0416040	-89.3171293	439
WWC-28/UDF-10 (36)	35.0415793	-89.3195589	35.0414994	-89.3176890	565
WWC-29/EPH-18 (37)	35.0470472	-89.3153453	35.0466901	-89.3154297	135
WWC-30/UDF-11 (38)	35.0465046	-89.3148126	35.0458750	-89.3148558	254
WWC-31/EPH-19 (39)	35.0471780	-89.3130584	35.0447485	-89.3134434	922

Feature Name (Map #)	Coordinates		Acres
Pond-2 (50)	35.0386001	-89.3311055	1.501
Pond-4 (52)	35.0472781	-89.3199314	0.89
Pond-5 (53)	35.0402234	-89.3205444	0.57
Pond-6 (54)	35.0373294	-89.3181155	1.134
Pond-7 (55)	35.0424407	-89.3194360	0.164

Map 2 of 2
Map 1 of 2



LEGEND

Study Boundary

Conservation Easement

Existing Features

Wetlands


Pond

Drainage Features

Intermittent/Perennial Stream

Wet Weather Conveyance/Ephemeral

Wet Weather Conveyance



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EXISTING AQUATIC RESOURCES MAP

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DATE:4/23/2025

SCALE:1:9,000

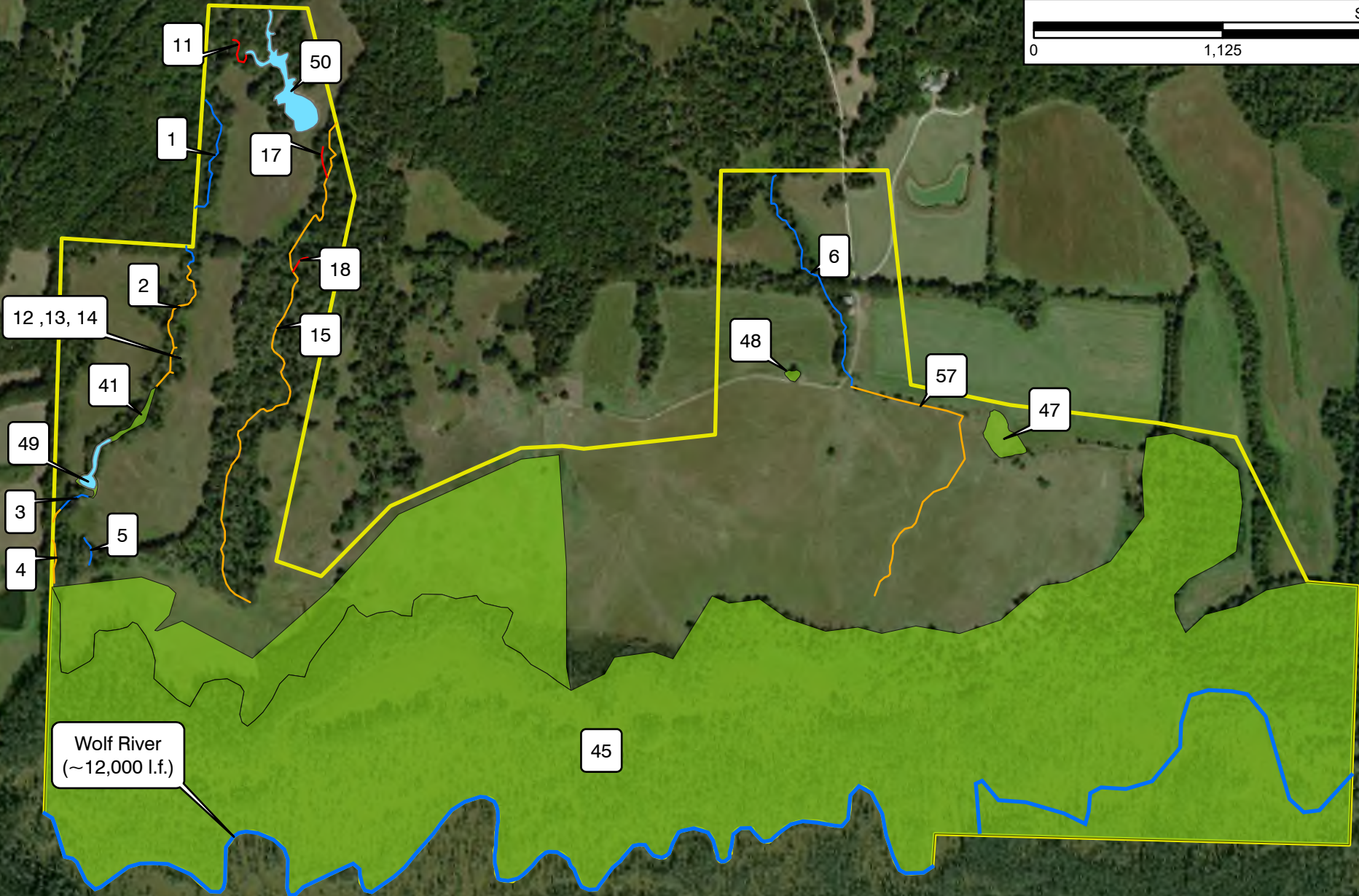
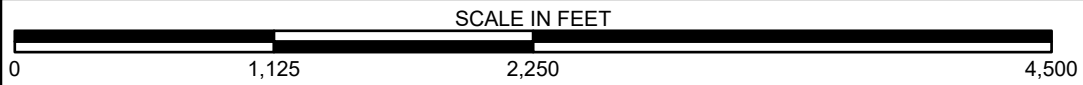
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PROJECT NO:327-634

FIGURE NO:**2**

2 of 3

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Feature Name (Map #)	Start	End	(l.f.)	Feature Name (Map #)	Start	End	(l.f.)	Feature Name (Map #)	Coordinates	Acres
STR-1 (1)	35.0384052 -89.3328008	35.0356774 -89.3330484	1,253	WWC-4/EPH-3 (12)	35.03434 -89.3332139	35.03433 -89.33327	17	WTL-1 (41)	35.0320804 -89.3351225	0.45
WWC-1/EPH-1 (2)	35.0356774 -89.3330484	35.0336905 -89.3335922	885	WWC-5/EPH-4 (13)	35.0342 -89.3332346	35.03421 -89.3333245	27	WTL-5 (45)	35.032014 -89.3279845	282.63
STR-1A (3)	35.0318497 -89.3348651	35.0316234 -89.3354173	202	WWC-6/EPH-5 (14)	35.03393 -89.3332669	35.03394 -89.3333351	21	WTL-7 (47)	35.0333861 -89.3171306	0.967
WWC-1/EPH-1A (4)	35.0316234 -89.3354173	35.0304239 -89.3354867	458	WWC-7/EPH-6 (15)	35.04175 -89.3291947	35.03022 -89.331582	3,462	WTL-8 (48)	35.0342076 -89.3209538	0.105
STR-2 (5)	35.0311737 -89.334921	35.0307371 -89.3348067	175	WWC-9/UDF-3 (17)	35.03771 -89.3304433	35.0372 -89.3303346	188	Pond-1 (49)	35.0320968 -89.3348788	0.297
STR-3 (6)	35.0374983 -89.3214197	35.034123 -89.319749	1,500	WWC-10/UDF-4 (18)	35.03589 -89.3306701	35.03565 -89.3309588	130	Pond-2 (50)	35.0386001 -89.3311055	1.501
WWC-3/UDF-1 (11)	35.0394094 -89.3323073	35.0391792 -89.3320319	239	WWC-33/EPH-20 (57)	35.03412 -89.319749	35.03285 -89.3175437	1989			

LEGEND

Conservation Easement


Wetlands

Pond

Intermittent/Perennial Stream

Wet Weather Conveyance/Ephemeral

Wet Weather Conveyance

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THE PIDGEON COMPANY
DRAFT PROSPECTUS
MOSCOW, FAYETTE COUNTY, TENNESSEE

EXISTING AQUATIC RESOURCES MAP
(CONSERVATION EASEMENT)

APPROVED BY: GSB

FIGURE NO: 2

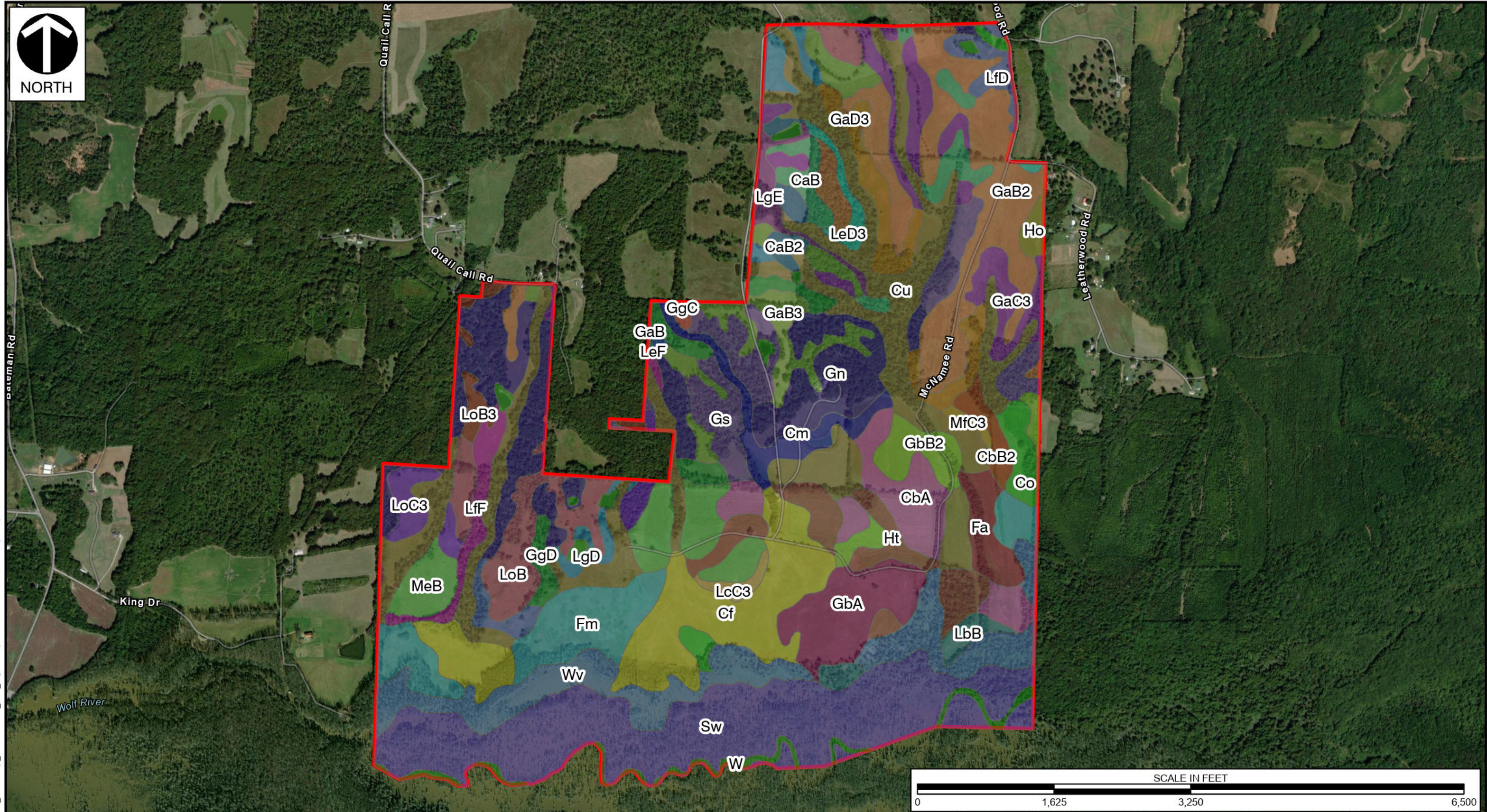
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LEGEND			
Study Boundary	Falaya silt loam (Fm)	Gullied land sandy (Gn)	Loring silt loam 2-5% (LoB)
Calloway silt loam 0-2% slopes (CbA)	Grenada silt loam (GaB)	Gullied land silty (Gs)	Loring silt loam 2-5% slopes severely eroded (LoB3)
Calloway silt loam 2-5% slopes, eroded (CbB2)	Grenada silt loam 2-5% slopes severely eroded (GaB3)	Henry overwash (Ho)	Loring silt loam 5-8% slopes severely eroded (LoC3)
Calloway silt loam 2-5% slopes, moderately eroded (CaB2)	Grenada silt loam 5-8% severely eroded (GaC3)	Henry terrace (Ht)	Loring-Gullied land complex 12-20% slope (LgE)
Collins fine sandy loam, local alluvium (Cm)	Grenada silt loam 8-12% slopes severely eroded (GaD3)	Lexington silt loam (LbB)	Loring-Gullied land complex 5-12% slopes
Collins fine sandy loam (Cf)	Grenada silt loam eroded (GaB2)	Lexington silty clay loam (LcC3)	Memphis silt loam (MeB)
Collins silt loam 0-2% slopes (Co)	Grenada silt loam terrace 0-2% slopes (GbA)	Lexington-Ruston Gullied land complex 12-30% slopes (LfF)	Memphis silty clay loam (MfC3)
Collins silt loam 0-2% slopes, occasionally flooded (Cu)	Grenada silt loam terrace 2-5 % slopes (GbB2)	Lexington-Ruston Gullied land complex 8-12% slope (LdD)	Swamp (Rosebloom ponded) (Sw)
Falaya fine sandy loam (Fa)	Grenada-Gullied land complex 5-8% slopes (GgC)	Lexington-Ruston complex 12-30% slope (LeF)	Water (W)
	Grenada-Gullied land complex 8-12% slopes (GgD)	Lexington-Ruston complex 8-12% slopes (LeD3)	Waverly (Wv)



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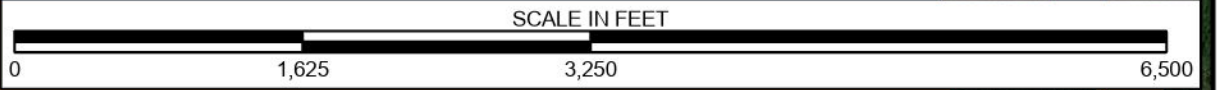
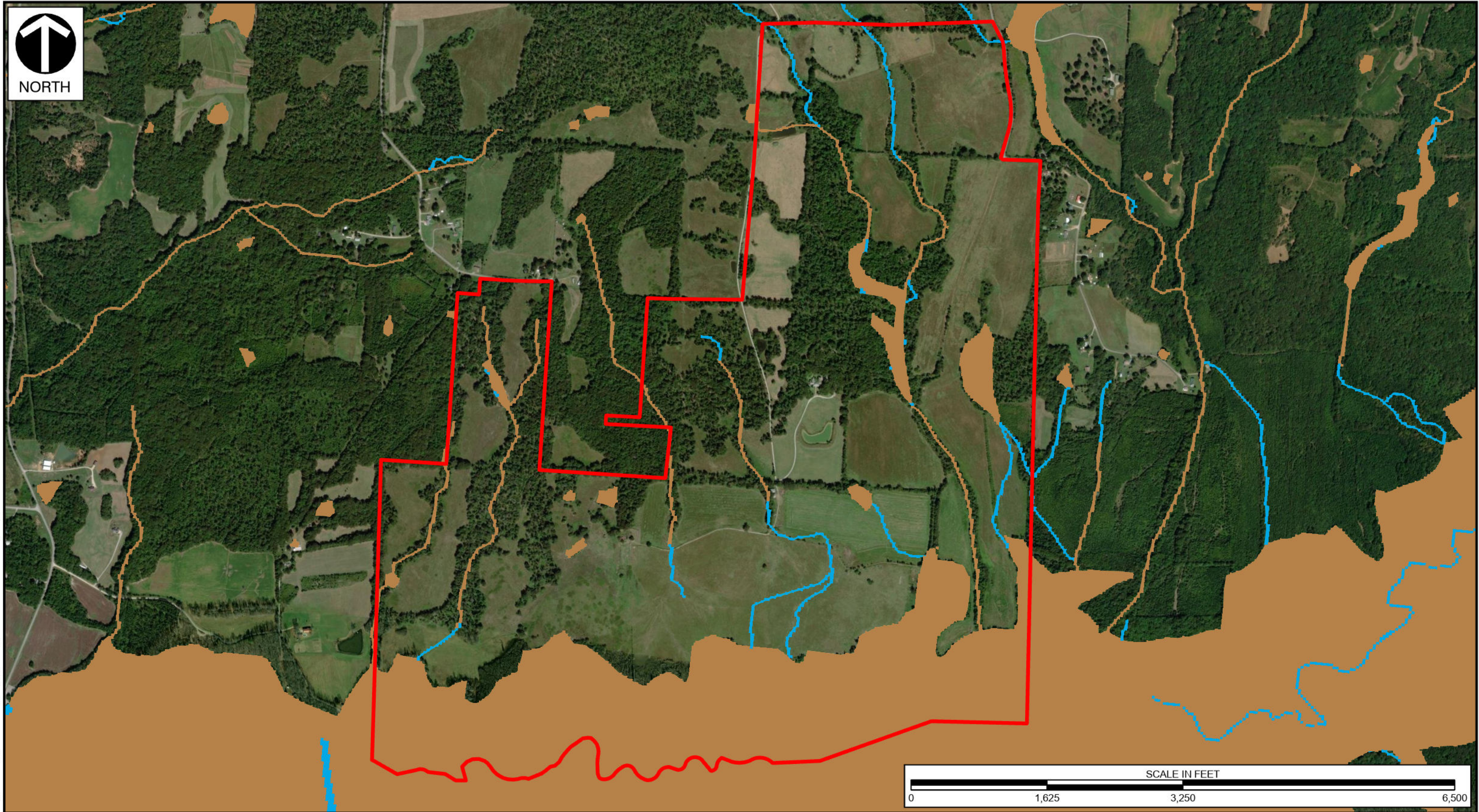
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THE PIDGEON COMPANY
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NRCS SOIL MAP

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PROJECT NO:	327-634		

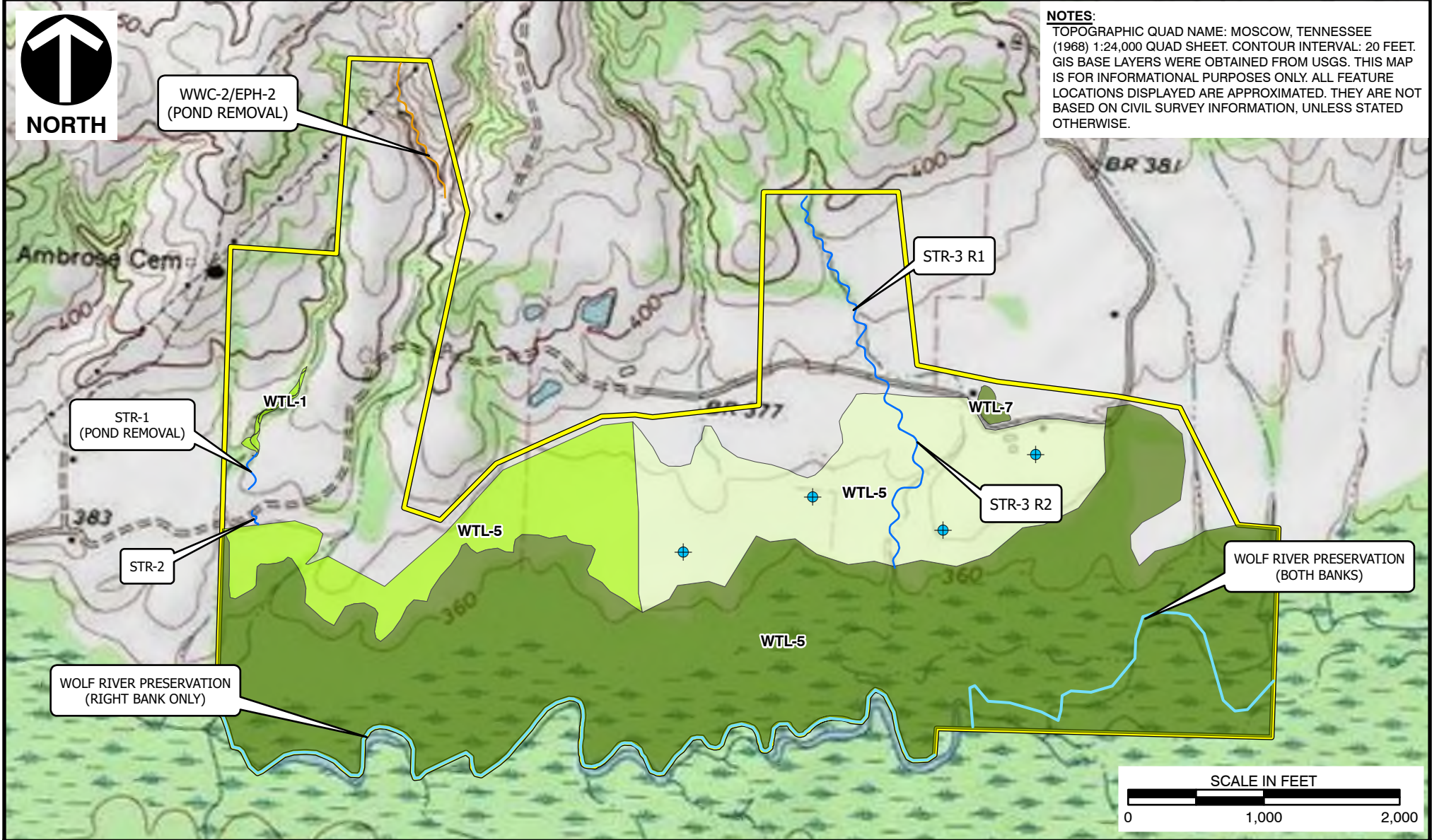
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<div><div>LEGEND</div><div><div><div></div><div>Study Boundary</div></div><div><div></div><div>Palustrine</div></div><div><div></div><div>Riverine</div></div></div></div>	<div><div><div></div></div><div>Civil & Environmental Consultants, Inc.</div><div>2704 Cherokee Farm Way, Suite 101 · Knoxville, TN 37920 (865) 977-9997 · (844) 828-7979 · fax: (865) 977-9919 www.cecinc.com</div></div>		<div>THE PIDGEON COMPANY MITIGATION PROSPECTUS MOSCOW, FAYETTE COUNTY, TENNESSEE</div>					
			NATIONAL WETLAND INVENTORY MAP					
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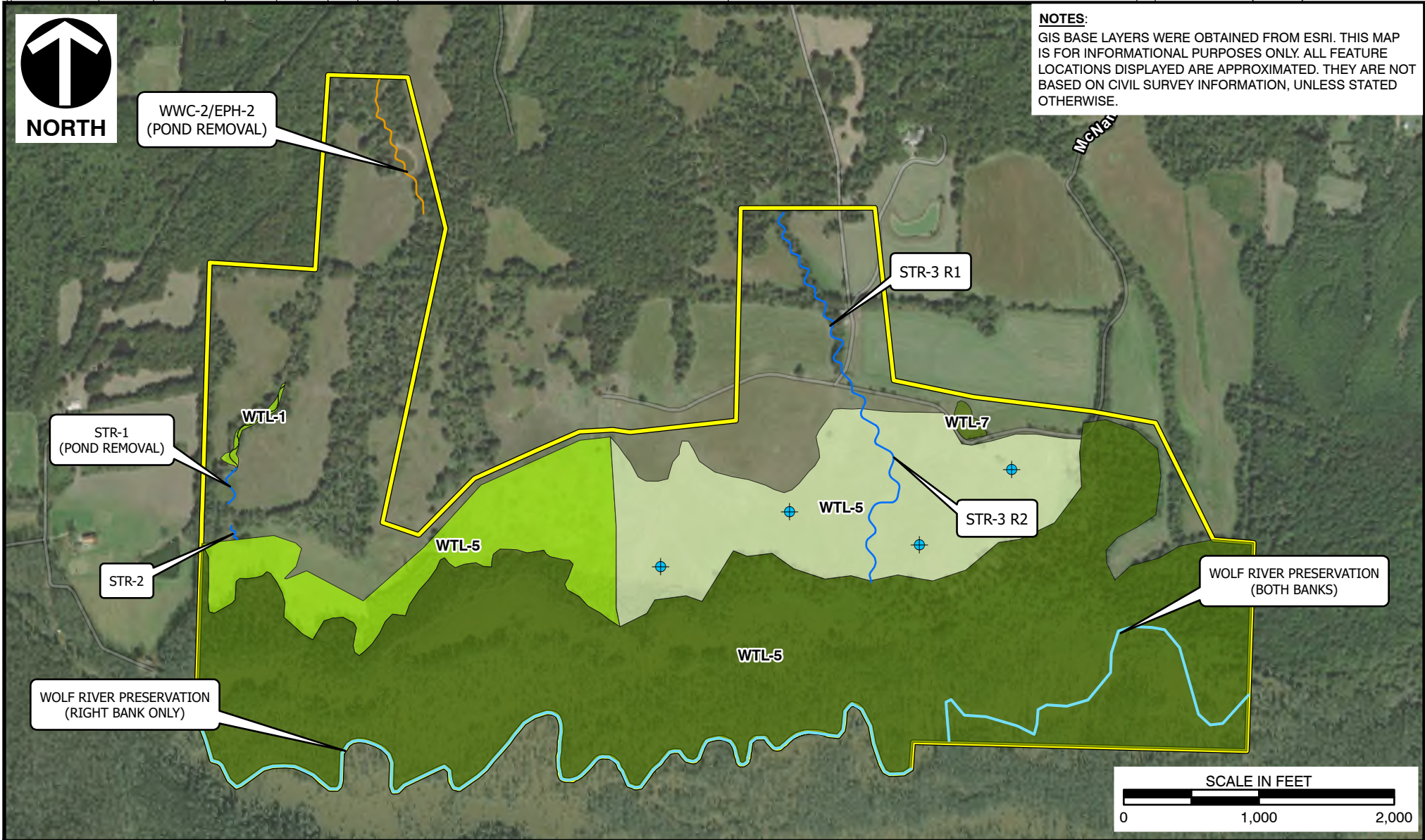
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LEGEND	
	PROPOSED MONITORING WELL LOCATIONS
	PROPOSED STREAM RESTORATION
	PROPOSED EPHEMERAL STREAM RESTORATION
	STREAM PRESERVATION
	PROPOSED WETLAND ENHANCEMENT
	PROPOSED WETLAND PRESERVATION
	PROPOSED WETLAND RE-ESTABLISHMENT
	CONSERVATION EASEMENT

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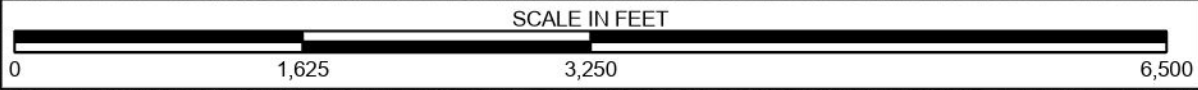
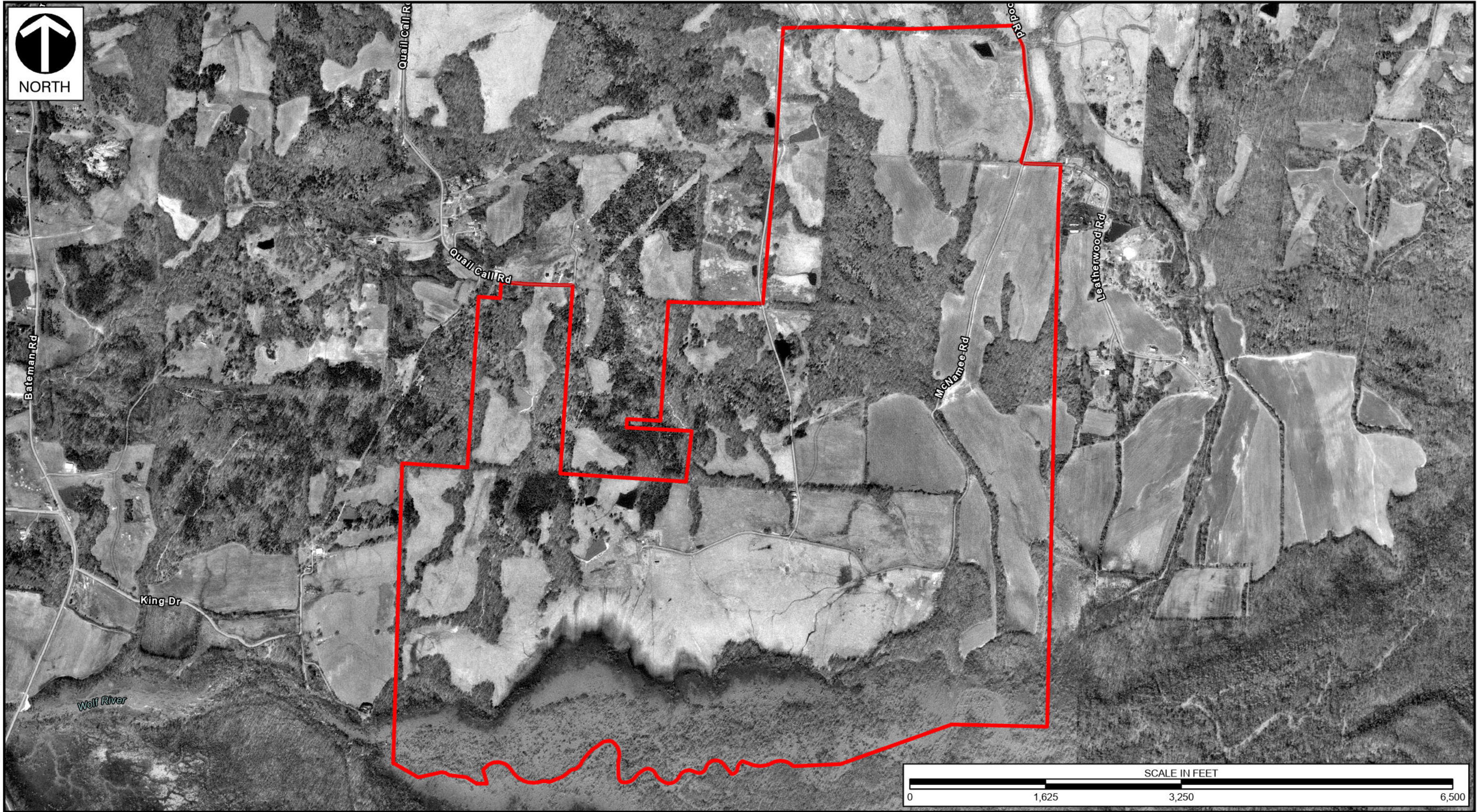
THE PIDGEON BANK MITIGATION PROSPECTUS - UPDATED MOSCOW, FAYETTE COUNTY, TENNESSEE	
TOPOGRAPHIC MITIGATION CONCEPT	
APPROVED BY: GSB	FIGURE NO: 5
PROJECT NO: 327-634	



	PROPOSED MONITORING WELL LOCATIONS
	PROPOSED STREAM RESTORATION
	PROPOSED EPHEMERAL STREAM RESTORATION
	STREAM PRESERVATION
	PROPOSED WETLAND ENHANCEMENT
	PROPOSED WETLAND PRESERVATION
	PROPOSED WETLAND RE-ESTABLISHMENT
	CONSERVATION EASEMENT

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DATE: 4/24/2025	SCALE: 1" = 1,000'

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AERIAL MITIGATION CONCEPT - UPDATED	
APPROVED BY: GSB	FIGURE NO: 6
PROJECT NO: 327-634	



LEGEND

 Study Boundary



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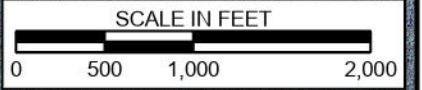
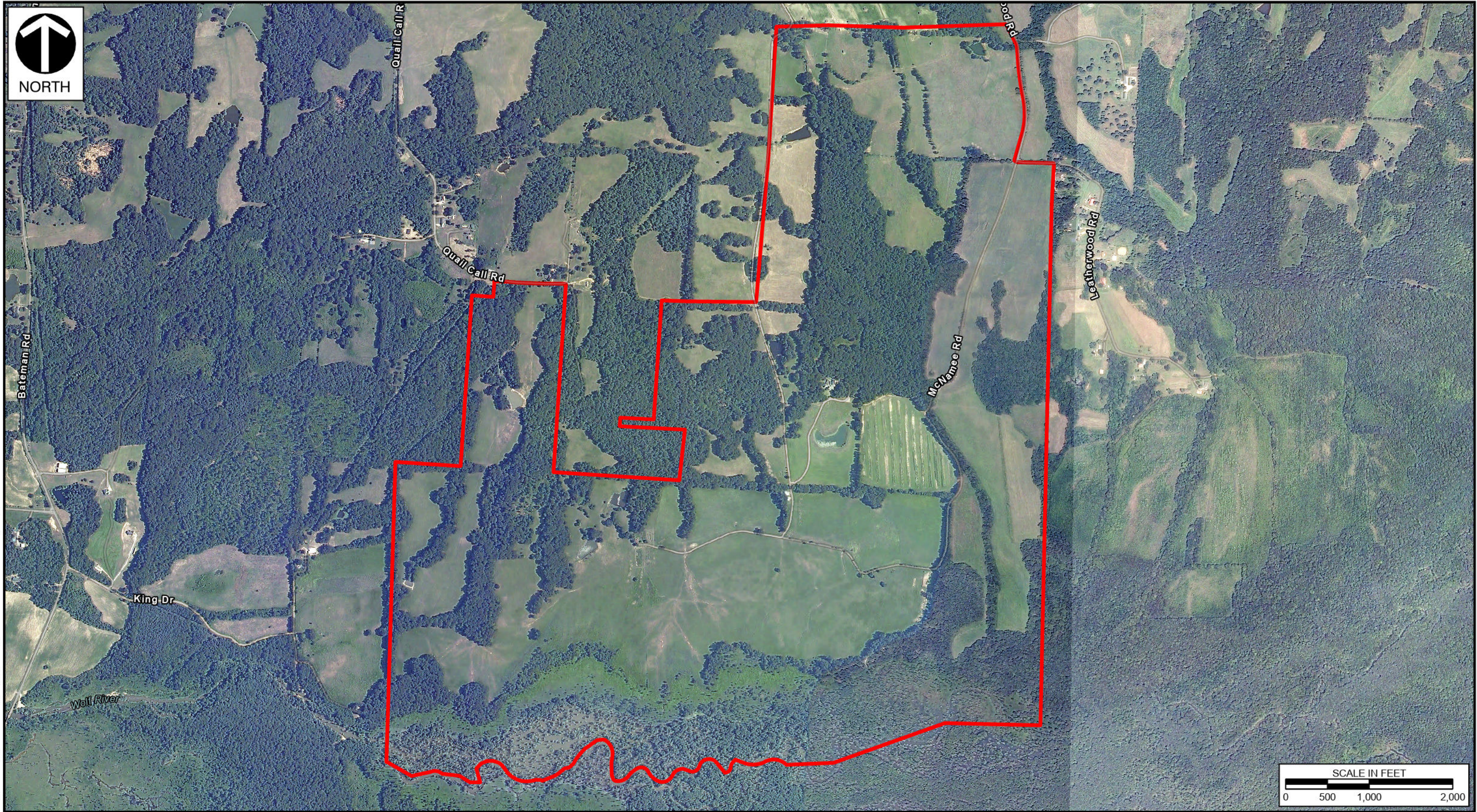
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1997 HISTORIC MAP

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DATE:	1/29/2024	SCALE:	1:13,000	PROJECT NO:	327-634		

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LEGEND

 Study Boundary



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2010 HISTORIC MAP

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DATE:	1/29/2024	SCALE:	1:13,000	PROJECT NO:	327-634		

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nesboro

158

Blytheville

Lower Mississippi River

#08010100

Lower Hatchie
National
Wildlife Refuge

Hatchie National
Wildlife Refuge

Loosahatchie

#08010209

Memphis

Nonconnah Creek

#08010211

Wolf River

#08010210

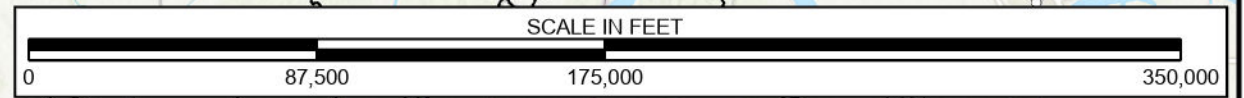
Pidgeon Bank

Shiloh National
Military Park





Tennessee
National
Wildlife Refuge

Natchez Trace
State Park

Florence



LEGEND

-  Study Boundary
-  Primary Service Area
-  Secondary Service Area
-  HUC 8 Watersheds



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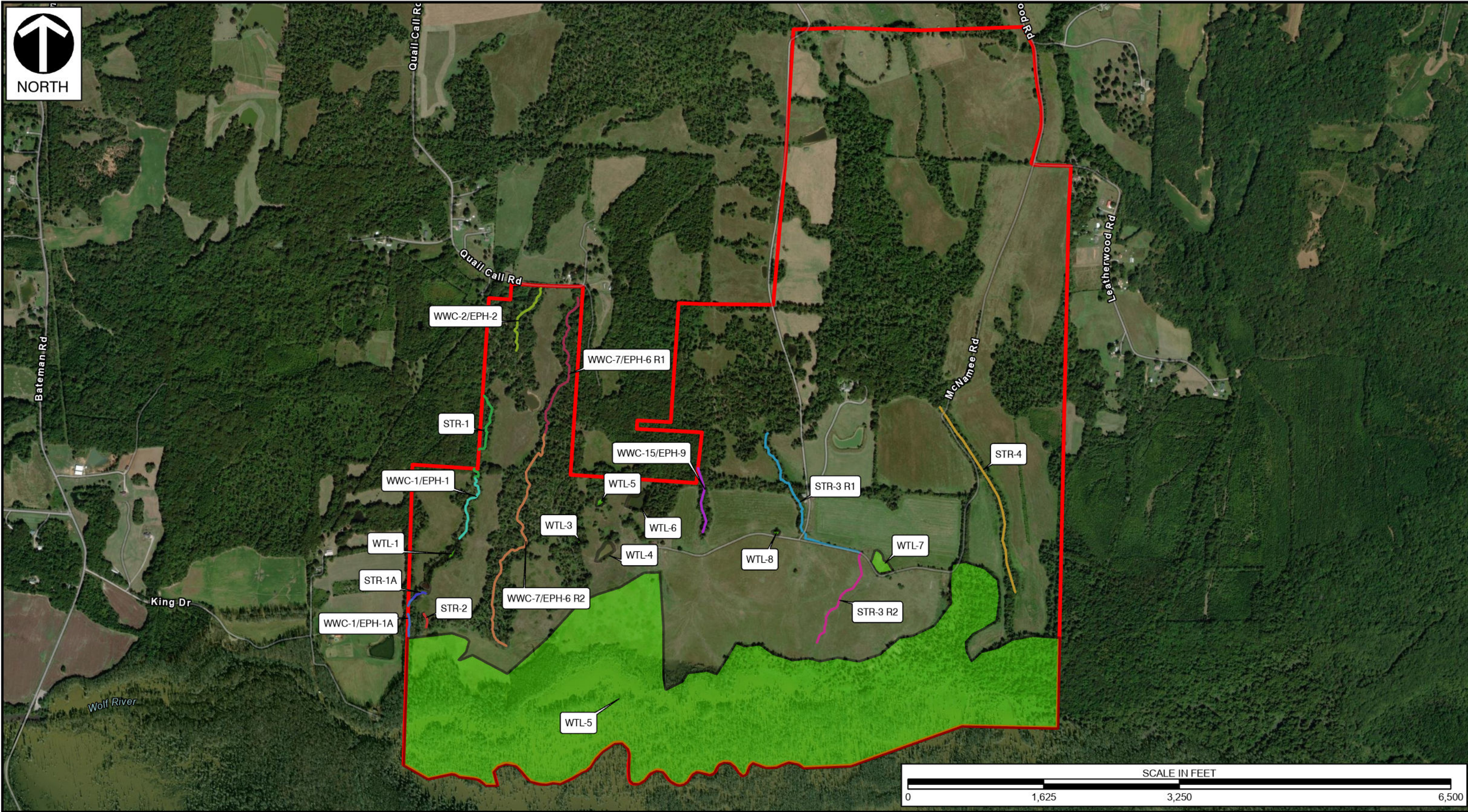
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SERVICE AREA MAP

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DATE:	1/29/2024	SCALE:	1:700,000	PROJECT NO:	327-634		

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LEGEND					
	Study Boundary		STR-3 R1		WWC-15/EPH-9
	Wetland		STR-3 R2		WWC-2/EPH-2
	STR-1		STR-4		WWC-7/EPH-6 R1
	STR-1A		WWC-1/EPH-1		WWC-7/EPH-6 R2
	STR-2		WWC-1/EPH-1A		



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BASELINE ECOLOGICAL ASSESSMENT MAP

APPROVED BY:	GSB	FIGURE NO:	10
PROJECT NO:	327-634		

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APPENDIX B

PHOTOGRAPHIC SUMMARY

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 1: Start of STR-1 facing upstream located at coordinates 35.0384052, -89.3328008. (8-7-23)



Photo 2: Start of STR-1 facing downstream located at coordinates 35.0384052, -89.3328008. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 3: STR-1 exiting the study boundary facing upstream at coordinates 35.0366624 -89.3329068. (8-7-23)



Photo 4: STR-1 exiting the study boundary facing downstream at coordinates 35.0366624 -89.3329068. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 5: STR-1 re-entering the study boundary facing upstream at coordinates 35.0359653, -89.3331186. (8-7-23)



Photo 6: STR-1 re-entering the study boundary facing downstream at coordinates 35.0359653, -89.3331186. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 7: STR-1 end at coordinates 35.0356774, -89.3330484. (1-11-23)



Photo 8: Start of STR-1A from Pond-1 outlet facing upstream at coordinates 35.0318497, -89.3348651. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 9: Start of STR-1A from Pond-1 outlet facing upstream at coordinates 35.0318497, -89.3348651. (8-7-23)



Photo 10: STR-1A end at coordinates 35.0316234, -89.3354173. (1-11-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 11: Start of STR-2 facing upstream at coordinates 35.0311737, -89.3349210. (8-7-23)



Photo 12: Start of STR-2 facing downstream at coordinates 35.0311737, -89.3349210. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 13: End of STR-2 facing upstream at coordinates 35.0307371, -89.3348067. (8-7-23)



Photo 14: End of STR-2 facing downstream at coordinates 35.0307371, -89.3348067. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 15: Start of STR-3 facing upstream at coordinates 35.0374983, -89.3214197. (8-7-23)



Photo 16: Start of STR-3 facing downstream at coordinates 35.0374983, -89.3214197. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 17: End of STR-3 facing downstream at coordinates 35.0306686, -89.3191756. (1-11-23)



Photo 18: Start of STR-4 facing upstream at coordinates 35.0494910, -89.3197452. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 19: Start of STR-4 facing downstream at coordinates 35.0494910, -89.3197452. (8-9-23)



Photo 20: End of STR-4 facing upstream at coordinates 35.0325459, -89.3110940. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 21: End of STR-4 facing downstream at coordinates 35.0325459, -89.3110940. (8-9-23)



Photo 22: Start of STR-5 facing upstream at coordinates 35.0414814, -89.3168989. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 23: Start of STR-5 facing downstream at coordinates 35.0414814, -89.3168989. (8-9-23)



Photo 24: End of STR-5 facing upstream at coordinates 35.0402861, -89.3152631. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 25: End of STR-5 at confluence with STR-4 facing downstream at coordinates 35.0402861, -89.3152631. (8-9-23)



Photo 26: Start of STR-6 facing upstream at coordinates 35.0488570, -89.3157733. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 27: Start of STR-6 facing downstream at coordinates 35.0488570, -89.3157733. (8-8-23)



Photo 28: End of STR-6 facing upstream at coordinates 35.0415777, -89.3157733. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 29: End of STR-6 at confluence with STR-4 facing downstream at coordinates 35.0415777, -89.3157733. (8-8-23)



Photo 30: Start of WWC-1/EPH-1 facing upstream at coordinates 35.0356774, -89.3330484. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 31: Start of WWC-1/EPH-1 facing downstream at coordinates 35.0336905, -89.3335922. (8-7-23)



Photo 32: End of WWC-1/EPH-1 facing upstream at coordinates 35.0336905, -89.3335922. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 33: Start of WWC-1/EPH-1A facing downstream at coordinates 35.0316234, -89.3354173. (8-7-23)



Photo 34: End of WWC-1/EPH-1A facing downstream at coordinates 35.0304239, -89.3354867. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 35: Start of WWC-2/EPH-2 facing upstream at coordinates 35.0420048, -89.3306801. (8-7-23)



Photo 36: End of WWC-2/EPH-2 facing blank at coordinates 35.0339291, -89.3315830. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 37: Start of WWC-3/UDF-1 facing down-gradient at coordinates 35.0394094, -89.3323073. (8-7-23)



Photo 38: End of WWC-3/UDF-1 at Pond-2 facing up-gradient at coordinates 35.0390478, -89.3316730. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 39: End of WWC-3/UDF-1 at Pond-2 facing down-gradient at coordinates 35.0391792, -89.3320319. (8-7-23)



Photo 40: Start of WWC-4/EPH-3 facing upstream at coordinates 35.0343391, -89.3332139. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 41: End of WWC-4/EPH-3 at STR-1 facing downstream at coordinates 35.0343347, -89.3332700. (8-7-23)



Photo 42: Start of WWC-5/EPH-4 facing upstream at coordinates 35.0342000, -89.3332346. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 43: End of WWC-5/EPH-4 at confluence with STR-1 facing downstream at coordinates 35.0342065, -89.3333245. (8-7-23)



Photo 44: Start of WWC-6/EPH-5 facing upstream at coordinates 35.0339250, -89.3332669. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 45: Start of WWC-6/EPH-5 facing downstream at coordinates 35.0339250, -89.3332669. (8-7-23)



Photo 46: End of WWC-6/EPH-5 facing downstream at coordinates 35.0339379, -89.3333351. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 47: Start of WWC-7/EPH-6 facing upstream at coordinates 35.0417466, -89.3291947. (8-7-23)



Photo 48: Start of WWC-7/EPH-6 facing downstream at coordinates 35.0417466, -89.3291947. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 49: End of WWC-7/EPH-6 facing upstream at coordinates 35.0302206, -89.3315820. (8-7-23)



Photo 50: End of WWC-7/EPH-6 facing downstream at coordinates 35.0302206, -89.3315820. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 51: Start and end of WWC-8/UDF-2 facing down-gradient at coordinates (START) 35.0390811, -89.3291776, (END) 35.0389850, -89.3294836. (8-7-23)



Photo 52: Start of WWC-9/UDF-3 facing up-gradient at coordinates 35.0377110, -89.3304433. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 53: End of WWC-9/UDF-3 facing down-gradient at coordinates 35.0372049, -89.3303346. (1-11-23)



Photo 54: Start and end of WWC-10/UDF-4 facing up-gradient at coordinates (START) 35.0358886, -89.3306701, (END) 35.0356521, -89.3309588. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 55: Start of WWC-11/UDF-5 facing up-gradient at coordinates 35.0348872, -89.3281561. (8-8-23)



Photo 56: End of WWC-11/UDF-5 facing down-gradient at coordinates 35.0345265, -89.3278184. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 57: Start of WWC-12/EPH-7 facing downstream at coordinates 35.0341293, -89.3274681. (8-8-23)



Photo 58: End of WWC-12/EPH-7 facing downstream at coordinates 35.0337289, -89.3276090. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 59: Start of WWC-13/EPH-8 facing upstream at coordinates 35.0328880, -89.3287275. (8-9-23)



Photo 60: End of WWC-13/EPH-8 facing upstream at coordinates 35.0324034, -89.3285104. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 61: Start of WWC-14/UDF-6 facing down-gradient at coordinates 35.0346780, -89.3267476. (8-8-23)



Photo 62: End of WWC-14/UDF-6 facing up-gradient at coordinates 35.0340198, -89.3263721. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 63: Start of WWC-15/EPH-9 facing upstream at coordinates 35.0385716, -89.3252664. (8-8-23)



Photo 64: Start of WWC-15/EPH-9 facing downstream at coordinates 35.0385716, -89.3252664. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 65: End of WWC-15/EPH-9 facing downstream at coordinates 35.0341682, -89.3238767. (8-8-23)



Photo 66: Start of WWC-16/UDF-7 facing up-gradient at coordinates 35.0382175, -89.3247537. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 67: End of WWC-16/UDF-7 at confluence with WWC-15/EPH-9 facing up-gradient at coordinates 35.0382051, -89.3248806. (8-8-23)



Photo 68: Start of WWC-17/EPH-10 facing upstream at coordinates 35.0387347, -89.3247244. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 69: End of WWC-17/EPH-10 at confluence with WWC-15/EPH-9 facing upstream at coordinates 35.0382051, -89.3248806. (8-8-23)



Photo 70: Start of WWC-18/EPH-11 facing upstream at coordinates 35.0413712, -89.3247151. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 71: End of WWC-18/EPH-11 facing upstream at coordinates 35.0374983, -89.3214197. (8-9-23)



Photo 72: Start of WWC-19/UDF-13 facing up-gradient at coordinates 35.0339749, -89.3277008. (1-11-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 73: End of WWC-19/UDF-13 facing up-gradient at coordinates 35.0339749, -89.3277008. (1-11-23)



Photo 74: Start of WWC-20/EPH-12 facing upstream at coordinates 35.0506524, -89.3205347. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 75: End of WWC-20/EPH-12 facing upstream at coordinates 35.0494910, -89.3197452. (8-9-23)



Photo 76: Start of WWC-21/EPH-13 facing downstream at coordinates 35.0484309, -89.3210445. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 77: End of WWC-21/EPH-13 facing upstream at coordinates 35.0478431, -89.3190360. (8-9-23)



Photo 78: End of WWC-21/EPH-13 at confluence with STR-4 facing downstream at coordinates 35.0478431, -89.3190360. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 79: Start of WWC-22/EPH-14 facing upstream at coordinates 35.0440904, -89.3192344. (8-9-23)



Photo 80: End of WWC-22/EPH-14 at confluence with STR-4 facing upstream at coordinates 35.0431087, -89.3169287. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 81: Start and end of WWC-23/UDF-8 facing down-gradient at coordinates (START) 35.0422460, -89.3174741, (END) 35.0420306, -89.3174288. (8-9-23)



Photo 82: Start of WWC-24/UDF-9 facing down-gradient at coordinates 35.0421792, -89.3177037. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 83: End of WWC-24/UDF-9 at start of WWC-25/EPH-15 facing up-gradient at coordinates 35.0417062, -89.3168898. (8-9-23)



Photo 84: Start of WWC-25/EPH-15 facing upstream at coordinates 35.0417062, -89.3168898. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 85: End of WWC-25/EPH-15 facing upstream at coordinates 35.0414814, -89.3168989. (8-9-23)



Photo 86: Start of WWC-26/EPH-16 facing upstream at coordinates 35.0418637, -89.3175964. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 87: End of WWC-26/EPH-16 facing upstream at coordinates 35.0414814, -89.3168989. (8-9-23)



Photo 88: Start of WWC-27/EPH-17 facing upstream at coordinates 35.0412577, -89.3183277. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 89: End of WWC-27/EPH-17 facing upstream at coordinates 35.0416040, -89.3171293. (8-8-23)



Photo 90: Start of WWC-28/UDF-10 facing up-gradient at coordinates 35.0415793, -89.3195589. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 91: End of WWC-28/UDF-10 facing up-gradient at coordinates 35.0414994, -89.3176890. (8-9-23)



Photo 92: Start of WWC-29/EPH-18 facing downstream at coordinates 35.0470472, -89.3153453. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 93: End of WWC-29/EPH-18 facing upstream at coordinates 35.0466901, -89.3154297. (8-9-23)



Photo 94: Start and end of WWC-30/UDF-11 facing up-gradient at coordinates (START) 35.0465046, -89.3148126, (END) 35.0458750, -89.3148558. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 95: Start of WWC-31/EPH-19 facing upstream at coordinates 35.0471780, -89.3130584. (8-9-23)



Photo 96: End of WWC-31/EPH-19 facing upstream at coordinates 35.0447485, -89.3134434. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 97: Start of WWC-32/UDF-12 facing down-gradient at coordinates 35.0334362, -89.3273951. (8-9-23)



Photo 98: End of WWC-32/UDF-12 facing down-gradient at coordinates 35.0333215, -89.3273629. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 99: WTL-1 overview (1 of 2) at coordinates 35.0320804, -89.3351225. (8-7-23)



Photo 100: WTP-1 with vegetation at coordinates 35.0320804, -89.3351225. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 101: WTP-1 soil profile (10YR 6/2 with redox of 10YR 6/8) at coordinates 35.0320804, -89.3351225. (8-7-23)



Photo 102: UPL-1 vegetation at coordinates 35.0320217, -89.3351145. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 103: UPL-1 soil profile (10YR 5/3) at coordinates 35.0320217, -89.3351145. (8-7-23)



Photo 104: WTL-1 overview (2 of 2) at coordinates 35.0329280, -89.3341669. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 105: WTL-2 overview at coordinates 35.0349005, -89.3281433. (8-7-23)



Photo 106: WTP-2 vegetation at coordinates 35.0349005, -89.3281433. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 107: WTP-2 soil profile (10YR 6/1 with redox of 10YR 5/6) at coordinates 35.0349005, -89.3281433. (8-7-23)



Photo 108: UPL-2 (using UPL-6 due to proximity) vegetation at coordinates 35.0349583, -89.3270194. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 109: UPL-2 soil profile (10YR 6/4) (using UPL-6 due to close proximity) at coordinates 35.0349583, -89.3270194. (8-7-23)



Photo 110: WTL-3 overview at coordinates 35.0336282, -89.3287802. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 111: WTP-3 soil profile (10YR 6/2 with redox of 7.5YR 3/4) at coordinates 35.0336282, -89.32878002. (8-7-23)



Photo 112: UPL-3 soil profile (10YR 5/4) at coordinates 35.0335833, -89.3288278. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 113: WTL-4 overview at coordinates 35.0335484, -89.3273973. (8-7-23)



Photo 114: WTP-4 vegetation at coordinates 35.0335484, -89.3273973. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 115: WTP-4 soil profile (10YR 6/2 with redox of 7.5YR 7/6) at coordinates 35.0335484, -89.3273973. (8-7-23)



Photo 116: UPL-4 vegetation at coordinates 35.0335557, -89.3273404. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 117: UPL-4 soil profile (10YR 6/4) at coordinates 35.0335557, -89.3273404. (8-7-23)



Photo 118: WTL-5 overview (1 of 2) at coordinates 35.0302056, -89.3137139. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 119: WTL-5 overview (2 of 2) at coordinates 35.0320140, -89.3279845. (8-9-23)



Photo 120: WTP-5 vegetation at coordinates 35.0320140, -89.3279845. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 121: WTP-5 soil profile (10YR 6/1 with redox of 10YR 6/6) at coordinates 35.0320140, -89.3279845. (8-9-23)



Photo 122: UPL-5 vegetation at coordinates 35.0326218, -89.3279696. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 123: UPL-5 soil profile (10YR 6/4) at coordinates 35.0326218, -89.3279696. (8-9-23)



Photo 124: WTL-6 overview at coordinates 35.0349778, -89.3269889. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 125: WTP-6 vegetation at coordinates 35.0349778, -89.3269889. (8-9-23)



Photo 126: WTP-6 soil profile (10YR 7/1 with redox of 10YR 7/6) at coordinates 35.0349778, -89.3269889. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 127: UPL-6 vegetation at coordinates 35.0349583, -89.3270194. (8-8-23)



Photo 128: UPL-6 soil profile (10YR 6/4) at coordinates 35.0349583, -89.3270194. (8-8-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 129: WTL-7 overview at coordinates 35.0333861, -89.3171306. (8-9-23)



Photo 130: WTP-7 vegetation at coordinates 35.0333861, -89.3171306. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 131: WTP-7 soil profile (10YR 7/1 with redox of 10YR 5/8) at coordinates 35.0333861, -89.3171306. (8-9-23)



Photo 132: UPL-7 vegetation at coordinates 35.0333358, -89.3171325. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 133: UPL-7 soil profile (10YR 2/1 at 0-10" and 7.5YR 4/4 at 10-12) at coordinates 35.0333358, -89.3171325. (8-9-23)



Photo 134: WTL-8 overview at coordinates 35.0342076, -89.3209538. (9-27-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 135: WTP-8 soil profile (10YR 4/1) at coordinates 35.0342076, -89.3209538. (9-27-23)



Photo 136: UPL-8 vegetation at coordinates 35.0342102, -89.3211142. (9-27-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee
CEC Project No. 327-634



Photo 137: UPL-8 soil profile (10YR 8/2) at coordinates 35.0342102, -89.3211142. (9-27-23)



Photo 138: Pond-1 overview at coordinates 35.0320968, -89.3348788. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 139: Pond-2 overview (1 of 2) at coordinates 35.0386001, -89.3311055. (8-7-23)



Photo 140: Pond-2 overview (2 of 2) at coordinates 35.0398250, -89.3315417. (8-7-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 141: Pond-3 overview at coordinates 35.0351037, -89.3265145. (8-7-23)



Photo 142: Pond-4 overview at coordinates 35.0472781, -89.3199314. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 143: Pond-5 overview at coordinates 35.0402234, -89.3205444. (8-9-23)



Photo 144: Pond-6 overview at coordinates 35.0373294, -89.3181155. (8-9-23)

Photo Summary: January 11, August 7-9, 2023

Project Description: Pidgeon Company Mitigation Prospectus, Moscow, Fayette County, Tennessee

CEC Project No. 327-634



Photo 145: Pond-7 overview at coordinates 35.0424407, -89.3194360. (8-9-23)



Photo 146: Pond-8 overview at coordinates 35.0334308, -89.3277434. (8-8-23)

APPENDIX C

SQT RAPID ASSESSMENT FORMS

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

I. Reach Information and Stratification

Project Name:	Pidgeon Mitigation Bank		Shading Key
Reach ID:	STR-1A		Desktop Value
Upstream Latitude:	35.0318497		Field Value
Upstream Longitude:	-89.3348651		Calculation
Downstream Latitude:	35.031621		
Downstream Longitude:	-89.3354183		
Ecoregion:	74b		
Drainage Area (sq. mi.):	0.08		
Stream Reach Length (ft):	202		
Flow Type:	Intermittent		
Valley Type:	Unconfined alluvial		

II. Reach Walk

A.	Length of Armoring on banks (ft)							
	Total (ft)							
	Percent Armoring (%)							
B.	Difference between BKF stage and WS (ft)	Describe the bankfull indicator						
	1.03	grade break						

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

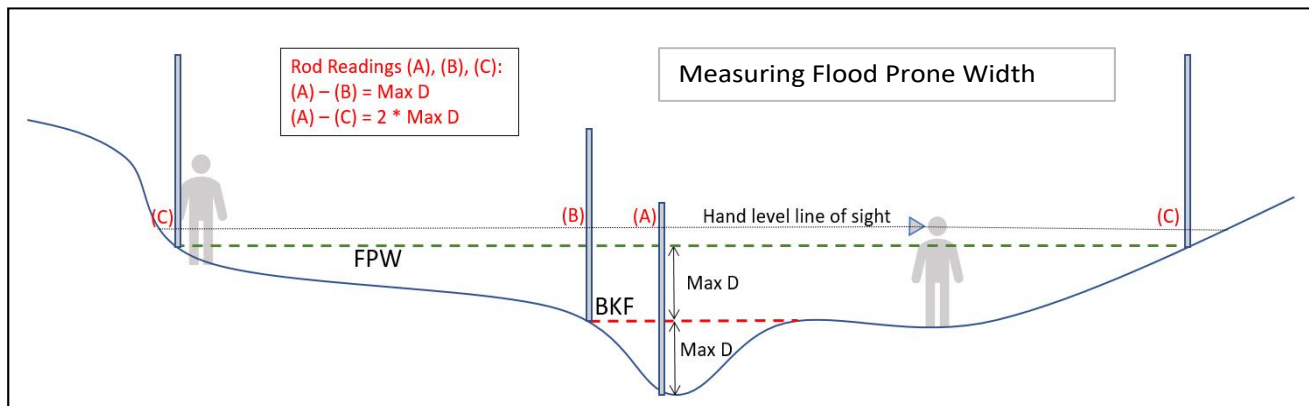
III. Bankfull Verification and Stable Riffle Cross Section

A.	Difference between BKF stage and WS (ft) <i>Average or consensus value from reach walk.</i>	1.03	Cross Section Measurements Depth measured from bankfull			
B.	Bankfull Width (ft)	4.9				
C.	Bankfull Mean Depth (ft) = Average of depth measurements	0.6	Station	Depth	Station	Depth
D.	Bankfull Area (sq. ft.) Width * Mean Depth	3.0	0	0		
E.	Regional Curve Bankfull Width (ft)	8.2	0.64	0.78		
F.	Regional Curve Bankfull Mean Depth (ft)	0.58	1.75	1.05		
G.	Regional Curve Bankfull Area (sq. ft.)	4.67	2.5	1.03		
H.	Curve Used	74	3	0.64		
			3.5	0.42		
			4	0.27		
I.	Flood Prone Width (FPW; ft)	5.82	4.9	0		
J.	Entrenchment Ratio (ER)	1.2				
K.	Width Depth Ratio (WDR)	8				
L.	Stream Type	G				

Quick Rosgen Stream Classification Guide (Rosgen, 1996)

ER < 1.4		1.4 < ER < 2.2		ER > 2.2	
WDR < 12	WDR > 12	WDR > 12		WDR < 12	WDR > 12
A or G	F	B		E	C

Rosgen, D.L., 1996. Applied River Morphology, Wildland Hydrology Books, Pagosa Springs, Colorado.



Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

IV. Riffle Data (Floodplain Connectivity & Bed Form Diversity)

A.	Assessment Segment Length At least 20 x the Bankfull Width	80		20*Bankfull Width	98.0
----	---	----	--	-------------------	------

B. Bank Height & Riffle Data

	R1	R2	R3	R4	R5	R6	R7	R8
Begin Station (Distance along tape)	0	14	41	69				
End Station (Distance along tape)	7	16	48	80				
Low Bank Height (ft)	2.17	2.7	1.5	1.32				
Bankfull Max Depth (ft)	1.03	1.06	0.82	0.92				
Bankfull Width (ft)	4.9	4.8	7.6	4.7				
Flood Prone Width (ft)	5.82	6.2	16.5	12				
Bankfull Mean Depth (ft)	0.6	0.6	0.6	0.6				
Riffle Length (ft) <i>Including Run</i>	7	2	7	11				
Bank Height Ratio (BHR) Low Bank H / BKF Max D	2.1	2.5	1.8	1.4				
BHR * Riffle Length (ft)	14.7	5.1	12.8	15.8				
Entrenchment Ratio (ER)	1.2	1.3	2.2	2.6				
ER * Riffle Length (ft)	8.3	2.6	15.2	28.1				
WDR BKF Width / BKF Mean D	8.2	8.0	12.7	7.8				

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

IV. Riffle Data (Continued)

C.	Total Riffle Length (ft)	27.0
D.	Weighted BHR $\frac{\sum(\text{Bank Height Ratio}_i \times \text{Riffle Length}_i)}{\sum \text{Riffle Length}}$	1.8
E.	Weighted ER	2.0
F.	Maximum WDR	12.7
G.	Percent Riffle (%)	34%

V. Slope

A.	Begin	End	Difference	Slope (ft/ft)
	Station along tape (ft)	0	202	202.0
	Stadia Rod Reading (ft)	116	113	3.0

VI. Stream Type Classification

	Assessment Segment
A.	Entrenchment Ratio (ft/ft)
B.	Width Depth Ratio (ft/ft)
C.	Channel Material Estimate
D.	Stream Type (Rosgen, 1996)

VII. Pool Data (Bed Form Diversity)

		P1	P2	P3	P4	P5	P6	P7	P8
	Geomorphic Pool?	G	G	G					
	Station At maximum pool depth	10	20	53					
A.	P-P Spacing (ft)	X	10.0	33.0					
	Pool Spacing Ratio Pool Spacing / BKF Width	X	2.0	6.7					
	Pool Depth (ft) Measured from Bankfull	1.38	1.83	1.78					
	Pool Depth Ratio Pool depth/BKF mean D	2.3	3.0	2.9					
B.	Average Pool Depth Ratio	2.7							
C.	Median Pool Spacing Ratio							4.4	

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

VIII. Large Woody Debris

A.	Number of Pieces per 100m	9
----	---------------------------	---

IX. Lateral Migration

A.	Bank Data			
	BEHI/NBS Score	Bank Length (ft)	BEHI/NBS Score	Bank Length (ft)
	H/M	80		
	H/M	80		
B.	Dominant BEHI/NBS Score		H/M	
C.	Total Eroding Bank Length (ft)		160	
D.	Total Bank Length (ft)		160.0	
E.	Percent Streambank Erosion (%)		100%	
	Total Eroding Bank Length/ Total Bank Length			

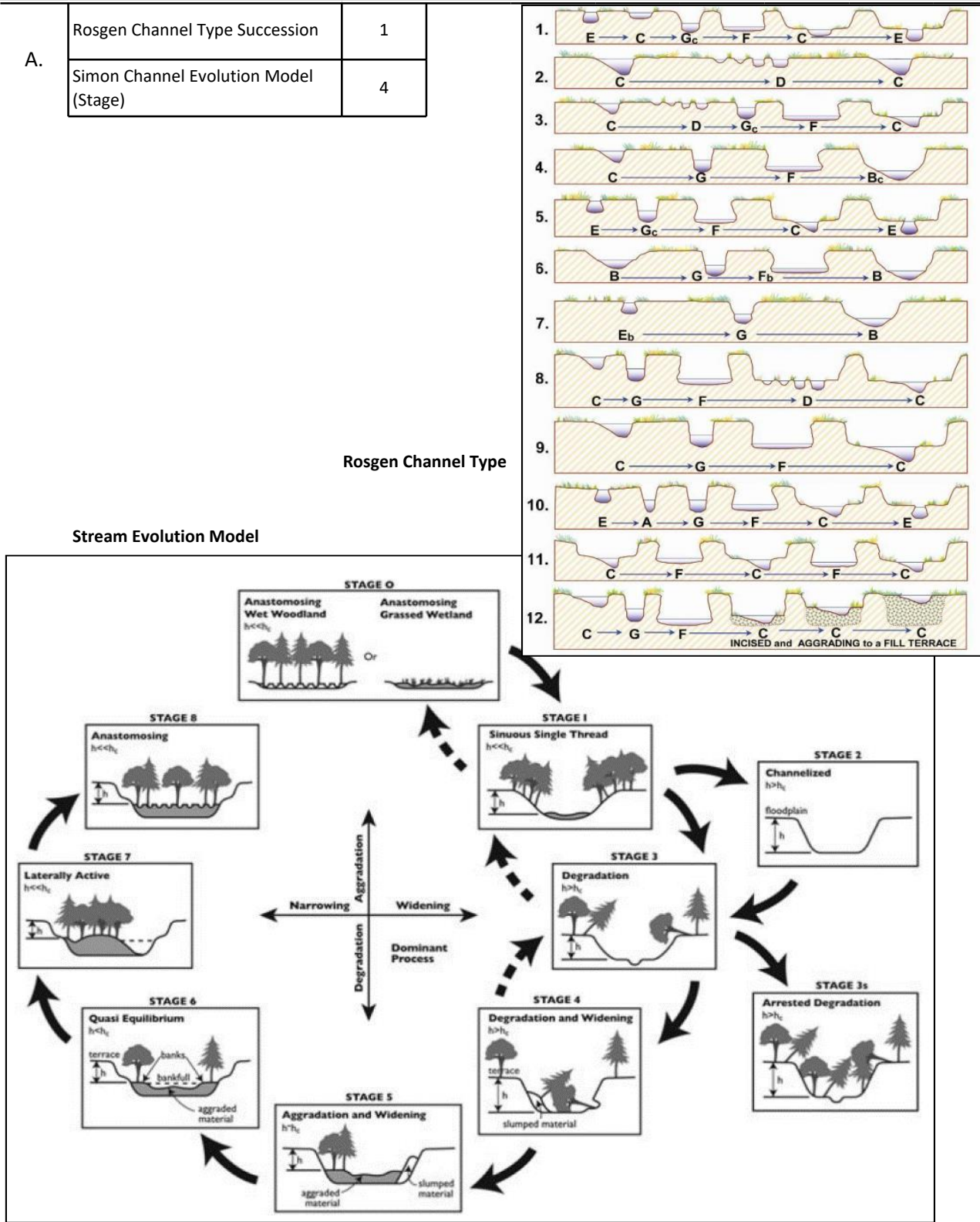
X. Riparian Vegetation

A.	Buffer Width	Buffer Width Measurements (ft)							Avg.
		1	2	3	4	5	6	7	
	Left (looking downstream)	20							20.0
	Right (looking downstream)	20							20.0

XI. Sinuosity

A.	Stream Length (ft)	202
B.	Valley Length (ft)	185
C.	Sinuosity	1.09

XII. Channel Evolution



1 Figure 7-48, Watershed Assessment of River Stability and Sediment Supply (WARSSS), by David L. Rosgen, Wildland Hydrology, 2009, p. 7-175.

2 B. Cluer, C. Thorne. "A Stream Evolution Model Integrating Habitat and Ecosystem Benefits." River Research and Applications.2013.

Investigators:

Reach ID: **STR-1A R1**
Valley Type: **UC-AL**
Bed Material: **SILT/CLAY**

[illegible]

Date:
Investigators:
Project Name:

TN SQT and Debit Tool
Riparian Vegetation Rapid Plots

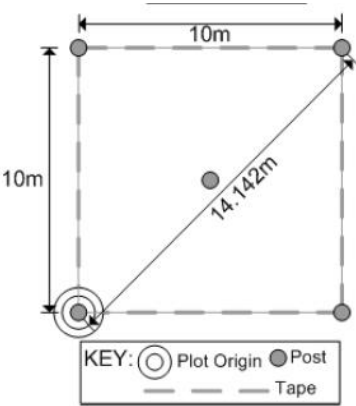
Plot ID	Native Cover		Saplings DBH (cm)		Trees DBH (cm)								
	Herbaceous Strata	Shrub Strata	0 - 1	1 - 2.5	2.5 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	≥40
LB	35	5	2	1	5	0	1						
Latitude: Long:			Notes: Privet										
RB	30	10	1	2	11	2	0						
Latitude: Long:			Notes: Privet, stiltgrass, Boxelder										
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										

Strata	Height Range (m)	Description
Herb	0-1	Can also include shrubs within height class
Shrub	1 to 5	Shrubs only, no tree saplings

Tally Method	<div><div></div><div></div></div> <div>= 1</div>	<div><div></div><div></div><div></div></div> <div>= 2</div>	<div><div></div><div></div><div></div><div></div></div> <div>= 3</div>	<div><div></div><div></div><div></div><div></div><div></div></div> <div>= 4</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 5</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 6</div>
	<div><div></div><div></div><div></div></div> <div>= 7</div>	<div><div></div><div></div><div></div><div></div></div> <div>= 8</div>	<div><div></div><div></div><div></div><div></div><div></div></div> <div>= 9</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 10</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 11</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 12, etc.</div>

Note: Latitude and Longitude should be recorded for the point of origin (double circle) fro each plot in decimal degrees

Data forms and protocol are modified from the Carolina Vegetation Survey (CVS) protocol (Lee et al. 2008)
Plot IDs must correspond to plots indentified on a map of the project area.



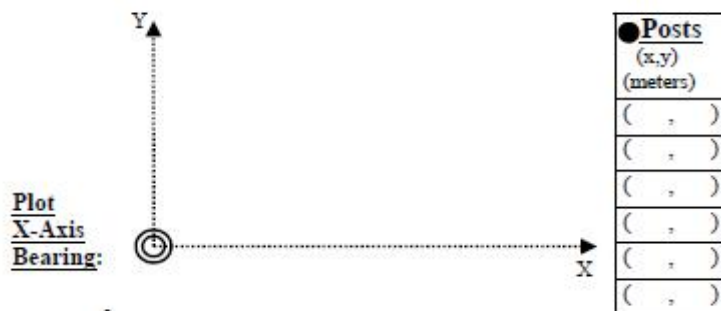
Date:
Investigators:
Project Name:

TN SQT and Debit Tool Riparian Vegetation Rapid Plots

Plot ID

PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

Plot ID

PLOT DIAGRAM:

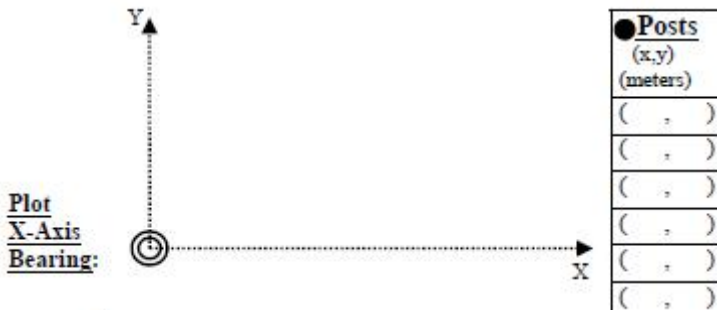
Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

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Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

I. Reach Information and Stratification

Project Name:	Pidgeon Mitigation Bank		Shading Key
Reach ID:	STR-3 R1		Desktop Value
Upstream Latitude:	35.0374918		Field Value
Upstream Longitude:	-89.321414		Calculation
Downstream Latitude:	35.0336535		
Downstream Longitude:	-89.3175317		
Ecoregion:	74b		
Drainage Area (sq. mi.):	0.2		
Stream Reach Length (ft):	2,188		
Flow Type:	Intermittent		
Valley Type:	Unconfined Alluvial		

II. Reach Walk

A.	Length of Armoring on banks (ft)							
	Total (ft)							
	Percent Armoring (%)							
B.	Difference between BKF stage and WS (ft)	Describe the bankfull indicator						
	1.17	Scourline, grade break						

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

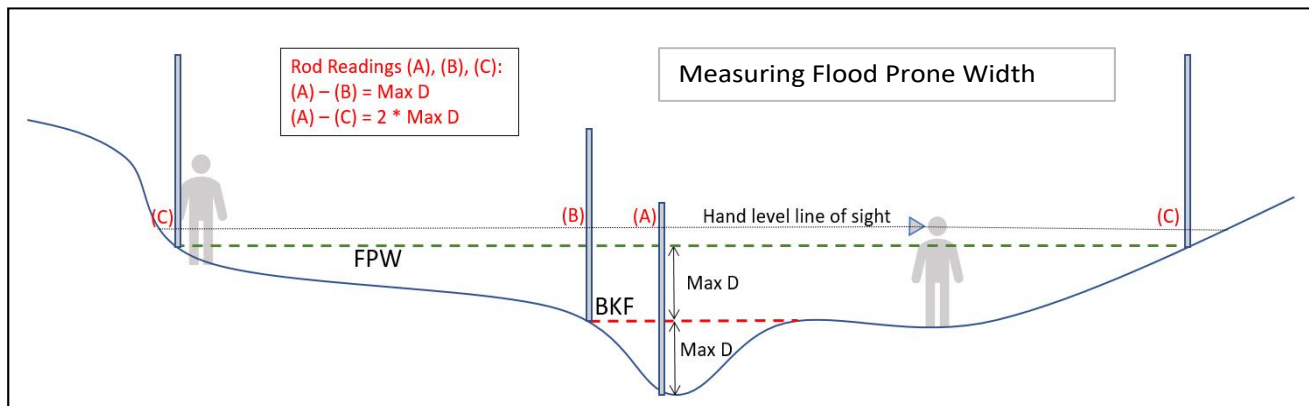
III. Bankfull Verification and Stable Riffle Cross Section

A.	Difference between BKF stage and WS (ft) <i>Average or consensus value from reach walk.</i>	1.17	Cross Section Measurements Depth measured from bankfull			
B.	Bankfull Width (ft)	6.8	Station	Depth	Station	Depth
C.	Bankfull Mean Depth (ft) = Average of depth measurements	0.8	0	0	6.8	0
D.	Bankfull Area (sq. ft.) Width * Mean Depth	5.3	0.5	0.45		
E.	Regional Curve Bankfull Width (ft)	11.29	1	0.71		
F.	Regional Curve Bankfull Mean Depth (ft)	0.76	2	0.9		
G.	Regional Curve Bankfull Area (sq. ft.)	8.53	3	1.02		
H.	Curve Used	74	3.7	1.17		
			4	1.06		
I.	Flood Prone Width (FPW; ft)	9.52	4.5	0.97		
J.	Entrenchment Ratio (ER)	1.4	5	0.85		
K.	Width Depth Ratio (WDR)	8.7	5.5	0.8		
L.	Stream Type	G	6	0.63		
			6.5	0.4		

Quick Rosgen Stream Classification Guide (Rosgen, 1996)

ER < 1.4		1.4 < ER < 2.2		ER > 2.2	
WDR < 12	WDR > 12	WDR > 12		WDR < 12	WDR > 12
A or G	F	B		E	C

Rosgen, D.L., 1996. Applied River Morphology, Wildland Hydrology Books, Pagosa Springs, Colorado.



Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

IV. Riffle Data (Floodplain Connectivity & Bed Form Diversity)

A.	Assessment Segment Length At least 20 x the Bankfull Width	225		20*Bankfull Width	136.0
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B. Bank Height & Riffle Data

	R1	R2	R3	R4	R5	R6	R7	R8
Begin Station (Distance along tape)	0	47	89	202				
End Station (Distance along tape)	20	67	150	225				
Low Bank Height (ft)	4.6	3.6	5.1	4.3				
Bankfull Max Depth (ft)	0.99	0.98	1.17	1.13				
Bankfull Width (ft)	8.45	7.05	6.8	9				
Flood Prone Width (ft)	10.5	12	9.52	15				
Bankfull Mean Depth (ft)	0.8	0.8	0.8	0.8				
Riffle Length (ft) <i>Including Run</i>	20	20	61	23				
Bank Height Ratio (BHR) Low Bank H / BKF Max D	4.6	3.7	4.4	3.8				
BHR * Riffle Length (ft)	92.9	73.5	265.9	87.5				
Entrenchment Ratio (ER)	1.2	1.7	1.4	1.7				
ER * Riffle Length (ft)	24.9	34.0	85.4	38.3				
WDR BKF Width / BKF Mean D	10.6	8.8	8.5	11.3				

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

IV. Riffle Data (Continued)

C.	Total Riffle Length (ft)	124.0
D.	Weighted BHR $\frac{\sum (Bank\ Height\ Ratio_i \times Riffle\ Length_i)}{\sum Riffle\ Length}$	4.2
E.	Weighted ER	1.5
F.	Maximum WDR	11.3
G.	Percent Riffle (%)	55%

V. Slope

A.	Begin	End	Difference	Slope (ft/ft)
	Station along tape (ft)	0	2188.0	0.003
	Stadia Rod Reading (ft)	120	7.0	

VI. Stream Type Classification

		Assessment Segment
A.	Entrenchment Ratio (ft/ft)	1.5
B.	Width Depth Ratio (ft/ft)	11.3
C.	Channel Material Estimate	Sand
D.	Stream Type (Rosgen, 1996)	G

VII. Pool Data (Bed Form Diversity)

		P1	P2	P3	P4	P5	P6	P7	P8
	Geomorphic Pool?		G	G					
	Station At maximum pool depth	30	70	178					
A.	P-P Spacing (ft)	X		108.0					
	Pool Spacing Ratio Pool Spacing / BKF Width	X		15.9					
	Pool Depth (ft) Measured from Bankfull	1.3	1.5	1.4					
	Pool Depth Ratio Pool depth/BKF mean D	1.7	1.9	1.8					
B.	Average Pool Depth Ratio	1.8							
C.	Median Pool Spacing Ratio							15.9	

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

VIII. Large Woody Debris

A.	Number of Pieces per 100m	4
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IX. Lateral Migration

A. Bank Data

BEHI/NBS Score	Bank Length (ft)	BEHI/NBS Score	Bank Length (ft)
H/L	25	H/H	25
H/L	25	H/M	24
H/M	33		
H/H	18		
H/L	19		
H/L	23		

B.	Dominant BEHI/NBS Score	H/L
C.	Total Eroding Bank Length (ft)	192
D.	Total Bank Length (ft)	450.0
E.	Percent Streambank Erosion (%) Total Eroding Bank Length/ Total Bank Length	43%

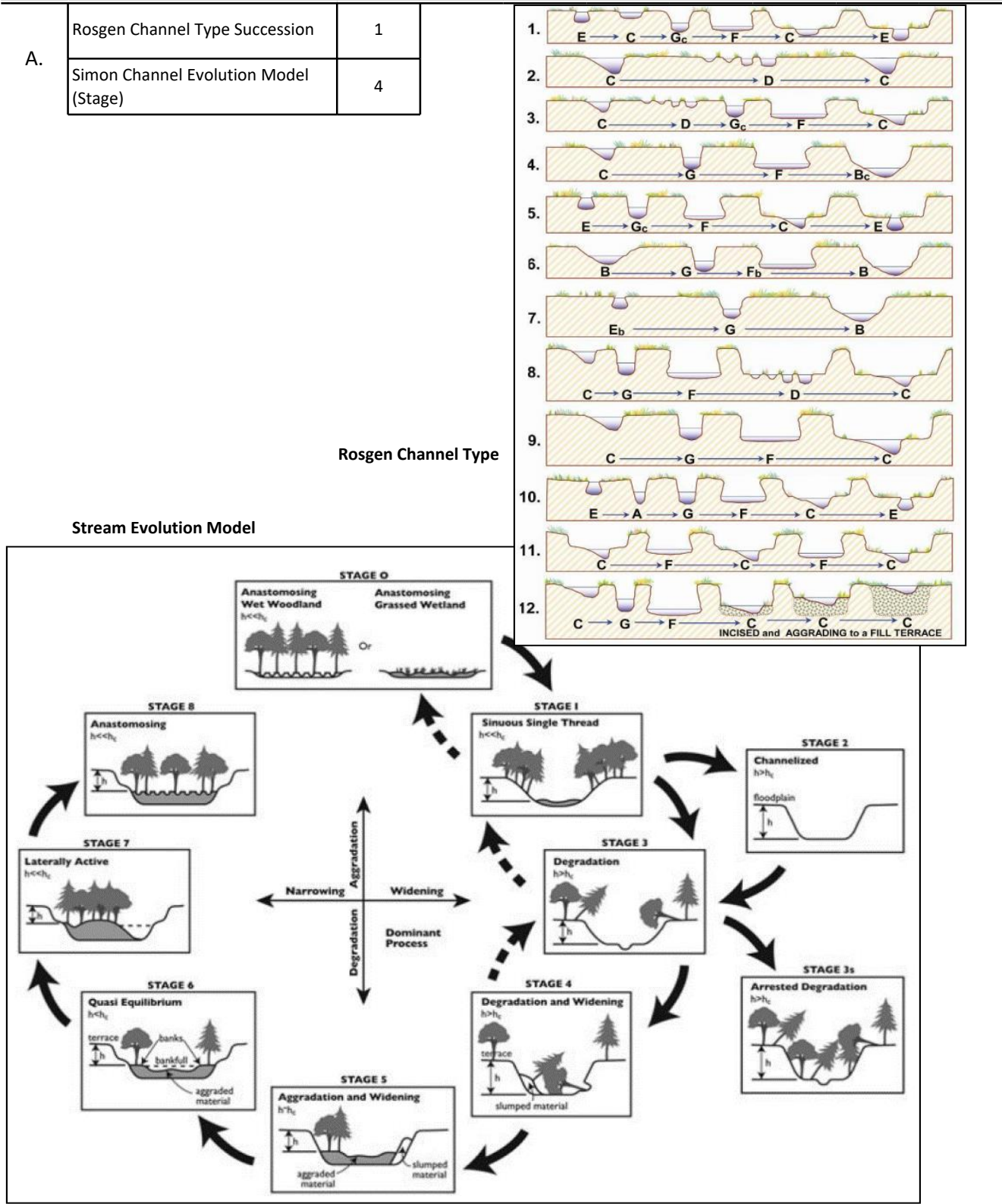
X. Riparian Vegetation

A.	Buffer Width	Buffer Width Measurements (ft)							Avg.
		1	2	3	4	5	6	7	
	Left (looking downstream)	50							50.0
	Right (looking downstream)	50							50.0

XI. Sinuosity

A.	Stream Length (ft)	2188
B.	Valley Length (ft)	1915
C.	Sinuosity	1.14

XII. Channel Evolution



1 Figure 7-48, Watershed Assessment of River Stability and Sediment Supply (WARSSS), by David L. Rosgen, Wildland Hydrology, 2009, p. 7-175.

2 B. Cluer, C. Thorne. "A Stream Evolution Model Integrating Habitat and Ecosystem Benefits." River Research and Applications.2013.

Investigators:

TN SQT and Debit Tool BEHI/NBS Field Form

Reach ID: **STR-3 R1**

Valley Type: UC-AL

Bed Material: **SAND/SILT**

[illegible]

Date:
Investigators:
Project Name:

TN SQT and Debit Tool
Riparian Vegetation Rapid Plots

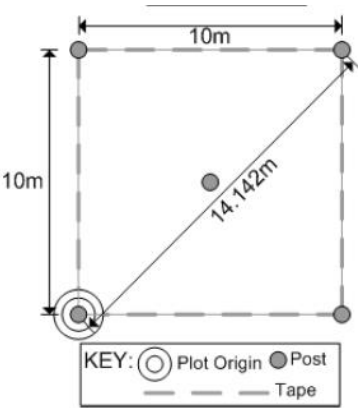
Plot ID	Native Cover		Saplings DBH (cm)		Trees DBH (cm)								
	Herbaceous Strata	Shrub Strata	0 - 1	1 - 2.5	2.5 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	≥40
LB	30	0	2	2	1	1							
Latitude: Long:			Notes: Portion of plot in field										
RB	20	5	4	2	3	2	2						
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										

Strata	Height Range (m)	Description
Herb	0-1	Can also include shrubs within height class
Shrub	1 to 5	Shrubs only, no tree saplings

Tally Method	<div><div></div><div></div></div> = 1	<div><div></div><div></div><div></div></div> = 2	<div><div></div><div></div><div></div><div></div></div> = 3	<div><div></div><div></div><div></div><div></div><div></div></div> = 4	<div><div></div><div></div><div></div><div></div><div></div><div></div></div> = 5	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> = 6
	<div><div></div><div></div><div></div><div></div></div> = 7	<div><div></div><div></div><div></div><div></div><div></div></div> = 8	<div><div></div><div></div><div></div><div></div><div></div><div></div></div> = 9	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> = 10	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> = 11	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> = 12, etc.

Note: Latitude and Longitude should be recorded for the point of origin (double circle) fro each plot in decimal degrees

Data forms and protocol are modified from the Carolina Vegetation Survey (CVS) protocol (Lee et al. 2008)
Plot IDs must correspond to plots indentified on a map of the project area.



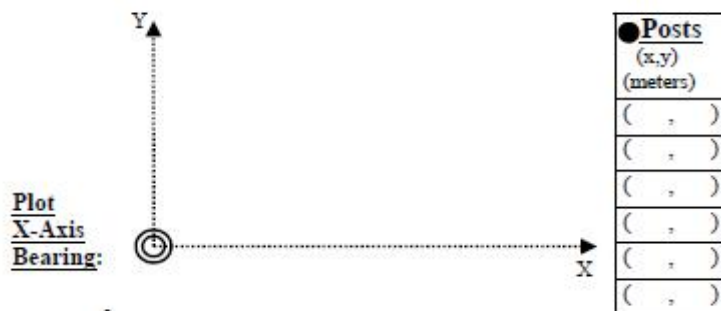
Date:
Investigators:
Project Name:

TN SQT and Debit Tool Riparian Vegetation Rapid Plots

Plot ID

PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

Plot ID

PLOT DIAGRAM:

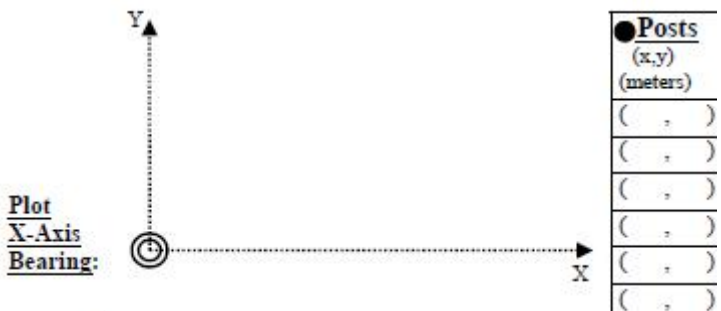
Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

I. Reach Information and Stratification

Project Name:	Pidgeon Mitigation Bank	Shading Key Desktop Value Field Value Calculation
Reach ID:	STR-3 R2	
Upstream Latitude:	35.0336535	
Upstream Longitude:	-89.3175317	
Downstream Latitude:	35.0306713	
Downstream Longitude:	-89.3191638	
Ecoregion:	74b	
Drainage Area (sq. mi.):	0.2	
Stream Reach Length (ft):	1,303	
Flow Type:	Intermittent	
Valley Type:	Unconfined Alluvial	

II. Reach Walk

A.	Length of Armoring on banks (ft)							
	Total (ft)							
	Percent Armoring (%)							
B.	Difference between BKF stage and WS (ft)	Describe the bankfull indicator						
	0.3	channel dredged out, soybean field						

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

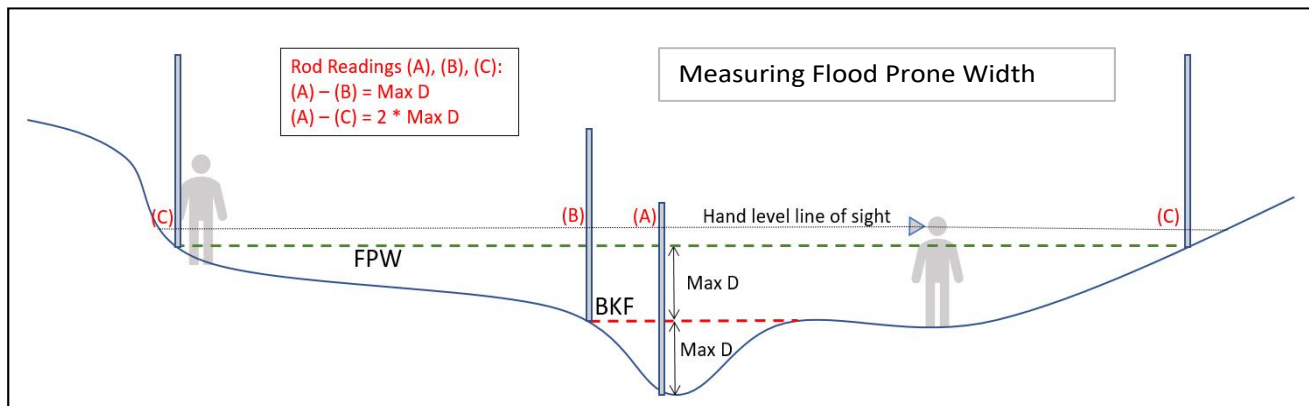
III. Bankfull Verification and Stable Riffle Cross Section

A.	Difference between BKF stage and WS (ft) <i>Average or consensus value from reach walk.</i>	0.3	Cross Section Measurements Depth measured from bankfull			
B.	Bankfull Width (ft)	3				
C.	Bankfull Mean Depth (ft) = Average of depth measurements	0.2	Station	Depth	Station	Depth
D.	Bankfull Area (sq. ft.) Width * Mean Depth	0.7	0	0		
E.	Regional Curve Bankfull Width (ft)	11.29	0.5	0.2		
F.	Regional Curve Bankfull Mean Depth (ft)	0.76	1	0.35		
G.	Regional Curve Bankfull Area (sq. ft.)	8.53	1.5	0.28		
H.	Curve Used	74	2	0.32		
			2.5	0.25		
			3	0		
I.	Flood Prone Width (FPW; ft)	3.5				
J.	Entrenchment Ratio (ER)	1.2				
K.	Width Depth Ratio (WDR)	12.9				
L.	Stream Type	G				

Quick Rosgen Stream Classification Guide (Rosgen, 1996)

ER < 1.4		1.4 < ER < 2.2		ER > 2.2	
WDR < 12	WDR > 12	WDR > 12		WDR < 12	WDR > 12
A or G	F	B		E	C

Rosgen, D.L., 1996. Applied River Morphology, Wildland Hydrology Books, Pagosa Springs, Colorado.



Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

IV. Riffle Data (Floodplain Connectivity & Bed Form Diversity)

A.	Assessment Segment Length At least 20 x the Bankfull Width	200		20*Bankfull Width	60.0
----	---	-----	--	-------------------	------

B. Bank Height & Riffle Data NO BEDFORM

	R1	R2	R3	R4	R5	R6	R7	R8
Begin Station (Distance along tape)	0							
End Station (Distance along tape)	200							
Low Bank Height (ft)	2.5							
Bankfull Max Depth (ft)	0.35							
Bankfull Width (ft)	3							
Flood Prone Width (ft)	3.5							
Bankfull Mean Depth (ft)	0.2							
Riffle Length (ft) <i>Including Run</i>	200							
Bank Height Ratio (BHR) Low Bank H / BKF Max D	7.1							
BHR * Riffle Length (ft)	1428.6							
Entrenchment Ratio (ER)	1.2							
ER * Riffle Length (ft)	233.3							
WDR BKF Width / BKF Mean D	15.0							

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

IV. Riffle Data (Continued)

C.	Total Riffle Length (ft)	200.0
D.	Weighted BHR $\frac{\sum (Bank\ Height\ Ratio_i \times Riffle\ Length_i)}{\sum Riffle\ Length}$	7.1
E.	Weighted ER	1.2
F.	Maximum WDR	15.0
G.	Percent Riffle (%)	100%

V. Slope

A.	Begin	End	Difference	Slope (ft/ft)
	Station along tape (ft)	0	200	200.0
	Stadia Rod Reading (ft)	113.6	113.2	0.4

VI. Stream Type Classification

		Assessment Segment
A.	Entrenchment Ratio (ft/ft)	1.2
B.	Width Depth Ratio (ft/ft)	15.0
C.	Channel Material Estimate	Silt
D.	Stream Type (Rosgen, 1996)	G

VII. Pool Data (Bed Form Diversity)

		P1	P2	P3	P4	P5	P6	P7	P8
	Geomorphic Pool?								
	Station At maximum pool depth								
A.	P-P Spacing (ft)	X							
	Pool Spacing Ratio Pool Spacing / BKF Width	X							
	Pool Depth (ft) Measured from Bankfull								
	Pool Depth Ratio Pool depth/BKF mean D								
B.	Average Pool Depth Ratio								
C.	Median Pool Spacing Ratio								

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

VIII. Large Woody Debris

A.	Number of Pieces per 100m	0
----	---------------------------	---

IX. Lateral Migration

A.	Bank Data																												
	<table><tr><th>BEHI/NBS Score</th><th>Bank Length (ft)</th><th>BEHI/NBS Score</th><th>Bank Length (ft)</th></tr><tr><td>H/M</td><td>200</td><td></td><td></td></tr><tr><td>H/M</td><td>200</td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table>	BEHI/NBS Score	Bank Length (ft)	BEHI/NBS Score	Bank Length (ft)	H/M	200			H/M	200																		
BEHI/NBS Score	Bank Length (ft)	BEHI/NBS Score	Bank Length (ft)																										
H/M	200																												
H/M	200																												
B.	Dominant BEHI/NBS Score	H/M																											
C.	Total Eroding Bank Length (ft)	400																											
D.	Total Bank Length (ft)	400.0																											
E.	Percent Streambank Erosion (%) Total Eroding Bank Length/ Total Bank Length	100%																											

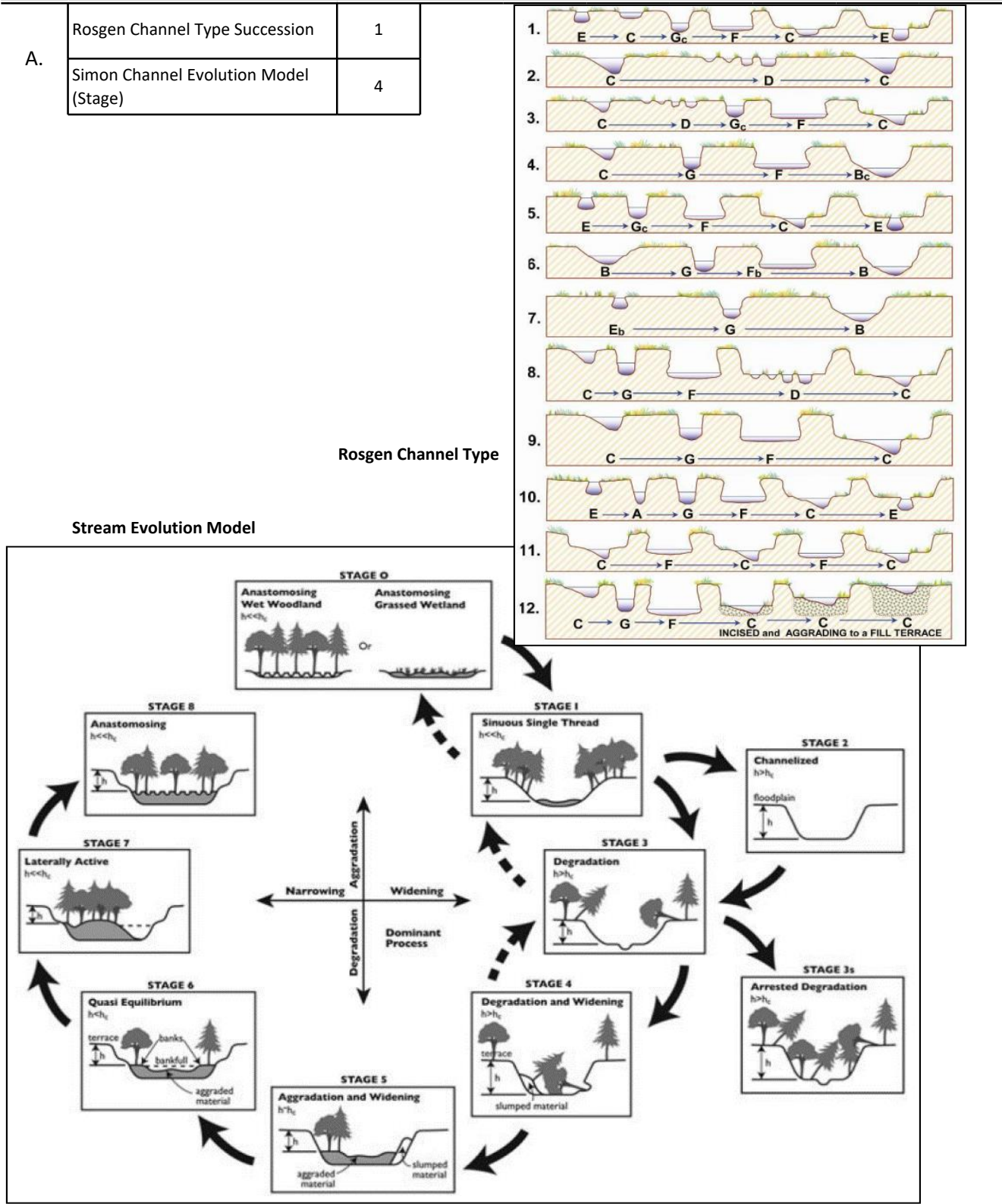
X. Riparian Vegetation

A.	Buffer Width	Buffer Width Measurements (ft)						Avg.	
		1	2	3	4	5	6		7
	Left (looking downstream)	0	0						0.0
	Right (looking downstream)	0	0						0.0

XI. Sinuosity

A.	Stream Length (ft)	200
B.	Valley Length (ft)	200
C.	Sinuosity	1

XII. Channel Evolution



1 Figure 7-48, Watershed Assessment of River Stability and Sediment Supply (WARSSS), by David L. Rosgen, Wildland Hydrology, 2009, p. 7-175.

2 B. Cluer, C. Thorne. "A Stream Evolution Model Integrating Habitat and Ecosystem Benefits." River Research and Applications.2013.

Investigators:

Reach ID: **STR-3 R2**
Valley Type: **UC-AL**
Bed Material: **SILT**

[illegible]

Date:
Investigators:
Project Name:

TN SQT and Debit Tool
Riparian Vegetation Rapid Plots

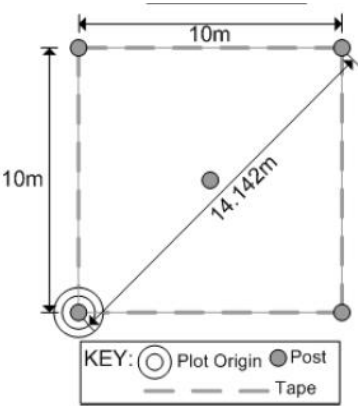
Plot ID	Native Cover		Saplings DBH (cm)		Trees DBH (cm)								
	Herbaceous Strata	Shrub Strata	0 - 1	1 - 2.5	2.5 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	≥40
LB													
Latitude: Long:			Notes: Soybean field										
RB													
Latitude: Long:			Notes: Soybean Field										
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										

Strata	Height Range (m)	Description
Herb	0-1	Can also include shrubs within height class
Shrub	1 to 5	Shrubs only, no tree saplings

Tally Method	<div><div></div><div></div></div> <div>= 1</div>	<div><div></div><div></div><div></div></div> <div>= 2</div>	<div><div></div><div></div><div></div><div></div></div> <div>= 3</div>	<div><div></div><div></div><div></div><div></div><div></div></div> <div>= 4</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 5</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 6</div>
	<div><div></div><div></div><div></div></div> <div>= 7</div>	<div><div></div><div></div><div></div><div></div></div> <div>= 8</div>	<div><div></div><div></div><div></div><div></div><div></div></div> <div>= 9</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 10</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 11</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>= 12, etc.</div>

Note: Latitude and Longitude should be recorded for the point of origin (double circle) fro each plot in decimal degrees

Data forms and protocol are modified from the Carolina Vegetation Survey (CVS) protocol (Lee et al. 2008)
Plot IDs must correspond to plots indentified on a map of the project area.



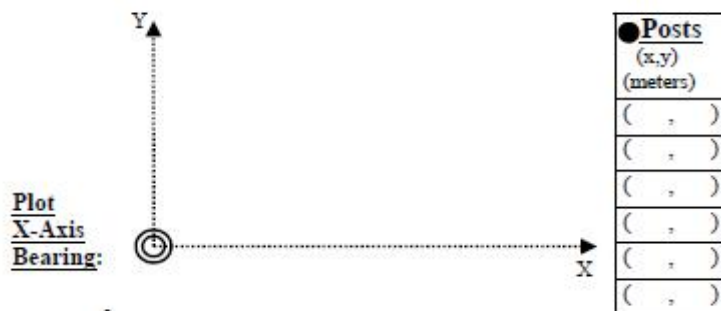
Date:
Investigators:
Project Name:

TN SQT and Debit Tool Riparian Vegetation Rapid Plots

Plot ID

PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

Plot ID

PLOT DIAGRAM:

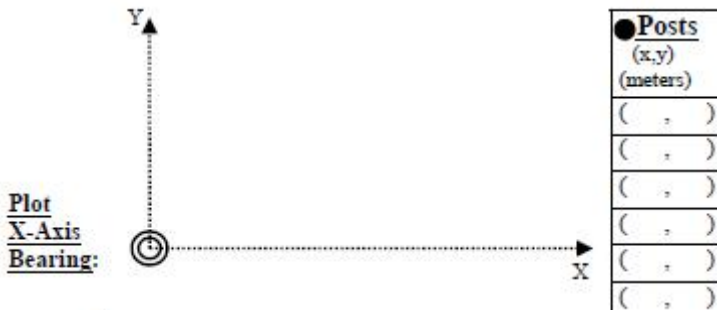
Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

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Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

I. Reach Information and Stratification

Project Name:	Pidgeon Mitigation Bank	Shading Key Desktop Value Field Value Calculation
Reach ID:	WWC-2/EPH-2	
Upstream Latitude:	35.0420048	
Upstream Longitude:	-89.33068	
Downstream Latitude:	35.0399291	
Downstream Longitude:	-89.331583	
Ecoregion:	74b	
Drainage Area (sq. mi.):	0.05	
Stream Reach Length (ft):	917	
Flow Type:	Ephemeral	
Valley Type:	Unconfined Alluvial	

II. Reach Walk

A.	Length of Armoring on banks (ft)							
	Total (ft)							
	Percent Armoring (%)							
B.	Difference between BKF stage and WS (ft)	Describe the bankfull indicator						
	0.88	Point bar bench						

Date:
Investigators:

TN SQT and Debit Tool Rapid Assessment Form

Version 1.2 January 2020

VIII. Large Woody Debris

A.	Number of Pieces per 100m	11
----	---------------------------	----

IX. Lateral Migration

A.	Bank Data			
	BEHI/NBS Score	Bank Length (ft)	BEHI/NBS Score	Bank Length (ft)
	M/M	18		
	H/M	19		
	M/H	29		
	H/H	24		
	M/H	11		
	M/H	16		
B.	Dominant BEHI/NBS Score		M/H	
C.	Total Eroding Bank Length (ft)		117	
D.	Total Bank Length (ft)		280.0	
E.	Percent Streambank Erosion (%) Total Eroding Bank Length/ Total Bank Length		42%	

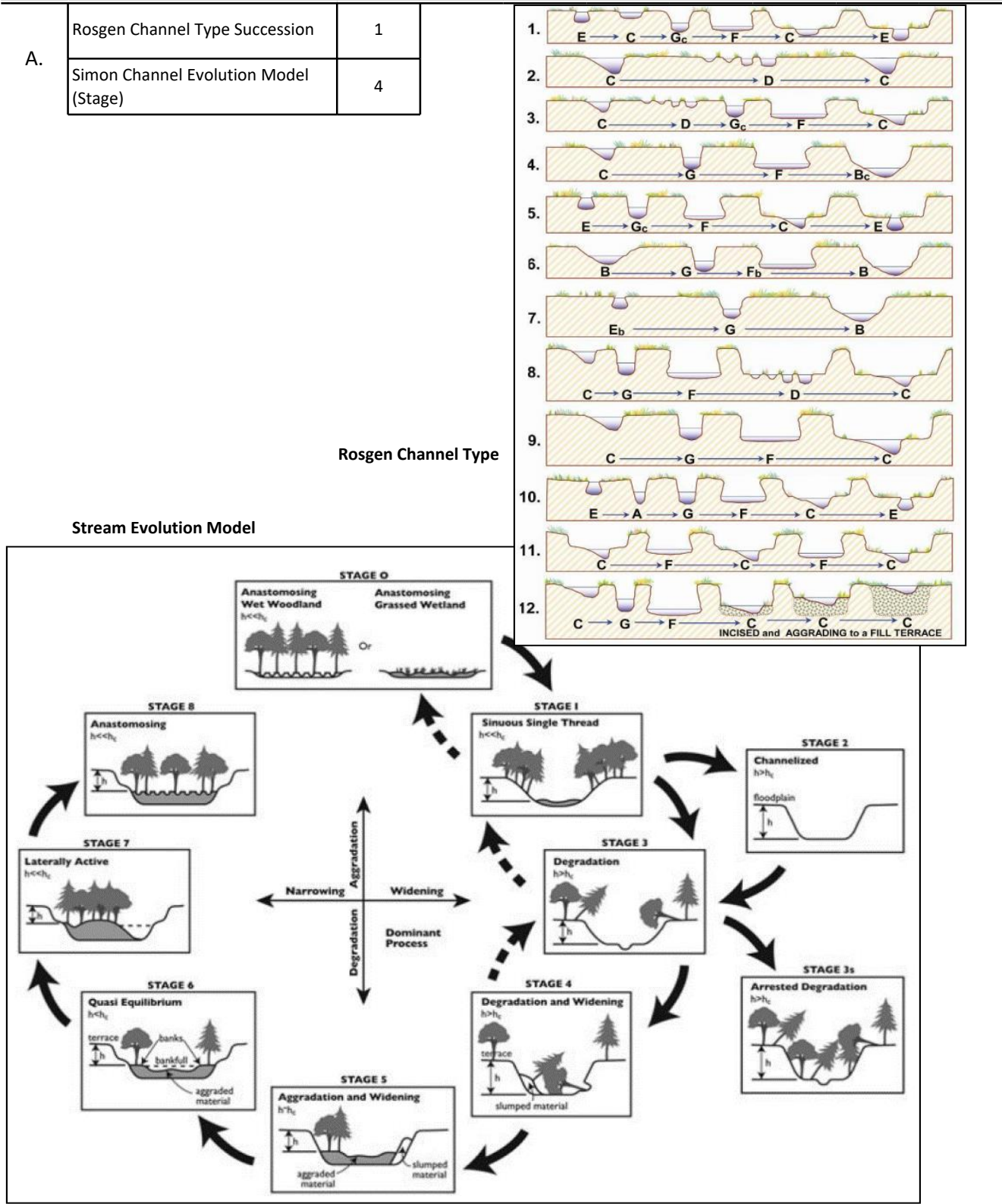
X. Riparian Vegetation

A.	Buffer Width	Buffer Width Measurements (ft)							Avg.
		1	2	3	4	5	6	7	
	Left (looking downstream)	150	200						175.0
	Right (looking downstream)	200	200						200.0

XI. Sinuosity

A.	Stream Length (ft)	917
B.	Valley Length (ft)	802
C.	Sinuosity	1.14

XII. Channel Evolution



1 Figure 7-48, Watershed Assessment of River Stability and Sediment Supply (WARSSS), by David L. Rosgen, Wildland Hydrology, 2009, p. 7-175.

2 B. Cluer, C. Thorne. "A Stream Evolution Model Integrating Habitat and Ecosystem Benefits." River Research and Applications.2013.

Investigators:

Reach ID: **WWC-2/EPH-2**
Valley Type: **UC-AL**
Bed Material: **Sand/Silt**













[illegible]

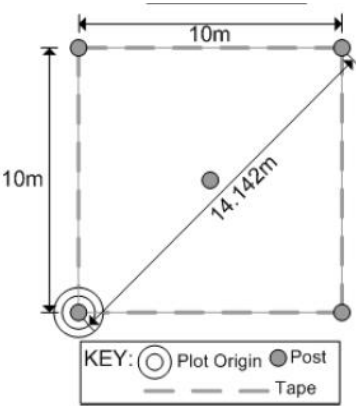
Date:
Investigators:
Project Name:

TN SQT and Debit Tool
Riparian Vegetation Rapid Plots

Plot ID	Native Cover		Saplings DBH (cm)		Trees DBH (cm)								
	Herbaceous Strata	Shrub Strata	0 - 1	1 - 2.5	2.5 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35	35 - 40	≥40
LB	0	0	7	3	2	1							
Latitude: Long:			Notes: Muscadine, stiltgrass, red oak, sweetgum										
RB	15	5	3	3	4	2							
Latitude: Long:			Notes: muscadine, stiltgrass, red oak, sweetgum										
Latitude: Long:			Notes:										
Latitude: Long:			Notes:										

Strata	Height Range (m)	Description
Herb	0-1	Can also include shrubs within height class
Shrub	1 to 5	Shrubs only, no tree saplings

Tally Method	 = 1	 = 2	 = 3	 = 4	 = 5	 = 6
	 = 7	 = 8	 = 9	 = 10	 = 11	 = 12, etc.



Note: Latitude and Longitude should be recorded for the point of origin (double circle) fro each plot in decimal degrees

Data forms and protocol are modified from the Carolina Vegetation Survey (CVS) protocol (Lee et al. 2008)
Plot IDs must correspond to plots indentified on a map of the project area.

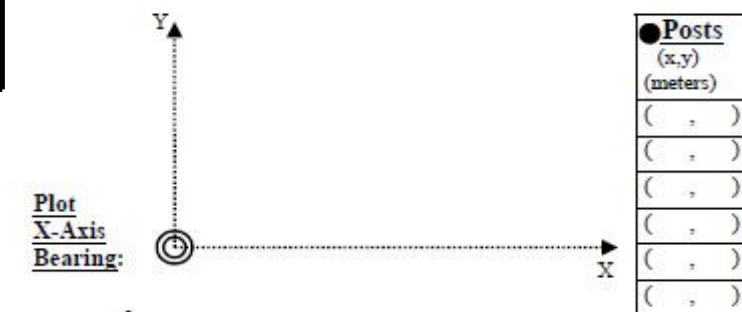
Date:
Investigators:
Project Name:

TN SQT and Debit Tool Riparian Vegetation Rapid Plots

Plot ID

PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

Plot ID

PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



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Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

PLOT DIAGRAM:

Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.



Key: Plot origin (0,0) point GPS location point Photo taken, with direction Location of posts

APPENDIX D

SQT WORKBOOKS

Project Name:	Pidgeon Mitigation Bank	
Stream Name:	UT to Wolf River	
Programmatic Goals:	Restore stream function and facilitate ecological uplift.	
Explain the goals and objectives for this stream project:		
<p>Goals: The goals of the Pidgeon Mitigation Bank are to restore ecological function to project streams and wetlands while producing function for</p> <p>Objectives: Restore floodplain connectivity, bed form diversity, channel stability, channel planform and sinuosity</p>		
Explain the restoration potential of this stream based on the programmatic goals:	Describe this stream AND reach break criteria:	

Project Name:

Stream Name:

Stream Summary Information

Reach ID	Existing Stream Length (feet)	Proposed Stream Length (feet)	Change in Functional Condition (PCS - ECS)		Functional Lift (Credits)
STR-1	200.0	335.0	0.33		137.6
STR-2	0.0	140.0	0.49		68.6
STR-3 R1	1500.0	1586.0	0.40		645.6
STR-3 Restoration	0.0	2000.0	0.53		1060.0
EPH-2 (Pond Removal)	775.0	1171.0	0.11		200.1
Totals	2475.0	5232.0	1.86		2111.9

Stream Evolution Description

Describe the stage of channel evolution for each reach using either the Stream Evolution Model (Cleur and Thorne, 2013) and/or the Rosgen Channel Succession Scenario (Rosgen, 2006).

Describe the stage of channel evolution for: REACH 1	Describe the stage of channel evolution for: REACH 2	Describe the stage of channel evolution for: REACH 5
Describe the stage of channel evolution for: REACH 3	Describe the stage of channel evolution for: REACH 4	

Insert Aerial Photo of Project Reach



The Tennessee Stream Quantification Tool Credits:

Lead Agency: Tennessee Department of Environment and Conservation (TDEC)

Contributing Agencies: U.S. Environmental Protection Agency
U.S. Army Corps of Engineers
Tennessee Interagency Review Team

Contractors:

Stream Mechanics

Ecosystem Planning and Restoration (EPR)

Version 1.3

Version Last Updated **6/9/2023**

NOTICE: If you find errors or problems, please contact Vena L. Jones at vena.l.jones@tn.gov

Watershed Assessment Form

Overall Watershed Condition	POOR	Rater(s):
Discussion: Rural watershed dominated by ag practices including cattle, soy bean, cotton.		Date:
		<p><u>Purpose:</u> This form is used to aid in the site selection process and gage a stream's restoration potential. The form includes descriptions of watershed processes and stressors that exist outside of the stream, can limit the restoration potential, and will not be addressed as part of the proposed project. The "watershed" is a combination of both the catchment draining to the stream project area and the lateral drainage area containing the stream. The catchment is the area draining to the stream's upper boundary above the project. The lateral drainage area is the areas draining to the stream from either side of the channel within the project boundary. Therefore, the watershed is equal to the catchment and the lateral drainage area.</p>

WATERSHED ASSESSMENT

Categories		Description of Watershed Condition			Rating (P/F/G)
		Poor	Fair	Good	
1	Impervious cover in Watershed (Hydrology)	Greater than 20%	Between 10% and 20%	Less than 10%	F
2	Percent Land Use Change in Watershed (Hydrology)	Rapidly urbanizing/urban. Impervious cover in watershed increased by more than 5% in 5 years.	Single family homes/suburban. Impervious cover in watershed increased by less than 5% but more than 2.5% in 5 years.	Rural communities and/or slow growth area or primarily forested. Impervious cover in watershed increased by less than 2.5% in 5 years.	G
3	Road Density in Watershed (Hydrology)	Roads located in or adjacent to lateral drainage area and/or throughout catchment and/or major roads proposed in 10 year DOT plans. Road Density > 2.5 miles of road length per square mile of watershed drainage area.	No roads in or adjacent to the lateral drainage area, some roads in catchment. No more than one major road proposed in 10 year DOT plans. Road Density between 1.5 and 2.5 miles of road length per square mile of watershed drainage area.	No roads in watershed. No proposed roads in 10 year DOT plans. Road Density < 1.5 miles of road length per square mile of watershed drainage area.	G
4	Percent Forested in Catchment (Hydrology)	Less than 20%	Between 20% and 70%	Greater than 70%	F
5	Catchment Impoundments (Hydrology) These include small dams, farm ponds, and large impoundments which are greater than 20 feet in height or structures with the capacity to have 30 acre feet in storage. These features will remain in place.	Large impoundment on the main stem or tributaries directly tied to project and/or multiple small impoundments; these impoundments limit flow in tributaries and/or the main stem throughout catchment.	No impoundments on the main stem; small impoundments on tributaries that limits flow and may affect the main stem.	No impoundments in catchment area.	P
6	Catchment Forested Riparian Corridor (Geomorphology)	<50% of streams (including tributaries) within catchment has > 25 feet corridor width.	50-80% of streams (including tributaries) within catchment has > 25 feet corridor width.	>80% of contributing streams (including tributaries) within catchment has > 25 feet corridor width.	F
7	Fine Sediment Deposition in Lateral Drainage Area (Geomorphology and Physicochemical)	>60% of bottom substrate affected by recent deposition; significant amount of fine material accumulating in pools, bends, bars and benches.	30-60% of bottom substrate affected by recent deposition; fine material in pools, bends and some on bars and benches.	< 30% of bottom substrate affected by recent deposition; small amount of deposition on bars and benches, little to no deposition in pools	P
8	Streams within the Catchment Area Currently Assessed as Impaired (Physicochemical)	> 30% of stream miles in catchment on 303(d) list	< 30% of stream miles in catchment on 303(d) list.	No streams within catchment on 303(d) list.	P
9	Agricultural Land Use in Catchment (Physicochemical)	Livestock access to stream and/or intensive cropland immediately upstream of project reach.	Livestock access to stream and/or intensive cropland upstream of project reach. A sufficient reach of stream is between agricultural land use and project reach.	There is little to no agricultural land uses or livestock and cropland within catchment causes no impact to water quality or biology.	P
10	Process Wastewater Outfalls in Watershed (Physicochemical)	At least one major and several minor PWOs within the watershed and less than one mile of project reach.	A few NPDES permits within drainage area and none OR a minor one within one mile of project reach.	No NPDES permits within the lateral drainage area and none within one mile of project reach.	G
11	Aquatic Organism Barriers in Watershed (Biology)	Aquatic organism barriers (including impoundment(s)) located within 1 mile upstream or downstream of project area has a negative effect on aquatic organism passage.	Barrier exists but does not adversely affect aquatic organism passage OR a small blockage exists that is creating a minor fish passage barrier.	No barrier within watershed OR barriers provide beneficial effect on project area and allows for aquatic organism passage.	F
12	Organism Recruitment from Catchment (Biology)	No potential sources for organismal recruitment from upstream of project stream reach.	Potential sources for organismal recruitment 1km to 5km upstream of project stream reach.	Potential sources for organismal recruitment within 1km upstream of project stream reach.	F
13	Other				

Reach Information and Reference Standard Stratification	
Project Name:	Pidgeon Mitigation Bank
Reach ID:	STR-1
Upstream Latitude:	35.0318497
Upstream Longitude:	-89.3348651
Downstream Latitude:	35.031621
Downstream Longitude:	-89.3354183
Existing Stream Type:	G
Proposed Stream Type:	C
Ecoregion:	74b
Drainage Area (sqmi):	0.08
Proposed Bed Material:	Sand
Existing Stream Length (feet):	200
Proposed Stream Length (feet):	335
Proposed Stream Slope (%):	1
Proposed Flow Type:	Perennial/Intermittent
Data Collection Season:	July - December
Macro Collection Method:	
Valley Type:	Unconfined Alluvial

TN SQT v1.3
Quantification Tool Spreadsheet Reach 1

Notes
1. Users input values that are highlighted based on restoration potential
2. Users select values from a pull-down menu
3. Leave values blank for field values that were not measured
4. These field values do not apply to ephemeral channels.

FUNCTIONAL LIFT SUMMARY	
Exisiting Condition Score (ECS)	0.20
Proposed Condition Score (PCS)	0.53
Change in Functional Condition (PCS - ECS)	0.33
Existing Stream Length (feet)	200
Proposed Stream Length (feet)	335
Additional Stream Length (feet)	135
Existing Stream Functional Feet (FF)	40
Proposed Stream Functional Feet (FF)	178
Functional Lift (Proposed FF - Existing FF)	138

MITIGATION SUMMARY	
138	Credits

FUNCTION BASED PARAMETERS SUMMARY			
Functional Category	Function-Based Parameters	Existing Parameter	Proposed Parameter
Hydrology	Catchment Hydrology	0.73	0.73
	Reach Runoff	0.17	0.80
Hydraulics	Floodplain Connectivity	0.15	1.00
Geomorphology	Large Woody Debris	0.48	1.00
	Lateral Migration	0.15	0.67
	Riparian Vegetation	0.35	0.73
	Bed Material		
	Bed Form Diversity	0.93	1.00
	Sinuosity	0.00	1.00
Physicochemical	Bacteria		
	Organic Enrichment		
	Nitrogen		
	Phosphorus		
Biology	Macroinvertebrates		
	Fish		

FUNCTIONAL CATEGORY REPORT CARD			
Functional Category	ECS	PCS	Functional Lift
Hydrology	0.45	0.77	0.32
Hydraulics	0.15	1.00	0.85
Geomorphology	0.38	0.88	0.50
Physicochemical			
Biology			

TN SQT v1.3
Quantification Tool Spreadsheet Reach 1

EXISTING CONDITION ASSESSMENT					Roll Up Scoring				
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	ECS	ECS
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.69	0.73	0.73	0.45	Functioning At Risk	0.20	Not Functioning
	Reach Runoff	Stormwater Infiltration	0.17	0.17	0.17				
Hydraulics	Floodplain Connectivity	Bank Height Ratio	1.8	0.00	0.15	0.15	Not Functioning		
		Entrenchment Ratio	2	0.30					
Geomorphology	Large Woody Debris	Large Woody Debris Index # Pieces	9	0.48	0.48	0.38	Functioning At Risk		
	Lateral Migration	Erosion Rate (ft/yr)	H/M	0.30	0.15				
		Dominant BEHI/NBS		0.00					
		Percent Streambank Erosion (%)							
		Percent Armoring (%)							
	Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in)	4.9	0.53	0.35				
		Right - Average DBH (in)	5.1	0.55					
		Left - Buffer Width (feet)	20	0.16					
		Right - Buffer Width (feet)	20	0.16					
		Left - Tree Density (#/acre)	364	0.51					
		Right - Tree Density (#/acre)	648	0.50					
		Left - Native Herbaceous Cover (%)	35	0.47					
		Right - Native Herbaceous Cover (%)	30	0.40					
Left - Native Shrub Cover (%)	5	0.06							
Right - Native Shrub Cover (%)	10	0.14							
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)								
Bed Form Diversity	Pool Spacing Ratio	4.4	1.00	0.93					
	Pool Depth Ratio	2.7	1.00						
	Percent Riffle (%)	34	0.80						
	Aggradation Ratio								
Plan Form	Sinuosity	1.18	0.00	0.00					
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)							
	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)							
	Nitrogen	Nitrate-Nitrite (mg/L)							
	Phosphorus	Total Phosphorus (mg/L)							
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index							
		Percent Clingers (%)							
		Percent EPT - Cheumatopsyche (%)							
		Percent Oligochaeta and Chironomidae (%)							
	Fish	Native Fish Score Index							
Catch per Unit Effort Score									

TN SQT v1.3
Quantification Tool Spreadsheet Reach 1

PROPOSED CONDITION ASSESSMENT					Roll Up Scoring				
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	PCS	PCS
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.69	0.73	0.73	0.77	Functioning	0.53	Functioning At Risk
	Reach Runoff	Stormwater Infiltration	0.8	0.80	0.80				
Hydraulics	Floodplain Connectivity	Bank Height Ratio	1	1.00	1.00	1.00	Functioning		
		Entrenchment Ratio	5	1.00					
Geomorphology	Large Woody Debris	Large Woody Debris Index # Pieces	30	1.00	1.00	0.88	Functioning		
	Lateral Migration	Erosion Rate (ft/yr)	L/M	0.70	0.67				
		Dominant BEHI/NBS		0.64					
		Percent Streambank Erosion (%)							
		Percent Armoring (%)							
	Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in)	4	0.43	0.73				
		Right - Average DBH (in)	4	0.43					
		Left - Buffer Width (feet)	200	1.00					
		Right - Buffer Width (feet)	100	0.80					
		Left - Tree Density (#/acre)	135	1.00					
		Right - Tree Density (#/acre)	135	1.00					
		Left - Native Herbaceous Cover (%)	60	0.80					
Right - Native Herbaceous Cover (%)		60	0.80						
Left - Native Shrub Cover (%)	25	0.54							
Right - Native Shrub Cover (%)	25	0.54							
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)								
Bed Form Diversity	Pool Spacing Ratio	5	1.00	1.00					
	Pool Depth Ratio	2.4	1.00						
	Percent Riffle (%)	30	1.00						
	Aggradation Ratio								
Plan Form	Sinuosity	1.2	1.00	1.00					
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)							
	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)							
	Nitrogen	Nitrate-Nitrite (mg/L)							
	Phosphorus	Total Phosphorus (mg/L)							
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index							
		Percent Clingers (%)							
		Percent EPT - Cheumatopsyche (%)							
		Percent Oligochaeta and Chironomidae (%)							
	Fish	Native Fish Score Index							
Catch per Unit Effort Score									

Reference Standard Stratification	
Project Name:	Pidgeon Mitigation Bank
Reach ID:	STR-2
Upstream Latitude:	35.0311737
Upstream Longitude:	-89.334921
Downstream Latitude:	35.0307372
Downstream Longitude:	-89.3348067
Existing Stream Type:	G
Proposed Stream Type:	C
Ecoregion:	74b
Drainage Area (sqmi):	0.01
Proposed Bed Material:	
Existing Stream Length (feet):	0
Proposed Stream Length (feet):	140
Proposed Stream Slope (%):	1
Proposed Flow Type:	Perennial/Intermittent
Data Collection Season:	July - December
Macro Collection Method:	
Valley Type:	Unconfined Alluvial

TN SQT v1.3
Quantification Tool Spreadsheet Reach 2

1. Users input values that are highlighted based on restoration potential
2. Users select values from a pull-down menu
3. Leave values blank for field values that were not measured
4. These field values do not apply to ephemeral channels.

FUNCTIONAL LIFT SUMMARY	
Exisiting Condition Score (ECS)	0.00
Proposed Condition Score (PCS)	0.49
Change in Functional Condition (PCS - ECS)	0.49
Existing Stream Length (feet)	0
Proposed Stream Length (feet)	140
Additional Stream Length (feet)	140
Existing Stream Functional Feet (FF)	0
Proposed Stream Functional Feet (FF)	69
Functional Lift (Proposed FF - Existing FF)	69

MITIGATION SUMMARY	
69	Credits

WARNING: Sufficient data are not provided.

FUNCTION BASED PARAMETERS SUMMARY			
Functional Category	Function-Based Parameters	Existing Parameter	Proposed Parameter
Hydrology	Catchment Hydrology		0.26
	Reach Runoff		0.80
Hydraulics	Floodplain Connectivity		1.00
Geomorphology	Large Woody Debris	0.00	1.00
	Lateral Migration		0.67
	Riparian Vegetation		0.75
	Bed Material		
	Bed Form Diversity		1.00
	Sinuosity		1.00
Physicochemical	Bacteria		
	Organic Enrichment		
	Nitrogen		
	Phosphorus		
Biology	Macroinvertebrates		
	Fish		

FUNCTIONAL CATEGORY REPORT CARD			
Functional Category	ECS	PCS	Functional Lift
Hydrology		0.53	
Hydraulics		1.00	
Geomorphology	0.00	0.88	0.88
Physicochemical			
Biology			

EXISTING CONDITION ASSESSMENT					Roll Up Scoring						
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	ECS	ECS		
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score						0.00	Not Functioning		
	Reach Runoff	Stormwater Infiltration									
Hydraulics	Floodplain Connectivity	Bank Height Ratio Entrenchment Ratio									
Geomorphology	Large Woody Debris	Large Woody Debris Index # Pieces	0	0.00	0.00	0.00	Not Functioning				
	Lateral Migration	Erosion Rate (ft/yr) Dominant BEHI/NBS Percent Streambank Erosion (%) Percent Armoring (%)									
		Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in) Right - Average DBH (in) Left - Buffer Width (feet) Right - Buffer Width (feet) Left - Tree Density (#/acre) Right - Tree Density (#/acre) Left - Native Herbaceous Cover (%) Right - Native Herbaceous Cover (%) Left - Native Shrub Cover (%) Right - Native Shrub Cover (%)								
			Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)							
			Bed Form Diversity	Pool Spacing Ratio Pool Depth Ratio Percent Riffle (%) Aggradation Ratio							
	Plan Form			Sinuosity							
	Physicochemical			Bacteria	E. Coli (Cfu/100 mL)						
Organic Enrichment			Percent Nutrient Tolerant Macroinvertebrates (%)								
Nitrogen		Nitrate-Nitrite (mg/L)									
Phosphorus		Total Phosphorus (mg/L)									
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index Percent Clingers (%) Percent EPT - Cheumatopsyche (%) Percent Oligochaeta and Chironomidae (%)									
		Fish	Native Fish Score Index Catch per Unit Effort Score								

TN SQT v1.3
Quantification Tool Spreadsheet Reach 2

PROPOSED CONDITION ASSESSMENT					Roll Up Scoring				
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	PCS	PCS
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.25	0.26	0.26	0.53	Functioning At Risk	0.49	Functioning At Risk
	Reach Runoff	Stormwater Infiltration	0.8	0.80	0.80				
Hydraulics	Floodplain Connectivity	Bank Height Ratio	1	1.00	1.00	1.00	Functioning		
		Entrenchment Ratio	5	1.00					
Geomorphology	Large Woody Debris	Large Woody Debris Index	840	1.00	1.00	0.88	Functioning		
		# Pieces	30	1.00					
	Lateral Migration	Erosion Rate (ft/yr)	L/M	0.70	0.67				
		Dominant BEHI/NBS		0.64					
		Percent Streambank Erosion (%)							
		Percent Armoring (%)							
	Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in)	4	0.43	0.75				
		Right - Average DBH (in)	4	0.43					
		Left - Buffer Width (feet)	200	1.00					
		Right - Buffer Width (feet)	200	1.00					
		Left - Tree Density (#/acre)	135	1.00					
		Right - Tree Density (#/acre)	135	1.00					
		Left - Native Herbaceous Cover (%)	60	0.80					
		Right - Native Herbaceous Cover (%)	60	0.80					
Left - Native Shrub Cover (%)		25	0.54						
Right - Native Shrub Cover (%)		25	0.54						
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)								
Bed Form Diversity	Pool Spacing Ratio	5	1.00	1.00					
	Pool Depth Ratio	2.4	1.00						
	Percent Riffle (%)	30	1.00						
	Aggradation Ratio								
Plan Form	Sinuosity	1.2	1.00	1.00					
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)							
	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)							
	Nitrogen	Nitrate-Nitrite (mg/L)							
	Phosphorus	Total Phosphorus (mg/L)							
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index							
		Percent Clingers (%)							
		Percent EPT - Cheumatopsyche (%)							
		Percent Oligochaeta and Chironomidae (%)							
	Fish	Native Fish Score Index							
Catch per Unit Effort Score									

Reference Standard Stratification	
Project Name:	Pidgeon Mitigaiton Bank
Reach ID:	STR-3 R1
Upstream Latitude:	35.0374918
Upstream Longitude:	-89.321414
Downstream Latitude:	35.0336535
Downstream Longitude:	-89.3175317
Existing Stream Type:	Gc
Proposed Stream Type:	C
Ecoregion:	74b
Drainage Area (sqmi):	0.2
Proposed Bed Material:	Sand
Existing Stream Length (feet):	1500
Proposed Stream Length (feet):	1586
Proposed Stream Slope (%):	1
Proposed Flow Type:	Perennial/Intermittent
Data Collection Season:	July - December
Macro Collection Method:	
Valley Type:	Unconfined Alluvial

TN SQT v1.3	
Quantification Tool Spreadsheet Reach 3	
1. Users input values that are highlighted based on restoration potential	
2. Users select values from a pull-down menu	
3. Leave values blank for field values that were not measured	
4. These field values do not apply to ephemeral channels.	

FUNCTIONAL LIFT SUMMARY	
Exisiting Condition Score (ECS)	0.13
Proposed Condition Score (PCS)	0.53
Change in Functional Condition (PCS - ECS)	0.40
Existing Stream Length (feet)	1500
Proposed Stream Length (feet)	1586
Additional Stream Length (feet)	86
Existing Stream Functional Feet (FF)	195
Proposed Stream Functional Feet (FF)	841
Functional Lift (Proposed FF - Existing FF)	646

MITIGATION SUMMARY	
646	Credits

FUNCTION BASED PARAMETERS SUMMARY			
Functional Category	Function-Based Parameters	Existing Parameter	Proposed Parameter
Hydrology	Catchment Hydrology	0.65	0.65
	Reach Runoff	0.23	0.80
Hydraulics	Floodplain Connectivity	0.00	1.00
Geomorphology	Large Woody Debris	0.22	1.00
	Lateral Migration	0.20	0.67
	Riparian Vegetation	0.46	0.75
	Bed Material		
	Bed Form Diversity	0.19	1.00
	Sinuosity	0.00	1.00
Physicochemical	Bacteria		
	Organic Enrichment		
	Nitrogen		
	Phosphorus		
Biology	Macroinvertebrates		
	Fish		

FUNCTIONAL CATEGORY REPORT CARD			
Functional Category	ECS	PCS	Functional Lift
Hydrology	0.44	0.73	0.29
Hydraulics	0.00	1.00	1.00
Geomorphology	0.21	0.88	0.67
Physicochemical			
Biology			

TN SQT v1.3
Quantification Tool Spreadsheet Reach 3

EXISTING CONDITION ASSESSMENT					Roll Up Scoring				
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	ECS	ECS
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.62	0.65	0.65	0.44	Functioning At Risk	0.13	Not Functioning
	Reach Runoff	Stormwater Infiltration	0.23	0.23	0.23				
Hydraulics	Floodplain Connectivity	Bank Height Ratio	4.2	0.00	0.00	0.00	Not Functioning		
		Entrenchment Ratio	1.5	0.00					
Geomorphology	Large Woody Debris	Large Woody Debris Index # Pieces	4	0.22	0.22	0.21	Not Functioning		
	Lateral Migration	Erosion Rate (ft/yr)	H/L	0.40	0.20				
		Dominant BEHI/NBS		0.00					
		Percent Streambank Erosion (%)							
		Percent Armoring (%)							
	Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in)	5.6	0.60	0.46				
		Right - Average DBH (in)	3.6	0.39					
		Left - Buffer Width (feet)	50	0.70					
		Right - Buffer Width (feet)	50	0.70					
		Left - Tree Density (#/acre)	526	0.50					
		Right - Tree Density (#/acre)	243	1.00					
		Left - Native Herbaceous Cover (%)	30	0.40					
		Right - Native Herbaceous Cover (%)	20	0.27					
Left - Native Shrub Cover (%)		0	0.00						
Right - Native Shrub Cover (%)	5	0.06							
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)								
Bed Form Diversity	Pool Spacing Ratio	15.9	0.00	0.19					
	Pool Depth Ratio	1.8	0.56						
	Percent Riffle (%)	62	0.00						
	Aggradation Ratio								
Plan Form	Sinuosity	1.07	0.00	0.00					
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)							
	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)							
	Nitrogen	Nitrate-Nitrite (mg/L)							
	Phosphorus	Total Phosphorus (mg/L)							
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index							
		Percent Clingers (%)							
		Percent EPT - Cheumatopsyche (%)							
		Percent Oligochaeta and Chironomidae (%)							
	Fish	Native Fish Score Index							
Catch per Unit Effort Score									

TN SQT v1.3
Quantification Tool Spreadsheet Reach 3

PROPOSED CONDITION ASSESSMENT					Roll Up Scoring				
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	PCS	PCS
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.62	0.65	0.65	0.73	Functioning	0.53	Functioning At Risk
	Reach Runoff	Stormwater Infiltration	0.8	0.80	0.80				
Hydraulics	Floodplain Connectivity	Bank Height Ratio	1	1.00	1.00	1.00	Functioning		
		Entrenchment Ratio	5	1.00					
Geomorphology	Large Woody Debris	Large Woody Debris Index # Pieces	30	1.00	1.00	0.88	Functioning		
	Lateral Migration	Erosion Rate (ft/yr)	L/M	0.70	0.67				
		Dominant BEHI/NBS		0.64					
		Percent Streambank Erosion (%)							
		Percent Armoring (%)							
	Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in)	4	0.43	0.75				
		Right - Average DBH (in)	4	0.43					
		Left - Buffer Width (feet)	200	1.00					
		Right - Buffer Width (feet)	200	1.00					
		Left - Tree Density (#/acre)	135	1.00					
Right - Tree Density (#/acre)		135	1.00						
Left - Native Herbaceous Cover (%)		60	0.80						
Right - Native Herbaceous Cover (%)		60	0.80						
Left - Native Shrub Cover (%)	25	0.54							
Right - Native Shrub Cover (%)	25	0.54							
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)								
Bed Form Diversity	Pool Spacing Ratio	5	1.00	1.00					
	Pool Depth Ratio	2.4	1.00						
	Percent Riffle (%)	30	1.00						
	Aggradation Ratio								
Plan Form	Sinuosity		1.2	1.00	1.00				
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)							
	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)							
	Nitrogen	Nitrate-Nitrite (mg/L)							
	Phosphorus	Total Phosphorus (mg/L)							
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index							
		Percent Clingers (%)							
		Percent EPT - Cheumatopsyche (%)							
		Percent Oligochaeta and Chironomidae (%)							
	Fish	Native Fish Score Index							
Catch per Unit Effort Score									

Reference Standard Stratification

Project Name:	Pidgeon Mitigation Bank
Reach ID:	STR-3 Restoration
Upstream Latitude:	35.0336535
Upstream Longitude:	-89.3175317
Downstream Latitude:	35.0306713
Downstream Longitude:	-89.3191638
Existing Stream Type:	G
Proposed Stream Type:	C
Ecoregion:	74b
Drainage Area (sqmi):	0.2
Proposed Bed Material:	Sand
Existing Stream Length (feet):	0
Proposed Stream Length (feet):	2000
Proposed Stream Slope (%):	0.5
Proposed Flow Type:	Perennial/Intermittent
Data Collection Season:	July - December
Macro Collection Method:	
Valley Type:	Unconfined Alluvial

TN SQT v1.3
Quantification Tool Spreadsheet Reach 4

1. Users input values that are highlighted based on restoration potential
2. Users select values from a pull-down menu
3. Leave values blank for field values that were not measured
4. These field values do not apply to ephemeral channels.

FUNCTIONAL LIFT SUMMARY	
Exisiting Condition Score (ECS)	0.00
Proposed Condition Score (PCS)	0.53
Change in Functional Condition (PCS - ECS)	0.53
Existing Stream Length (feet)	0
Proposed Stream Length (feet)	2000
Additional Stream Length (feet)	2000
Existing Stream Functional Feet (FF)	0
Proposed Stream Functional Feet (FF)	1060
Functional Lift (Proposed FF - Existing FF)	1060

MITIGATION SUMMARY	
1060	Credits

WARNING: Sufficient data are not provided.

FUNCTION BASED PARAMETERS SUMMARY			
Functional Category	Function-Based Parameters	Existing Parameter	Proposed Parameter
Hydrology	Catchment Hydrology	0.00	0.68
	Reach Runoff	0.00	0.80
Hydraulics	Floodplain Connectivity	0.00	1.00
Geomorphology	Large Woody Debris	0.00	1.00
	Lateral Migration		0.67
	Riparian Vegetation	0.00	0.75
	Bed Material		
	Bed Form Diversity	0.00	1.00
	Sinuosity		1.00
Physicochemical	Bacteria		
	Organic Enrichment		
	Nitrogen		
	Phosphorus		
Biology	Macroinvertebrates		
	Fish		

FUNCTIONAL CATEGORY REPORT CARD			
Functional Category	ECS	PCS	Functional Lift
Hydrology	0.00	0.74	0.74
Hydraulics	0.00	1.00	1.00
Geomorphology	0.00	0.88	0.88
Physicochemical			
Biology			

TN SQT v1.3
Quantification Tool Spreadsheet Reach 4

EXISTING CONDITION ASSESSMENT					Roll Up Scoring						
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	ECS	ECS		
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0	0.00	0.00	0.00	Not Functioning	0.00	Not Functioning		
	Reach Runoff	Stormwater Infiltration	0	0.00	0.00						
Hydraulics	Floodplain Connectivity	Bank Height Ratio Entrenchment Ratio	0	0.00	0.00	0.00	Not Functioning				
Geomorphology	Large Woody Debris	Large Woody Debris Index # Pieces	0	0.00	0.00	0.00	Not Functioning				
	Lateral Migration	Erosion Rate (ft/yr) Dominant BEHI/NBS Percent Streambank Erosion (%) Percent Armoring (%)									
		Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in) Right - Average DBH (in) Left - Buffer Width (feet) Right - Buffer Width (feet) Left - Tree Density (#/acre) Right - Tree Density (#/acre) Left - Native Herbaceous Cover (%) Right - Native Herbaceous Cover (%) Left - Native Shrub Cover (%) Right - Native Shrub Cover (%)	0 0 0 0 0 0 0 0 0 0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00					0.00	
			Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)							
	Bed Form Diversity		Pool Spacing Ratio Pool Depth Ratio Percent Riffle (%) Aggradation Ratio	0 0	0.00 0.00			0.00			
			Plan Form	Sinuosity							
			Physicochemical	Bacteria	E. Coli (Cfu/100 mL)						
	Organic Enrichment			Percent Nutrient Tolerant Macroinvertebrates (%)							
	Nitrogen			Nitrate-Nitrite (mg/L)							
	Phosphorus			Total Phosphorus (mg/L)							
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index Percent Clingers (%) Percent EPT - Cheumatopsyche (%) Percent Oligochaeta and Chironomidae (%)									
		Fish	Native Fish Score Index Catch per Unit Effort Score								

PROPOSED CONDITION ASSESSMENT					Roll Up Scoring				
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	PCS	PCS
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.65	0.68	0.68	0.74	Functioning	0.53	Functioning At Risk
	Reach Runoff	Stormwater Infiltration	0.8	0.80	0.80				
Hydraulics	Floodplain Connectivity	Bank Height Ratio	1	1.00	1.00	1.00	Functioning		
		Entrenchment Ratio	5	1.00					
Geomorphology	Large Woody Debris	Large Woody Debris Index	840	1.00	1.00	0.88	Functioning		
		# Pieces	30	1.00					
	Lateral Migration	Erosion Rate (ft/yr)	L/M	0.70	0.67				
		Dominant BEHI/NBS							
		Percent Streambank Erosion (%)							
		Percent Armoring (%)							
	Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in)	4	0.43	0.75				
		Right - Average DBH (in)							
		Left - Buffer Width (feet)							
		Right - Buffer Width (feet)							
		Left - Tree Density (#/acre)							
		Right - Tree Density (#/acre)							
		Left - Native Herbaceous Cover (%)							
Right - Native Herbaceous Cover (%)									
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)								
	Bed Form Diversity				Pool Spacing Ratio	5	1.00	1.00	
					Pool Depth Ratio				
					Percent Riffle (%)				
Aggradation Ratio									
Plan Form	Sinuosity	1.3	1.00	1.00					
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)							
	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)							
	Nitrogen	Nitrate-Nitrite (mg/L)							
	Phosphorus	Total Phosphorus (mg/L)							
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index							
		Percent Clingers (%)							
		Percent EPT - Cheumatopsyche (%)							
		Percent Oligochaeta and Chironomidae (%)							
	Fish	Native Fish Score Index							
Catch per Unit Effort Score									

Reach Information and Reference Standard Stratification	
Project Name:	Pidgeon Mitigation Bank
Reach ID:	EPH-2 (Pond Removal)
Upstream Latitude:	35.0398993
Upstream Longitude:	-89.331514
Downstream Latitude:	35.0372144
Downstream Longitude:	-89.3303492
Existing Stream Type:	
Proposed Stream Type:	C
Ecoregion:	74b
Drainage Area (sqmi):	0.05
Proposed Bed Material:	Sand
Existing Stream Length (feet):	775
Proposed Stream Length (feet):	1171
Proposed Stream Slope (%):	1
Proposed Flow Type:	Ephemeral
Data Collection Season:	July - December
Macro Collection Method:	
Valley Type:	Unconfined Alluvial

Notes
1. Users input values that are highlighted based on restoration potential
2. Users select values from a pull-down menu
3. Leave values blank for field values that were not measured
4. These field values do not apply to ephemeral channels.

FUNCTIONAL LIFT SUMMARY	
Exisiting Condition Score (ECS)	0.18
Proposed Condition Score (PCS)	0.29
Change in Functional Condition (PCS - ECS)	0.11
Existing Stream Length (feet)	775
Proposed Stream Length (feet)	1171
Additional Stream Length (feet)	396
Existing Stream Functional Feet (FF)	140
Proposed Stream Functional Feet (FF)	340
Functional Lift (Proposed FF - Existing FF)	200

MITIGATION SUMMARY	
200	Credits

WARNING: Sufficient data are not provided.

FUNCTION BASED PARAMETERS SUMMARY			
Functional Category	Function-Based Parameters	Existing Parameter	Proposed Parameter
Hydrology	Catchment Hydrology	0.49	0.49
	Reach Runoff	0.59	0.59
Hydraulics	Floodplain Connectivity		
Geomorphology	Large Woody Debris	0.00	1.00
	Lateral Migration	1.00	1.00
	Riparian Vegetation	0.07	0.75
	Bed Material		
	Bed Form Diversity		
	Sinuosity		
Physicochemical	Bacteria		
	Organic Enrichment		
	Nitrogen		
	Phosphorus		
Biology	Macroinvertebrates		
	Fish		

FUNCTIONAL CATEGORY REPORT CARD			
Functional Category	ECS	PCS	Functional Lift
Hydrology	0.54	0.54	0.00
Hydraulics			
Geomorphology	0.36	0.92	0.56
Physicochemical			
Biology			

TN SQT v1.3
Quantification Tool Spreadsheet Reach 5

EXISTING CONDITION ASSESSMENT					Roll Up Scoring						
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	ECS	ECS		
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.47	0.49	0.49	0.54	Functioning At Risk	0.18	Not Functioning		
	Reach Runoff	Stormwater Infiltration	0.59	0.59	0.59						
Hydraulics	Floodplain Connectivity	Bank Height Ratio Entrenchment Ratio									
Geomorphology	Large Woody Debris	Large Woody Debris Index # Pieces	0	0.00	0.00	0.36	Functioning At Risk				
	Lateral Migration	Erosion Rate (ft/yr)	L/L	1.00	1.00						
		Dominant BEHI/NBS		0							
		Percent Streambank Erosion (%)		0							
		Percent Armoring (%)		0							
	Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in)	0	0.00	0.07					0.36	Functioning At Risk
		Right - Average DBH (in)		0.00							
		Left - Buffer Width (feet)		0.03							
		Right - Buffer Width (feet)		0.03							
		Left - Tree Density (#/acre)		0.00							
		Right - Tree Density (#/acre)		0.00							
		Left - Native Herbaceous Cover (%)		0.33							
		Right - Native Herbaceous Cover (%)		0.33							
	Left - Native Shrub Cover (%)	0.00									
Right - Native Shrub Cover (%)	0.00										
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)										
Bed Form Diversity	Pool Spacing Ratio										
	Pool Depth Ratio										
	Percent Riffle (%)										
	Aggradation Ratio										
Plan Form	Sinuosity										
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)									
	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)									
	Nitrogen	Nitrate-Nitrite (mg/L)									
	Phosphorus	Total Phosphorus (mg/L)									
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index									
		Percent Clingers (%)									
		Percent EPT - Cheumatopsyche (%)									
		Percent Oligochaeta and Chironomidae (%)									
	Fish	Native Fish Score Index Catch per Unit Effort Score									

TN SQT v1.3
Quantification Tool Spreadsheet Reach 5

PROPOSED CONDITION ASSESSMENT					Roll Up Scoring				
Functional Category	Function-Based Parameters	Measurement Method	Field Value	Index Value	Parameter	Category	Category	PCS	PCS
Hydrology	Catchment Hydrology	Watershed Land Use Runoff Score	0.47	0.49	0.49	0.54	Functioning At Risk	0.29	Not Functioning
	Reach Runoff	Stormwater Infiltration	0.59	0.59	0.59				
Hydraulics	Floodplain Connectivity	Bank Height Ratio Entrenchment Ratio							
Geomorphology	Large Woody Debris	Large Woody Debris Index # Pieces	30	1.00	1.00	0.92	Functioning		
	Lateral Migration	Erosion Rate (ft/yr)	L/L	1.00	1.00				
		Dominant BEHI/NBS	0	1.00					
		Percent Streambank Erosion (%)	0	1.00					
		Percent Armoring (%)							
	Riparian Vegetation	Left - Average Diameter at Breast Height (DBH; in)	4	0.43	0.75				
		Right - Average DBH (in)	4	0.43					
		Left - Buffer Width (feet)	200	1.00					
		Right - Buffer Width (feet)	200	1.00					
		Left - Tree Density (#/acre)	135	1.00					
		Right - Tree Density (#/acre)	135	1.00					
		Left - Native Herbaceous Cover (%)	60	0.80					
		Right - Native Herbaceous Cover (%)	60	0.80					
		Left - Native Shrub Cover (%)	25	0.54					
Right - Native Shrub Cover (%)		25	0.54						
Bed Material Characterization	Size Class Pebble Count Analyzer (p-value)								
Bed Form Diversity	Pool Spacing Ratio								
	Pool Depth Ratio								
	Percent Riffle (%)								
	Aggradation Ratio								
Plan Form	Sinuosity								
Physicochemical	Bacteria	E. Coli (Cfu/100 mL)							
	Organic Enrichment	Percent Nutrient Tolerant Macroinvertebrates (%)							
	Nitrogen	Nitrate-Nitrite (mg/L)							
	Phosphorus	Total Phosphorus (mg/L)							
Biology	Macroinvertebrates	Tennessee Macroinvertebrate Index							
		Percent Clingers (%)							
		Percent EPT - Cheumatopsyche (%)							
		Percent Oligochaeta and Chironomidae (%)							
	Fish	Native Fish Score Index Catch per Unit Effort Score							

APPENDIX E

JURISDICTIONAL DETERMINATION REPORT



March 26, 2024

Mr. Bobby Pidgeon
The Pidgeon Company
18540 Highway 57
Moscow, TN 38057

Dear Mr. Pidgeon:

Subject: Preliminary Jurisdictional Delineation
Pidgeon Mitigation Prospectus
18540 Highway 57, Moscow, TN 38057
CEC Project 327-634

Civil & Environmental Consultants, Inc. (CEC) was contracted by The Pidgeon Company to perform a jurisdictional waters delineation to identify jurisdictional features on the subject property. CEC personnel performed the site visit on August 7-9, 2023. The site coordinates are 35.0320184, -89.3279957. The hydrologic features are summarized in Table 3. The site is located in the Mount Tena Creek-Wolf River watershed (HUC12 -080102100208), which is part of the Wolf River watershed (HUC8 - 08010210).

Prior to the site visit, CEC performed desktop reviews of the U.S. Fish and Wildlife Service National Wetland Inventory (NWI), the National Resources Conservation Service Web Soil Survey for Fayette County, Tennessee, and the Tennessee Department of Environment and Conservation GIS (TDEC-GIS) websites and databases. As depicted on the USGS National Map, there were seven dashed “blue-line” features indicating possible intermittent flow regime located within the investigation boundary. The NRCS soils map indicates the presence of hydric soils on-site. Hydric soils on-site include non-hydric Calloway silt loam 2-5% slopes (CaB2) with hydric inclusions of Routon, non-hydric Falaya fine sandy loam (Mantachie) (Fa) with hydric inclusions of Waverly, non-hydric Falaya silt loam (Fm) with hydric inclusions of Waverly, hydric Henry silt loam terrace (Ht), hydric Swamp (Rosebloom ponded) (Sw), and hydric Waverly silt loam 0-2% slopes (Wv) with hydric inclusions of Rosebloom. The NWI map depicts thirteen “wetland and stream” features (palustrine and riverine) in the area of interest (Figure 4).

CEC conducted on-site stream determinations using the Tennessee Department of Environment and Conservation Division of Water Resources (TDEC-DWR) stream determination guidance, *Guidance for Making Hydrologic Determinations, Version 1.5*, in order to assess jurisdictional status. CEC conducted an on-site wetland assessment following the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual, *2012 Regional Supplement to the Wetland Delineation Manual: Atlantic and Gulf Coastal Plains (Version 2.0)*.

Table 1 below provides a description of normal weather conditions as calculated by the Antecedent Precipitation Tool Version 1.0. According to Table 1, weather conditions were wetter than normal prior to August 7, 2023. In the seven days prior to the site visit, 4.45 inches of rainfall had been recorded, with 4.35 inches of rainfall occurring in the 48 hours prior (Table 2, AMES PLANTATION, TN).

Table 1: Summary of Normal Weather Condition Calculations (August 7, 2023)

<u>Calculation of Normal Weather Conditions</u>								
	30 Days Ending	Minus One Std. Dev. (DRY)	Plus One Std. Dev. (WET)	Actual Rainfall	Condition (dry, wet, normal)	Condition value: (1 = Dry 2 = Normal 3 = Wet)	Month weight value	Product of previous two columns
1st prior month	08/07/2023	2.69	6.19	8.11	Wet	3	x 3	9
2nd prior month	07/08/2023	2.86	5.77	5.12	Normal	2	x 2	4
3rd prior month	06/08/2023	3.74	5.71	4.13	Normal	2	x 1	2
							Sum =	15
		If sum is:						
		6-9		then prior period has been drier than normal				
		10-14		then prior period has been normal				
		15-18		Then prior period has been wetter than normal				
		CONCLUSION:		Wetter than Normal				

Table 2: Rainfall Data (July 31-August 6, 2023) – (AMES PLANTATION) Grand Junction, TN

AMES PLANTATION Grand Junction, Tennessee	7/31 Tue	8/1 Wed	8/2 Thu	8/3 Fri	8/4 Sat	8/5 Sun	8/6 Mon
	0.00	0.00	0.00	0.00	0.10	2.11	2.24

A photographic summary (Appendix B) depicting conditions observed during the site visit is attached. Appendix A -Figure 2 is an aerial map depicting the hydrologic features identified and delineated by

CEC during the field survey, as described below. A summary table of hydrologic features can be found in Table 3.

STR-1 (intermittent/perennial stream) is channel that enters the limits of investigation (LOI) at coordinates 35.0384052, -89.3328008, then continues for approximately 1033 linear feet (l.f.) before ending at coordinates 35.0356774, -89.3330484. STR-1 was given a secondary indicator score of 19, indicating this feature is a stream.

STR-1A (intermittent/perennial stream) is channel that starts below a pond within the LOI at coordinates 35.0318497, -89.3348651 and flows for approximately 202 l.f. before ending at coordinates 35.0316234, -89.3354173. STR-1A was given a secondary indicator score of 21.75, indicating this feature is a stream.

STR-2 has a defined channel and ground water that begins within the LOI at coordinates 35.0311737, -89.3379210. STR-2 flows approximately 175 l.f. before ending within the area of investigation at coordinates 35.0307371, -89.3348067. This feature was classified as a stream due to its connection to several groundwater seeps at a headcut at the start of the feature.

STR-3 is a channel with a well-defined bed/bank and has indications of recent alluvial deposits. The stream begins from large headcut with a seep within the limits of investigation at coordinates 36.0374983, -89.3214197, then continues for approximately 3491 linear feet (l.f.) before losing definition at coordinates 35.0306686, -89.3191756. STR-3 was given a secondary indicator score of 20.25, indicating this feature is a stream.

STR-4 has a well-defined bed and bank that starts at a massive headcut within the LOI at coordinates 35.0414814, -89.3197452, then continues for approximately 4,194 linear feet (l.f.) before transitioning into a lower slope with a sandy bed material at coordinates 35.0415777, -89.3157733. STR-4 continues for 3,985 linear feet (l.f.) before ending within the area of investigation at coordinates 35.0325459, -89.3110940. STR-4 was given a secondary indicator score of 25.50 for the upstream reach and 20.50 for the downstream reach, indicating this feature is a stream.

STR-5 is a channel with a defined bed and bank with recent alluvial deposits that originates from a head-cut at the end of WWC-25/EPH-15 at coordinates 35.0414814, -89.3168989 and continues for approximately 832 linear feet (l.f.) before ending at a confluence with STR-4 at coordinates 35.0402861, -89.3152631. STR-5 had a secondary indicator score of 20.25, indicating this feature is a stream.

STR-6 is a channel with a well-defined bed and bank that originates from coordinates 35.0488570, -89.3157733 and flows for approximately 3,736 linear feet (l.f.) before ending within the LOI at

coordinates 35.0415777, -89.3157733. STR-6 was given a secondary indicator score of 22.25 upstream of the large headcut and a 21.50 downstream of the large headcut, which indicates this feature is a stream.

WWC-1/EPH-1 is channel lacking flow originating from coordinates 35.0356774, -89.3330484 and flows for approximately 885 linear feet (l.f.) before ending at coordinates 35.0336905, -89.3335922. WWC-1/EPH-1 was given a secondary indicator score of 11.25, indicating this feature is a wet weather conveyance.

WWC-1/EPH-1A is a channel lacking flow beginning at coordinates 35.0316234, -89.3354173 and continues for approximately 342.1 linear feet (l.f.) before ending at coordinates 35.0304239, -89.3354867. WWC-1/EPH-1A was given a secondary indicator score of 15.75, which indicates this feature is a wet weather conveyance.

WWC-2/EPH-2 is channel lacking flow originating from coordinates 35.0420048, -89.3306801 and flows for approximately 917 linear feet (l.f.) before ending at coordinates 35.0339291, -89.3315830. This feature was given a secondary indicator score of 11.25, indicating this feature is a wet weather conveyance.

WWC-3/UDF-1 lacks a well-defined channel originating from coordinates 35.0394094, -89.3323073 and continues for approximately 239 linear feet (l.f.) before ending at coordinates 35.0390478, -89.3316730. This feature was given a secondary indicator score 3.25, indicating this feature is a wet weather conveyance.

WWC-4/EPH-3 is channel lacking flow originating from coordinates 35.0343391, -89.3332139 and flows for approximately 17 linear feet (l.f.) before ending at coordinates 35.0343347, -89.3332700. This feature was given a secondary indicator score of 11.25, indicating this feature is a wet weather conveyance.

WWC-5/EPH-4 is channel lacking flow originating from coordinates 35.0342000, -89.3332346 and flows for approximately 27 linear feet (l.f.) before ending at coordinates 35.0342065, -89.3333245. This feature was given a secondary indicator score of 10.75, indicating this feature is a wet weather conveyance.

WWC-6/EPH-5 is channel lacking flow originating from coordinates 35.0339250, -89.3332669 and flows for approximately 21 linear feet (l.f.) before ending at coordinates 35.0339379, -89.3333351. This feature was given a secondary indicator score of 11.00, indicating this feature is a wet weather conveyance.

WWC-7/EPH-6 is channel lacking flow originating from coordinates 35.0417466, -89.3291947 and flows for approximately 4,999 linear feet (l.f.) before ending at coordinates 35.0302206, -89.3315820. This feature was given a secondary indicator score of 13.00, indicating this feature is a wet weather conveyance.

WWC-8/UDF-2 lacks a defined channel that originates from coordinates 35.0390811, -89.3291776 and flows for approximately 98 linear feet (l.f.) before ending at coordinates 35.0389850, -89.3294836. This feature was given a secondary indicator score of 2.25, indicating this feature is a wet weather conveyance.

WWC-9/UDF-3 lacks a defined channel that originates from coordinates 35.0377110, -89.3304433 and flows for approximately 188 linear feet (l.f.) before ending at coordinates 35.0372049, -89.3303346. This feature was given a secondary indicator score of 2.50, indicating this feature is a wet weather conveyance.

WWC-10/UDF-4 lacks a defined channel that originates from coordinates 35.0358886, -89.3306701 and flows for approximately 130 linear feet (l.f.) before ending at coordinates 35.0356521, -89.3309588. This feature was given a secondary indicator score of 6.25, indicating this feature is a wet weather conveyance.

WWC-11/UDF-5 lacks a defined channel that originates from coordinates 35.0348872, -89.3281561 and flows for approximately 169 linear feet (l.f.) before ending at coordinates 35.0345265, -89.3278184. This feature was given a secondary indicator score of 3.00, indicating this feature is a wet weather conveyance.

WWC-12/EPH-7 is channel lacking flow originating from coordinates 35.0341293, -89.3274681 and flows for approximately 158 linear feet (l.f.) before ending at coordinates 35.0337289, -89.3276090. This feature was given a secondary indicator score of 10.50, indicating this feature is a wet weather conveyance.

WWC-13/EPH-8 is channel lacking flow originating from coordinates 35.0328880, -89.3287275 and flows for approximately 190 linear feet (l.f.) before ending at coordinates 35.0324034, -89.3285104. This feature was given a secondary indicator score of 15.50, indicating this feature is a wet weather conveyance.

WWC-14/UDF-6 lacks a defined channel that originates from coordinates 35.0346780, -89.3267476 and flows for approximately 295 linear feet (l.f.) before ending at coordinates 35.0340198, -89.3263721. This feature was given a secondary indicator score of 4.75, indicating this feature is a wet weather conveyance.

WWC-15/EPH-9 is channel lacking flow originating from coordinates 35.0385716, -89.3252664 and flows for approximately 1536 linear feet (l.f.) before ending at coordinates 35.0341682, -89.3238767. This feature was given a secondary indicator score of 17.25, indicating this feature is a wet weather conveyance.

WWC-16/UDF-7 lacks a defined channel that originates from coordinates 35.0382175, -89.3247537 and flows for approximately 38 linear feet (l.f.) before ending at coordinates 35.0382051, -89.3248806. This feature was given a secondary indicator score of 8.25, indicating this feature is a wet weather conveyance.

WWC-17/EPH-10 is channel lacking flow originating from coordinates 35.0387347, -89.3247244 and flows for approximately 202 linear feet (l.f.) before ending at coordinates 35.0382051, -89.3248806. This feature was given a secondary indicator score of 12.75, indicating this feature is a wet weather conveyance.

WWC-18/EPH-11 is channel lacking flow originating from coordinates 35.0413712, -89.3247151 and flows for approximately 2136 linear feet (l.f.) before ending at coordinates 35.0374983, -89.3214197. This feature was given a secondary indicator score of 14.00, indicating this feature is a wet weather conveyance.

WWC-19/UDF-13 lacks a defined channel that originates from coordinates 35.0339749, -89.3277008 and flows for approximately 90 linear feet (l.f.) before ending at coordinates 35.0337354, -89.3277634. This feature was given a secondary indicator score of 7.00, indicating this feature is a wet weather conveyance.

WWC-20/EPH-12 is channel lacking flow originating from coordinates 35.0506524, -89.3205347 and flows for approximately 575 linear feet (l.f.) before ending at coordinates 35.0494910, -89.3197452. This feature was given a secondary indicator score of 11.75, indicating this feature is a wet weather conveyance.

WWC-21/EPH-13 is channel lacking flow originating from coordinates 35.0484309, -89.3210445 and flows for approximately 736 linear feet (l.f.) before ending at coordinates 35.0478431, -89.3190360. This feature was given a secondary indicator score of 17.00, indicating this feature is a wet weather conveyance.

WWC-22/EPH-14 is channel lacking flow originating from coordinates 35.0440904, -89.3192344 and flows for approximately 857 linear feet (l.f.) before ending at coordinates 35.0431087, -89.3169287. This feature was given a secondary indicator score of 17.00, indicating this feature is a wet weather conveyance.

WWC-23/UDF-8 lacks a defined channel that originates from coordinates 35.0422460, -89.3174741 and flows for approximately 82 linear feet (l.f.) before ending at coordinates 35.0420306, -89.3174288. This feature was given a secondary indicator score of 4.50, indicating this feature is a wet weather conveyance.

WWC-24/UDF-9 lacks a defined channel that originates from coordinates 35.0421792, -89.3177037 and flows for approximately 303 linear feet (l.f.) before ending at coordinates 35.0417062, -89.3168898. This feature was given a secondary indicator score of 7.25, indicating this feature is a wet weather conveyance.

WWC-25/EPH-15 is channel lacking flow originating from coordinates 35.0417062, -89.3168898 and flows for approximately 88 linear feet (l.f.) before ending at coordinates 35.0414814, -89.3168989. This feature was given a secondary indicator score of 14.50, indicating this feature is a wet weather conveyance.

WWC-26/EPH-16 is channel lacking flow originating from coordinates 35.0418637, -89.3175964 and flows for approximately 268 linear feet (l.f.) before ending at coordinates 35.0414814, -89.3168989. This feature was given a secondary indicator score of 14.00, indicating this feature is a wet weather conveyance.

WWC-27/EPH-17 is channel lacking flow originating from coordinates 35.0412577, -89.3183277 and flows for approximately 439 linear feet (l.f.) before ending at coordinates 35.0416040, -89.3171293. This feature was given a secondary indicator score of 12.00, indicating this feature is a wet weather conveyance.

WWC-28/UDF-10 lacks a defined channel that originates from coordinates 35.0415793, -89.3195589 and flows for approximately 565 linear feet (l.f.) before ending at coordinates 35.0414994, -89.3176890. This feature was given a secondary indicator score of 3.50, indicating this feature is a wet weather conveyance.

WWC-29/EPH-18 is channel lacking flow originating from coordinates 35.0470472, -89.3153453 and flows for approximately 135 linear feet (l.f.) before ending at coordinates 35.0466901, -89.3154297. This feature was given a secondary indicator score of 11.75, indicating this feature is a wet weather conveyance.

WWC-30/UDF-11 lacks a defined channel that originates originating from coordinates 35.0465046, -89.3148126 and flows for approximately 254 linear feet (l.f.) before ending at coordinates 35.0458750, -89.3148558. This feature was given a secondary indicator score of 8.00, indicating this feature is a wet weather conveyance.

WWC-31/EPH-19 is channel lacking flow originating from coordinates 35.0471780, -89.3130584 and flows for approximately 922 linear feet (l.f.) before ending at coordinates 35.0447485, -89.3134434. This feature was given a secondary indicator score of 11.25, indicating this feature is a wet weather conveyance.

WWC-32/UDF-12 lacks a defined channel that originates from coordinates 35.0334362, -89.3273951 and flows for approximately 47 linear feet (l.f.) before ending at coordinates 35.0333215, -89.3273629. This feature was given a secondary indicator score of 8.00, indicating this feature is a wet weather conveyance.

WTL-1 is a palustrine emergent wetland with a test pit at coordinates 35.0320804, -89.3351225. The wetland is approximately 0.450 acres within the LOI. WTL-1 shows evidence of saturation and seasonal inundation with facultative and obligate wetland species (*Liquidambar styraciflua*, *Panicum virgatum*, *Diodia virginiana*, *Juncus effusus*, *Carex muskingumensis*). Soils depict a depleted matrix with soil matrix chroma of 10YR 6/2 and redox chroma of 10YR 6/8. WTL-1 is a pond fringe wetland.

WTL-2 is a palustrine emergent wetland with a test pit at coordinates 35.0349005, -89.3281433. The wetland is approximately 0.174 acres within the LOI. WTL-2 shows evidence of saturation and seasonal inundation with facultative, facultative wetland and obligate wetland species (*Salix nigra*, *Panicum virgatum*, *Diodia virginiana*). Soils depict a depleted matrix with soil matrix chroma of 10YR 6/1 and redox chroma of 10YR 5/6.

WTL-3 is a palustrine emergent wetland with a test pit at coordinates 35.0336282, -89.3288502. The wetland is approximately 0.08 acres within the LOI. WTL-3 shows evidence of saturation and seasonal inundation with facultative, facultative wetland, and obligate wetland species (*Acer rubrum*, *Liquidambar styraciflua*, *Ulmus americana*, *Solidago gigantea*, *Vitis rotundifolia*, *Microstegium vimineum*). Soils depict a depleted matrix with soil matrix chroma of 10YR 6/2 and redox chroma of 7.5YR 3/4.

WTL-4 is a palustrine emergent wetland with a test pit at coordinates 35.0335484, -89.3273973. The wetland is approximately 0.023 acres within the LOI. WTL-4 shows evidence of saturation and seasonal inundation with facultative and facultative wetland species (*Fraxinus pennsylvanica*, *Juncus effusus*, *Panicum virgatum*, *Scirpus polyphyllus*). Soils depict a depleted matrix with soil matrix chroma of 10YR 6/2 and redox chroma of 7.5YR 7/6. WTL-4 is a pond fringe wetland.

WTL-5 is a palustrine forested wetland with a test pit at coordinates 35.0320140, -89.3279845. The wetland is approximately 280 acres within the LOI. WTL-5 shows evidence of saturation and seasonal inundation with facultative, facultative wetland, and obligate wetland species (*Liquidambar styraciflua*, *Diodia virginiana*, *Panicum amarum*, *Cyperus echinatus*, *Juncus*

marginatus, *Hibiscus moscheutos*). Soils depict a depleted matrix with soil matrix chroma of 10YR 6/1 and redox chroma of 10YR 6/6. WTL-5 is a fringe wetland created by seasonal fluctuations in the Wolf River.

WTL-6 is a palustrine emergent wetland with a test pit at coordinates 35.0349778, -89.3269889. The wetland is approximately 0.218 acres within the LOI. WTL-6 shows evidence of saturation and seasonal inundation with facultative, facultative wetland, and obligate wetland species (*Panicum virgatum* and *Juncus effusus*). Soils depict a depleted matrix with soil matrix chroma of 10YR 7/1 and redox chroma of 10YR 7/6. WTL-6 is a pond fringe wetland.

WTL-7 is a palustrine forested wetland with a test pit at coordinates 35.0333861, -89.3171306. The wetland is approximately 0.967 acres within the LOI. WTL-7 shows evidence of saturation and seasonal inundation with facultative and obligate wetland species (*Salix nigra*, *Acer negundo*, *Diodia virginiana*, *Carex albolutescens*, *Juncus pylaei*, *Sambucus nigra*). Soils depict a depleted matrix with soil matrix chroma of 10YR 7/1 and redox chroma of 10YR 5/8.

WTL-8 is a palustrine forested wetland with a test pit at coordinates 35.0342076, -89.3209538. The wetland is approximately 0.105 acres within the LOI. WTL-8 shows evidence of saturation and seasonal inundation with facultative and obligate wetland species (*Ulmus americana*, *Acer rubrum*, *Sagittaria latifolia*, *Chasmanthium latifolium*). Soils depict a depleted matrix with soil matrix chroma of 10YR 4/1.

In summary, CEC identified approximately 17,648 linear feet (l.f.) of stream features, 2,499 linear feet (l.f.) of wet weather conveyance/upland drainage features, 15,107 linear feet (l.f.) of wet weather conveyance/ephemeral features, 5.786 acres of pond features, and 270.992 acres of wetland within the limits of investigation.

Table 3: Summary of Hydrologic Features within Study Area

ID	Flow Regime	Feature	Coordinates	Length (l.f.)	Area (acres)
STR-1	Perennial/Intermittent	Stream	BEG: 35.0384052, -89.3328008 END: 35.0356774, -89.3330484	1033	-

ID	Flow Regime	Feature	Coordinates	Length (l.f.)	Area (acres)
STR-1A	Perennial/Intermittent	Stream	BEG: 35.0318497, -89.3348651 END: 35.0316234, -89.3354173	202	-
STR-2	Perennial/Intermittent	Stream	BEG: 35.0311737, -89.3349210 END: 35.0307371, -89.3348067	175	-
STR-3	Perennial/Intermittent	Stream	BEG: 35.0374983, -89.3214197 END: 35.0306686, -89.3191756	3491	-
STR-4	Perennial/Intermittent	Stream	BEG: 35.0494910, -89.3197452 END: 35.0325459, -89.3110940	8179	-
STR-5	Perennial/Intermittent	Stream	BEG: 35.0414814, -89.3168989 END: 35.0402861, -89.3152631	832	-
STR-6	Perennial/Intermittent	Stream	BEG: 35.0488570, -89.3157733 END: 35.0415777, -89.3157733	3736	-
WWC-1/EPH-1	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0420048, -89.3306801 END: 35.0339291, -89.3315830	885	-

ID	Flow Regime	Feature	Coordinates	Length (l.f.)	Area (acres)
WWC-1/EPH-1A	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0316234, -89.3354173 END: 35.0304239, -89.3354867	342	-
WWC-2/EPH-2	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0420048, -89.3306801 END: 35.0339291, -89.3315830	917	-
WWC-3/UDF-1	Wet Weather Conveyance/Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0394094, -89.3323073 END: 35.0391792, -89.3320319	239	-
WWC-4/EPH-3	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0343391, -89.3332139 END: 35.0343347, -89.3332700	17	-
WWC-5/EPH-4	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0342000, -89.3332346 END: 35.0342065, -89.3333245	27	-
WWC-6/EPH-5	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0339250, -89.3332669 END: 35.0339379, -89.3333351	21	-
WWC-7/EPH-6	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0417466, -89.3291947 END: 35.0302206, -89.3315820	4999	-

ID	Flow Regime	Feature	Coordinates	Length (l.f.)	Area (acres)
WWC-8/UDF-2	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0390811, -89.3291776 END: 35.0389850, -89.3294836	98	-
WWC-9/UDF-3	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0377110, -89.3304433 END: 35.0372049, -89.3303346	188	-
WWC-10/UDF-4	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0358886, -89.3306701 END: 35.0356521, -89.3309588	130	-
WWC-11/UDF-5	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0348872, -89.3281561 END: 35.0345265, -89.3278184	169	-
WWC-12/EPH-7	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0341293, -89.3274681 END: 35.0337289, -89.3276090	158	-
WWC-13/EPH-8	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0328880, -89.3287275 END: 35.0324034, -89.3285104	190	-
WWC-14/UDF-6	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0346780, -89.3267476 END: 35.0340198, -89.3263721	295	-

ID	Flow Regime	Feature	Coordinates	Length (l.f.)	Area (acres)
WWC-15/EPH-9	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0385716, -89.3252664 END: 35.0341682, -89.3238767	1536	-
WWC-16/UDF-7	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0382175, -89.3247537 END: 35.0382051 -89.3248806	38	-
WWC-17/EPH-10	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0387347, -89.3247244 END: 35.0382051, -89.3248806	202	-
WWC-18/EPH-11	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0413712, -89.3247151 END: 35.0374983, -89.3214197	2136	-
WWC-19/UDF-13	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0339749, -89.3277008 END: 35.0337354, -89.3277634	90	-
WWC-20/EPH-12	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0506524, -89.3205347 END: 35.0494910, -89.3197452	575	-
WWC-21/EPH-13	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0484309, -89.3210445 END: 35.0478431, -89.3190360	736	-

ID	Flow Regime	Feature	Coordinates	Length (l.f.)	Area (acres)
WWC-22/EPH-14	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0440904, -89.3192344 END: 35.0431087, -89.3169287	857	-
WWC-23/UDF-8	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0422460, -89.3174741 END: 35.0420306, -89.3174288	82	-
WWC-24/UDF-9	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0421792, -89.3177037 END: 35.0417062, -89.3168898	303	-
WWC-25/EPH-15	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0417062, -89.3168898 END: 35.0414814, -89.3168989	88	-
WWC-26/EPH-16	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0418637, -89.3175964 END: 35.0414814, -89.3168989	268	-
WWC-27/EPH-17	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0412577, -89.3183277 END: 35.0416040, -89.3171293	439	-
WWC-28/UDF-10	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0415793, -89.3195589 END: 35.0414994, -89.3176890	565	-

ID	Flow Regime	Feature	Coordinates	Length (l.f.)	Area (acres)
WWC-29/EPH-18	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0470472, -89.3153453 END: 35.0466901, -89.3154297	135	-
WWC-30/UDF-11	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0465046, -89.3148126 END: 35.0458750, -89.3148558	254	-
WWC-31/EPH-19	Wet Weather Conveyance/ Ephemeral	Wet Weather Conveyance	BEG: 35.0471780, -89.3130584 END: 35.0447485, -89.3134434	922	-
WWC-32/UDF-12	Wet Weather Conveyance/ Upland Drainage Feature	Wet Weather Conveyance	BEG: 35.0334362, -89.3273951 END: 35.0333215, -89.3273629	47	-
WTL-1	Emergent	Wetland	35.0320781, -89.3348859		0.45
WTL-2	Emergent	Wetland	35.0349005, -89.3281433		0.174
WTL-3	Emergent	Wetland	35.0337238, -89.3287802		0.08
WTL-4	Emergent	Wetland	35.0334294, -89.3277656		0.023
WTL-5	Forested	Wetland	35.0320184, -89.3279957		279.562
WTL-6	Emergent	Wetland	35.0349778, -89.3269722		0.218

ID	Flow Regime	Feature	Coordinates	Length (l.f.)	Area (acres)
WTL-7	Forested	Wetland	35.0334025, -89.3170996		0.967
WTL-8	Forested	Wetland	35.0342076, -89.3209538		0.105
Pond-1	Lacustrine	Pond	35.0320968, -89.3348788		0.297
Pond-2	Lacustrine	Pond	35.0386001, -89.3311055		1.501
Pond-3	Lacustrine	Pond	35.0351037, -89.3265145		0.74
Pond-4	Lacustrine	Pond	35.0472781, -89.3199314		0.89
Pond-5	Lacustrine	Pond	35.0402234, -89.3205444		0.57
Pond-6	Lacustrine	Pond	35.0373294, -89.3181155		1.134
Pond-7	Lacustrine	Pond	35.0424407, -89.3194360		0.164
Pond-8	Lacustrine	Pond	35.0334308, -89.3277434		0.49

If you have any questions or need any additional information, please feel free to call us at (865) 977-9997 or email at dspradlin@cecinc.com or gbabbit@cecinc.com.

Bobby Pidgeon – The Pidgeon Company
Jurisdictional Waters Delineation
Page 17
March 26, 2024

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Dan Spradlin, QHP
Project Manager



Gregory S. Babbitt, QHP, PWS
Principal



Colson Karr, QHP-IT
Staff Scientist

Attachments: Field Forms
APT Tool

Level of Care: CEC's wetland and stream delineation services were conducted in a manner consistent with the criteria contained in the Corps Manual and Regional Supplement, and with the level of care and skill ordinarily exercised by members of the environmental consulting profession practicing contemporaneously under similar conditions in the locality of the project. It must be recognized that the delineation of waters of the U.S. was based on field observations and CEC's professional interpretation of the criteria in the Corps Manual and Regional Supplement at the time of our fieldwork. Wetland determinations may change subsequent to CEC's delineation based on changes in the regulatory criteria, seasonal variations in hydrology, alterations to drainage patterns and other human activities and/or land disturbances.

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: DS/CK		Project ID : STR-1
Site Name/Description: Pidgeon Mitigation site		
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0384052	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3328008	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 23 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = STREAM**Secondary Indicator Score (if applicable) = 19.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 11.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1.5
2. Sinuous channel	0	1	2	3	1.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	1.5
4. Sorting of soil textures or other substrate	0	1	2	3	2
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	1
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 3.75)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	1.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.25
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0.75

C. Biology (Subtotal = 3.75)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	1
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.75

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 19.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

decent flow in channel. deposition in lower half of reach easily observable.



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: DS/CK		Project ID : STR-1A
Site Name/Description: Pidgeon Mitigation site		
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0318497	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3348651	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 64 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/> N/A	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = STREAM

Secondary Indicator Score (if applicable) = 21.75

Justification / Notes :

Feature is immediately downstream of pond on western side of site.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 12.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	1.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	1.5
4. Sorting of soil textures or other substrate	0	1	2	3	1.5
5. Active/relic floodplain	0	0.5	1	1.5	1
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.75
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	2
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	0.75
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 3.75)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	0
16. Leaf litter in channel	1.5	1	0.5	0	0.75
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 5.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	1
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	1
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 21.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Standing water in pools, algae film left in channel bed, 2 locations of hydric soil found within reach.



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: DS/CK		Project ID : STR-2
Site Name/Description: Pidgeon Mitigation site		
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0311737	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3349210	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Lexington-Ruston Gullied land complex	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/> N/A	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = STREAM

Secondary Indicator Score (if applicable) = 17.25

Justification / Notes :

Ground water seeps at large headcut feed the channel. Moderate slope with wrack lines easily observable.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 10.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	0.5
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.75
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	2
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.25
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 4.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	1.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.25
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0.75

C. Biology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	2
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 17.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Well defined bed and bank, hydric soils found within the channel bottom, Leaf litter present in channel bottom



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-9-23
Assessors/Affiliation: MS/WM		Project ID : STR-3
Site Name/Description: Pidgeon Mitigation site		
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0374983	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3214197	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 128 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Pasture/ Forested/ Livestock grazing		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = STREAM

Secondary Indicator Score (if applicable) = 20.75

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 11.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	3
2. Sinuous channel	0	1	2	3	1.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1.5
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 3.75)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 6.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	2
21. Rooted plants in the thalweg ¹	3	2	1	0	3
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	1
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 20.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-8-23
Assessors/Affiliation: DS/CK		Project ID : STR-4 DS confl.
Site Name/Description: Pidgeon Mitigation site		
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0488570	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3157733	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 512 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = STREAM

Secondary Indicator Score (if applicable) = 20.50

Justification / Notes :

Losing stream reach

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 11.25)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2.5
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	1.5
4. Sorting of soil textures or other substrate	0	1	2	3	0.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	2.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1.25
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 3.75)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1.25
17. Sediment on plants or on debris	0	0.5	1	1.5	0.75
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	1
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0.75

C. Biology (Subtotal = 5.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	2.5
21. Rooted plants in the thalweg ¹	3	2	1	0	3
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 20.50

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

STR-4 DS of confluence with STR-6. Lots of sandy sediment being transported and getting deposited. Well defined bed and bank.



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-8-23
Assessors/Affiliation: DS/CK		Project ID : STR-4 US confl.
Site Name/Description: Pidgeon Mitigation site		
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0494910	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3197452	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 281.6 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = STREAM

Secondary Indicator Score (if applicable) = 25.50

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 15.75)

A. Geomorphology (Subtotal = 15.75)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2.5
2. Sinuous channel	0	1	2	3	1.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	1.5
4. Sorting of soil textures or other substrate	0	1	2	3	1.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	2.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1.25
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	3
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 4.75

B. Hydrology (Subtotal = 4.75)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	1
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1.25
17. Sediment on plants or on debris	0	0.5	1	1.5	0.75
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	1
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0.75

C. Biology (Subtotal = 5.00

C. Biology (Subtotal = 5.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	2
21. Rooted plants in the thalweg ¹	3	2	1	0	2.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0.5
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 25.50

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

STR-4 Starts at a massive headcut downstream of WWC-19/EPH-11. There are a minimum of 3 very large headcuts. Large sources of sediment are present and deposition is easily observed.



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-9-23
Assessors/Affiliation: MS/WM		Project ID : STR-5
Site Name/Description: Pidgeon Mitigation site		
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0414814	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3168989	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 281.6 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Pasture/ Forested/ Livestock grazing		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = STREAM

Secondary Indicator Score (if applicable) = 19.00

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 11.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	3
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	1.5
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 4.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	1
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 4.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	2
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	1
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 19.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Standing water in pools only. Strong Bed and Bank. No flow/Benthics. Hydric soils in channel.

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-8-23
Assessors/Affiliation: DS/CK		Project ID :
Site Name/Description: Pidgeon Mitigation site		STR-6 US headcut
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0476333	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3157667	
Precipitation this Season vs. Normal : elevated Antecedent Precipitation Tool Source of recent & seasonal precip. data :		
Watershed Size : 128 acres	County: Fayette County	
Soil Type(s) / Geology : Grenada	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = STREAM**Secondary Indicator Score (if applicable) = 21.50****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 13.75)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	1.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	1.5
4. Sorting of soil textures or other substrate	0	1	2	3	1.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	2.5
11. Grade controls	0	0.5	1	1.5	0.75
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 4.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	1
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.75
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0.75

C. Biology (Subtotal = 3.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 21.50

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

STR-6 DS of large headcut. Headcut is very large and active. Deposition easily observable.

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-8-23
Assessors/Affiliation: DS/CK		Project ID :
Site Name/Description: Pidgeon Mitigation site		STR-6 US headcut
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0488570	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3157733	
Precipitation this Season vs. Normal : elevated Antecedent Precipitation Tool Source of recent & seasonal precip. data :		
Watershed Size : 70.4 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = STREAM**Secondary Indicator Score (if applicable) = 22.25****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 11.75)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	0.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	2
4. Sorting of soil textures or other substrate	0	1	2	3	1.5
5. Active/relic floodplain	0	0.5	1	1.5	0.25
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	1
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 4.75)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	1.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.75
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 5.75)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	1
26. Filamentous algae; periphyton	0	1	2	3	1.5
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.75

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 22.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

STR-6 US of large headcut has defined bed and bank. Water in channel with algae growing.

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: DS/CK		Project ID : WWC-1/EPH-1
Site Name/Description: Pidgeon Mitigation site		
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0356774	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3330484	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 32 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 18.00****Justification / Notes :**

Losing reach

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 10.75)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1.5
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	2
5. Active/relic floodplain	0	0.5	1	1.5	0.25
6. Depositional bars or benches	0	1	2	3	1.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0.5
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 4.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.75
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	1
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	1

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 18.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Deposition easily observable in reach, Riffle pool sequences common

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: DS/CK		Project ID : WWC-1/EPH-1A
Site Name/Description: Pidgeon Mitigation site		
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0316234	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3354173	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 102.4 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 15.75****Justification / Notes :**

Losing reach

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.50)

A. Geomorphology (Subtotal = 8.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1.5
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	0.5
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 3.50)

B. Hydrology (Subtotal = 3.50)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.25
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 3.75

C. Biology (Subtotal = 3.75)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1.5
21. Rooted plants in the thalweg ¹	3	2	1	0	0.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0.5
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0.5
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.75

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 15.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Losing reach

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-2/EPH-2
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0420048	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3306801	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 32 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 11.25****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.00

A. Geomorphology (Subtotal = 8.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1.5
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	0.5
4. Sorting of soil textures or other substrate	0	1	2	3	1.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.25

B. Hydrology (Subtotal = 1.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.00

C. Biology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 11.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-3/UDF-1
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0394094	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3323073	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
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Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 3.25

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0
2. Sinuous channel	0	1	2	3	0.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 0.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.25
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 1.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0
21. Rooted plants in the thalweg ¹	3	2	1	0	0.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 3.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID : WWC-4/EPH-3
Site Name/Description: Pidgeon Mitigation site		
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0343391	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3332139	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/> N/A	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

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Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 11.25

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1.5
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	0.5
4. Sorting of soil textures or other substrate	0	1	2	3	1.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 11.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID : WWC-5/EPH-4
Site Name/Description: Pidgeon Mitigation site		
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0342000	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3332346	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 10.75****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 6.50)

A. Geomorphology (Subtotal = 6.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	1.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.5
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1.5
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.75

B. Hydrology (Subtotal = 1.75)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.50

C. Biology (Subtotal = 2.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 10.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-6/EPH-5
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0339250	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3332669	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 11.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 6.75)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0.5
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.75
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1.5
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.75)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	1
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.25
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0.5
21. Rooted plants in the thalweg ¹	3	2	1	0	0.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 11.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8/7/2023/2:37pm
Assessors/Affiliation: MS.WM		Project ID : WWC-7/EPH-6
Site Name/Description: Pidgeon Mitigation site		
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0417466	
Previous Rainfall (7-days) : 0.39 inches	Longitude: -89.3291947	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 115.2 acres	County: Fayette County	
Soil Type(s) / Geology :	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Slight		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input checked="" type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 13.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1.5
2. Sinuous channel	0	1	2	3	1.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1.5
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	0
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	1
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 13.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Low gradient portion of feature braided and poorly defined bed and bank. Sand coats entire bottom of conveyance. Rooted plants abundant throughout lower end of feature. No flow or benthics observed during site visit. No headcuts observed. Upper portion of feature becomes severely incised (bank height approximately 10-12'). Water in channel in standing pools only.

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-8/UDF-2
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0390811	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3291776	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 2.25****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 0.75)

A. Geomorphology (Subtotal = 0.75)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0.75
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 0.00

B. Hydrology (Subtotal = 0.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 1.50

C. Biology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0.5
21. Rooted plants in the thalweg ¹	3	2	1	0	0.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 2.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-8-23
Assessors/Affiliation: MS/WM		Project ID : WWC-9/UDF-3
Site Name/Description: Pidgeon Mitigation site		
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0377110	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3304433	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Pasture/ Forested/ Livestock grazing		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 12.00

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.00)

A. Geomorphology (Subtotal = 8.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	0.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.50)

B. Hydrology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.50

C. Biology (Subtotal = 2.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 12.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM.		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-10/UDF-4
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0358886	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3306701	
Precipitation this Season vs. Normal : elevated Antecedent Precipitation Tool Source of recent & seasonal precip. data :		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 6.25****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1
2. Sinuous channel	0	1	2	3	0.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.75)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0.5
21. Rooted plants in the thalweg ¹	3	2	1	0	0.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 6.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-11/UDF-5
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0348872	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3281561	
Precipitation this Season vs. Normal : elevated Antecedent Precipitation Tool Source of recent & seasonal precip. data :		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 3.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0.5
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 0.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0
21. Rooted plants in the thalweg ¹	3	2	1	0	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 3.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-12/EPH-7
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0341293	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3274681	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 10.50****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 6.50)

A. Geomorphology (Subtotal = 6.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0.5
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	1.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.5
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	2
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.00

B. Hydrology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.00

C. Biology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 10.50

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8/8/2023
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-13/EPH-8
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0328880	
Previous Rainfall (7-days) : 0.39 inches	Longitude: -89.3287275	
Precipitation this Season vs. Normal : elevated		
Source of recent & seasonal precip. data : Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology :	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Slight		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input checked="" type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 15.50****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2.5
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	1.5
4. Sorting of soil textures or other substrate	0	1	2	3	0.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1.5
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 3.50)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	0.5
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	2
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 15.50

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Hydric soils in lower end of reach. Standing water in pools only. Large woody debris abundant throughout feature. Weak sorting of substrate. Majority of substrate comprised of sand. Fibrous roots and rooted plants abundant in upper end of feature. No benthics observed in channel. Channel becomes more incised down gradient.

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-14/UDF-6
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0346780	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3267476	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 32 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 4.75****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 4.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-15/EPH-9
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0385716	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3252664	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 83.2 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 17.25

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 10.75)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	1.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	0.5
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	2
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	0.25
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.50)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	1
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 4.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0.5
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 17.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-16/UDF-7
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0382175	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3247537	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 8.25****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 3.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0.5
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	1
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 8.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-17/EPH-10
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0387347	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3247244	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 12.75****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9.75)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	2
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	2
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	0.25
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.75
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 1.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0.5
21. Rooted plants in the thalweg ¹	3	2	1	0	0.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 12.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-9-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-18/EPH-11
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0413712	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3247151	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 51.2 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Pasture/ Forested/ Livestock grazing		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 14.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	3
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	0.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.5
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 14.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-19/UDF-13
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0339749	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3277008	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 7.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0.5
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1.25
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0.75

C. Biology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0.5
21. Rooted plants in the thalweg ¹	3	2	1	0	0.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	1

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 7.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-8-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-20/EPH-12
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0506524	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3205347	
Precipitation this Season vs. Normal : elevated Antecedent Precipitation Tool		
Source of recent & seasonal precip. data :		
Watershed Size : 25.6 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 11.75

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.25)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0.5
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	0.5
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.75
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1.5
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 11.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-8-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-21/EPH-13
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0484309	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3210445	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 20 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 17.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 11.75)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	1.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	2
11. Grade controls	0	0.5	1	1.5	0.75
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1.25
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0.5
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 17.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-8-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-22/EPH-14
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0440904	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3192344	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 38.4 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 17.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9.00)

A. Geomorphology (Subtotal = 9.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1.5
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 4.00

B. Hydrology (Subtotal = 4.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	1.25
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0.75

C. Biology (Subtotal = 4.00

C. Biology (Subtotal = 4.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1.5
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0.5
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 17.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

[illegible]

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-23/UDF-8
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0422460	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3174741	
Precipitation this Season vs. Normal : elevated Antecedent Precipitation Tool Source of recent & seasonal precip. data :		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 4.50****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0.5
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 0.50)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 4.50 _____

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-24/UDF-9
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0421792	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3177037	
Precipitation this Season vs. Normal : elevated Antecedent Precipitation Tool		
Source of recent & seasonal precip. data :		
Watershed Size : 38.4 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 7.25****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 4.25)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0.5
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.25
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1.5
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 7.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-9-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-25/EPH-15
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0417062	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3168898	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Pasture/ Forested/ Livestock grazing		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 14.50****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9.50)

A. Geomorphology (Subtotal = 9.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	3
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	0.5
4. Sorting of soil textures or other substrate	0	1	2	3	0.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.5
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	2
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.00

B. Hydrology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 3.00

C. Biology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	2
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 14.50

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Beginning at large headcut. Standing water in pools only.

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-9-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-26/EPH-16
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0418637	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3175964	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 38.4 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Pasture/ Forested/ Livestock grazing		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 14.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	3
2. Sinuous channel	0	1	2	3	0.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	0.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.5
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	2
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 14.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Weak sinuosity. Leaf Litter abundant in channel. Weak presence of headcuts. No flow/Benthics. Hydric Soils in channel

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-9-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-27/EPH-17
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0412577	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3183277	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 51.2 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Pasture/ Forested/ Livestock grazing		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 12.00****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 7.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	0.5
4. Sorting of soil textures or other substrate	0	1	2	3	0.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	1
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.5
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.50)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	1
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 12.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Impacted by logging road. Does not connect to other drainage. No flow or benthics, rooted plants and fibrous roots abundant

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-28/UDF-10
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0415793	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3195589	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 3.50****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 0.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 3.50

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-9-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-29/EPH-18
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0470472	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3153453	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 11.75****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 7.25)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1.5
2. Sinuous channel	0	1	2	3	0.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.75
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1.5
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 2.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	1
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 11.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-30/UDF-11
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0465046	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3148126	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 8.00

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 3.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0.5
2. Sinuous channel	0	1	2	3	0.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.5
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 3.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	1
21. Rooted plants in the thalweg ¹	3	2	1	0	2
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 8.00 _____

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-9-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-31/EPH-19
Site Location: Moscow, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0471780	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3130584	
Precipitation this Season vs. Normal : Source of recent & seasonal precip. data : elevated Antecedent Precipitation Tool		
Watershed Size : 25.6 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 11.25****Justification / Notes :**

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 7.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1
2. Sinuous channel	0	1	2	3	0.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0.5
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	2
11. Grade controls	0	0.5	1	1.5	0.5
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.25)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1.25
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 1.50)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0.5
21. Rooted plants in the thalweg ¹	3	2	1	0	1
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 11.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :



Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 8-7-23
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-32/UDF-12
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.0334362	
Previous Rainfall (7-days) : 0.39	Longitude: -89.3273951	
Precipitation this Season vs. Normal : elevated Antecedent Precipitation Tool		
Source of recent & seasonal precip. data :		
Watershed Size : <10 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in
TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 8.00

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 2.50)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	1
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 4.50)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	1
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	1
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 1.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0
21. Rooted plants in the thalweg ¹	3	2	1	0	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	1

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 8.00 _____

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

**Hydrologic Determination Field Data Sheet**

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: N/A		Date/Time: 10-30-2024
Assessors/Affiliation: MS/WM		Project ID :
Site Name/Description: Pidgeon Mitigation site		WWC-33 EPH 20
Site Location: La Grange, Fayette County, Tennessee		
HUC (12 digit): Mount Tena Creek-Wolf River - (080102100208)	Latitude: 35.034123	
Previous Rainfall (7-days) : 0.38	Longitude: -89.319749	
Precipitation this Season vs. Normal : elevated Antecedent Precipitation Tool Source of recent & seasonal precip. data :		
Watershed Size : 128 acres	County: Fayette County	
Soil Type(s) / Geology : Collins	Source: WSS	
Surrounding Land Use : Pasture/ Forested/ Livestock grazing		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	<input type="checkbox"/>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input checked="" type="checkbox"/>	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1 " in local watershed	<input checked="" type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE**Secondary Indicator Score (if applicable) = 0.00****Justification / Notes :**

Previously lower reach of STR-3. This section was changed to WWC by TDEC during the IRT meeting.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 0.00)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1	2	3	0
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 0.00)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	NA
16. Leaf litter in channel	1.5	1	0.5	0	0
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 0.00)	Absent	Weak	Moderate	Strong	
20. Fibrous roots in channel bed ¹	3	2	1	0	0
21. Rooted plants in the thalweg ¹	3	2	1	0	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macroinvertebrates (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed ²	0	0.5	1	1.5	0

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 0.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/7/23

Applicant/Owner: _____ State: TN Sampling Point: WTL-1

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0320804 Long: -89.3351225 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____		
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.			

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </td> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input checked="" type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> <tr><td><input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
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<input type="checkbox"/> Shallow Aquitard (D3)														
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)														
<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)														
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Wetland Hydrology Present? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Wetland Hydrology Present?	Yes <u>X</u> No _____											
Wetland Hydrology Present?	Yes <u>X</u> No _____													
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Fringe wetland from Pond-1, Many amphibians present and easily found.														

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: WTL-1

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Liquidambar styraciflua</u>	<u>35</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	<u>35</u> =Total Cover		
50% of total cover: <u>18</u>		20% of total cover: <u>7</u>	

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Liquidambar styraciflua</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	<u>10</u> =Total Cover		
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>	

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	_____ =Total Cover		
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex muskingumensis</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
3. <u>Panicum virgatum</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
4. <u>Diodia virginiana</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	<u>70</u> =Total Cover		
50% of total cover: <u>35</u>		20% of total cover: <u>14</u>	

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ =Total Cover		
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

 Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

 Total Number of Dominant Species Across All Strata: 5 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>45</u>	x 1 = <u>45</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>70</u>	x 3 = <u>210</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115</u> (A)	<u>255</u> (B)
Prevalence Index = B/A = <u>2.22</u>	

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
☒ 2 - Dominance Test is >50%
☒ 3 - Prevalence Index is ≤3.0¹
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

 Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: WTL-1**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6/2	90	7.5YR 6/8	10	C	PL	Mucky Loam/Clay	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input checked="" type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/7/23

Applicant/Owner: _____ State: TN Sampling Point: UPL-1

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): Convex Slope (%): 3-4

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0320217 Long: -89.3351145 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width: 50%;"> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: UPL-1

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>15</u> =Total Cover			
50% of total cover: <u>8</u>		20% of total cover: <u>3</u>	

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Liquidambar styraciflua</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>20</u> =Total Cover			
50% of total cover: <u>10</u>		20% of total cover: <u>4</u>	

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Solidago gigantea</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Paspalum dilatatum</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
4. <u>Sorghum halepense</u>	<u>15</u>	<u>No</u>	<u>FACU</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
<u>95</u> =Total Cover			
50% of total cover: <u>48</u>		20% of total cover: <u>19</u>	

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>95</u>	x 3 = <u>285</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>130</u> (A)	<u>385</u> (B)
Prevalence Index = B/A = <u>2.96</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes X No

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: UPL-1**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5/3	100					Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Dark Organic soil , non-hydric

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/7/23

Applicant/Owner: _____ State: TN Sampling Point: WTL-2

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0349005 Long: -89.3281433 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____		
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.			

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </td> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input checked="" type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> <tr><td><input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)													
<input type="checkbox"/> Surface Soil Cracks (B6)														
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)														
<input type="checkbox"/> Drainage Patterns (B10)														
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<input type="checkbox"/> Shallow Aquitard (D3)														
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)														
<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)														
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Wetland Hydrology Present? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Wetland Hydrology Present?	Yes <u>X</u> No _____											
Wetland Hydrology Present?	Yes <u>X</u> No _____													
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Old pond that is drained														

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: WTL-2

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix nigra</u>	<u>5</u>	<u>Yes</u>	<u>OBL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		<u>5</u> =Total Cover	
50% of total cover: <u>3</u>		20% of total cover: <u>1</u>	

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Panicum virgatum</u>	<u>35</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Diodia virginiana</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
		<u>55</u> =Total Cover	
50% of total cover: <u>28</u>		20% of total cover: <u>11</u>	

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>55</u>	x 3 = <u>165</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>60</u> (A)	<u>170</u> (B)
Prevalence Index = B/A = <u>2.83</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes X No _____

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: WTL-2**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6/1	85	7.5YR 5/6	15	C	PL	Sandy	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input checked="" type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input checked="" type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/7/23

Applicant/Owner: _____ State: TN Sampling Point: UPL-2

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3-4

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0349583 Long: -89.3270194 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width: 48%;"> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Fringe wetland from Pond-1, Many amphibians present and easily found.	

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: UPL-2

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Maclura pomifera</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		<u>20</u> =Total Cover	
50% of total cover: <u>10</u>		20% of total cover: <u>4</u>	

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Paspalum dilatatum</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Cirsium discolor</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>
4. <u>Rubus argutus</u>	<u>15</u>	<u>No</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
		<u>90</u> =Total Cover	
50% of total cover: <u>45</u>		20% of total cover: <u>18</u>	

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>70</u>	x 3 = <u>210</u>
FACU species <u>20</u>	x 4 = <u>80</u>
UPL species <u>20</u>	x 5 = <u>100</u>
Column Totals: <u>110</u> (A)	<u>390</u> (B)
Prevalence Index = B/A = <u>3.55</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes _____ No X

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: UPL-2**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5/4	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/8/23

Applicant/Owner: _____ State: TN Sampling Point: WTL-3

Investigator(s): MS, WM Section, Township, Range: _____

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): <1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0336282 Long: -89.3288502 Datum: NAD83

Soil Map Unit Name: guilled land- sandy NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____		
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators</u> (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> _____ Surface Water (A1) _____ High Water Table (A2) _____ Saturation (A3) _____ Water Marks (B1) _____ Sediment Deposits (B2) _____ Drift Deposits (B3) _____ Algal Mat or Crust (B4) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <u>X</u> _____ Water-Stained Leaves (B9) </td> <td style="width: 50%; vertical-align: top;"> _____ Aquatic Fauna (B13) _____ Marl Deposits (B15) (LRR U) _____ Hydrogen Sulfide Odor (C1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Presence of Reduced Iron (C4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Thin Muck Surface (C7) _____ Other (Explain in Remarks) </td> </tr> </table>	_____ Surface Water (A1) _____ High Water Table (A2) _____ Saturation (A3) _____ Water Marks (B1) _____ Sediment Deposits (B2) _____ Drift Deposits (B3) _____ Algal Mat or Crust (B4) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <u>X</u> _____ Water-Stained Leaves (B9)	_____ Aquatic Fauna (B13) _____ Marl Deposits (B15) (LRR U) _____ Hydrogen Sulfide Odor (C1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Presence of Reduced Iron (C4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Thin Muck Surface (C7) _____ Other (Explain in Remarks)	<u>Secondary Indicators</u> (minimum of two required) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) <u>X</u> _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ FAC-Neutral Test (D5) _____ Sphagnum Moss (D8) (LRR T, U) </td> <td style="width: 50%;"></td> </tr> </table>	_____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) <u>X</u> _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ FAC-Neutral Test (D5) _____ Sphagnum Moss (D8) (LRR T, U)	
_____ Surface Water (A1) _____ High Water Table (A2) _____ Saturation (A3) _____ Water Marks (B1) _____ Sediment Deposits (B2) _____ Drift Deposits (B3) _____ Algal Mat or Crust (B4) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <u>X</u> _____ Water-Stained Leaves (B9)	_____ Aquatic Fauna (B13) _____ Marl Deposits (B15) (LRR U) _____ Hydrogen Sulfide Odor (C1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Presence of Reduced Iron (C4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Thin Muck Surface (C7) _____ Other (Explain in Remarks)				
_____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) <u>X</u> _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ FAC-Neutral Test (D5) _____ Sphagnum Moss (D8) (LRR T, U)					
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Wetland Hydrology Present? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Wetland Hydrology Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: WTL-3

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	15	Yes	FAC
2. <u>Liquidambar styraciflua</u>	10	Yes	FAC
3. <u>Ulmus americana</u>	10	Yes	FAC
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: <u>18</u>	20% of total cover: <u>7</u>		

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Solidago gigantea</u>	25	Yes	FACW
2. <u>Microstegium vimineum</u>	20	Yes	FAC
3. <u>Vitis rotundifolia</u>	15	Yes	FAC
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: <u>30</u>	20% of total cover: <u>12</u>		

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

 Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

 Total Number of Dominant Species Across All Strata: 6 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>25</u>	x 2 = <u>50</u>
FAC species <u>70</u>	x 3 = <u>210</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>95</u> (A)	<u>260</u> (B)
Prevalence Index = B/A = <u>2.74</u>	

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
☒ 2 - Dominance Test is >50%
☒ 3 - Prevalence Index is ≤3.0¹
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

 Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: WTL-3**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6/2		7.5YR 3/4		D	M	Loamy/Clayey	borderline between 2 and 3 chroma

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input checked="" type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input checked="" type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/7/23

Applicant/Owner: _____ State: TN Sampling Point: UPL-3

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3-4

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0335833 Long: -89.3288278 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width: 48%;"> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Fringe wetland from Pond-1, Many amphibians present and easily found.	

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: UPL-3

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Maclura pomifera</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: <u>10</u>	20% of total cover: <u>4</u>		

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Paspalum dilatatum</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Cirsium discolor</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>
4. <u>Rubus argutus</u>	<u>15</u>	<u>No</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: <u>45</u>	20% of total cover: <u>18</u>		

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

 Total Number of Dominant Species Across All Strata: 4 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>70</u>	x 3 = <u>210</u>
FACU species <u>20</u>	x 4 = <u>80</u>
UPL species <u>20</u>	x 5 = <u>100</u>
Column Totals: <u>110</u> (A)	<u>390</u> (B)
Prevalence Index = B/A = <u>3.55</u>	

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is >50%
3 - Prevalence Index is $\leq 3.0^1$
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

 Yes No X

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: UPL-3**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5/4	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/7/23

Applicant/Owner: _____ State: TN Sampling Point: WTL-4

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0335484 Long: -89.3273973 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; padding: 5px;"> Yes <u>X</u> No _____ </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____		
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.			

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </td> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> <tr><td><input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)													
<input type="checkbox"/> Surface Soil Cracks (B6)														
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)														
<input type="checkbox"/> Drainage Patterns (B10)														
<input type="checkbox"/> Moss Trim Lines (B16)														
<input type="checkbox"/> Dry-Season Water Table (C2)														
<input type="checkbox"/> Crayfish Burrows (C8)														
<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)														
<input checked="" type="checkbox"/> Geomorphic Position (D2)														
<input type="checkbox"/> Shallow Aquitard (D3)														
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)														
<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)														
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;"> Wetland Hydrology Present? </td> <td style="width: 40%; padding: 5px;"> Yes <u>X</u> No _____ </td> </tr> </table>	Wetland Hydrology Present?	Yes <u>X</u> No _____											
Wetland Hydrology Present?	Yes <u>X</u> No _____													
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:														
Remarks: Pond fringe wetland														

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: WTL-4

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		<u>20</u> =Total Cover	
50% of total cover: <u>10</u>		20% of total cover: <u>4</u>	

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>	<u>45</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Panicum virgatum</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Scirpus polyphyllus</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
		<u>90</u> =Total Cover	
50% of total cover: <u>45</u>		20% of total cover: <u>18</u>	

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>65</u>	x 1 = <u>65</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>110</u> (A)	<u>180</u> (B)
Prevalence Index = B/A = <u>1.64</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes X No _____

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: WTL-4**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6/2	80	7.5YR 7/6	20	C	PL	Sandy	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/8/23

Applicant/Owner: _____ State: TN Sampling Point: UPL-4

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2-3

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0335557 Long: -89.3273404 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; padding: 5px;"> Yes _____ No <u>X</u> </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>		
Remarks:			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width: 50%;"> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)		
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;"> Wetland Hydrology Present? </td> <td style="width: 40%; padding: 5px;"> Yes _____ No <u>X</u> </td> </tr> </table>	Wetland Hydrology Present?	Yes _____ No <u>X</u>
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: UPL-4

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____

_____ =Total Cover

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

 Total Number of Dominant Species Across All Strata: 4 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>25</u>	x 4 = <u>100</u>
UPL species <u>45</u>	x 5 = <u>225</u>
Column Totals: <u>90</u> (A)	<u>385</u> (B)
Prevalence Index = B/A = <u>4.28</u>	

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
☐ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0¹
☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

 Yes _____ No X

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____

_____ =Total Cover

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____

_____ =Total Cover

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Astilbe crenatiloba</u>	<u>25</u>	<u>Yes</u>	<u>UPL</u>
2. <u>Solidago altissima</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>
3. <u>Cirsium discolor</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>
4. <u>Paspalum dilatatum</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____

90 =Total Cover

 50% of total cover: 45 20% of total cover: 18

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

_____ =Total Cover

50% of total cover: _____ 20% of total cover: _____

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: UPL-4**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6/4	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/7/23

Applicant/Owner: _____ State: TN Sampling Point: WTL-5

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0320140 Long: -89.3279845 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____		
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.			

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </td> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> <tr><td><input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)													
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<input type="checkbox"/> Dry-Season Water Table (C2)														
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<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)														
<input checked="" type="checkbox"/> Geomorphic Position (D2)														
<input type="checkbox"/> Shallow Aquitard (D3)														
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)														
<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)														
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>8</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u> (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Wetland Hydrology Present? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Wetland Hydrology Present?	Yes <u>X</u> No _____											
Wetland Hydrology Present?	Yes <u>X</u> No _____													
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Large fringe wetland from Wolf River														

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: WTL-5

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Liquidambar styraciflua</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: <u>13</u>	20% of total cover: <u>5</u>		

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Diodia virginiana</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Panicum amarum</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Cyperus echinatus</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
4. <u>Juncus marginatus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
5. <u>Hibiscus moscheutos</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: <u>55</u>	20% of total cover: <u>22</u>		

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>95</u>	x 3 = <u>285</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>135</u> (A)	<u>345</u> (B)
Prevalence Index = B/A = <u>2.56</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes X No _____

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: WTL-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6/1	80	7.5YR 6/6	20	C	PL	Sandy	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/8/23

Applicant/Owner: _____ State: TN Sampling Point: UPL-5

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2-3

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0335557 Long: -89.3273404 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width: 48%;"> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: UPL-5

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: <u>8</u>	20% of total cover: <u>3</u>		

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Diodia virginiana</u>	<u>35</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Panicum anceps</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Cyperus echinatus</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
4. <u>Juncus marginatus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
5. <u>Hibiscus moscheutos</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: <u>60</u>	20% of total cover: <u>24</u>		

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ =Total Cover			
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

 Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

 Total Number of Dominant Species Across All Strata: 6 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>95</u>	x 3 = <u>285</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>135</u> (A)	<u>345</u> (B)
Prevalence Index = B/A = <u>2.56</u>	

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
☒ 2 - Dominance Test is >50%
☐ 3 - Prevalence Index is ≤3.0¹
☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

 Yes ☒ No ☐

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: UPL-5**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6/4	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/7/23

Applicant/Owner: _____ State: TN Sampling Point: WTL-6

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0349778 Long: -89.3269889 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____		
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.			

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </td> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> <tr><td><input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)													
<input type="checkbox"/> Surface Soil Cracks (B6)														
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)														
<input type="checkbox"/> Drainage Patterns (B10)														
<input type="checkbox"/> Moss Trim Lines (B16)														
<input type="checkbox"/> Dry-Season Water Table (C2)														
<input type="checkbox"/> Crayfish Burrows (C8)														
<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)														
<input checked="" type="checkbox"/> Geomorphic Position (D2)														
<input type="checkbox"/> Shallow Aquitard (D3)														
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)														
<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)														
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Wetland Hydrology Present? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Wetland Hydrology Present?	Yes <u>X</u> No _____											
Wetland Hydrology Present?	Yes <u>X</u> No _____													
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Pond fringe wetland														

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: WTL-6

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>65</u> (A)</td> <td><u>145</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.23</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>25</u>	x 1 = <u>25</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>65</u> (A)	<u>145</u> (B)	Prevalence Index = B/A = <u>2.23</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>25</u>	x 1 = <u>25</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>40</u>	x 3 = <u>120</u>																			
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UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>65</u> (A)	<u>145</u> (B)																			
Prevalence Index = B/A = <u>2.23</u>																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling Stratum (Plot size: <u>15</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Shrub Stratum (Plot size: <u>15</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Panicum virgatum</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Juncus effusus</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
65 =Total Cover																				
50% of total cover: <u>33</u> 20% of total cover: <u>13</u>																				
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (If observed, list morphological adaptations below.)																				

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: WTL-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 7/1	60	7.5YR 7/6	40	C	PL	Sandy	Prominent redox concentrations
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.							² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)							Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)			<input type="checkbox"/> 1 cm Muck (A9) (LRR O)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)			<input type="checkbox"/> 2 cm Muck (A10) (LRR S)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> (MLRA 153B, 153D)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)			<input type="checkbox"/> (outside MLRA 150A)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Reduced Vertic (F18)		
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)			<input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> (outside MLRA 150A, 150B)		
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)		
<input type="checkbox"/> Muck Presence (A8) (LRR U)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)			<input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> (MLRA 153B)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Marl (F10) (LRR U)			<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)			<input type="checkbox"/> Very Shallow Dark Surface (F22)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)			<input type="checkbox"/> (outside MLRA 138, 152A in FL, 154)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)			<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)			<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)			<input type="checkbox"/> (MLRA 153B, 153D)		
<input checked="" type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)					
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)					
<input type="checkbox"/> Polyvalue Below Surface (S8)			<input type="checkbox"/> (MLRA 149A, 153C, 153D)					
<input type="checkbox"/> (LRR S, T, U)			<input type="checkbox"/> Very Shallow Dark Surface (F22)					
			<input type="checkbox"/> (MLRA 138, 152A in FL, 154)					
Restrictive Layer (if observed):								
Type: _____								
Depth (inches): _____							Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/8/23

Applicant/Owner: _____ State: TN Sampling Point: UPL-6

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2-3

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0349583 Long: -89.3270194 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width: 50%;"> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: UPL-6

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Maclura pomifera</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	<u>15</u> =Total Cover		
50% of total cover: <u>8</u>		20% of total cover: <u>3</u>	

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	_____ =Total Cover		
50% of total cover: _____		20% of total cover: _____	

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	_____ =Total Cover		
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Microstegium vimineum</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Paspalum dilatatum</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Cirsium discolor</u>	<u>15</u>	<u>No</u>	<u>UPL</u>
4. <u>Rubus argutus</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	<u>80</u> =Total Cover		
50% of total cover: <u>40</u>		20% of total cover: <u>16</u>	

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ =Total Cover		
50% of total cover: _____		20% of total cover: _____	

Remarks: (If observed, list morphological adaptations below.)

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>65</u>	x 3 = <u>195</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>15</u>	x 5 = <u>75</u>
Column Totals: <u>95</u> (A)	<u>330</u> (B)
Prevalence Index = B/A = <u>3.47</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is $\leq 3.0^1$

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes X No _____

SOIL

Sampling Point: UPL-6**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 6/4	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/7/23

Applicant/Owner: _____ State: TN Sampling Point: WTL-7

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0333861 Long: -89.3171306 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____
Is the Sampled Area within a Wetland?	Yes <u>X</u> No _____		
Remarks: Wetter than normal conditions indicated by the APT, 4 inches of rain in the previous 48 hours.			

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </td> <td style="width: 50%; vertical-align: top;"> <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> <tr><td><input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)													
<input type="checkbox"/> Surface Soil Cracks (B6)														
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)														
<input type="checkbox"/> Drainage Patterns (B10)														
<input type="checkbox"/> Moss Trim Lines (B16)														
<input type="checkbox"/> Dry-Season Water Table (C2)														
<input type="checkbox"/> Crayfish Burrows (C8)														
<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)														
<input checked="" type="checkbox"/> Geomorphic Position (D2)														
<input type="checkbox"/> Shallow Aquitard (D3)														
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)														
<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)														
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>8</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>3</u> (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Wetland Hydrology Present? </td> <td style="width: 40%; text-align: center;"> Yes <u>X</u> No _____ </td> </tr> </table>	Wetland Hydrology Present?	Yes <u>X</u> No _____											
Wetland Hydrology Present?	Yes <u>X</u> No _____													
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:														
Remarks:														

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: WTL-7

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix nigra</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Acer negundo</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	<u>80</u> =Total Cover		
50% of total cover: <u>40</u>		20% of total cover: <u>16</u>	

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	_____ =Total Cover		
50% of total cover: _____		20% of total cover: _____	

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	_____ =Total Cover		
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Diodia virginiana</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Carex albolutescens</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Juncus pylaei</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
4. <u>Sambucus nigra</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	<u>75</u> =Total Cover		
50% of total cover: <u>38</u>		20% of total cover: <u>15</u>	

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ =Total Cover		
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

 Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

 Total Number of Dominant Species Across All Strata: 6 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>80</u>	x 1 = <u>80</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>55</u>	x 3 = <u>165</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>155</u> (A)	<u>285</u> (B)
Prevalence Index = B/A = <u>1.84</u>	

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
☒ 2 - Dominance Test is >50%
☒ 3 - Prevalence Index is ≤3.0¹
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

 Yes X No _____

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: WTL-7**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 7/1	70	7.5YR 5/8	30	C	PL	Sandy	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/8/23

Applicant/Owner: _____ State: TN Sampling Point: UPL-7

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2-3

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0333358 Long: -89.3171325 Datum: NAD83

Soil Map Unit Name: Collin NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; text-align: center;"> Yes _____ No <u>X</u> </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>		
Remarks: Wetter than normal according to ATP			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width: 50%;"> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)		
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; text-align: center;"> Wetland Hydrology Present? </td> <td style="width: 40%; text-align: center;"> Yes _____ No <u>X</u> </td> </tr> </table>	Wetland Hydrology Present?	Yes _____ No <u>X</u>
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: UPL-7

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____ (A)	_____ (B)																			
Prevalence Index = B/A = _____																				
50% of total cover: _____ 20% of total cover: _____																				
Sapling Stratum (Plot size: <u>15</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Shrub Stratum (Plot size: <u>15</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Herb Stratum (Plot size: <u>5</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				
Remarks: (If observed, list morphological adaptations below.)																				

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No X

SOIL

Sampling Point: UPL-7**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1						Loamy/Clayey	
10-12	7.5YR 4/4						Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input checked="" type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Large O horizon of non-hydric organic content

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 9/28/23

Applicant/Owner: _____ State: TN Sampling Point: WTL-8

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0342076 Long: -89.3209538 Datum: NAD83

Soil Map Unit Name: Memphis silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Drier than normal conditions indicated by the APT.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <u>X</u> Surface Water (A1) <u>X</u> High Water Table (A2) <u>X</u> Saturation (A3) <u>X</u> Water Marks (B1) _____ Sediment Deposits (B2) _____ Drift Deposits (B3) <u>X</u> Algal Mat or Crust (B4) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9) </div> <div style="width: 48%;"> <u>X</u> Aquatic Fauna (B13) _____ Marl Deposits (B15) (LRR U) _____ Hydrogen Sulfide Odor (C1) <u>X</u> Oxidized Rhizospheres on Living Roots (C3) _____ Presence of Reduced Iron (C4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Thin Muck Surface (C7) _____ Other (Explain in Remarks) </div> </div>	Secondary Indicators (minimum of two required) _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) <u>X</u> Saturation Visible on Aerial Imagery (C9) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) <u>X</u> FAC-Neutral Test (D5) _____ Sphagnum Moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: WTL-8

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ulmus americana</u>	<u>35</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Acer rubrum</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		<u>60</u> =Total Cover	
50% of total cover: <u>30</u>		20% of total cover: <u>12</u>	

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Sagittaria latifolia</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Chasmanthium latifolium</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
		<u>85</u> =Total Cover	
50% of total cover: <u>43</u>		20% of total cover: <u>17</u>	

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>60</u>	x 1 = <u>60</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>85</u>	x 3 = <u>255</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>145</u> (A)	<u>315</u> (B)
Prevalence Index = B/A = <u>2.17</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes X No _____

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: WTL-8**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/1	90	7.5YR 5/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)
<input type="checkbox"/> Black Histic (A3)	(MLRA 153B, 153D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
<input type="checkbox"/> Polyvalue Below Surface (S8)	(MLRA 149A, 153C, 153D)
(LRR S, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
	(MLRA 138, 152A in FL, 154)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Coast Prairie Redox (A16)
(outside MLRA 150A)
<input type="checkbox"/> Reduced Vertic (F18)
(outside MLRA 150A, 150B)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)
<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)
(MLRA 153B)
<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
(outside MLRA 138, 152A in FL, 154)
<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)
(MLRA 153B, 153D)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
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Project/Site: Pidgeon Mitigation Site JD City/County: LaGrange, Fayette Sampling Date: 8/8/23

Applicant/Owner: _____ State: TN Sampling Point: UPL-8

Investigator(s): CK, DS Section, Township, Range: _____

Landform (hillside, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2-3

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.0342102 Long: -89.3211142 Datum: NAD83

Soil Map Unit Name: Collin NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;"> Is the Sampled Area within a Wetland? </td> <td style="width: 40%; padding: 5px;"> Yes _____ No <u>X</u> </td> </tr> </table>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>		
Remarks: Drier than normal according to ATP			

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width: 50%;"> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)		
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; padding: 5px;"> Wetland Hydrology Present? </td> <td style="width: 40%; padding: 5px;"> Yes _____ No <u>X</u> </td> </tr> </table>	Wetland Hydrology Present?	Yes _____ No <u>X</u>
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION (Five Strata) – Use scientific names of plants.

 Sampling Point: UPL-8

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Quercus falcata</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		<u>20</u> =Total Cover	
50% of total cover: <u>10</u>		20% of total cover: <u>4</u>	

Sapling Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ambrosia artemisiifolia</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Paspalum dilatatum</u>	<u>35</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Setaria italica</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
		<u>95</u> =Total Cover	
50% of total cover: <u>48</u>		20% of total cover: <u>19</u>	

Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
		_____ =Total Cover	
50% of total cover: _____		20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>35</u>	x 3 = <u>105</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115</u> (A)	<u>425</u> (B)
Prevalence Index = B/A = <u>3.70</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes _____ No X

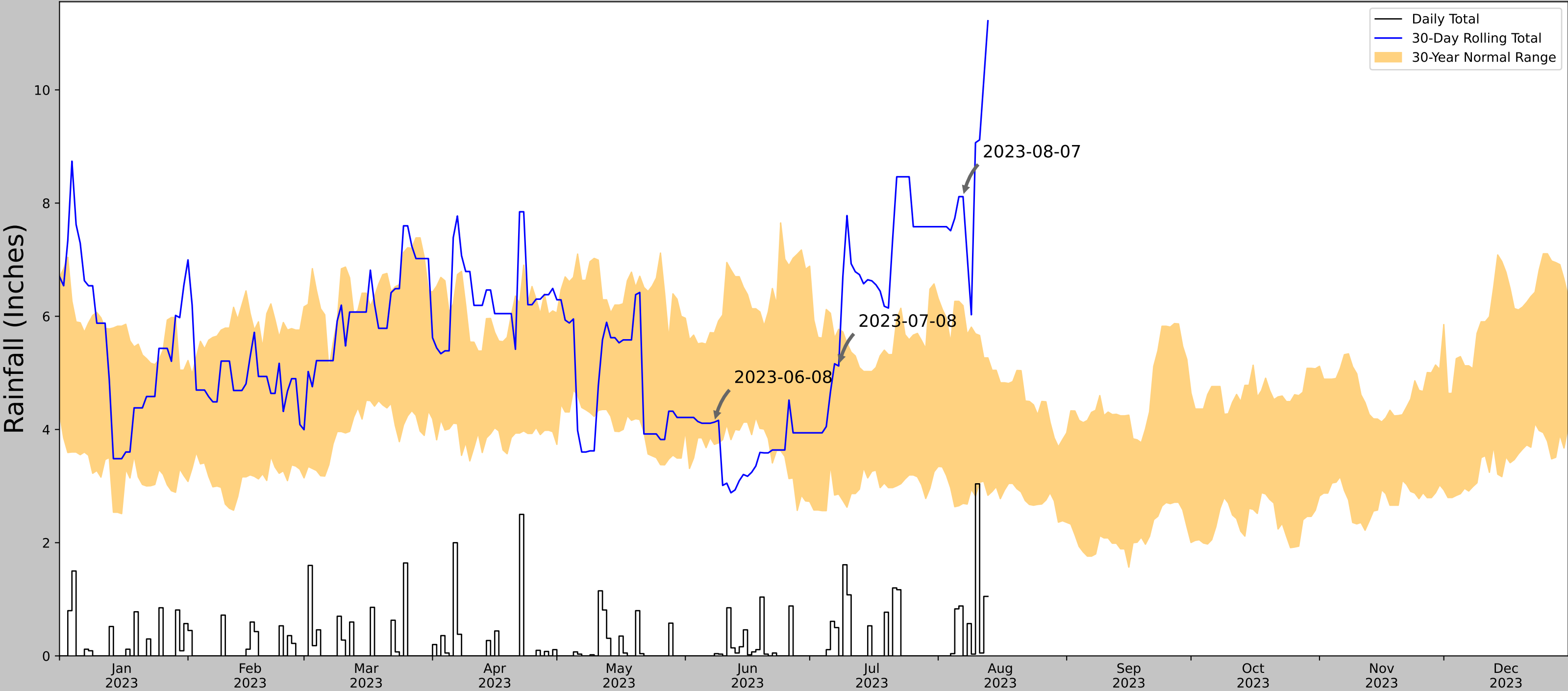
Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: UPL-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 8/2	100					Sandy	sand
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.				² Location: PL=Pore Lining, M=Matrix.				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)			<input type="checkbox"/> 1 cm Muck (A9) (LRR O)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Barrier Islands 1 cm Muck (S12)			<input type="checkbox"/> 2 cm Muck (A10) (LRR S)		
<input type="checkbox"/> Black Histic (A3)			(MLRA 153B, 153D)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)			(outside MLRA 150A)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Reduced Vertic (F18)		
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)			<input type="checkbox"/> Depleted Matrix (F3)			(outside MLRA 150A, 150B)		
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, T)		
<input type="checkbox"/> Muck Presence (A8) (LRR U)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)			<input type="checkbox"/> Redox Depressions (F8)			(MLRA 153B)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Marl (F10) (LRR U)			<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)			<input type="checkbox"/> Very Shallow Dark Surface (F22)		
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)			(outside MLRA 138, 152A in FL, 154)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)			<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)			<input type="checkbox"/> Barrier Islands Low Chroma Matrix (TS7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)			(MLRA 153B, 153D)		
<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			<input type="checkbox"/> Anomalous Bright Floodplain Soils (F20)					
<input type="checkbox"/> Polyvalue Below Surface (S8)			(MLRA 149A, 153C, 153D)					
(LRR S, T, U)			<input type="checkbox"/> Very Shallow Dark Surface (F22)					
(MLRA 138, 152A in FL, 154)								
Restrictive Layer (if observed):								
Type: _____						Hydric Soil Present? Yes ____ No <u>X</u>		
Depth (inches): _____								
Remarks: Large O horizon of non-hydric organic content								

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	35.035437, -89.319723
Observation Date	2023-08-07
Elevation (ft)	382.408
Drought Index (PDSI)	Incipient wetness (2023-07)
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-08-07	2.694095	6.188977	8.114173	Wet	3	3	9
2023-07-08	2.861024	5.772047	5.122047	Normal	2	2	4
2023-06-08	3.736221	5.706299	4.129921	Normal	2	1	2
Result							Wetter than Normal - 15




Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
AMES PLANTATION	35.1131, -89.2122	459.974	8.109	77.566	4.278	11193	86
SOMERVILLE 1.3 E	35.2392, -89.3283	369.094	10.904	90.88	5.898	10	4
MOSCOW	35.0711, -89.4117	334.974	11.646	125.0	6.696	120	0
BOLIVAR WTR WKS	35.2622, -88.9892	455.053	16.269	4.921	7.401	30	0

APPENDIX F

USFWS IPAC REPORT



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tennessee Ecological Services Field Office
446 Neal Street
Cookeville, TN 38501-4027
Phone: (931) 528-6481 Fax: (931) 528-7075



In Reply Refer To:

03/21/2024 19:15:09 UTC

Project Code: 2024-0066409

Project Name: Pidgeon Mitigation Bank

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

Tennessee Ecological Services Field Office

446 Neal Street

Cookeville, TN 38501-4027

(931) 528-6481

PROJECT SUMMARY

Project Code: 2024-0066409

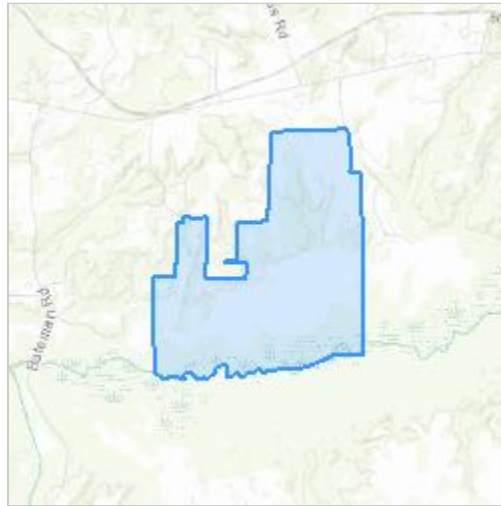
Project Name: Pidgeon Mitigation Bank

Project Type: Restoration / Enhancement of Waterbody

Project Description: A proposed stream and wetland mitigation bank.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.0383391,-89.31742116697592,14z>



Counties: Fayette County, Tennessee

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Daniel Spradlin
Address: 2704 Cherokee Farm Way, Suite 101
City: Knoxville
State: TN
Zip: 37920
Email: dspradlin@cecinc.com
Phone: 8653404938

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Tennessee Department of Environment and Conservation

APPENDIX G

AGENCY COMMENT LETTERS



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, MEMPHIS DISTRICT
167 NORTH MAIN STREET B-202
MEMPHIS, TENNESSEE 38103-1894

January 22, 2025

Josh Rowe
QHP | Ecology Project Manager
Civil & Environmental Consultants, Inc.
2704 Cherokee Farm Way, Suite 101,
Knoxville, TN 37920

Dear Mr. Rowe:

This is in response to your submittal of a Draft Prospectus for the Pidgeon Mitigation Bank in Fayette County, Tennessee. The proposed project entails the proposed re-establish, enhancement, and preservation of streams and wetlands, as shown on the attached maps. Based on the Draft Prospectus dated March 2024, a site visit conducted August 19, 2024, and comments received from the Tennessee Department of Conservation dated December 18, 2024 (attached); the Corps of Engineers offers the following comments.

Beginning with the proposal re-establish, enhance, and preserve approximately 342-acres of wetlands adjacent to the Wolf River. This is adjacent to the "Ghost River" portion of the Wolf River that is designated a State Natural Area by the State of Tennessee. Wetlands abutting natural preserves such as this are prioritized for mitigation opportunities. The Corps of Engineers is in support of re-establishment in these proposed areas where wetland hydrology can be restored and documented, enhancement in the areas that delineate as wetlands and can demonstrate need for enhancement, and preservation of wetlands that meet the criteria for preservation outlined in the 2008 Mitigation Rule.

Regarding the re-establishment, enhancement, and preservation streams within the project site we have the following comments: The project lies within the recharge zone of the Memphis Sands/Sparta Aquifer and sand lenses are near the surface in many areas within this zone. This can make stream restoration efforts challenging. Intersecting a sand lens can cause surface flow within a channel to go subterranean during times of low or no pressure or a sand lens can be a primary source of hydrology and sand during times of high pressure.

Beginning with STR-1A and associated pond STR-5, the removal of the pond has the potential to generate credit. However, the valley downstream of the pond is steep and narrow and presents some site constraint challenges. The Corps of Engineers is open to looking at how these challenges could be overcome and what the proposed hydraulic flow regime would be after re-establishment.

STR-6 has similar site constraints to STR-1A/STR-5; if the pond is removed, it is not clear if hydrology would be restored or removed due to the incision and incursions into the sand lens. The steepness and narrowness of the valley would also make it difficult to lift onto the existing floodplain. Further study of proposals and supportive data would need to happen before we could support restoration efforts in STR-1A/STR-5 and STR-6.

WWC-15/EPH-9 appears to lose its channel through intersections with the sand lens and go subterranean. The Corps of Engineers would not recommend any restoration efforts within the sand lens.

STR-3 has the most potential for restoration activities. Though no hydrology was present at the time of the site visit, indicators show the potential for seasonally relatively permanent flow. The channel is well defined, and soils are consolidated. The valley is wide and relatively flat, giving opportunities to uplift the channel and restore floodplain connectivity. The Corps of Engineers is supportive of further exploration of this channel to determine if the flow and soil characteristics will support restoration activities.

STR-4 has a sand laden channel which indicates that it has intersected a sand lens. Hydrology within this channel may be subsurface that has pushed up along with sand. Removal of this channel from the sand lens has the risk of removing hydrology. Without more data the Corps of Engineers is not certain if this stream or the surrounding valley is suitable for restoration activities.

The Memphis District, Regulatory Division is committed to providing quality and timely service to our customers. In an effort to improve customer service, we invite you to complete a Customer Service Survey found on our web site at <https://regulatory.ops.usace.army.mil/customer-service-survey/>. Your comments, positive or negative, will not affect any current or future dealing with the Corps of Engineers.

Thank you for your cooperation in the Regulatory program. If you have questions, please contact me at (901) 544-0732 and refer to File No. MVM-2024-094.

Sincerely,

A handwritten signature in black ink that reads "Damon M. McDermott". The signature is fluid and cursive, with the first name "Damon" and last name "McDermott" clearly legible.

Damon McDermott
Permit Manager
Regulatory Division

Enclosures



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES

Davy Crockett Tower
500 James Robertson Parkway, 9th Floor
Nashville, Tennessee 37243-1102

Memphis District Corps of Engineers
Regulatory Division
Attn: Damon McDermott
167 North Main Street
Memphis, TN 37920

December 18, 2024

Subject: Pidgeon Mitigation Bank
Fayette County, Moscow, Tennessee
Prospectus and Site Visit Comments

Mr. McDermott:

Thank you for providing the Tennessee Department of Environment and Conservation's Division of Water Resources ("the Division") with an opportunity to participate with the Tennessee Interagency Review Team ("IRT") regarding the proposed Pidgeon Mitigation Bank. The following comments are in response to a review of the submitted prospectus and a site visit conducted by IRT members on October 30, 2024.

1. The Sponsor must provide a response to each item below to the IRT in the Draft Mitigation Bank Instrument. Throughout the project review process, the Sponsor is required to communicate project updates directly to the Division's project managers identified at the conclusion of this letter.
2. In general, the streams and wetlands within the proposed project location appear degraded due to habitat alterations including channelization, crop production, grazing and normal forestry practices. Due to the degradation, the Division could potentially support the establishment of a stream and wetland mitigation project at this location.
3. Due to nearby state-listed wetland plant species, the Division recommends contacting TDEC's Division of Natural Areas to help inform potential design decisions.
4. Hydrologic monitoring wells must be installed where wetland restoration is proposed.
5. Please revise the Existing Features delineation of STR-3 to reflect conditions observed in the field. Jurisdictional characteristics were no longer present downslope of the existing road crossing (approximately 35.034326°, -89.319939°).
6. Based on field observations during the IRT site visit, the Division supports the removal of Pond 1 and re-establishment of STR-1 through the previous impoundment, and the removal of Pond 2 and the re-establishment of WWC-2 through the previous impoundment. For the restoration associated with Pond 2, WWC-2 should convey flow through WWC-9 prior to discharging flows into WWC-7.
7. For calculating the appropriate amount of credits generated through the process of removing an obsolete dam and restoring a stream through the previously impounded segment, please follow the protocols as described in the USACE's Regulatory Guidance Letter 18-01.

8. Unless additional data is provided demonstrating the ability to maintain hydrology within the lower channel of STR-4, the Division does not support the restoration of the channelized portion of STR-4.
9. 401 Water Quality Certification/Aquatic Resource Alteration Permit. The Division recommends the sponsor submit this permit application with the final draft of the amended Instrument.

The Division appreciates the opportunity to review and comment on these projects. If you have any questions concerning this letter, please contact Ross Rogers at Ross.Rogers@tn.gov.

Thank you,



Ross Rogers, Natural Resources Unit

cc: Sydney Norman, Natural Resources Unit
Caitlin Elam, TDEC Division of Natural Areas
Damon McDermott, USACE Memphis District
Jason Miller, TWRA
Robbie Sykes, USFWS
Julia Botz, EPA Region 4
Terry Horne, NRCS
Britta Lees, TVA



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES

Davy Crockett Tower
500 James Robertson Parkway, 9th Floor
Nashville, Tennessee 37243-1102

Memphis District Corps of Engineers
Regulatory Division
Attn: Damon McDermott
167 North Main Street
Memphis, TN 37920

December 18, 2024

Subject: Pidgeon Mitigation Bank
Fayette County, Moscow, Tennessee
Prospectus and Site Visit Comments

Mr. McDermott:

Thank you for providing the Tennessee Department of Environment and Conservation's Division of Water Resources ("the Division") with an opportunity to participate with the Tennessee Interagency Review Team ("IRT") regarding the proposed Pidgeon Mitigation Bank. The following comments are in response to a review of the submitted prospectus and a site visit conducted by IRT members on October 30, 2024.

1. The Sponsor must provide a response to each item below to the IRT in the Draft Mitigation Bank Instrument. Throughout the project review process, the Sponsor is required to communicate project updates directly to the Division's project managers identified at the conclusion of this letter.
2. In general, the streams and wetlands within the proposed project location appear degraded due to habitat alterations including channelization, crop production, grazing and normal forestry practices. Due to the degradation, the Division could potentially support the establishment of a stream and wetland mitigation project at this location.
3. Due to nearby state-listed wetland plant species, the Division recommends contacting TDEC's Division of Natural Areas to help inform potential design decisions.
4. Hydrologic monitoring wells must be installed where wetland restoration is proposed.
5. Please revise the Existing Features delineation of STR-3 to reflect conditions observed in the field. Jurisdictional characteristics were no longer present downslope of the existing road crossing (approximately 35.034326°, -89.319939°).
6. Based on field observations during the IRT site visit, the Division supports the removal of Pond 1 and re-establishment of STR-1 through the previous impoundment, and the removal of Pond 2 and the re-establishment of WWC-2 through the previous impoundment. For the restoration associated with Pond 2, WWC-2 should convey flow through WWC-9 prior to discharging flows into WWC-7.
7. For calculating the appropriate amount of credits generated through the process of removing an obsolete dam and restoring a stream through the previously impounded segment, please follow the protocols as described in the USACE's Regulatory Guidance Letter 18-01.

8. Unless additional data is provided demonstrating the ability to maintain hydrology within the lower channel of STR-4, the Division does not support the restoration of the channelized portion of STR-4.
9. 401 Water Quality Certification/Aquatic Resource Alteration Permit. The Division recommends the sponsor submit this permit application with the final draft of the amended Instrument.

The Division appreciates the opportunity to review and comment on these projects. If you have any questions concerning this letter, please contact Ross Rogers at Ross.Rogers@tn.gov.

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