



Wetland Resources Handbook



intentionally blank

Contents

List of Tables	v
List of Figures	v
Preface	vii
Acronyms	viii
Glossary	xi
SECTION I – Introduction	1
CHAPTER 1: PennDOT and Wetlands	2
What Are Wetlands?	2
Why Are Wetlands Important?.....	2
Wetland Regulation	2
PennDOT and Wetlands.....	3
Chapter 1 Summary.....	5
CHAPTER 2: Regulation of Wetlands and Waters in Pennsylvania	6
Federal Regulations – Waters of the United States	6
State Regulations – Waters of the Commonwealth.....	7
Other Regulations Related to Wetlands	8
Chapter 2 Summary.....	9
CHAPTER 3: Wetland Definitions and Classifications	10
Definition of Wetlands	10
Wetland Identification and Delineation	10
Wetland Classification	11
Wetland Functions.....	11
Chapter 3 Summary.....	12
SECTION II – Design	13
CHAPTER 4: Wetland Issues and Wetland Scoping	14
Wetland Identification	14
Estimating Impacts to Wetlands.....	15
Determining the Appropriate Permits	15
Effects of Wetland Impacts on Project Budget and Schedule.....	16

Scoping for Preliminary Design	17
Chapter 4 Summary	17
CHAPTER 5: Wetland Resource Identification, Delineation, and Documentation	19
Identifying Wetland Resources Off Site	19
Identifying and Delineating Wetland Resources On Site	20
Chapter 5 Summary	29
CHAPTER 6: Exceptional Value Wetlands	31
Relationship between Threatened and Endangered Species and Wetland Regulations	32
Guidance Related to Bog Turtles	33
Wild Trout Waters	36
Documentation Required for Section 404/Chapter 105 Permits	37
Chapter 6 Summary	37
CHAPTER 7: Compensatory Mitigation Planning	39
Wetland Banking and ILF (if available) Versus Project-Specific Mitigation	40
Wetland Mitigation Banking Process	50
Chapter 7 Summary	55
CHAPTER 8: Wetland Permitting	57
Federal and State Permitting Programs	57
Permitting Authorizations: National Environmental Policy Act (NEPA) versus Section 404 of the CWA and PA Chapter 105	57
Permit Framework	60
Water Obstruction and Encroachments Permitting	60
USACE Section 404 Permitting	61
Permit Application Process	68
Chapter 8 Summary	71
CHAPTER 9: Permit Execution and Special Conditions	73
Guidelines for Evaluating Draft Special Conditions	74
Environmental Commitment Mitigation Tracking System (ECMTS)	74
Chapter 9 Summary	75
SECTION III – Construction	77
CHAPTER 10: Construction Monitoring and Management	78
Permit Condition Review	78
Wetland Mitigation Construction Monitoring and Management	81
As-Built Documentation and Reporting Requirements	82
Chapter 10 Summary	83

CHAPTER 11: Post-Construction Monitoring	84
Performance Standards	84
Monitoring Methodology	85
General Site Inspection	89
Monitoring Report	89
Post-Construction Monitoring Schedule	91
Reporting Requirements	93
Adaptive Management Plan	94
Long-Term Management Plan	94
Chapter 11 Summary	94

SECTION IV – Maintenance & Management 97

CHAPTER 12: Maintenance Operations and Repairs	98
Examples of Regulated Maintenance Activities	98
Wetlands and Waters in Maintenance Operations	98
Large Maintenance Install Projects	99
Part 1 – Screening for Regulated Waters	99
Part 2 – Permitting	100
Part 3 – Permit Compliance	106
Chapter 12 Summary	107

SECTION V – Appendices

APPENDIX A: Useful Websites and Forms

APPENDIX B: Agency Web Site Addresses

APPENDIX C: USACE Regulatory Letter 05-05: Ordinary High Water Mark Identification

APPENDIX D: USACE Regulatory Guidance Letter 08-02: Jurisdictional Determination (JD)

APPENDIX E: Functional Assessment Methodologies

- New England Descriptive Method
- Wetland Function-Value Evaluation Form
- Wet Evaluation Technique (WET) Version 2.0
- Hydrogeomorphic Approach (HGM)

APPENDIX F: Pennsylvania State Programmatic General Permit-4

APPENDIX G: USACE Letter – Exemptions for Maintenance Activities for Culvert/ Pipe Replacement

APPENDIX H: Publication 23 Flowchart: Waivers for Maintenance Operations

APPENDIX I: USACE Regulatory Guidance Letter 08-03

APPENDIX J: 2008 Final Compensatory Mitigation Rule

APPENDIX K: PennDOT Umbrella Mitigation Banking Instrument and Timelines for Bank of ILF Instrument Approval and Dispute Resolution

APPENDIX L: Standard Permit Conditions: Special Conditions Concerning Compensation/Mitigation Sites

APPENDIX M: USACE Baltimore District Survey Standards

APPENDIX N: PA DEP Stormwater Management Consistency Guidance Memo

APPENDIX O: Model Declaration of Restrictive Covenants and Model Conservation Easement for the Pennsylvania State Programmatic General Permit-4

APPENDIX P: DEP Completion Report

List of Tables

Table 1: Generalized Summary of Wetland Permitting in Pennsylvania	16
Table 2: Planning for Project-Specific Wetland Creation: Schedule of Approximate Permitting Time, Permitting Cost, Mitigation Cost, and Monitoring Cost for Various Wetland Impacts*	17
Table 3: Wetland Jurisdiction	23
Table 4: Background Data for Site Collection.....	42
Table 5: Mitigation Bank Credit Release Schedule	55
Table 6: Permitting Process by Project Phase.....	58
Table 7: Summary of Permits under State and Federal Permitting Programs	61
Table 8: Waters Ineligible for PASPGP	62
Table 9: Summary of State DEP Waivers (Federal: PASPGP – Category I).....	64
Table 10: Summary of PASPGP Categories.....	65

List of Figures

Figure 1: PennDOT Operations and Wetland Permitting for Transportation Projects.....	4
Figure 2: Summary of USACE and DEP Jurisdictions	24
Figure 3: Bog Turtle.....	33
Figure 4: Bog Turtle Distribution within Pennsylvania (2009).....	34
Figure 5: Conceptual Mitigation Plan Example.....	46
Figure 6: Compensatory Mitigation Rule Timeline for Bank or ILF Instrument Approval.....	52
Figure 7: Communication Flow Chart for USACE and PennDOT	79
Figure 8: Environmental Permitting for Maintenance Operations	101

intentionally blank

Preface

The Bureau of Project Delivery, Environmental Policy and Development Section (BOPD-EPDS), is committed to integrating water resource considerations into all aspects of transportation planning and development. The water resources evaluation process will be incorporated in the Pennsylvania Department of Transportation's (PennDOT's) transportation project development process starting with the planning process, continuing through the preliminary engineering/environmental decision-making process, and extending into final design processes. To achieve this goal, the processes described herein have been developed to identify potential resources early in the transportation project development process in order to avoid and/or minimize impacts to wetlands and watercourses.

The procedures herein are not an adjudication or regulation. There is no intent on the part of PennDOT to give the procedures in this guidance weight or deference. This document establishes the framework within which PennDOT will exercise its administrative discretion in the future. PennDOT reserves the discretion to deviate from this guidance if circumstances warrant. This guidance is for information purposes only; it is not regulatory.

Acronyms

401 WQC	Water Quality Certification as required under Section 401 of the Clean Water Act
ACM	Agency coordination meeting
Act 120	The Commonwealth Act that established PennDOT; required full consideration of environmental impacts of transportation projects
Act 166	The Pennsylvania Floodplain Management Act of 1978
BMPs	Best Management Practices
BPJ	Best professional judgment
CE	Categorical Exclusions
CMSG	Compensatory mitigation strategies and goals
CWA	Clean Water Act of 1977, as amended 1987
DA	Department of the Army
DCNR	Pennsylvania Department of Conservation and Natural Resources
DEP	Pennsylvania Department of Environmental Protection
DM	Design Manual
DMP	Draft Mitigation Plan
DSC	Draft Special Conditions
DSEA	Dam Safety and Encroachment Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
ECMTS	Environmental Commitments and Mitigation Tracking System
EPA	U.S. Environmental Protection Agency
EPDS	Environmental Policy and Development Section (of PennDOT)
ESA	Endangered Species Act of 1973
EV	Exceptional Value
FHWA	Federal Highway Administration
FMP	Final Mitigation Plan
FONSI	Finding of No Significant Impact
GIS	Geographic Information System

Acronyms

GP	General Permit
ILF	In-lieu fee
IRT	Interagency Review Team (related to wetland banking)
JD	Jurisdictional determination
JPA	Joint Permit Application
LEDPA	Least environmentally damaging, practicable alternative
NEPA	National Environmental Policy Act of 1969
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OCC	Office of Chief Counsel
OHWM	Ordinary high water mark
PAB	Palustrine aquatic bed
PASPGP	Pennsylvania State Programmatic General Permit-4
PC	Prior Converted
PEM	Palustrine emergent
PennDOT	Pennsylvania Department of Transportation
PFBC	Pennsylvania Fish and Boat Commission
PFO	Palustrine forested
PGC	Pennsylvania Game Commission
PHMC	Pennsylvania Historical and Museum Commission
PNDI	Pennsylvania Natural Diversity Inventory
POW	Palustrine open water
PSS	Palustrine scrub-shrub
PUMBI	PennDOT Umbrella Mitigation Banking Instrument
RHA	Rivers and Harbors Act of 1899
ROW	Right-of-way
SAS	Special aquatic sites
SEMP	PennDOT’s Strategic Environmental Management Program
SNE	Significant nexus evaluation
SWANCC	Solid Waste Agency of Northern Cook County
TIP	Transportation Improvement Program
TNW	Traditional navigable waters

Acronyms

USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
UTM	Universal Transverse Mercator (coordinates)
WET 2.0	Wetland Evaluation Technique
WOC	Waters of the Commonwealth
WOTUS	Waters of the United States

Glossary

Agency Coordination Meeting (ACM) – A monthly meeting sponsored by PennDOT and held with federal and state environmental resource and regulatory agencies. The goal of the meeting is to review, discuss, and resolve environmental issues associated with a particular transportation project in Pennsylvania.

Aquitard – A material of low permeability that greatly slows movement of groundwater.

Adjacent – Bordering, contiguous, or neighboring TNWs, interstate waters (including wetlands), tidal waters, and their tributaries and impoundments. Adjacent waters also include: (1) those separated by constructed dikes or barriers, natural river berms, and the like and (2) wetlands within or abutting the OHWM of open waters (i.e., ponds or lakes). (33 CFR § 328.3(c)(1))

Best Management Practices (BMPs) – Structural and nonstructural practices designed to minimize the impacts of transportation projects on surface water quality.

Bureau of Project Delivery – A major administrative unit of PennDOT whose engineering staff administers design policy, oversees the Transportation Project Development Process, obtains federal approvals for specific projects, and performs various quality assurance functions.

Categorical Exclusion (CE) – A process used in accordance with NEPA to document that a Federal-Aid project or action does not have a significant effect on the environment, either individually or cumulatively, and is categorically excluded from the need to prepare and EIS or an EA. (Now part of DM-1B, Post-TIP NEPA Procedures.)

Conceptual Mitigation – The initial identification of measures that would need to be implemented to minimize, offset, or avoid environmental impacts associated with a given alternative.

Construction Phase – The last of the five phases of PennDOT’s Transportation Project Development Process in which a contractor, selected by PennDOT, constructs the improvement alternative.

Critical Habitat – Critical habitats are published in the *Federal Register* as they are designated. As of the date of this publication, Pennsylvania had only one critical habitat identified by the USFWS. Only those habitats listed as “critical habitat” in the *Federal Register* should be considered to be critical habitat. The term “critical habitat” has been used to describe other habitats beyond those listed under the ESA.

De Minimis – Less than or equal to 0.05 acre of wetland impact (as applicable to Chapter 105).

Environmental Assessment (EA) –

1. An exploratory report prepared for environmental clearance when the significance of impacts is not clearly known. An EA provides the analysis and documentation to determine whether an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) should be prepared. (Now part of DM-1B, Post-TIP NEPA Procedures.)
2. A section of the DEP Joint Permit Application that presents the potential impacts on the physical, chemical, and biological characteristics of the aquatic ecosystems and Special Aquatic Sites in the project area.

Environmental Impact Statement (EIS) – A written assessment required by NEPA analyzing the anticipated significant effects, both positive and negative, which a prospective action may have on the quality of the environment. The term “environment” encompasses the natural and physical environment and the relationship of people with that environment. (Now part of DM-1B, Post-TIP NEPA Procedures.)

Environmental Policy and Development Section (EPDS) – The section within PennDOT that develops long-range environmental and cultural resources policy and procedural guidance for PennDOT, leading to consistent and predictable best practices in environmental stewardship for transportation projects. EPDS also provides environmental and cultural resource services to PennDOT during the planning, design, construction, maintenance, and daily operation of transportation projects.

Ephemeral Streams – Watercourses that do not have well-defined channels and that flow only during or just after rainstorms or snow melts.

Essential Habitat – Contains habitat features critical to a species’ viability. Includes any habitat used during a species’ life cycle. Habitat units referred to as “occasional” and even “preferred” may not qualify as essential.

Exceptional Value (EV) Wetlands – A category of wetlands that deserves special protection. EV wetlands exhibit one or more of the following characteristics:

- Wetlands that serve as habitat for flora or fauna listed as federal or state “threatened” or “endangered;”
- Wetlands that are hydrologically connected to or located within ½-mile of wetlands that are identified in the first bullet point and that maintain the habitat of the threatened and endangered species identified in the first bullet point;
- Wetlands that are located in or along the floodplain of the reach of a wild trout stream or waters listed as exceptional value under Chapter 93 and the floodplain of streams tributary thereto or wetlands within the corridor of a watercourse or body of water that has been designated a national or state wild or scenic river;
- Wetlands located along an existing public or private drinking water supply, including both surface water and groundwater sources that maintain the quality or quantity of the drinking water supply; or
- Wetlands located in areas designated by DEP as “natural” or “wild” areas within the state forest or park lands, areas designated as federal wilderness areas, or areas designated as National Natural Landmarks.

Executive Order 11990 – The 1977 order requiring federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. To meet these objectives, the order requires federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided.

Field View – A site visit conducted by PennDOT to gather or verify data, define scopes of work, perform analyses, and make decisions about activities for specific projects. Field views are also used for meetings with permitting and other resource agencies to discuss permits and mitigation requirements.

Final Design Phase – The third of five phases of PennDOT’s Transportation Project Development Process. It includes preparation of final right-of-way plans for property acquisition and construction plans and specifications for bidding contracts.

Floodplain – The lands adjoining a river or stream that have been or may be expected to be inundated by flood waters in a 100-year frequency flood. (PA Chapter 105.1 Definitions)

Floodway – The channel of the watercourse and portions of the adjoining floodplains which are reasonably required to carry and discharge the 100-year frequency flood. (PA Chapter 105.1 Definitions)

Geographic Information System (GIS) – A computer-based system that provides users with the tools to visualize, question, analyze, and interpret data to understand relationships, patterns, and trends within geographic space.

Hydric Inclusions – Mapped soil units that are not predominantly hydric, but in certain landforms may contain a small percentage of hydric components.

Hydrophytes – Plants adapted to grow wholly or partially submerged in water or in very moist/saturated habitats.

Intermittent Streams – Identified by well-defined banks and natural channels but typically having flowing water from a headwater source for only a portion of the year.

Jurisdictional Determination (JD) – A site survey performed by the USACE to officially determine the extent of jurisdictional features on a given property.

Joint Permit Application (JPA) – The process required for the obstruction and encroachment of Waters of the United States, including wetlands. The Joint Permit streamlines the permit application process by providing a single form for both the state and federal permits required for the project.

Least Environmentally Damaging, Practicable Alternative (LEDPA) – The alternative with the least impacts to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. (40 CFR § 230.10(a))

Mitigation Measures – Measures taken to offset the negative impacts of a project to aquatic resources.

National Environmental Policy Act (NEPA) of 1969 – Federal legislation requiring federal entities to document the environmental impacts of transportation projects. PennDOT is delegated responsibility by FHWA for performing some tasks required by NEPA.

National Pollution Discharge Elimination System (NPDES) – Mandated by Section 402 of the CWA for projects that involve the discharge of pollutants into surface waters (including wetlands) for disposal purposes. The EPA has granted DEP the authority to administer NPDES permits under the Pennsylvania Clean Streams Law.

Navigable Waters – This term is defined in U.S. Coast Guard regulations found at 33 CFR § 2.36 (see Appendix A for a link to the regulation). When used in relation to the CWA, the term includes all Waters of the United States (WOTUS).

Neighboring – A water is considered neighboring to a TNW, interstate water (including wetlands), tidal waters, and their tributaries and impoundments, if:

- (1) the entire water or a portion of the water is located within 100 feet of the OHWM;
- (2) the entire water or a portion of the water is located within the 100-year floodplain and not more than 1,500 feet from the OHWM; or
- (3) the entire water or a portion of the water is located within 1,500 feet of the high tide line or OHWM of the Great Lakes.

(33 CFR § 238.3(c)(2))

Ordinary High Water Mark (OHWM) – The line on the shore established by the fluctuations of water and indicated by physical characteristics such as:

- A clear, natural line impressed on the bank;
- Shelving;
- Changes in the character of soil;
- Destruction of terrestrial vegetation;
- The presence of litter or debris; or
- Other appropriate means that consider the characteristics of the surrounding areas.

(33 CFR § 328 and § 329)

PA Chapter 105 – The law that regulates Waters of the Commonwealth by issuing a permit that is required in accordance with Pennsylvania’s Dam Safety and Encroachments Act of 1978, contained in Pennsylvania Code Title 25, Chapter 105, Dam Safety and Waterway Management Regulations. This permit is required for projects involving the construction, modification, or relocation of any dam, water obstruction, or encroachment. Activities that impact wetlands normally require a Chapter 105 permit. DEP automatically forwards PA Chapter 105 permit applications to the USACE in fulfillment of Section 401 of the CWA application requirements.

Palustrine Emergent Wetlands (PEM) – Wetlands dominated by emergent and herbaceous (non-woody) rooted vegetation. These plants can tolerate water at their base but cannot survive long periods of submersion.

Palustrine Forested Wetlands (PFO) – Forested wetlands that are seasonally flooded and contain woody vegetation 6 meters (15 feet) in height and taller.

Palustrine Scrub-Shrub Wetlands (PSS) – One of the most widespread classes of wetlands, dominated by woody vegetation less than 6 meters (15 feet) tall.

PennDOT 6-Step Process – The preliminary design phase of the PennDOT Transportation Project Development Process. The 6-Step Process is a framework for guiding the involvement of resource agencies in environmental evaluations of project studies.

Pennsylvania Natural Diversity Inventory (PNDI) – Project screening tool for reviewing the state’s native biological diversity, under the guidance of the DCNR.

Permit – Written permission from an agency with governing authority over a regulated resource.

Perennial Streams – Streams identified by well-defined banks and natural channels with continuously flowing water most years.

Planform Geometry – Mapping or drawings showing the meander of a watercourse.

Preliminary Jurisdictional Determination – A non-binding, not final, written indication and approximate location of possible WOTUS, including wetlands on a property. A preliminary JD may not be appealed and should not be used on projects that have significant wetland impacts.

Prior Converted Croplands (PC) – Wetlands that were drained, dredged, filled, leveled, or otherwise manipulated, including the removal of woody vegetation, before December 23, 1985, for the purpose of making the production of an agricultural commodity possible, and where an agricultural commodity was planted or produced at least once prior to December 23, 1985, and that have not been abandoned to return to wetland conditions.

Resource Agencies – Federal and state agencies that review regulated projects for consistency with environmental laws and policies. These agencies include but are not limited to:

- United States Army Corps of Engineers (USACE);
- United States Environmental Protection Agency (EPA);
- United States Fish and Wildlife Service (USFWS);
- Pennsylvania Department of Agriculture (PDA);
- Pennsylvania Department of Conservation and Natural Resources (DCNR);
- Pennsylvania Department of Environmental Protection (DEP);
- Pennsylvania Fish and Boat Commission (PFBC);
- Pennsylvania Game Commission (PGC); and
- Pennsylvania Historical and Museum Commission (PHMC).

Section 10 Waters – Refers to any navigable waters of the U.S., as per Section 10 of the Rivers and Harbors Act of 1899.

Section 402 – The section of the CWA that established the NPDES permit program.

Section 404 – The section of the CWA that establishes the permit program for discharging dredged or fill material into WOTUS, including wetlands.

Section 404(b)(1) – The section of the CWA that authorizes the process for evaluating permits to discharge dredged or fill material into WOTUS, including wetlands.

Significant Nexus Evaluation (SNE) – An evaluation conducted to determine if a water, including wetlands, significantly affects the chemical, physical, or biological integrity either alone or in combination with other similarly situated waters in the watershed of a TNW, interstate water (including wetlands), or a tidal water. (33 CFR § 238.3(c)(5))

Solid Waste Agency of Northern Cook County (SWANCC) v. USACE (2001) – 2001 Supreme Court decision (case brought by SWANCC) that determined that some wetlands (non-navigable, isolated, intrastate waters not used by migratory birds) are not regulated under the CWA.

Traditional Navigable Waters (TNW) – Navigable waters of the United States are those waters subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for the use to transport interstate or foreign commerce. (33 CFR § 328.3(a)(1))

Transportation Improvement Program (TIP) – The first four years of projects, constrained by anticipated funding, on the long-range transportation plan established by each region's metropolitan planning organization (MPO) or rural planning organization.

Tributary(ies) – A water that contributes flow, either directly or through another water (including an impoundment), to a TNW, interstate water (including wetlands), or tidal water that is characterized by the presence of a bed and banks and an OHWN. A tributary can be natural, man-altered, or man-made, and includes waters such as rivers, streams, canals, and ditches (with the exception of waters defined as non-jurisdictional in 33 CFR § 238.3(b)). A tributary will not lose its status as a tributary if, for any length, there are one or more constructed breaks (i.e., bridges, culverts, pipes, or dams), or one or more natural breaks (i.e., wetlands along the run of a stream, debris piles, boulder fields, or a stream that flows underground) so long as a bed and banks and an OHWN can be identified upstream of the break. A tributary will not lose its status if it contributes flow through a Water of the United States that does not meet the definition of a tributary or through a non-jurisdictional water to a TNW, interstate water (including wetlands), or tidal water. (33 CFR § 238.3(c)(3))

Watershed – The total land area that drains to a river system.

Wetland – Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas.

Wetland Banking – A system for providing compensatory mitigation for unavoidable impacts to wetlands. The goal is to provide an efficient and effective means to permanently replace wetland functions at an equal or greater value in advance of their loss or alteration by the authorized construction or maintenance of transportation facilities.

Wetland Identification and Delineation (Wetland I&D) Report – A report that provides the written and illustrated data used to identify and define the boundaries of wetlands within the project area and assess the effects of a project on a wetland.

Wetland Functional Assessment – Use of a methodology, as approved by PennDOT, FHWA, and regulatory agencies, to assess the functions of a wetland, including benefits to the natural and social environments.

SECTION I - Introduction



CHAPTER 1:

PennDOT and Wetlands

Regulatory compliance and environmental stewardship are key facets of the Pennsylvania Department of Transportation’s (PennDOT) mission. As PennDOT advances a transportation project, the goal is to select, design, and construct the most reasonable, practical, cost-effective, technically sound, and environmentally sensitive transportation improvement option. Projects that could affect wetlands must follow a specific process and comply with various state and federal regulations.

What Are Wetlands?

Wetlands are transitional areas between terrestrial and aquatic environments. Common names include swamps, marshes, bogs, and fens. Wetland habitats may be permanently flooded or only seasonally saturated. Prolonged saturation creates an oxygen deficiency that alters soil chemistry and appearance. Certain types of plants, called hydrophytes, flourish in these soils. Wetlands can be generally recognized by the presence of long-term standing water and the presence of hydrophytes such as skunk cabbage, cattails, or willows.

Why Are Wetlands Important?

Wetlands help manage water flows and provide natural filtration, improving downstream water quality, balancing groundwater levels, and supporting flood control. Wetlands are unique ecosystems that support numerous species of plants and wildlife, making them among the most productive habitats on earth. Certain species of plants and animals only live in wetlands. Wetlands are also important recreational areas for bird watching, duck hunting, fishing, and nature study. A growing appreciation of the value of wetlands has led to increased emphasis on their protection and ecological health.

Wetland Regulation

Wetlands (and most surface waters) are protected under federal and state laws. See Appendix A for useful websites and forms detailing wetland regulations. The primary laws that protect wetlands and waters in Pennsylvania are the following:

- Federal Clean Water Act of 1977 (CWA), as amended 1987;
- Federal Rivers and Harbors Act of 1899 (RHA);
- Pennsylvania Dam Safety and Encroachments Act of 1978; and
- Pennsylvania Clean Streams Law of 1937, as amended 2014.

Any person or entity—including PennDOT—who impacts a wetland must obtain authorization (a permit) from both the USACE and DEP.

“Impacts” include filling, regrading, piping, draining, or flooding.

Regulatory compliance and environmental stewardship are key facets of PennDOT’s transportation mission.



These laws established regulatory programs that are administered by the U.S. Army Corps of Engineers (USACE) and the Pennsylvania Department of Environmental Protection (DEP).

Any person or entity—including PennDOT—who impacts a wetland must obtain authorization (a permit) from both the USACE and DEP. “Impacts” include filling, regrading, piping, draining, or flooding.

PennDOT and Wetlands

This handbook has been prepared to support PennDOT’s environmental compliance and stewardship responsibilities. It provides guidance on federal and state laws and regulations that protect waters and wetlands in Pennsylvania, and the application of these laws and regulations to PennDOT projects.

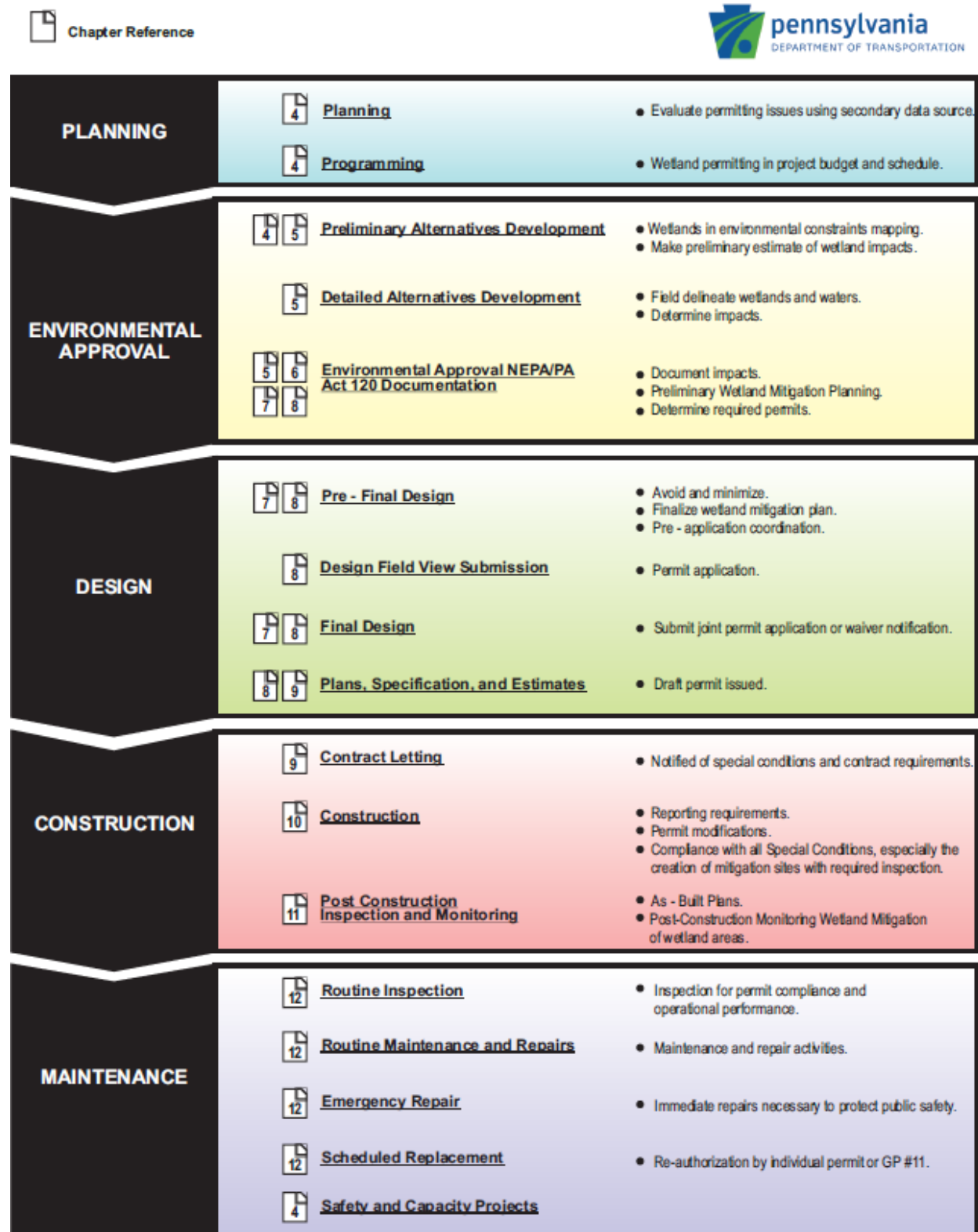
Of course, the most effective form of regulatory compliance is to identify and avoid wetland impacts from the earliest stages of a project. Impacting wetlands triggers permitting and mitigation requirements, adding costs and delays.

PennDOT’s highway operations are generally grouped into five phases, listed below. Regulatory compliance related to wetlands and waters is required during each phase.

- Planning and Programming Phase – Conduct secondary data source investigations and permitting feasibility, including budget and schedule.
- Preliminary Design Phase – Identify and delineate wetlands; perform avoidance analysis and mitigation planning.
- Final Design Phase – Complete avoidance analysis, prepare permit application, and finalize mitigation planning.
- Construction Phase – Implement permit conditions, construct mitigation areas, and inspect construction projects.
- Maintenance Phase – Maintain mitigation areas.

Figure 1 illustrates PennDOT’s highway operations phases and references the applicable chapter of this handbook.

Figure 1: PennDOT Operations and Wetland Permitting for Transportation Projects



Chapter 1 Summary

1. Regulatory compliance and environmental stewardship are key facets of PennDOT's transportation mission.
2. Wetlands are important environmental features that provide many benefits, including supporting flood control, improving downstream water quality, and providing unique habitats for plants and wildlife.
3. Wetlands are protected under federal and state laws.
4. PennDOT's first choice is to avoid wetlands; sometimes wetland impacts are unavoidable.
5. All PennDOT work that may affect wetlands is subject to federal and state regulations and requires authorization (permits) from both the USACE and the DEP.
6. Regulatory compliance related to wetlands and waters is required during each phase of PennDOT's highway operations: planning and programming, preliminary design, final design, construction, and operations and maintenance.



District 9-0 Mitigation Area – Mowry AWC Bank Site

CHAPTER 2:

Regulation of Wetlands and Waters in Pennsylvania

In Pennsylvania, wetlands, rivers, streams, and lakes are regulated by both the federal and state governments.

Federal Regulations – Waters of the United States

Under the U.S. Constitution, the federal government is charged with protecting and promoting interstate commerce. The federal government has established regulatory programs to restore and maintain the physical, chemical, and biological integrity of navigable waters, their tributaries, and other waters that support interstate commerce. The primary federal statutes that establish this regulatory program are the following:

- **Rivers and Harbors Act of 1899 (RHA)** – Gave the USACE and the U.S. Coast Guard the authority to regulate navigable waters. Placement of any structure or fill into navigable waters (called Section 10 Waters) requires USACE authorization. RHA is the oldest environmental legislation in the U.S.
- **Section 404 of the Clean Water Act (CWA)** – Regulates the discharge of fill into all U.S. waters, including wetlands. Section 404 established a permit program that protects Special Aquatic Sites (SAS), which includes wetlands. Guidelines authorized in Section 404(b)(1) establish a process for evaluating permit applications that aims to avoid and minimize impacts to SAS to the extent practicable. These guidelines can be found in 40 CFR § 230. If SAS are impacted they must be mitigated. Placement of fill into navigable waters of the U.S. requires USACE authorization.
- **Section 401 of the CWA** – Provides that federal agencies may issue permits to discharge into Waters of the United States (WOTUS) only where the state certifies that the discharge will comply with the state’s water quality standards. In Pennsylvania, a Section 401 Water Quality Certification (401 WQC) is typically issued by DEP when the PA Chapter 105 permit is issued. Section 404 permits from the USACE are not valid until DEP issues the Section 401 WQC.

Federal regulations protect essentially all surface waters with a direct connection to navigable waters, including their tributaries and adjacent wetlands and waters. Certain wetlands and waters may also be regulated if they significantly affect the water quality of navigable waters. Collectively these aquatic resources are referred to as Waters of the United States (WOTUS).

Section 10 of the RHA and Section 404 of the CWA are administered by the USACE. Any activity that involves the placement of fill (soil, stone,

In Pennsylvania, wetlands, rivers, streams, and lakes are regulated by both the federal and state governments.

concrete, steel, etc.) requires a USACE permit. Section 404 and Section 10 permits in Pennsylvania are generally in one of the following forms:

- Pennsylvania State Programmatic General Permits; (PASPGP)
- Individual Permits; or
- Nationwide Permits (limited—some nationwide permits are suspended in Pennsylvania and are covered under PASPGP).

The U.S. Environmental Protection Agency (EPA) is involved in developing policy for the Section 404 program and has concurrent jurisdiction with the USACE to enforce it. The U.S. Fish and Wildlife Service (USFWS) regularly comments on USACE Section 404 permits, as do state agencies and the general public. The EPA has the authority to veto a permit issued by the USACE.

State Regulations – Waters of the Commonwealth

State laws protecting waters and wetlands are broader in scope than the federal laws. The state government is charged with protecting public safety, personal property, and natural resources. Beginning in 1937 with the PA Clean Streams Law,¹ the state government has established regulatory programs that seek to protect water quality, protect the aquatic biota (aquatic life), and minimize flood-related damage. The scope of this pioneering regulatory program expanded in the mid-1970s to follow the federal lead of the CWA and the National Environmental Policy Act (NEPA). The primary statute that established this regulatory program is the:

- **Pennsylvania Dam Safety and Encroachments Act of 1978** – Established the state’s authority to regulate projects located in watercourses, water bodies (including wetlands), and floodways. These regulations are found in Pennsylvania Code Title 25, Environmental Protection; Chapter 105, Dam Safety and Waterway Management Regulations (officially 25 Pa. Code § 105, commonly known as PA Chapter 105). Any activity that impacts the course, current, or cross section of Waters of the Commonwealth (WOC), which includes wetlands, requires a PA Chapter 105 permit from the Pennsylvania Department of Environmental Protection (DEP).

State regulations protect WOC, which include essentially all natural or artificial watercourses, floodway, and bodies of water, which include ponds, lakes, wetlands, and vernal pools within Pennsylvania. Regulated watercourses in Pennsylvania include not only large rivers and streams, but also man-made ditches with perennial (year-round) or intermittent (seasonal) flow.

PA Chapter 105 permits and Section 401 WQCs are administered by DEP. Any activity that impacts the course, current, or cross section of a WOC (including wetlands) requires a PA Chapter 105 permit. PA Chapter 105 permits and Section 401 WQC in Pennsylvania are generally in one of the following forms:

The scope of the Commonwealth’s powers related to wetlands and waters is broader than the federal government’s.

¹ The PA Clean Streams Law established the state’s authority to regulate any activity that creates a danger of pollution or that must be regulated to avoid pollution. The law provides DEP with additional regulatory and enforcement authority for its Chapter 105 permitting program.

- Waiver;
- General Permit;
- Small Project Permit; or
- Standard Permit.

The PA Fish & Boat Commission (PFBC) and the PA Game Commission (PGC) regularly comment on PA Chapter 105 permits, as do the USFWS and the general public.

Other Regulations Related to Wetlands

There are other acts, regulations, executive orders, and policies related to wetlands and waters that are encountered during PennDOT highway operations. These include the following:

- **National Environmental Policy Act of 1969 (NEPA)** – Requires all federal agencies to fully consider the environmental impact of projects that they sponsor or fund. Compliance with NEPA is required prior to issuing a federal permit. Common steps to ensure NEPA compliance include documentation of the extent and functions of wetlands in the project area, avoidance and minimization of wetland impacts, analysis of the effects of unavoidable impacts, and details about potential compensatory mitigation.
- **Pennsylvania Act 120** – Established PennDOT in 1970 and required it to fully consider the environmental impact of projects that are considered transportation routes or programs and require the acquisition of new or expanded right-of-way. Stream and wetland resources are considered.
- **Section 402 of the CWA** – Established a National Pollutant Discharge Elimination System (NPDES) permit program. For PennDOT transportation projects, NPDES permits are required to address stormwater discharges associated with construction activities during and after construction. Certain high quality wetlands or waters may require a different type of NPDES permit. The NPDES program is administered either by the EPA or by the state that has been delegated the authority to administer the program. DEP administers the NPDES program in Pennsylvania.
- **Executive Order 11990 (1977)** – Required all federal agencies to develop rules to ensure that their projects (including projects they fund) minimize impacts to wetlands. Chapter 8 discusses the alternatives and practicability procedures PennDOT follows in order to comply with E.O. 11990.
- **Pennsylvania Floodplain Management Act of 1978 (Act 166)** – Established state floodplain management regulations affecting development in Pennsylvania. These requirements are typically addressed as part of the PA Chapter 105 permitting process.
- **Section 106 of the National Historic Preservation Act (1966)** – Requires federal agencies to take into account the effects of projects on historic properties, and provides the Advisory Council on Historic Preservation an opportunity to comment on the proposed project. This act is triggered if a Section 404 permit is required.
- **Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 66 et seq)** – Protects fish and wildlife when federal actions result in the control of, or modification of, a natural stream or body of water. It is the basic authority for the involvement of the USFWS in evaluating impacts to fish and wildlife from proposed water development.

- **Executive Order 13175 (2000)** – Established regular consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, to strengthen the “government-to-government relationship between the U.S. and Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes.”

Chapter 2 Summary

1. The primary federal laws protecting wetlands are Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act (CWA), and Section 401 of the CWA.
2. These laws are administered by the U.S. Army Corps of Engineers (USACE) and regulate any activity involving the placement of fill or structures into U.S. waters, including wetlands.
3. Section 10 and Section 404 permits in Pennsylvania are generally in one of the following forms: Pennsylvania State Programmatic General Permits (PASPGP), Individual Permits, or Nationwide Permits.
4. Other federal agencies may be involved: The EPA oversees USACE administration of the Section 404 program and the USFWS regularly comments on USACE Section 404 permits.
5. The primary Pennsylvania laws protecting wetlands are the Pennsylvania Clean Streams Law and the Pennsylvania Dam Safety and Encroachments Act of 1978 (commonly known as PA Chapter 105).
6. The DEP administers PA Chapter 105 permits and Section 401 Water Quality Certifications, which are generally in one of the following forms: Waiver, General Permit, Standard Permit, or a Small Project Permit (for waterway encroachments only, not for wetlands).
7. Other state agencies may be involved: The PFBC and the PGC regularly comment on PA Chapter 105 permits, as do the USFWS and the general public.
8. Other regulations that may apply to PennDOT highway operations are the National Environmental Policy Act of 1969 (NEPA), Pennsylvania Act 120, Section 402 of the Clean Water Act (the National Pollutant Discharge Elimination System permit program), Executive Order 11990, and Pennsylvania Act 166.



CHAPTER 3:

Wetland Definitions and Classifications

Definition of Wetlands

In this handbook, the term “waters” refers to any regulated aquatic habitat. Features such as lakes, ponds, rivers, streams, and wetlands are commonly called waters. The term “wetlands” refers to a type of waters that has a clearly established statutory and regulatory definition. The term encompasses a range of ecosystems, including bogs, marshes, wet meadows, and swamps. Wetlands also have a technical definition that is used by most regulatory programs:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

EPA Regulations, 40 CFR 230.3(t)

Wetland Identification and Delineation

Wetlands are identified or delineated by evaluating three indicators: soils, vegetation, and hydrology. All wetlands have three common elements:

- **Hydrophytic Vegetation** – Plants adapted to a life cycle in wet conditions are dominant in the vegetative community. (See *USACE Wetlands Delineation Manual, 1987*, p. 16.)
- **Hydric Soils** – Soils that show evidence of at least periodic saturation near the surface over an extended period of time during the growing season. (See *USACE Wetlands Delineation Manual, 1987*, p. 26.)
- **Wetland Hydrology** – Evidence that water is present in the area for a long enough time to support the two previous conditions. (See *USACE Wetlands Delineation Manual, 1987*, p. 34.)

The *USACE Wetlands Delineation Manual, 1987*, and appropriate regional supplements, are used to identify wetlands in Pennsylvania. These documents provide guidance on evaluating vegetation, soils, and hydrology when identifying wetlands and delineating wetland-upland boundaries. Much of the wetland information contained in this handbook is discussed in greater detail in the *USACE Wetlands Delineation Manual, 1987*, and appropriate regional supplements, available in Appendix A.

EPA wetland definition:
Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wetland Classification

Once a wetland is identified, the USFWS document *Classification of Wetlands and Deepwater Habitats of the United States*² by Lewis M. Cowardin, et al., 1979, may be used to classify the wetland based on hydrology and vegetation characteristics. This system, known as “The Cowardin Classification System,” is an ecological description and uniform classification scheme for the inventory, evaluation, and management of wetland habitats. Wetland habitat systems are classified through a hierarchy, progressing from systems and subsystems to classes, subclasses, and dominance types. Individual systems share similar hydrologic, geomorphological, chemical, and biological factors. The system defines five distinct major aquatic systems:

- Marine;
- Estuarine;
- Riverine;
- Lacustrine; and
- Palustrine.

Each aquatic system is subdivided according to its substrate material, flooding regime, and/or vegetative life forms. Freshwater wetlands are a type of Palustrine habitat that are typically further divided based on the dominant vegetation, as follows:

- Palustrine Emergent (PEM) – dominated by persistent emergent vegetation
- Palustrine Aquatic Bed (PAB) – dominated by submerged aquatic vegetation
- Palustrine Scrub-Shrub (PSS) – dominated by woody scrub and shrub (less than 15 feet high) vegetation
- Palustrine Forested (PFO) – dominated by forested woody (more than 15 feet high) vegetation
- Palustrine Open Water (POW) – dominated by open water

Wetland Functions

Wetlands can perform numerous beneficial functions such as discharging or recharging groundwater, slowing storm floodflow, filtering sediments and toxicants, removing excess nutrients from the water, providing wildlife and aquatic habitats, and stabilizing streambanks.

Regulatory agencies apply specific criteria to identify wetland functions and thus determine which wetlands qualify under their jurisdiction. Typical wetland functions include: 1) providing fish and wildlife habitat, 2) improving water quality, 3) attenuating floodflows, 4) transporting nutrients into the food chain, 5) providing recreational opportunities, and 6) providing products used by people. The functions

Wetlands can perform numerous beneficial functions:

- Discharging or recharging groundwater;
- Flood control;
- Filtering sediments and toxicants;
- Removing excess nutrients from the water;
- Providing wildlife and aquatic habitats; and
- Stabilizing streambanks.

² *Classification of Wetlands and Deepwater Habitats of the United States* can be found in Appendix A.

associated with each wetland are determined by, and interconnected with, the surrounding landscape and land uses. Not all wetlands provide all of these functions; some smaller wetlands may not serve any of these functions.

Chapter 5 details several standardized functional assessment methods.

Chapter 3 Summary

1. As defined by the U.S. Environmental Protection Agency, wetlands are “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”
2. Wetlands can be identified by the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.
3. The Cowardin Classification System is used to classify wetlands into one of five major aquatic systems based on hydrology and vegetation characteristics; each system is further divided according to its substrate material, flooding regime, and vegetation.
4. Regulatory agencies apply specific criteria to identify wetland functions, thus determining which wetlands fall under their jurisdiction.
5. Wetland functions include:
 - Providing fish and wildlife habitat;
 - Improving water quality;
 - Attenuating floodflows;
 - Transporting nutrients into the food chain;
 - Providing recreational opportunities; and
 - Providing products used by people.

SECTION II - Design



CHAPTER 4:

Wetland Issues and Wetland Scoping

This chapter provides guidance on how to evaluate wetlands during planning and programming—the first phase of the project development process.

PennDOT closely links the planning and programming phase with the preliminary design phase to promote an early assessment of potential wetland involvement. The presence of wetlands can affect both the project schedule (through permitting issues) and the project cost (through mitigation expenses). Due to the importance of providing accurate information for those projects being evaluated for the Transportation Improvement Program (TIP), PennDOT has committed to conducting wetland scoping early in the planning phase using secondary data sources such as the National Wetlands Inventory (NWI) and the Natural Resources Conservation Service (NRCS) Web Soil Survey on a GIS platform. In addition, PennDOT is working to ensure that the information collected in the planning phase is available and usable as the project advances into preliminary design.

Wetland scopings are conducted to determine the probable presence of wetlands and to estimate potential impacts of the proposed project to the wetlands. These early planning studies could include preliminary alternatives mapping or assessment of preliminary associated impacts. Preliminary wetland studies investigate the following questions:

- Are wetlands located in the project area?
- Will the project impact wetlands?
- Does a practicable wetland avoidance/minimization alternative exist (that includes the avoidance/minimization of impacts to other resources)?
- If impacts will occur, how will the impacts affect the project schedule and budget?

This chapter provides an overview of how to address these questions for a wetland scoping when funding is limited.

Wetland Identification

Wetlands can be identified by reviewing secondary source data, thereby avoiding detailed field investigations during preliminary phases of the project. Secondary source data include existing mapping (e.g., National Wetlands Inventory [NWI] maps, United States Geological Survey [USGS] topographic quadrangle maps, infrared photography, NRCS soil survey data files for each county, etc.) and aerial photography to predict wetland locations. A preliminary secondary source wetland map can be prepared for minimal cost when using data available via the

While secondary source data lack the level of detail needed to prepare a NEPA/PA Act 120 environmental document, or a PA Chapter 105 or Section 404 permit application, secondary source data will suffice for planning and programming purposes.

Internet. PennDOT's MPMS IQ system³ is an excellent source of this secondary data. Some projects may have LPN (Linking Planning and NEPA) mapping available, which is also a valuable source of secondary data. Chapter 5 of this handbook provides examples of secondary sources of data.



While secondary source data lack the level of detail needed to prepare a NEPA/PA Act 120 environmental document, or a PA Chapter 105 or Section 404 permit application, secondary source data will suffice for planning and programming purposes. An on-site field investigation will need to be conducted before moving onto the Preliminary Design Phase. Secondary data sources do not provide the level of detail necessary for the permit application package. Chapter 5 of this handbook addresses the technical procedures for preparing a preliminary secondary source wetland map.

Estimating Impacts to Wetlands

Temporary and permanent impacts to wetlands can best be avoided or minimized if they are addressed early in the planning process. Temporary impacts are minor, short-term impacts incurred during the project construction process that will not persist, due to the regenerative ability of the wetland. In some cases, temporary impacts may occur in such a manner that the regenerative capabilities of the wetland are adversely affected, requiring work to restore the temporarily impacted wetland. Chapter 105 and Section 404 both contain Special Conditions regarding required restoration of temporarily impacted wetlands. Temporary impacts can be caused by staging operations, construction activities, etc. Permanent impacts are of greater concern and require serious consideration of options to avoid them. Permanent impacts can result from alterations to hydrology, wetland grading, etc.

It is difficult to prepare preliminary estimates of temporary and permanent impacts to wetlands at the early stages of the project development process because the scope and design are still incomplete. However, sometimes the nature of the project alone will enable one to make a reasonable initial estimate of impacts, as in a roadway widening. In cases where the exact location of the project “footprint” is not yet available, as in a new roadway corridor, the predicted wetland impacts are an approximation based on the study team’s professional judgment and collective experience with similar projects. It is never too early to develop alternatives that avoid wetlands or minimize impacts to wetlands if avoidance is not possible. This is especially important on locally sponsored projects which may have early plans that are not easily permitted, such as a proposed new road that would bisect wetlands.

Determining the Appropriate Permits

The types of permits required for a project depend on the magnitude of the temporary and permanent impacts to streams and wetlands. Table 1 provides planning guidance on the appropriate permits required based on the acres of wetland impacts and linear feet of stream impacts.

³ The MPMS IQ system can be accessed by the link provided in Appendix A.

Table 1: Generalized Summary of Wetland Permitting in Pennsylvania

Surface Area Impacts to Waters, Including Wetlands	Linear Impacts to Watercourses	DEP PA Chapter 105 Permit	USACE Section 404 Permit	Application Type
< 0.25 acre	≤ 250 linear feet	Waivers and General Permits	PASPGP Category I	Waiver or General Permit Notification
≤ 1.0 acre	≤ 250 linear feet	Standard Permit	PASPGP Category II	Joint Permit Application or General Permit Notification
≤ 1.0 acre	≥ 250 linear feet	Standard Permit	PASPGP Category III	Joint Permit Application
> 1.0 acre	Any	Standard Permit	Individual Permit	Joint Permit Application

Table 1 provides general guidance on the relationship between impacts and appropriate permits. Other factors such as cultural resources, threatened and endangered species, the type of project, number of crossings, and projects in certain watersheds may render the project not eligible for the permit types indicated herein.

The thresholds listed in Table 1 apply to a “single and complete project” (i.e., each stream crossing or each wetland crossing) within a project. For example, this means that a linear project may be composed of more than one stream crossing as long as the impacts from each stream crossing do not exceed the thresholds. See Appendix F, page 7, for more information.

Exceptions to the PASPGP 250 linear feet threshold: Activities that are authorized under DEP GP-1 (Fish Habitat Enhancement Structures) and GP-3 (Stream Bank Rehabilitation and Protection) allow less than or equal to 500 linear feet of impacts to watercourses.

It is recommended that the user check the current PASPGP for additional Special Conditions.

Effects of Wetland Impacts on Project Budget and Schedule

If a project is likely to impact wetlands, it will affect the project schedule through extended permit review time and may increase the project cost by adding mitigation costs. As a general rule, the rigor of the wetland permitting process is commensurate with the quality and quantity of the wetland resource being impacted.

The wetland information collected during planning can be used to help generate a more accurate program cost estimate. Both permitting costs and mitigation costs should be considered when developing the cost estimates for design and construction.

Table 2 illustrates how various levels of wetland impacts could affect project budgets and schedules.

Table 2: Planning for Project-Specific Wetland Creation: Schedule of Approximate Permitting Time, Permitting Cost, Mitigation Cost, and Monitoring Cost for Various Wetland Impacts*

Wetland Impacts (Acres)	Permitting Time ¹ (Months)	Permitting Cost ²	Mitigation Cost ³	Post-Construction Monitoring Cost	Operation Maintenance & Remediation Costs	Total Cost
De Minimis ≤ 0.05	≤ 3	\$3,000 to \$10,000	None	None	None	\$3,000 to \$10,000
< 1	6 to 12	\$3,000 to \$15,000	\$20,000 to \$50,000	\$2,000 to \$20,000	\$2,000 to \$5,000	\$27,000 to \$90,000
1 to 5	12 to 24	\$15,000 to \$50,000	\$50,000 to \$200,000	\$20,000 to \$35,000	\$5,000 to \$25,000	\$90,000 to \$310,000
> 5	18 to 24	\$50,000 to \$100,000	\$200,000+	\$35,000 to \$150,000	\$25,000 to \$100,000	\$310,000+

1 Permitting Time – Estimated total time to conduct studies, assemble the permit, and coordinate the agency review process.

2 Permitting Cost – Estimated total cost to conduct studies, assemble the permit, and coordinate the agency review process.

3 Mitigation Cost – Rough estimate range for total cost. This includes right-of-way, design, construction, and maintenance costs for construction of new wetlands.

*This chart is presented for planning purposes only.

Scoping for Preliminary Design

Wetland information collected during the planning feasibility study can also be used to develop the scope of work for design and preliminary alternatives as the project advances into preliminary design. This information helps establish a realistic project schedule. Wetland information generated during the planning study should be forwarded to the preliminary design team, particularly any measures recommended to avoid impacts. PennDOT Design Manual Part 1B (DM-1B), Chapter 3, and DM-1C, Chapter 2, contain additional information related to the project scoping process.

Chapter 4 Summary

Wetland scoping is conducted early in the project planning phase to provide an initial assessment of how wetlands might affect the schedule and budget and to consider practicable alternatives to wetland impacts. Wetland scoping includes the following general steps:

1. Identify likely wetland locations in the project area using secondary source data, including existing mapping, soils data, and aerial photography (adequate for planning and programming purposes only).

2. Estimate the proposed project's temporary and permanent impacts to wetlands, continuing to look for ways to avoid or minimize impacts.
3. Estimate federal and state wetland permits required based on magnitude of impacts (see Table 1).
4. Estimate permitting time and cost as well as mitigation time and cost (see Table 2).
5. Provide wetland information to the preliminary design team, particularly any measures recommended to avoid impacts.



District 10-0 Mitigation Area – Schall Wetland Bank

CHAPTER 5:

Wetland Resource Identification, Delineation, and Documentation

Due to their regulatory protection, wetlands must be evaluated for every project. This chapter outlines the steps and methods used to characterize wetlands and determine the extent of evaluation required. The successive steps discussed in this chapter include identifying and confirming that an area is indeed a wetland, delineating the wetland to determine the exact location of its boundaries and receive appropriate jurisdictional determination (JD), and documenting the wetland information clearly to evaluate the effects of proposed activities in the wetland. The important documents to aid in identification, delineation, and documentation of wetland resources are the *USACE Wetlands Delineation Manual, 1987*, and appropriate regional supplements, which are available in Appendix A.

Identifying Wetland Resources Off Site

The presence of wetlands in a project area can be estimated using secondary data sources, prior to a site visit. This off-site method is useful as a starting point prior to an on-site review, or when an on-site review of the area is not possible (as in the case where permission to enter the property is refused by the landowner), or when an on-site review is not necessary during the scoping process (as in the case of an urban or developed setting exhibiting limited natural resources). The types of information available for off-site identification include:

- County soil surveys;
- USGS topographic quadrangle mapping;
- USFWS NWI mapping;⁴
- Aerial photographs;
- MPMS IQ mapping; and
- LPN mapping.

Using the above sources of information, the user can search for key identifiers that may signal the presence of a wetland, such as:

- Hydric soils;
- Hydric inclusions;
- NWI wetlands;
- Watercourses and adjacent floodplains;
- Exceptional value (EV) wetlands;

These sources should be reviewed during the planning stage to identify potential environmental resources within the project area prior to choosing an appropriate project alternative.

⁴ NWI mapping may underrepresent actual wetland conditions; however, it can be a useful secondary data resource.

- Flat and/or closed-contour topography; and
- Wet signatures on aerial photography.

The favorable wetland identifiers should then be added to the mapping layer for the project to determine whether or not wetlands could be a substantial environmental constraint on the project.

Even if no wetland identifiers are evident during the off-site review, a wetland delineation field investigation should be completed during preliminary design to verify the absence of wetlands if there will be impacts to the area.

A detailed description of a methodology for off-site studies can be found in the *USACE Wetlands Delineation Manual, 1987*. Additional information for off-site identification can sometimes be found in local county and municipal comprehensive plans under the section on Natural Area Inventories, and at the websites of the following agencies (see Appendix B – Agency Web Site Addresses):

- USACE;
- DEP;
- County conservation districts; and
- USFWS.

Even if no wetland identifiers are evident during the off-site review, a wetland delineation field investigation should be completed during preliminary design to verify the absence of wetlands if there will be impacts to the area.

Identifying and Delineating Wetland Resources On Site

The field investigation assesses the presence and extent of hydric soils and hydrophytic plants, and examines the hydrology of the potential wetland area.

The purpose of delineating the wetland is to mark (or delineate) its boundaries so that the wetland can be surveyed using an acceptable professional method and plotted on the project plans or mapping. Wetland delineations are completed in accordance with the methodologies outlined in the *USACE Wetlands Delineation Manual, 1987*, and appropriate regional supplements. Delineated wetlands are also classified in accordance with the USFWS document, *Classification of Wetlands and Deepwater Habitats of the United States* by Cowardin et al., 1979, which identifies the type of dominant vegetative cover for each wetland: PEM, PFO, PSS, POW, or PAB.

The wetland biologist, or other trained wetland delineator, marks the wetland boundaries by placing labeled flags at the limits of the wetland to clearly demarcate the boundary between the wetland area and the upland area. This is usually done by placing pin flags in the ground or by hanging survey ribbon on vegetation. Each flag is labeled with a flag number and wetland name identifier (for example: Wetland 001 Flag 1). Flags should be hung approximately every 50 feet for linear lines and at any point where the wetland line turns or changes course; this should properly capture the wetland perimeter. The labeled wetland identifier on each flag and the location of each point is recorded by the surveyor and added to the project map. The survey should be completed in accordance with Baltimore District's survey standards, at a minimum. The Philadelphia and Pittsburgh Districts both use Baltimore's standards. However, the appropriate district should be contacted to verify its required survey standards (Baltimore District standards are provided in Appendix M of this document). The project mapping should include any existing structures within the project area, including buildings, roads, and utilities; all identified wetlands

and streams; and any proposed work areas on the site. The work areas that overlap wetlands should be labeled and calculated as impacts.

All wetland areas for PennDOT projects must be evaluated using the *USACE Wetlands Delineation Manual, 1987*, and the appropriate regional supplement. A wetland delineation must be completed before the permit application is submitted.

On-site wetland identification and delineation includes a field investigation of the potential wetland area, including both agricultural and non-agricultural lands.⁵

Delineating Watercourses

All watercourses are **required** to be delineated as part of the wetland delineation process. The surface water connection, or significant nexus, between wetlands and waterways is an important component when determining federal jurisdiction of wetlands adjacent to and abutting streams. Significant nexus evaluations are discussed in more detail later in this chapter. The USACE (Section 404) regulates all tributaries with a defined bed and banks and OHWM. The DEP (Chapter 105) regulates all watercourses (natural or man-made) with a perennial or intermittent flow regime. The delineation of the limits of a watercourse should include the top of bank or limit of ordinary high water. The USACE defines the ordinary high water mark (OHWM) as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, presence of litter and debris, and other appropriate means that consider the characteristics of the surrounding area (33 CFR Part 328.3). See Appendix C – RGL 05-05 for guidance on determining the OHWM.

Watercourses include traditional navigable waters (TNWs), interstate waters (including wetlands), tidal waters, and their tributaries and impoundments. A TNW includes all navigable waters of the United States as defined in 33 CFR Part 329 as follows: Navigable waters of the United States are those waters subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for the use to transport interstate or foreign commerce. Additional information on navigable waters within Pennsylvania is available in Appendix A.

All TNWs, interstate waters (including wetlands), tidal waters, and their tributaries and impoundments are considered to be jurisdictional under the CWA. Waters and wetlands that are adjacent to these waters or their tributaries are also considered jurisdictional under the CWA. Adjacent waters or wetlands border, are contiguous, or neighbor TNWs, interstate waters, tidal waters, or their tributaries. A water is considered neighboring to a TNW, interstate water (including wetlands), tidal water, and their tributaries and impoundments, if:

- (1) the entire water or a portion of the water is located within 100 feet of the OHWM;
- (2) the entire water or a portion of the water is located within the 100-year floodplain and not more than 1,500 feet from the OHWM; or

All wetland areas for PennDOT projects must be evaluated using the *USACE Wetlands Delineation Manual, 1987*, and the appropriate regional supplement.

A wetland delineation must be completed before the permit application is submitted.

⁵ Agricultural lands are those that are clearly in use for growing crops, pasture, or other active agricultural practices. These areas should be evaluated in accordance with Chapter 5 of the appropriate regional supplement.

- (3) the entire water or a portion of the water is located within 1,500 feet of the high tide line or OHWM of the Great Lakes.

Isolated waters and wetlands located within 4,000 feet of a TNW, interstate water, tidal water, or their tributaries or an impoundment can be regulated if they possess a significant nexus to jurisdictional waters.

State and Federal Jurisdiction of Wetlands and Watercourses

All areas meeting the definition of a wetland or watercourse, as outlined in the sections above, are regulated by the state, as are bodies of water such as lakes, ponds, and vernal pools. Federal jurisdiction is more complicated. The Rapanos, Carabell, and Solid Waste Agency of Northern Cook County (SWANCC) U.S. Supreme Court decisions regarding the limits of federal jurisdiction have led to increased scrutiny of the connectivity or adjacency of delineated wetlands (see Appendix A for more information regarding these Supreme Court decisions). The EPA is developing additional guidance to help clarify how these decisions affect the jurisdictional determination process. Federal jurisdiction over intrastate wetlands and other bodies of water remains an unsettled question of law. This handbook sets forth PennDOT's best understanding of the extent of the jurisdiction currently asserted by EPA and USACE. Nothing in this handbook should be read as the Commonwealth's legal position on the federal jurisdiction question.

Wetlands are regulated at the federal level under Section 404 of the Clean Water Act if they are adjacent to a TNW, interstate water, or tidal water, or their tributaries or impoundments.

Wetlands are regulated at the federal level under Section 404 of the Clean Water Act if they are adjacent to a TNW, interstate water, tidal water, or their tributaries or impoundments. Wetlands are considered adjacent to a TNW, interstate water, tidal water, or their tributaries or impoundments if they are located within:

- 100 feet of the OHWM;
- the 100-year floodplain (but not greater than 1,500 feet from the OHWM);
- 1,500 feet of the high tide line; or
- 1,500 feet of the OHWM of the Great Lakes.

On a case-by-case basis the USACE may take jurisdiction of non-adjacent waters and wetlands that are within:

- the 100-year floodplain of TNWs, interstate waters, or tidal waters; or
- 4,000 feet of TNWs, interstate waters, tidal waters, or their tributaries or impoundments **AND** have a significant nexus to said waters.

The EPA published the final rule that defines Waters of the U.S. on June 29, 2015, which took effect 60 days after publication (August 29, 2015).

Table 3 explains how the jurisdiction of wetlands is determined based on a wetland's proximity to TNWs, interstate waters, tidal waters, and their tributaries and impoundments.

Table 3: Wetland Jurisdiction

Wetland Location	Significant Nexus Evaluation Required?	Jurisdiction
Adjacent to TNW, interstate water, or tidal water	No	CWA and State-level
Adjacent to a tributary	No	CWA and State-level
Within 4,000 feet of a tributary	Yes	CWA* and State-level
Beyond 4,000 feet of a tributary	Not Applicable	State-level

*The wetland is jurisdictional under the CWA only if it is determined to have a significant nexus to a TNW, interstate water, tidal water, or their tributaries or impoundments.

Other Jurisdictional Features (Pipes and Ditches)

Other features which may or may not be jurisdictional under the Clean Water Act include pipes, ditches, and swales. If a pipe or ditch connects two regulated Waters of the United States (including wetlands), the feature is considered to be regulated. The presence of a culvert or pipe within this connection does not affect or sever jurisdiction with upstream waters.

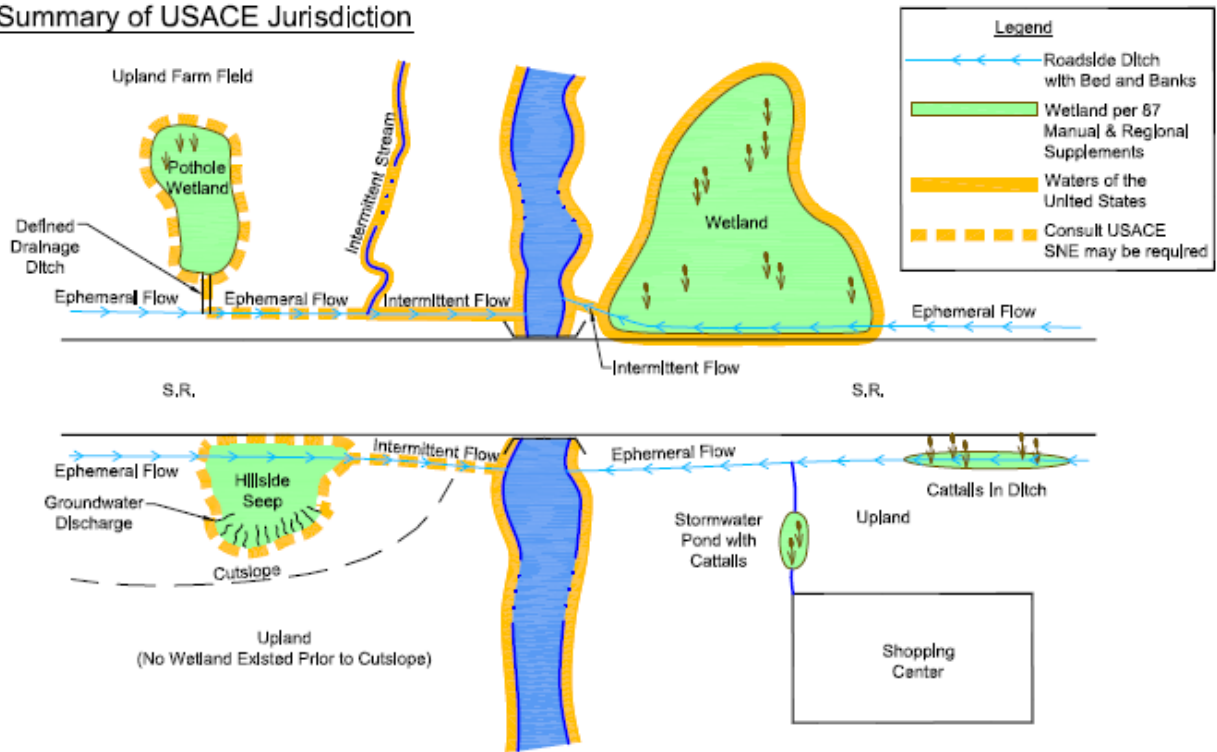
Any ditch, including roadside and tailing drainage ditches, which was excavated wholly in uplands, drains only uplands, and does not carry perennial flow, is not considered to be federally regulated. If the ditch has perennial flow, connects two regulated water bodies (including wetlands), or has a significant nexus with a TNW, it is considered to be a regulated ditch under the CWA.

For the most part, swales (watercourses that lack an OHWM or defined bed and banks) are not considered to be Waters of the United States. Figure 2 illustrates typical wetlands and watercourses that are encountered adjacent to roadway systems. This figure also identifies which of those are typically regulated by DEP and USACE.

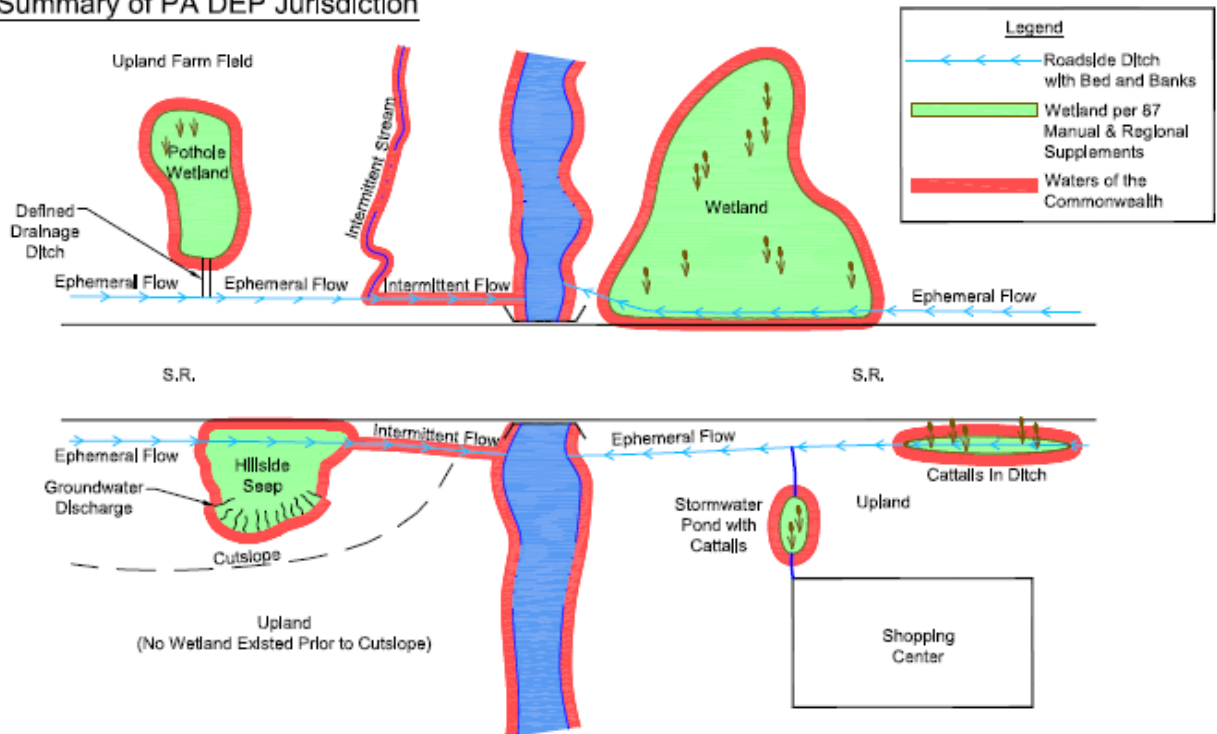
Gravel bars contained within a stream may be considered to be wetlands. If the gravel bar is within (below) the OHWM and does not contain wetland vegetation, it is regulated as part of the watercourse. If the gravel bar contains woody wetland vegetation, it is generally regulated as a wetland. If the gravel bar contains herbaceous wetland vegetation, it is generally regulated as part of the watercourse. Impacts to the gravel bar may be considered wetland impacts.

Figure 2: Summary of USACE and DEP Jurisdictions

Summary of USACE Jurisdiction



Summary of PA DEP Jurisdiction



Wetland Functional Assessment and Significant Nexus Evaluation

Special Note: During early 2014, the DEP circulated for public comment a new functional assessment and mitigation planning protocol – The Pennsylvania Function Based Aquatic Resources Compensation Protocol. Until further notice, the procedures outlined below are still accepted by the permitting agencies.

The wetland functional evaluation serves to both describe the wetland and allow the determination of its nexus to a TNW, if necessary. The wetland functions for each project should be evaluated using a qualitative assessment such as the USACE New England District's Descriptive Method or best professional judgment. The Wetland Evaluation Technique, or WET 2.0, is a quantitative functional assessment method that is also accepted by the regulatory agencies but is more cumbersome to use. While the USACE does not specify use of a particular assessment method, the New England Division's Descriptive Method is preferred because it best applies to the types of wetlands in Pennsylvania. (See Appendix E for descriptions of commonly used functional assessment methods. The listed methodologies provide a framework for assessing wetland functions and criteria for evaluating functional performance. In addition, Appendix A contains a link to the New England Descriptive Method.) For most projects, qualitative narrative descriptions of the functions provided and not provided will usually suffice.

Functional assessments are, in part, the data allowing the completion of a Significant Nexus Evaluation (SNE). A significant nexus exists if the wetland or watercourse has a more than insubstantial or a more than speculative effect on the closest TNW. See RGL 08-02, provided in Appendix D.

Qualitative narrative descriptions should address each of the functional categories outlined in the methodology and describe how the wetland does or does not provide that particular function. For example, the New England Descriptive Method identifies the following eight functions and five values as representative of descriptors for wetland resources.

Functions:

- Groundwater recharge/discharge
 - Recharge: Does the wetland have the potential to contribute water to an aquifer?
 - Discharge: Does the wetland have the potential to serve as an area where groundwater can be discharged to the surface?
- Floodflow attenuation
 - How effectively can the wetland reduce flood damage by storing and desynchronizing floodwaters for prolonged periods following precipitation events?
- Fish and shellfish habitat
 - How effectively can the wetland provide seasonal or permanent waterbodies for fish and shellfish habitat?

Functional assessments are, in part, the data allowing the completion of a Significant Nexus Evaluation (SNE). See RGL 08-02, provided in Appendix D.

- Sediment/toxicant/pathogen retention
 - How effectively can the wetland prevent sediments, toxicants, or pathogens from entering aquifers or surface waters?
- Nutrient removal/retention/transformation
 - How effectively can the wetland prevent excess nutrients from entering aquifers or surface waters?
- Nutrient production export
 - How effectively does the wetland produce food or usable products for humans or other living organisms?
- Sediment/shoreline stabilization
 - How effectively does the wetland stabilize streambanks and shorelines against erosion?
- Wildlife habitat
 - How effectively does the wetland provide habitat for various types of populations of animals typically associated with wetlands and the wetland edge? Both resident and/or migrating species must be considered and those species that are observed must be listed in the wetland assessment report.

Values:

- Recreation
 - Do the wetland and associated watercourses provide recreational opportunities such as fishing and hunting (consumptive), canoeing, boating, or bird-watching (non-consumptive)?
- Educational/scientific value
 - Can the wetland be used as a site for an “outdoor classroom” or as a location for scientific study or research?
- Uniqueness/heritage
 - Does the wetland or its associated waterbodies possess certain special values such as archaeological sites; unusual aesthetic quality; historical significance; or unique plants, animals, or geological features?
- Visual quality/aesthetics
 - Does the wetland have visual and aesthetic qualities?
- Threatened or endangered species habitat
 - Does the wetland or associated waterbodies support threatened or endangered species?

A description of the functional performance and related value should be completed for each of these categories. For example, “The wetland’s surface water connection outlet to a receiving stream provides for nutrient production export.” The Wetland and Watercourse Identification and Delineation (I&D) Report should include a description of the wetland and its functions. A full assessment is not needed in most cases. These functional assessments are used as a basis for determination of a significant nexus.

Wetland and Watercourse Identification and Delineation Reports

Districts should prepare a Wetland and Watercourse I&D Report (Appendix A – Useful Websites and Forms) that documents the methods and results of the delineation for every project requiring either a DEP or USACE permit. The report should be included in both the permit application and in PennDOT’s administrative record. It also serves as a technical document for the USACE when requesting a JD for wetlands within the project area. The Wetland and Watercourse I&D Report should include (at a minimum) the following information:

- Project description.
- Project location map. The preferred project location map would be a USGS quadrangle map (at original 1:24,000 scale) which shows the exact location of the project. The map should show the nearest intersection of two state roads, identifiable reference points, and concise directions to the site.
- Documentation of wetland delineation methods, procedures, and findings.
- Existing wetland conditions including size, classification, and all necessary soils and vegetation information.
- Functional assessment narrative (to include information related to the Significant Nexus Evaluation).
- Map showing wetland and watercourse locations, soil pits, and wetland and upland boundaries within the project location.
- Photographs of wetlands and the project area (include photograph location symbols on the map).
- Watercourse information, including size and description of the physical and biological habitat.
- Copies of PennDOT Notice of Intent to Enter (NOI) letters (if requesting a JD).
- Appended technical information including wetland and upland data forms, agency correspondence, NWI and soil mapping, resumes of personnel involved in preparing the Wetland I&D, and other relevant supporting documents.

Jurisdictional Determination of Wetlands and Watercourses

A JD is either a formal (approved) or preliminary determination made by the USACE as to the limits of wetlands and watercourses that will be considered Waters of the United States. The JD process is outlined in RGL 08-02 (see Appendix D) and summarized in this section.

The USACE makes a JD each time it authorizes an impact under Section 404. The USACE may complete a significant nexus determination as part of the JD review, based on information submitted by the applicant. While DEP has the authority to make its own regulatory determination, it generally accepts the USACE’s JD as suitable wetland and water verification for its requirements.

A JD is not required prior to submitting a permit application. Permit preparers should coordinate with the project manager or environmental manager to determine if a JD is necessary. The USACE will make a JD finding as part of the permit application review.

Approved Jurisdictional Determination

An Approved JD is the formal legal review process that verifies that all regulated Waters of the United States, including wetlands, have been properly delineated within a specific project area. While an Approved JD is not required for a project, it is recommended for large projects or projects with multiple alternatives and substantial wetland impacts, especially where the boundaries are difficult to delineate. Once the USACE completes a JD, there should be no further question or uncertainty over the limits of the regulated wetlands and waters within the project area for the duration of the JD (five years).

To request an Approved JD, submit the completed form titled “Approved Jurisdictional Determination Form” (see Appendix A for each district’s forms) to the USACE Regulatory Branch Chief or other appropriate USACE funded position. (See Appendix A for a link to the contact list.) Also include a letter of request and the items outlined in the JD Checklist (see Appendix A for each districts’ checklist). The USACE requires submission of all the listed items before a JD field view can be scheduled. Information contained in typical PennDOT Wetland and Watercourse I&D Reports will, in most cases, address the information requirements needed to obtain an Approved JD. Supplemental information regarding the landscape of the subject waters in relation to the TNW may be required to complete the significant nexus evaluation. Supplemental information needed to complete the approved JD can be identified in advance through coordination with the USACE project manager. The submitting district should conduct a quality assurance review before the final submission of the JD application.

A JD field view with USACE should be completed based on factors such as wetland impacts, questions regarding wetland connectivity, and/or difficulty determining the wetland-upland boundaries. A JD field view may be for the completion of a Preliminary JD or in concert with a request for an Approved JD. The field view may also serve as a permit pre-application meeting with USACE and DEP. If there has been a time lapse between the flagging of the wetland boundary and the scheduled JD, verify the flag locations prior to the JD field view. It is important that the wetland delineation flags are visible and legible for review in the field. The USACE will review the wetland delineation and the accuracy of the wetland location map during the JD field view. Sometimes USACE personnel may move the flags during the field view, requiring a resurvey of the wetlands and revisions to the map. Any revisions made during the field view must be documented and added to the project files.

A JD issued by the USACE is valid for five years. The USACE retains the right to reevaluate and modify the JD at any time in the event that the existing site conditions or federal regulations change or if the information provided proves to be incomplete, false, or inaccurate. See Appendix A for each district’s checklist of items required for a JD.

In-depth information concerning jurisdictional determinations and guidance on the Clean Water Act is available in Appendix A.

A JD is not required prior to submitting a permit application.

Permit preparers should coordinate with the project manager or environmental manager to determine if a JD is necessary. The USACE will make a JD finding as part of the permit application review.

Preliminary Jurisdictional Determination (JD)

An applicant may choose to waive an Approved JD and accept a Preliminary JD. A Preliminary JD is a non-binding written indication and approximate location of possible Waters of the U.S. within the property in question. A Preliminary JD may not be appealed. Most often Preliminary JDs are used for routine, non-controversial projects that do not include substantial wetland impacts. Preliminary JDs are used for most permit applications.

However, a Preliminary JD cannot be used to verify that isolated wetlands or Non-RPWs are non-jurisdictional. **When an applicant seeks a Preliminary JD, they are conceding that all areas designated as wetlands or waters are subject to USACE jurisdiction.** Only Approved JDs can designate certain waters as non-jurisdictional.

DEP regulates all wetlands and water bodies, including streams, regardless of federal jurisdiction. **Therefore, the need to document certain waters as non-regulated by the USACE is of limited practical value, since DEP will regulate them and require a permit to impact them. As such, a Preliminary JD is adequate for most PennDOT projects.** PennDOT typically does not challenge jurisdiction of isolated wetlands because DEP regulates all isolated wetlands.

Requests for a Preliminary JD must be submitted to the USACE on the “Preliminary JD Form” (see Appendix A for each district’s form). Information contained in typical PennDOT Wetland and Watercourse I&D Reports will address the information requirements needed to obtain a Preliminary JD.

Chapter 5 Summary

While each project varies in the detail required to complete a wetland determination, the following are general steps for wetland or watercourse determinations.

1. Review and verify data collection, documentation, and analyses that were performed during the planning and programming phase.
2. Verify secondary source information to identify probable wetland areas and any Exceptional Value (EV) wetlands. (See Chapter 6 for EV wetlands.)
3. Complete field delineation of all wetlands in accordance with methodologies outlined in the *USACE Wetlands Delineation Manual, 1987* and appropriate regional supplements. The delineation study should document the three wetland parameters of hydrophytic vegetation, hydric soils, and hydrology and should describe whether the wetland is isolated or connected, with additional discussion on whether the wetland is adjacent to or abutting an identified watercourse.
4. Delineate all watercourses within the project area.
5. Classify wetlands according to the Cowardin Classification System.
6. Prepare a Wetland and Watercourse I&D Report (Appendix A – Useful Websites and Forms). Include in this report the JD checklist items (see Appendix D) required by the USACE and note any special protections or designations for each wetland and watercourse.
7. Complete a qualitative functional assessment of the wetlands using either Best Professional Judgment (BPJ) or the USACE New England Descriptive Method, or complete a quantitative

functional assessment using the Wetland Evaluation Technique, Version 2 (WET 2.0). See Appendix E – Functional Assessment Methodologies.

8. Complete a JD field view with the USACE and DEP based on factors such as wetland impacts, questions regarding wetland connectivity, and/or difficulty determining the wetland-upland boundaries. The JD field view may be for completion of a Preliminary JD or in concert with a request for an Approved JD. The JD process is outlined in RGL 08-02 (see Appendix D). The JD field view may also serve as a permit pre-application meeting with the USACE and DEP.
9. A significant nexus evaluation (SNE) may be needed to determine whether certain wetlands or watercourses are federally regulated. The USACE makes the significant nexus determination based on information supplied by the applicant. A significant nexus exists if the wetland or watercourse has a more than insubstantial or a more than speculative effect on the closest TNW. The applicant can stipulate to federal jurisdiction by requesting a Preliminary JD and waive without prejudice the significant nexus determination.

CHAPTER 6: Exceptional Value Wetlands

Pennsylvania has two major classifications of wetlands: Exceptional Value (EV) and Other. Wetlands may be classified as EV if they:

- serve as habitat for flora and fauna listed as threatened or endangered;
- are located in the floodplain of a wild trout stream, Wild and Scenic Rivers, and/or Chapter 93 EV waters;
- are part of a watershed that is a drinking water source;
- are located in designated “natural” or “wild” areas within state forest or park lands; or
- are located in Federal Wilderness Areas or National Natural Landmarks.

Many of the species protected as threatened or endangered under federal and Pennsylvania state statutes are aquatic species that inhabit or interact with wetlands, lakes, streams, or rivers at some point in their natural history. The potential for PennDOT project-related actions to cause adverse effects on a federal- or state-protected species must be considered during the design, construction, and maintenance phases. (See PennDOT Publication 546, Threatened and Endangered Species Desk Reference, in Appendix A for further information on protected species.)

EV wetlands are afforded special protection under PA Chapter 105.17 of the Pennsylvania Code (Title 25, Environmental Protection; Chapter 105, Dam Safety and Waterway Management; Section 17). The EV classification is a designation used by the DEP; it is not used by USACE.

PA Chapter 105 defines EV wetlands as wetlands that exhibit one or more of the following characteristics:

- Wetlands which serve as habitat for flora or fauna listed as “threatened” or “endangered” under the Endangered Species Act of 1973, the Wild Resource Conservation Act of 1982, 30 Pa. C.S. of the Fish and Boat Code, or 34 Pa. C.S. of the Game and Wildlife Code.
- Wetlands that are hydrologically connected to or located within one-half-mile of wetlands identified under the preceding bullet and that maintain the habitat of the threatened or endangered species within the wetland identified under the preceding bullet.
- Wetlands that are located in or along the floodplain of the reach of a wild trout stream or waters listed as EV under 25 Pa. Code § 93 (Pennsylvania Code Title 25, Environmental Protection; Chapter 93, Water Quality Standards), and the floodplain of streams

EV wetlands are afforded special protection under PA Chapter 105.17 of the Pennsylvania Code (Title 25, Environmental Protection; Chapter 105, Dam Safety and Waterway Management; Section 17).

The special protection designation may warrant stringent avoidance and increased minimization mitigation efforts as part of the project development process.

tributary thereto, or wetlands within the corridor of a watercourse or body of water that has been designated as a National Wild or Scenic River in accordance with the Wild and Scenic Rivers Act of 1968, or wetlands designated as Wild or Scenic under the Pennsylvania Scenic Rivers Act of 1982.

- Wetlands located along an existing public or private drinking water supply, including both surface water and groundwater sources, that maintain the quality or quantity of the drinking water supply.
- Wetlands located in areas designated as “natural” or “wild” areas within state forest or park lands, wetlands located in areas designated as Federal Wilderness Areas under the Wilderness Act of 1964, or wetlands located in areas designated as National Natural Landmarks by the Secretary of the Interior under the Historic Sites Act of 1935.

Document wetlands that meet any of these criteria during the environmental evaluation process. The special protection designation may warrant stringent avoidance and increased minimization mitigation efforts as part of the project development process.

Relationship between Threatened and Endangered Species and Wetland Regulations

The authorization to encroach into jurisdictional waters within Pennsylvania requires satisfaction of statutory requirements under the rules and regulations of PA Chapter 105, Section 404 of the CWA, and, if applicable, Sections 9 and 10 of the RHA. These statutory requirements include evaluating the potential adverse effects to a protected species as a result of the proposed encroachment authorization.

The CWA and the Pennsylvania Dam Safety and Waterway Management Act may require the USACE and DEP to place special conditions on permits in order to avoid or minimize the potential for adversely affecting a federally or state listed species. These special conditions must be agreed to by PennDOT, FHWA, the agency that protects the species, and the USACE/DEP. In addition, these special conditions put the project under PASPGP Category III so that the USACE may oversee construction to ensure the project is in compliance with the USACE District’s jurisdiction.

The federal Endangered Species Act of 1973 (ESA) conserves the ecosystems necessary to support threatened and endangered species and conserves and recovers federally listed species. To view federally listed species for Pennsylvania see Appendix A.

Section 7 of the ESA applies to federal actions, such as the use of federal funding or the issuance of federal permits that may affect federally listed species. Section 7 requires all federal agencies to use their existing authorities to conserve threatened and endangered species and, in consultation with the USFWS, ensure that their actions do not jeopardize listed species or adversely modify critical habitat. **Section 9** of the ESA prohibits the unlawful taking of a federally protected species by individuals as well as by local, state, and federal government agencies. (The term “take” is defined as *to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species.*)

In Pennsylvania, one notable federally listed species inhabiting wetlands is the bog turtle. Wetlands that support the bog turtle are categorized as EV wetlands under PA Chapter 105.17. More information on bog turtles and other threatened and endangered species is available in Publication 546, *Threatened and Endangered Species Desk Reference*, available in Appendix A.

The protection of state-listed threatened and endangered species is codified within the Pennsylvania Fish and Boat Code, the Pennsylvania Game and Wildlife Code, and the Wild Resource Conservation Act—Conservation of Pennsylvania Native Wild Plants. See Appendix A to view state-listed species.

Regardless of the need for authorization of an activity under PA Chapter 105 or Section 404, any activities that would result in the unauthorized take of a listed species protected under the federal ESA or allied state mandates are prohibited. Two threatened and endangered species, bog turtles and freshwater mussels, commonly require additional studies as part of PennDOT projects. However, only bog turtles are found in wetlands and are discussed in this handbook. (Please note that this handbook does not contain detailed information on all of the threatened and endangered species that may inhabit wetlands and waterways.) For additional information, refer to PennDOT Publication 546, *Threatened and Endangered Species Desk Reference*.

Guidance Related to Bog Turtles

The bog turtle (*Glyptemys muhlenbergii*) (Figure 3) is a small, distinctively colored (orange or red blotch on each side of the head) turtle that inhabits wetland areas throughout portions of 15 counties in southcentral and eastern Pennsylvania Figure 4. The northern population of the species, which includes those in Pennsylvania, is listed as threatened under the federal ESA and as endangered under the Pennsylvania Fish and Boat Code.

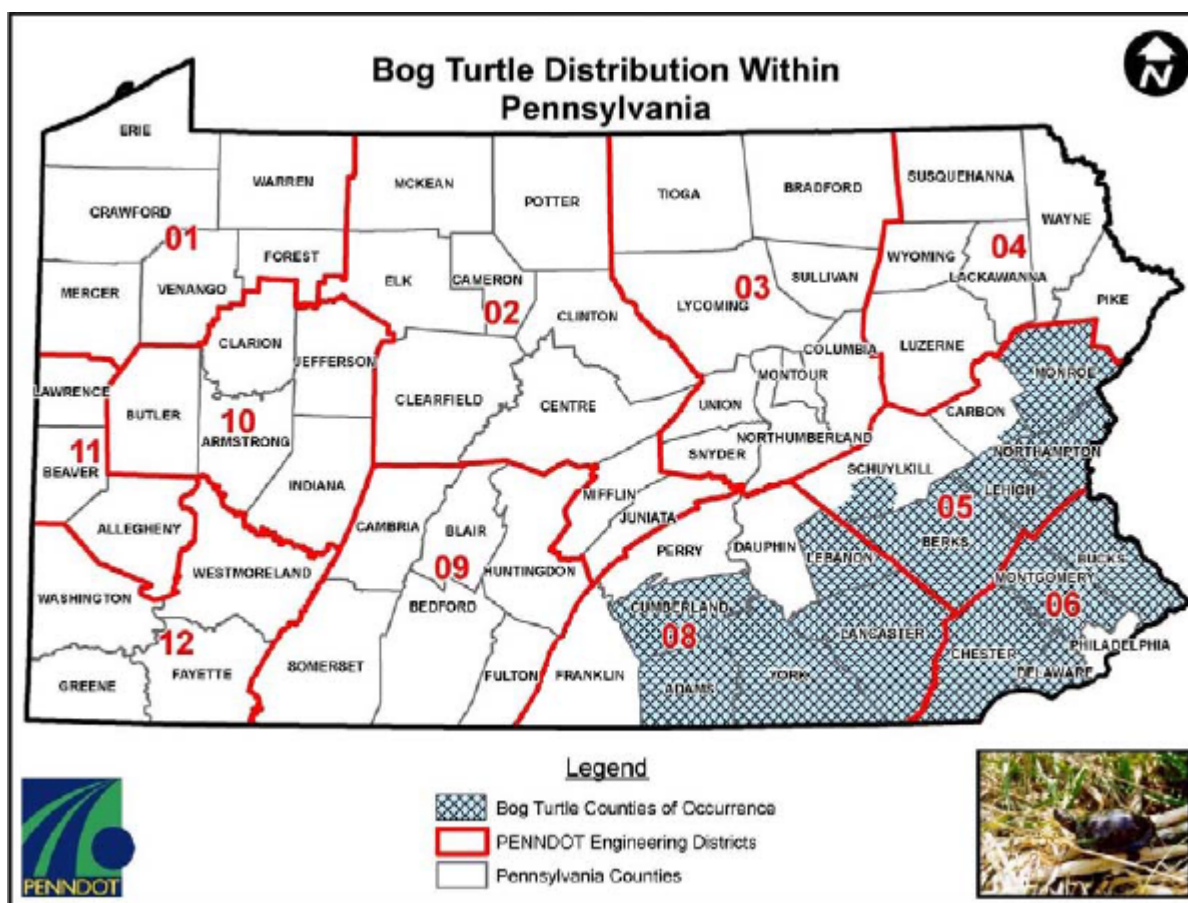
Wetlands that support the bog turtle are categorized as EV wetlands.

The species typically inhabits emergent wetlands in meadows and pastures which have a persistent source of groundwater springs and seeps; thick, organic, mucky soil conditions; and dominant vegetation consisting of low grasses and sedges, often with a scrub-shrub wetland component. The species has also been documented in some locations where it has become acclimated to disturbed wetland complexes with semi-closed forest canopies. Bog turtles have been observed as transients in forested habitat associated with springs and small streams leading to open marshes. These forested habitat areas may be utilized as dispersal corridors to other wetlands.

Figure 3: Bog Turtle



Figure 4: Bog Turtle Distribution within Pennsylvania (2009)



The bog turtle primarily uses a specialized early succession wetland type for its core habitat requirements and may potentially use watercourses distributed throughout a drainage basin as migration corridors. These habitats typically constitute jurisdictional wetland habitats and/or jurisdictional watercourses regulated under the provisions of PA Chapter 105 and Section 404.

PennDOT design projects, including construction of new transportation facilities and roadway maintenance, must be evaluated for the potential to interact with bog turtles if they:

- Will directly or indirectly impact wetland habitat within the 15-county range of the species; or
- Are within 300 feet of wetlands within the bog turtle counties.

This evaluation should include a review of the Pennsylvania Natural Diversity Inventory (PNDI). The PNDI system is an environmental review tool that can link to information about the location and status of important ecological resources.

The PNDI database search may indicate the need for further coordination with the USFWS. Note that PFBC has delegated coordination/consultation of joint state and federally listed species impact reviews to USFWS. However, if a bog turtle is found on site or if USFWS requests that PFBC be included in discussions, additional coordination will take place with PFBC. Issues related to the federal ESA and the Pennsylvania Fish and Boat Code require resolution before the USACE and DEP will issue any permits. PennDOT should initiate coordination as early as possible and should agree, in writing, to the steps

necessary during design, construction, and maintenance to avoid, minimize, and mitigate effects to the protected species or its habitat.

If the project area is within the 15-county bog turtle region, PASPGP requires that a Phase I Habitat Assessment be conducted, regardless of the PNDI results.

- **Phase I Habitat Assessment:** PennDOT activities that directly or indirectly impact wetland habitats within the range of the species require a Phase I Habitat Assessment to determine if suitable conditions exist to support the species. The Phase I Habitat Assessment must be completed prior to authorization of wetland impacts via DEP General Permits 3, 4, 5, 7, 8, and 11; DEP Standard Permits; and all USACE Section 404 permits.

The Phase I Habitat Assessment can be completed during any month of the year as long as there is no snow cover. It is recommended but not required that a USFWS-PFBC-recognized qualified bog turtle surveyor undertake the survey. The results of the assessment should be forwarded to the USFWS for concurrence.⁶ All correspondence from the agency must be attached to the permit application. The USACE accepts the Phase I Habitat Assessment in lieu of the Bog Turtle Habitat Screening Form, which is included in the Joint Permit application package.

If potential habitat for the species is identified within a wetland that will be impacted, consultation with the resource agencies should be initiated to discuss avoidance, minimization, and permitting constraints. The resulting strategies that are agreed upon can be incorporated into the special conditions of the permit and documented in the Environmental Commitments and Mitigation Tracking System (ECMTS). The following are example strategies:

- **Phase II Species Survey:** A detailed survey of the entire wetland habitat to determine the presence or probable absence of the species may be required when substantial impacts are proposed. The survey (see Appendix A – Useful Websites and Forms) is completed by a “recognized qualified” bog turtle surveyor in accordance with the USFWS and PFBC. (They provide a list of surveyors that includes professional and amateur herpetologists recognized as qualified to identify bog turtle habitat and to survey for the presence of bog turtles.) The species survey must be conducted between April 15 and June 15, when vegetation is still low and the ground is clear, under appropriate weather conditions. This type of survey effort requires a minimum of four survey events within the wetland during the April 15 to June 15 period to confirm the presence or probable absence of bog turtles. Projects proposed in confirmed species habitat areas require extensive consultation, possibly including formal Section 7 ESA consultation with the USFWS and other natural resource agencies.
- **Preconstruction Survey – Best Management Practices (BMPs):** A single pre-construction search for bog turtles within the project impact area (using Phase II bog turtle survey methodology) may be used (in coordination with the USFWS and PFBC) for certain types of projects that have limited impacts to waterways and wetlands previously determined to be potential bog turtle habitat.

⁶ The USFWS is currently allowing recognized qualified bog turtle surveyors to self-certify negative Phase 1 survey results if, and only if, the survey was conducted due to a potential impact indication on a PNDI receipt. A potential impact on a PNDI receipt means that the project is overlapping a potential bog turtle wetland or watershed. This new rule does not apply to Phase 1 surveys conducted solely because the project is located in a designated bog turtle county.

If a pre-construction survey is the recommended action through coordination with both USFWS and PFBC and a General Permit is the intended authorization, the terms of the survey must be proffered in the application package.

Pre-construction surveys must be conducted during the bog turtle's active season, which is between April 1 and October 31.

Immediately prior to the start of any earth-disturbance activities, a team led by a qualified bog turtle surveyor must search for bog turtles and install a barrier (most often silt fencing) designed to prevent turtles from migrating into the disturbance area. Any bog turtles found during the pre-construction survey must be able to be relocated prior to the start of construction, in consultation with the USFWS and PFBC. The USFWS and PFBC must concur with this BMP strategy before it is applied to an individual project. Since this BMP is added as a special condition to DEP/permit requirements and can affect construction schedules, it is critical that the PennDOT construction or maintenance units assist in developing implementation details of these BMPs.

Other BMPs used to avoid direct and indirect impacts to wetlands and waterways include fencing and proper installation and maintenance of erosion and sedimentation control structures.

- **Time-of-Year Construction Restrictions:** Proposed activities which impact potential travel corridors or those which incur very minor impacts on wetland habitats that lack the characteristics of over-wintering hibernacula (sites suitable for winter hibernation) may be constructed during the species' inactive season, which is between November 1 and March 31. The USFWS and PFBC should concur with this strategy and apply it to an individual project.

All of these strategies require special provisions in the PennDOT construction contract to inform the contractor of actions required to protect the bog turtle. These special provisions should be discussed in detail with the project manager and construction team during the project development process and tracked in ECMTS. These strategies and others developed in consultation with the USFWS and PFBC should prevent any adverse effects to the species as a result of a PennDOT action. For additional information, refer to PennDOT Publication 546, *Threatened and Endangered Species Desk Reference*.

Wild Trout Waters

The PFBC maintains a list of waters that contain wild trout populations, which is available in Appendix A.

Wetlands that are located in or along the floodplain of the reach of a wild trout stream, and/or the floodplains of the stream's tributaries, are considered EV waters. If wild trout are discovered within the project area, the wetlands associated with these drainages are typically considered EV wetlands regardless of inclusion in the PFBC official list of wild trout waters. **In some cases, the DEP may consider all wetlands within the watershed of a wild trout watercourse as EV wetlands.**

Pre-construction surveys must be conducted during the bog turtle's active season, which is between April 1 and October 31.

Documentation Required for Section 404/Chapter 105 Permits

The PNDI search results must be included with written documentation indicating that potential conflicts with protected species have been resolved with the appropriate agency(ies) having jurisdiction over the species. Potential impacts to protected species should be addressed and resolved with the jurisdictional agencies prior to applying for PA Chapter 105 authorization. If potential conflicts involving protected species remain unresolved, the permit application will be deemed administratively incomplete or technically deficient, requiring the USACE to review the project as a PASPGP Category III. Projects with these types of issues become Category III so that the project can be closely monitored, ensuring any special conditions included in the permit are met.

Documentation from the USFWS regarding the effects of a project on a federally listed species includes either a letter response concluding that the project or collectively that a grouping or type of project will not adversely affect the species (when consultation is completed under informal consultation) or a Biological Opinion concluding that the project will not result in jeopardy or adverse modification to the species (when consultation is completed under formal consultation). Either of these documents will ensure the statutory consistency of Section 404 authorization with the federal ESA.

PA Chapter 105.16 specifies that a permit application will not be approved unless the applicant demonstrates and DEP finds that the project will not have an adverse impact on an area which serves as a habitat of a threatened or endangered species protected by federal or state statutes. Filing requirements for a permit application under PA Chapter 105 include documentation that resolves the threatened and endangered species issue; this may include a Biological Opinion, an agency clearance letter, or programmatic documentation.

Unresolved threatened and endangered species issues require the USACE to review the project as a PASPGP Category III.

Chapter 6 Summary

1. Wetlands may be classified as Exceptional Value (EV) if they:
 - Serve as habitat for flora and fauna listed as threatened or endangered;
 - Are located in the floodplain of a wild trout stream, Wild and Scenic Rivers, and/or Chapter 93 EV waters;
 - Are part of a watershed that is a drinking water source;
 - Are located in areas designated as “natural” or “wild” within state forest or park lands; or
 - Are located in areas designated as Federal Wilderness Areas or National Natural Landmarks.
2. PA Chapter 105 provides additional detail on EV wetland characteristics.
3. USACE and DEP may place special conditions on wetland permits to avoid or minimize the potential for adversely affecting a federally or state listed threatened and endangered species, consistent with federal and state law—including Section 7 of the federal Endangered Species Act of 1973.
4. Bog turtles are a threatened and endangered species that inhabit wetlands and typically require additional studies and provisions if they are to be affected by PennDOT projects. These may include a

Phase I Habitat Assessment, a Phase II Species Survey, a Preconstruction Survey and development of Best Management Practices, and/or time-of-year construction restrictions.

5. Section 404 and PA Chapter 105 permit applications require documentation that resolves potential T&E species conflicts. This may include a Biological Opinion, an agency clearance letter from the USFWS, or programmatic documentation. In addition, the PNDI search results must be included with written documentation indicating that potential conflicts with protected species have been resolved with the appropriate agencies.



District 8-0 Mitigation Area – State Game Lands 169, Site A

CHAPTER 7:

Compensatory Mitigation Planning

Wetland mitigation begins in the planning and preliminary design phases during discussion on the avoidance and minimization of wetland impacts and the cost of compensation for unavoidable impacts. Compensatory mitigation can typically include wetland restoration and/or creation, and in limited circumstances it may include wetland enhancement and preservation. Appropriate compensatory mitigation is determined after preliminary design engineering is complete, the magnitude of wetland impacts has been calculated, and alterations to the highway design to minimize wetland impacts have been explored. PennDOT seeks to avoid all wetland impacts. De minimis impacts (less than 0.05 acres) do not require compensatory mitigation and are therefore preferred over those that would require mitigation.

On April 10, 2008, the USACE and EPA published regulations for wetlands and stream mitigation related to the CWA (commonly referred to as the 2008 Mitigation Rule). The 2008 Mitigation Rule prioritizes mitigation options in the following order: (1) mitigation banks; (2) in-lieu fee (ILF), if available; and (3) on-site/off-site mitigation. The 2008 Mitigation Rule:

- Establishes mitigation banking as the preferred method to provide compensatory mitigation for projects; and
- Standardizes the information required for each mitigation plan (both for project-specific mitigation and mitigation banks).

These regulations do not change the wetland mitigation sequence that requires avoidance and minimization to the extent practicable before considering compensatory mitigation.

These regulations provide a distinct preference for mitigation banks and in-lieu fee programs over project-specific mitigation. The rationale for this preference is the reduced likelihood of success associated with small on-site mitigation areas and the burdensome cost of constructing, monitoring, and managing small, isolated mitigation areas. Be advised that while this preference is clearly outlined in the revised regulations, implementation by field-level regulatory authorities may vary.

Wetland banking is the preferred method for mitigating most project impacts, especially impacts that would otherwise not be economically feasible to address on site (see Appendix K – PennDOT Umbrella Mitigation Banking Instrument). The second choice for mitigation is ILF programs. At the time of this handbook update, Pennsylvania did not have an approved ILF program. A former DEP-administered ILF program known as the Pennsylvania Wetland Replacement Fund expired in 2013.

In cases where it is decided that wetland mitigation is required for a project, the PennDOT District Project Manager should first coordinate with the PennDOT District

Impacts to wetlands may be mitigated using:

- A PUMBI mitigation site;
- ILF (check for availability);
- Previously approved advanced wetland mitigation site (or AWC site); or
- Project-specific mitigation.

Environmental Manager to determine whether it has available wetland banking credits within the appropriate watershed (also known as a wetland banking service area). If no banking credits are available, the district should explore whether an ILF program has been approved and is available. If an ILF does not exist, the district should evaluate the feasibility of project-specific mitigation.

Wetland Banking and ILF (if available) Versus Project-Specific Mitigation

Based on the revised regulations, projects with unavoidable minor wetland or stream impacts should be mitigated by appropriate wetland or stream banking. Districts are responsible for preparing and executing wetland mitigation plans. PennDOT's Environmental Policy and Development Section (EPDS) performs quality assurance for new wetland banks established under PUMBI.

Typically the permit applicant will have the option to:

- Debit from an approved mitigation bank and/or ILF (if available) located within the project service area;
- Replace on-site wetlands, if and only if on-site replacement is practicable and meets suitable criteria for establishing or restoring a wetland resource and a wetland replacement and monitoring plan can be approved; or
- Replace wetlands with project-specific, off-site mitigation.

Compensatory mitigation planning should be an ongoing process for any project that has unavoidable wetland impacts. By using the avenues established through the Advanced Wetland Compensation Agreement(s) (AWC) and the PennDOT Umbrella Mitigation Banking Instrument (PUMBI), PennDOT can prepare in advance for mitigating impacts. This, in turn, could streamline the mitigation and permitting processes.

Impacts to wetlands may be mitigated using:

- A PUMBI mitigation site;
- An ILF (if available);
- A previously approved advanced wetland mitigation site (or AWC site); or
- Project-specific mitigation.

Mitigation Site Planning

Mitigation site planning follows essentially the same process whether developing a new wetland mitigation bank or project-specific mitigation. The agency review process, however, differs between the two mitigation approaches. Mitigation banks are reviewed and approved by the IRT. Project-specific mitigation is reviewed by the USACE and DEP permit project manager.

The magnitude of the planning and design efforts is related to the magnitude of the project impacts or the scope of the bank. Projects with greater impacts require more complex mitigation activities, and larger wetland banks are typically more complex. PennDOT, USACE, DEP, and other agencies involved in the mitigation project should jointly determine the mitigation goals, which will determine the performance standards during the post-construction monitoring.

For project-specific mitigation the traditional mitigation strategy is on-site/in-kind compensation, where a replacement wetland habitat is constructed immediately adjacent to the project site. A drawback of this approach is that larger projects may require several small wetland replacement areas to be constructed adjacent to the proposed project to meet the entire mitigation acreage. These small isolated mitigation areas can be difficult to effectively monitor and manage. Another popular project-specific mitigation strategy is off-site mitigation. The advantage of this strategy is that highly suitable land parcels can be used to mitigate for all impacts from a project, which could result in lower construction costs and more efficient monitoring and management.

Planning for a new wetland mitigation bank and for project-specific mitigation follows essentially the same process. The process for agency review is different.

Wetland banking is the preferred method for mitigating most project impacts, especially impacts that would otherwise not be economically feasible to address on site. The process for planning and designing wetland banks is essentially the same as project-specific mitigation planning and design, but wetland banks must be reviewed by the IRT.

Most compensatory wetland mitigation is in the form of restoration (restoring an historical wetland) or creation (converting uplands to wetlands). In very limited cases the mitigation strategies can also include preservation and/or enhancement of existing wetland habitats. The USACE may recognize enhancement and preservation as viable mitigation options; however, the DEP does not.

An important consideration when developing mitigation planning is how PennDOT will acquire the right-of-way required for the mitigation. PennDOT can acquire the property in fee title and place a restrictive covenant on it or can acquire a conservation easement. The preferred method is to acquire a fee title and place a restrictive covenant on the property. However, there are circumstances when an easement acquisition is appropriate (i.e., when the property owner(s) prefer(s) to retain ownership of the land).

When a fee title is acquired for a mitigation area, PennDOT places a declaration of restrictive covenants on the property following the acquisition to protect the resource. If a conservation easement is acquired, the terms of the easement are delineated on the right-of-way acquisition plan. The easement protects the resource without PennDOT assuming full ownership of the property. There are different definitions/terms depending on whether the restrictive covenants and conservation easement are for wetland, stream, or terrestrial mitigation. The forms of the declaration of restrictive covenants and conservation easements are included in Appendix O.

Another preferred method is to coordinate with PGC or DCNR to construction a wetland mitigation site on their land. This method is ideal because example agreements are already in place between PennDOT, PGC, and DCNR. OCC, Real Property Division, can assist in drafting these agreements.

Site Selection Criteria

Site selection criteria are applicable to both wetland banks and project-specific mitigation.

The first step in identifying suitable wetland mitigation sites is to establish the site selection criteria, which set the parameters for shortlisting sites that will undergo a more detailed investigation. See Appendix A for a link to the DEP Design Criteria for Wetland Replacement for more information.

The use of secondary source data and computer modeling makes identifying parcels that meet the site selection criteria quick and easy. Site selection criteria to consider include:

- Landscape Position – Flat topography adjacent to existing wetlands or streams is preferred. **Drained wetlands are ideal.**
- Soil Type – Hydric soils or soils with slow drainage characteristics are preferred. Soils with high clay content can be compacted to hold water but that increases construction costs. **Drained hydric soils are ideal.**
- Reliable Source of Water – Reliable surface or groundwater sources can be used to create a wetland. Drainage areas need to be large enough to support the proposed wetland acreage. A 10 to 1 drainage area to wetland area ratio is preferred. The PennDOT district should also determine whether the hydrologic source will be (or can be) protected in perpetuity.
- Existing Land Use – Sites with known T&E species habitat, mature forest, or protected or productive farmland should be avoided. The PennDOT district should determine how adjacent land uses may affect the long-term success of the mitigation site. Wetland mitigation sites located directly adjacent to an exceedingly manicured suburban neighborhood and/or country estate can be prone to adverse impacts from unauthorized mowing, dumping of lawn waste, or off-highway vehicle use.
- Cultural Resources – Avoid sites that contain known archaeological sites (including both pre-historic and historic), and high probability soil and/or soils that require deep testing (1 meter by 1 meter test pits).
- Right-of-Way Costs – Avoid properties with unreasonably high right-of-way costs and/or complex easements that limit the likelihood of success.

Table 4 outlines the necessary secondary source data used to select the optimal mitigation site and the sources of the data.

Table 4: Background Data for Site Collection

Data	Source
Soil map of site	Soil survey
Depth to groundwater	Engineering properties tables from soil survey
Type of bedrock; depth to bedrock	Engineering properties tables from soil survey
Percent of soil passing a No. 200 sieve	Engineering properties tables from soil survey
Infiltration rate of soil	Engineering properties tables from soil survey
Description of soil, including color and texture	Soil survey
Size of site	Project mapping
Drainage area to the site	Project/USGS mapping; digital orthophoto quad (DOQ)
Existing wetlands on the site	Project/NWI mapping; infrared photography

Data	Source
Preliminary estimate of the amount of mitigation that can be achieved on the site	Estimated from existing mapping, usually 40-60% of total site size
Site owner	Tax mapping
Cultural resources	Pennsylvania Historical and Museum Commission (PHMC) Cultural Resources database (CRGIS)
Threatened and endangered species	PNDI Environmental Review Tool
Agricultural Resources	Aerial Photography (present and historical)

Based on the information available for each potential site, the sites can be ranked according to their ability to fulfill the requirements of the Compensatory Mitigation Strategies and Goals (CMSG) and other factors, such as ease of construction. Ranked sites can then be selected for the second step—feasibility analysis.

In general, the total number of acres of potential wetland mitigation sites carried forward to the feasibility analysis should be 125 percent of the total mitigation acres required. This allows a margin of flexibility during the design process. This percentage may vary when considering enhancement and preservation options.

Agency Coordination Field View

The permitting agencies or the IRT will attend a field view to review the potential mitigation sites and provide input on the selection. The first agency field view can be scheduled before or after the feasibility analysis is completed and any time during conceptual design. Field views should be scheduled before the start of final design to ensure that design work is carried out only on approved sites. Field views can be scheduled at agency coordination meetings (ACMs) when staff members from natural resource agencies (e.g., PFBC, PGC, USFWS, etc.) are all in attendance. The field view should include discussions (but not necessarily visits) of all the sites that were considered for mitigation.

The design team should provide maps and sketches of the design concept for each site and be prepared to discuss the important deciding factors for each site (e.g., drainage area, hydrology source(s), and soil type(s)). While it is not necessary to have detailed wetland designs completed for this field view, there should be a review of where and how the proposed mitigation site would be constructed and how it would meet the mitigation goals and strategies established for the project.

The goal of the agency field view is to reach an agreement on which sites should be carried forward. If the selected sites are unacceptable to the resource agencies, it may be necessary to reevaluate the site selection criteria and start the site selection process over again.

The first agency field view can be scheduled before the detailed feasibility analysis is completed and any time during conceptual design.

Feasibility Analysis

The feasibility analysis determines the ability of the site to support a wetland and the size wetland that it can support. Sites that do not meet the basic requirements for a feasible site should be eliminated from consideration during preliminary analysis.

Preliminary feasibility issues that could eliminate a potential site include the presence of cultural resources or threatened and endangered species, high right-of-way costs, the presence of productive agricultural land, the need for excessive grading, and the presence of invasive species. A preliminary feasibility analysis formulates a design concept that outlines construction of the wetland. For example, a design concept could be to construct a flat bench within an existing field that shows evidence of sufficient hydrology (i.e., soil piping or a high groundwater table). The existing subsoil would then be compacted to retard infiltration and willow waddles would be built on the downslope side of the newly created wetland basin to prevent erosion and help establish the desired water surface elevation.

A detailed feasibility analysis then identifies which tests are appropriate for each site. Feasibility testing performed on the potential sites may include:

- Preparation of a water budget;
- Preparation of topographic mapping, if not already available;
- Calculation of the drainage area to the site;
- Detailed on-site soils investigation; and
- Preparation of a design section.

The primary factor that determines which feasibility tests are appropriate is the source of hydrology for the proposed wetland site—a groundwater versus a surface water source. If the source of hydrology for a proposed wetland is surface water, certain design considerations should be addressed before feasibility testing occurs. For example, the elevation of the wetland should be established early on because it determines which soil horizon will be tested. Soil testing for a surface water system may include:

- In-situ testing of the soil infiltration rate;
- Collecting soil samples for laboratory analysis;
- Identifying any aquitards (relatively impermeable layers) located below the proposed wetland elevation; and
- Best professional judgment.

The outcome of the soil testing will determine:

- If the soils on the site will hold water and for how long; and/or
- If the soils can be compacted to hold water.

Either of these soil results could be factored into the site design to achieve acceptable hydrology.

If the source of hydrology for a proposed wetland is groundwater, the elevation of the wetland can be determined after testing has been completed. Commonly used tests on groundwater systems include:

- Installing shallow groundwater monitoring wells;
- Monitoring static groundwater elevation; and

- Calculating the sustained groundwater yield by slug or pump testing.

A feasibility analysis can also take into account the effects of climate trends and perched water tables on potential sites.

After the feasibility analysis is completed for the selected potential sites, it should be possible to determine if each site is suitable for wetland mitigation and to specify the size and functions of the new wetland system.

Wetland Mitigation Design

Detailed feasibility analysis and design of the wetland mitigation site(s) begins after the field view comments from the agencies are reviewed. The final design of the site can then be submitted to the permitting agencies for additional review.

Designing the wetland mitigation site includes the following activities, which are discussed in the following sections of this chapter:

- Conceptual Design;
- Permit (Final) Design;
- Post-Construction Monitoring Plan; and
- Plans, Specifications, and Estimates (PS&E).

Conceptual Design

The conceptual design provides the final design concept to the regulatory agencies. The conceptual design should effectively describe the hydrologic elements, vegetation, and soils contained in the following sections of the plan:

- Grading Plan;
- Revegetation Plan;
- Habitat Plan;
- Typical Cross Sections;
- Design Information;
- Site Protection Information; and
- Preliminary/Post-Construction Monitoring Plan.

The grading plan presents the limits of proposed earthwork and preliminary elevations plus the location and type of proposed water control structure, if needed.

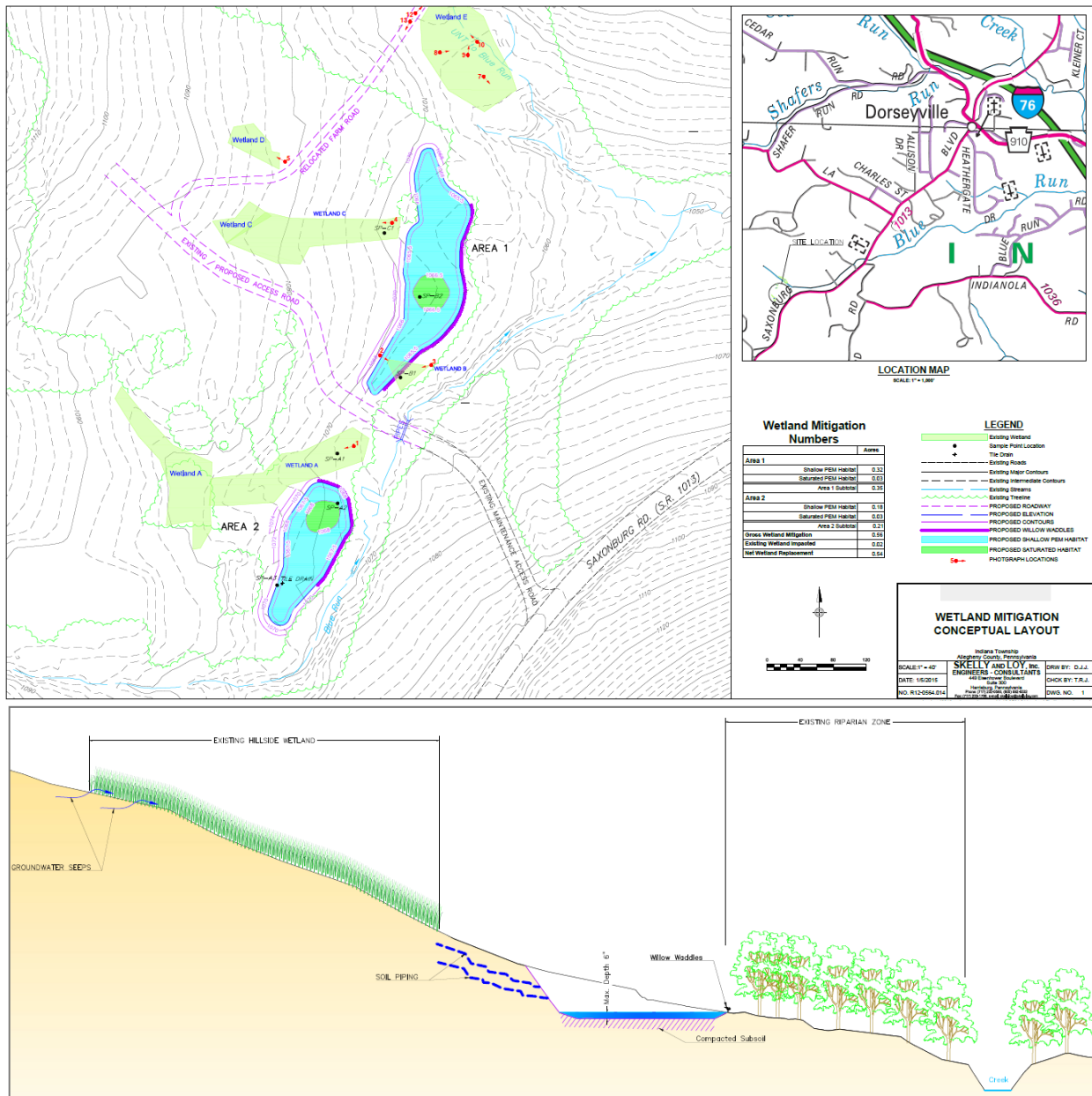
The vegetation plan presents the limits of vegetation areas to be reestablished both within and directly adjacent to the wetland mitigation area. The vegetation plan usually lists which plant species will be grown in the wetland site, proposes measures to reduce herbivore damage, addresses how to handle invasive species, and recommends a strategy to replace plants that fail to thrive.

The habitat plan illustrates the proposed habitat zones based on the hydrologic zone that will be formed in the wetland. Shallow marsh habitats and wet meadow habitats are examples of habitat zones.

The typical cross section draws the limits of the habitat zones and planting areas, illustrating how the habitat zones will tie together and how the proposed wetland will fit into the surrounding landscape.

Figure 5 depicts a typical conceptual mitigation plan.

Figure 5: Conceptual Mitigation Plan Example



The design information discusses the decisions that led to the development of the conceptual design. The design information may include:

- A final water budget for the site;
- Results of the soils testing completed during the feasibility analysis;
- Groundwater monitoring data;
- Laboratory soils test results; and
- Special BMPs for protected species.

Site protection information includes a description of the property interest acquired for the site, and, if appropriate, a description of any other legal instrument used to ensure long-term protection of the site. Typical examples of site protection instruments and activities include:

- Acquire fee title ownership and execute a restrictive covenant
 - Held as PennDOT right-of-way
 - Transferred to or held by another state agency (PGC, Department of Conservation and Natural Resources [DCNR], etc.);
- Acquire a conservation easement held by PennDOT; or
- Execute a declaration of restrictive covenants.

A form for the declaration of restrictive covenants and conservation easements as well as instructions is included as Appendix O of this document.

Once the agencies have commented on and approved the conceptual design, the final design process may begin.

Permit (Final) Design

Final design activities are directed toward preparing a site plan suitable for submitting with the application for the PA Chapter 105 and Section 404 permits, as appropriate. The final design for the site also serves as the PennDOT pre-PS&E design; the plan sheets should approximate the layout and detail of a PS&E plan sheet. In addition to incorporating any agency comments remaining from the conceptual plan stage, the final design plans package should follow the Mitigation Plan Checklist. See Appendix A for detailed information regarding the following checklist.

- Mitigation goals and objectives
 - Describe functions lost at impact site.
 - Describe functions to be gained at mitigation site.
 - Describe overall watershed improvements to be gained.
- Summary of the site selection process
- Baseline information for the proposed mitigation sites
 - Provide data on physical attributes of sites (soils, vegetation, hydrology).
 - Describe historical and existing land uses and resources impacted.
 - Describe reference site attributes if available.
- Mitigation work plan – Provide detailed written specifications and work descriptions for the compensatory mitigation project, including, by reference:
 - The plans that detail the geographic boundaries of the project;
 - Construction methods, timing, and sequence;
 - Source(s) of water, including connections to existing waters and uplands;
 - Methods for establishing the desired plant community;
 - Plans to control invasive plant species;
 - The proposed grading plan, including elevations and slopes of the substrate; and
 - Soil management and erosion control measures.

For stream compensatory mitigation projects, the mitigation work plan may also include other relevant information, such as planform geometry, channel form (e.g., typical channel cross sections), watershed size, design discharge, and riparian area plantings.

- Performance standards
 - Identify success criteria.
 - Compare functions lost and gained at impact and mitigation sites.
 - Describe soils, vegetation, and hydrology parameter changes.
- Site protection and maintenance
 - List parties and responsibilities.
 - Provide evidence of legal protective measures (e.g., restrictive covenants or conservation easement).
 - Outline maintenance plan and schedule.
- Monitoring plan
 - Provide monitoring schedule, identify party(ies) and responsibilities.
 - Specify data to be collected, including assessment tools and methodologies.
 - Provide time period for monitoring/maintenance.
- Adaptive management plan
 - Identify party(ies) and responsibilities.
 - Remedial measures (financial assurances, management plan, etc.)
- Financial Assurances
 - Identify party(ies) responsible for assurances.
 - Specify type of assurance, contents, and schedule.

Post-Construction Monitoring Plan Development

The Post-Construction Monitoring Plan is developed according to the following documents:

- USACE Regulatory Guidance Letter 08-03 (Appendix I);
- 2008 Final Compensatory Mitigation Rule (Appendix J);
- PennDOT PUMBI; and
- DEP Design Criteria for Wetland Replacement (Appendix A).

The required components of the Post-Construction Monitoring Plan are discussed in Chapter 11.

Plans, Specifications, and Estimates

The PS&E package is prepared once the final design plan has been completed. The contracting method for construction of the wetland mitigation site determines the selection of the PS&E package. The preferred contracting method is to let the construction of the environmental mitigation as a separate contract. This approach increases the likelihood that a specialized environmental mitigation contractor will be awarded the contract, resulting in a more competitive bid and a better end product.

A second option is to bid the plan as an “also plan” with the highway project contract. The advantage of this contracting approach is that the bidding price is usually lower due to economies of scale.

A third option is to not complete a PS&E. This option is pursued in cases where wetland construction is completed by PennDOT in-house or when wetland banks are constructed by other agencies (e.g., USFWS).

Regardless of the contracting approach, the PS&E package is prepared in accordance with the PennDOT Design Manual 3. A PS&E package typically includes the following:

- Cover sheet;
- Index map;
- Construction details;
- Tab sheet;
- Grading plan;
- Planting plans;
- Cross sections;
- E&S plan;
- Special provisions; and
- Construction cost estimate.

Some PennDOT engineering districts use maintenance forces or agency partnering agreements to construct wetlands. In such a case, a PS&E package may not be necessary.



District 9-0 Mitigation Area – Huntingdon/Old Crow AWC Wetland Bank

Wetland Mitigation Banking Process

PennDOT has developed a statewide wetland banking agreement (PUMBI) with the Federal Highway Administration (FHWA) and the relevant permitting agencies (see Appendix M). The purposes of this agreement are to:

- Promote wetland banking as a preferred strategy for mitigation of unavoidable wetland impacts from linear transportation projects;
- Establish a process by which statewide mitigation banking for PennDOT and other federal, state, and local transportation agencies may address impacts to state and federally regulated aquatic resources;
- Outline predictable processes for establishing and approving individual bank sites;
- Establish the wetland banking service areas;
- Standardize the establishment, operation, and management of wetland banks proposed or operated by PennDOT;
- Focus reporting, monitoring, and management of existing and developing bank sites through the PennDOT Central Office;
- Provide for a single, consistent wetland banking approach across PennDOT districts; and
- Promote consistent mitigation requirements related to USACE and DEP permits and authorizations.

The Interagency Review Team (IRT) reviews proposed banks and modifications to existing banks.

General Process for Existing Wetland Banks

Existing wetland mitigation banks **DO NOT** have to be enrolled (amended) to the PUMBI unless they are modified or the PennDOT district would like to broaden the existing bank's service area. Any physical modification to an existing wetland bank or modification to its operation agreement requires PUMBI modification.

Any existing wetland mitigation banks or advanced wetland compensation sites that were constructed by or for PennDOT under any other agreement prior to the signing of the Statewide PUMBI Memorandum of Understanding (MOU) can be enrolled in the new statewide agreement (see Appendix A for the MOU). To modify an existing site to the PUMBI, the following information must be submitted to the IRT:

- Site name and location.
- The proposed service area, as defined in the MOU.
- The total number of credits created at the site in accordance with the performance standards and monitoring requirements in the PUMBI.
- A summary of credits debited to date.
- A summary of available credits.
- Long-Term Management Plan – The bank sponsor shall place upon all mitigation banks such restrictions or easements acceptable to the IRT chairs to guarantee the protection of the mitigation banks in perpetuity.
- An as-built plan (record drawing) of the mitigation bank site showing the resources created.

- A copy of the previous banking agreement.
- Other information as requested by the IRT chairs.
- A completed Amendment/Modification Acceptance Form (see Appendix K).

Typical PUMBI modifications include updating the credit/debit ledger for existing bank sites. An example of this modification submission is included in Appendix K.



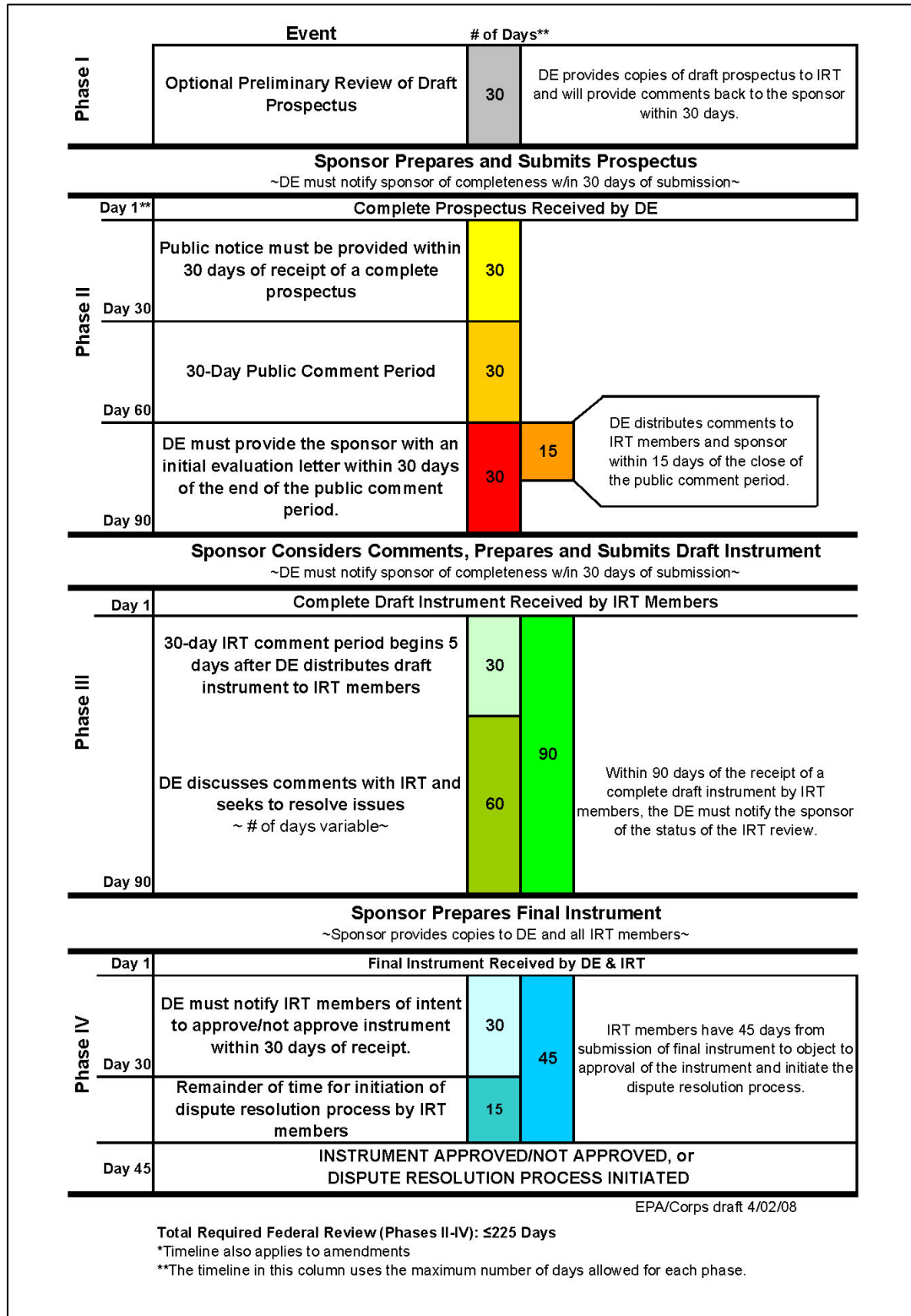
District 9-0 Mitigation Area – Huntingdon/Old Crow AWC Wetland Bank

General Process for Establishing NEW Wetland Banks

PennDOT districts develop new mitigation banks under the PUMBI, in accordance with applicable state and federal regulations. The general requirements for establishing mitigation banks are summarized below.

Figure 6 provides a timeline for the approval of all mitigation instruments under the Compensatory Mitigation Rule. A timeline for dispute resolutions concerning banks or in-lieu fee instruments can be found at the end of Appendix K.

Figure 6: Compensatory Mitigation Rule Timeline for Bank or ILF Instrument Approval⁷



⁷ DE = USACE District Engineer; ILF = In-lieu fee; IRT = Interagency Review Team

Site Selection

Identify sites within a service area with the potential to be developed into a mitigation bank, ideally in proximity to anticipated transportation program projects. The PennDOT district should consider watershed-scale features such as aquatic resource diversity, habitat connectivity, and other landscape scale functions; watershed, species recovery, and comprehensive plans; municipal coordination; soils data; hydrologic data; natural communities; local or regional goals for the restoration or protection of particular habitat types or functions; and land use and land cover. Special consideration should be given to sites that have the potential to enhance and preserve aquatic habitat that is difficult to replace, such as bogs, fens, and springs.

In rare or special circumstances mitigation banks may be established by preserving existing wetlands as well as by enhancing, restoring, or creating wetlands, which broadens the options for potential sites. However, preserving wetlands adjacent to created wetlands will likely increase the credit value of the new wetlands. If more acres are set aside in a mitigation bank than are impacted by a project, USACE may award preservation credits, used to offset impacts of future projects. Additionally, credits can be given for riparian areas, buffers, and upland habitat when the DEP and the USACE determine that these areas are important to supporting the aquatic habitats within either the mitigation bank or watershed.

Site Selection Field View

In accordance with 33 CFR § 332.4 and DEP policy, pre-application and/or field view meetings between the PennDOT district and IRT are highly recommended. Following field views of all potential mitigation bank sites, the PennDOT district solicits site selection input and recommendations from the IRT.

Public Review and Comment

After a potential site has been selected, the PennDOT district notifies the IRT chairs (USACE and DEP) in writing by submitting a “prospectus” of intent to establish a bank site. EPDS typically reviews the draft prospectus before the IRT chairs are notified. The PennDOT district also has the option of submitting a preliminary review of the draft prospectus to the USACE and DEP for comment before submitting the final prospectus (Phase I of Figure 6). Prospectus contents are detailed in Appendix K of this document. This notification must include a summary of the proposed bank site for use in the public notice. The potential wetland bank site is subject to a 30-day public comment period. The IRT chairs distribute all comments received to the PennDOT district and the IRT (Phase II of Figure 6).

Draft Mitigation Plan Submittal

Following the public comment period, a draft mitigation plan (DMP) is completed. EPDS typically reviews the draft mitigation plan before it is submitted to the IRT chairs. The DMP should consider the comments to date and it must comply with 33 CFR § 332.4 (c) paragraphs 2 through 14, which are outlined in this chapter.

IRT Review

After the IRT chairs notify the PennDOT district that the DMP is complete, the plan is submitted to the IRT for a 30-day comment period. The IRT chairs must provide any comments to the PennDOT district within 90 days of submission. The timeline for bank or in-lieu fee (ILF) approval is shown in Figure 6.

Final Mitigation Plan Submittal

After the IRT chairs have submitted any comments received related to the DMP to the PennDOT district, a final mitigation plan (FMP) that addresses the comments is prepared. Submission of a PA Chapter 105 and Section 404 authorization application, if required, may occur concurrent with the submission of the FMP in accordance with 33 CFR § 332.8(k), as described in this chapter (Phase III and IV of Figure 6).

Post-Construction Submittal

Upon completion of the wetland mitigation bank, the PennDOT district prepares and submits as-built plans (record drawings) and revised available credit calculations to the USACE district engineer, who then shares this information with the IRT chairs and permitting agencies.

Information Required in DMP and FMP Mitigation Plans

The revised regulations specify required information for mitigation planning and permitting. Most items are standard in the PennDOT mitigation planning process and closely mirror the information requirements outlined in earlier mitigation guidelines (see Appendices M and N). DMP and FMP required contents are as follows:

1. Mitigation Goals and Objectives
2. Site Selection Criteria
3. Existing Conditions Information
4. Preliminary Credit Calculations
5. Mitigation Work Plan
6. Performance Standards
7. Adaptive Management Plan
8. Monitoring Requirements
9. Site Protection Instrument
10. Maintenance Plan
11. Long-Term Management Plan
12. Adaptive Management Plan
13. Financial Assurance

Compensatory mitigation planning (both banking and project-specific) comprises site selection and wetland mitigation design. Site selection advances the process from the first step of developing CMSGs through the approval of the conceptual plan by the resource agencies. Wetland mitigation design continues from approval of the conceptual plan to the letting of the construction contract. The following credit release schedule information was distilled from the USACE's RGL 08-03 (Appendix I) and the 2008 Final Compensatory Mitigation Rule (Appendix J).

Credit Release Schedule

The goals and construction challenges presented by individual mitigation bank sites may influence the credit release schedule; however, standard guidelines included in the 2008 Mitigation Rule and the PUMBI follow in Table 5.

Table 5: Mitigation Bank Credit Release Schedule

Mitigation Bank Site Milestone	Credits Released
FMP approval by USACE and DEP.	0% of planned credit
Successful post-construction submittal.	10% of as-built credits
First annual monitoring report deemed successful by USACE and DEP.	20% of as-built credits
Second annual monitoring report deemed successful by USACE and DEP.	30% of as-built credits
Third annual monitoring report deemed successful by USACE and DEP.	45% of as-built credits
Fourth annual monitoring report deemed successful by USACE and DEP.	60% of as-built credits
The fifth annual monitoring report, or two consecutive years of comparable monitoring results.*	100% of the accepted as-built credits

* The duration of monitoring is dictated by the monitoring requirements submitted in the FMP bank construction and permit special conditions.

The above credit release schedule is the default schedule specified in a wetland banking instrument. However, the PennDOT district can propose a different schedule in the DMP.

Chapter 7 Summary

1. When impacts (those greater than de minimis) to wetlands are unavoidable, compensatory mitigation planning should begin early in the project development process.
2. Decisions on compensatory mitigation are finalized after preliminary design engineering is complete and the magnitude of wetland impacts can be calculated.
3. Impacts to wetlands may be mitigated using a site through PennDOT’s Umbrella Mitigation Banking Instrument (PUMBI), a previously approved advanced wetland compensation site, or project-specific mitigation.
4. The 2008 Mitigation Rule of USACE and EPA prioritizes mitigation options as follows: (1) mitigation banks, (2) in-lieu fee, (3) on-site mitigation, then (4) off-site mitigation.
5. When wetland mitigation is required, the PennDOT District Environmental Manager should determine whether the district has available wetland banking credits within the appropriate watershed. If none are available, the district should evaluate the feasibility of project-specific mitigation.
6. The PUMBI is a statewide wetland banking instrument between PennDOT and the FHWA and other permitting agencies. It promotes consistent establishment, operation, and management of wetland banks statewide. The Interagency Review Team (IRT), with USACE and DEP as co-chairs, guides wetland banking decisions.
7. Existing wetland mitigation banks can be re-enrolled (amended) to the PUMBI by submitting proper documentation (detailed in Chapter 7) to the IRT. Wetland banks must be enrolled in the PUMBI if they are physically modified or changes are made to their operating agreements.

8. The process of planning and designing a wetland mitigation bank or project-specific mitigation site is essentially the same. However, review and approval of banks is done by the IRT; review and approval of project specific mitigation is done by the USACE and DEP project managers.
9. The process for developing a wetland mitigation site generally follows these steps:
 1. Define compensatory mitigation strategies and goals.
 2. Establish site selection criteria.
 3. Complete site selection and feasibility analysis.
 4. Conduct agency coordination field view.
 5. Develop wetland mitigation design.
 6. Draft mitigation plan submittal.
 7. Coordinate review by IRT or DEP/USACE project managers (permit application).
 8. Submit final mitigation plan.
10. Generally, post-construction monitoring will be conducted for at least five years. Wetland banks are monitored until the credits have been exhausted.



District 1-0 Mitigation Area – Polk Wetland Bank

CHAPTER 8: Wetland Permitting

Federal and State Permitting Programs

Wetlands, waterways, bodies of water, and floodways are protected at both the federal level (as Waters of the United States) and the state level (as Waters of the Commonwealth). Federal protection is provided through Section 404 of the CWA and Section 10 of the RHA with the USACE serving as the lead federal agency. State protection is provided through the Dam Safety and Encroachment Act (DSEA) and its regulations at 25 Pa. Code § 105 (PA Chapter 105) with the DEP as the lead state agency. To summarize:

- **Federal:** Section 404 of the CWA, Section 10 of the RHA, and supporting regulations.
- **State:** PA Chapter 105 and Section 401 of CWA WQC.

In most cases, PennDOT projects that impact wetlands require PA Chapter 105 authorization and federal (USACE) Section 404 authorization. Isolated wetlands (those without a significant nexus) require only PA Chapter 105 authorization.

The primary wetland regulations for most PennDOT projects are:

1. USACE's regulations at 33 CFR Parts 320, 323, 325, and 330;
2. U.S. EPA's regulations at 40 CFR Part 122 (404(1)(b)); and
3. DEP's regulations at PA Chapter 105. (The RHA applies only for projects that involve a navigable river.)

Section 404 of the CWA applies to Waters of the United States, including waterways, tributaries thereof, and wetlands. Isolated wetlands may not be protected under federal regulations; however, all wetlands are regulated under PA Chapter 105, whether isolated or connected.

In most cases, PennDOT projects that impact wetlands require PA Chapter 105 authorization and federal (USACE) Section 404 authorization.

Isolated wetlands (those without a significant nexus) require only PA Chapter 105 authorization.

Permitting Authorizations: National Environmental Policy Act (NEPA) versus Section 404 of the CWA and PA Chapter 105

Federal and state regulations establish permitting processes to allow certain activities to occur in wetlands and waterways. The permitting processes are part of the two phases of design in the transportation project process, as indicated in Table 6.

Table 6: Permitting Process by Project Phase

Project Phase	Applicable Process
Preliminary Design	NEPA
Final Design	PA Chapter 105 and Section 404

Preliminary Design Phase (DM-1, DM-1A, DM-1B, and DM-2)

The NEPA process requires that one of three possible levels of environmental evaluation be completed during the preliminary design phase for all projects that use federal funds or require federal actions. The three levels of NEPA environmental evaluation are described in PennDOT Publication 10B, *Design Manual Part 1B, Post-TIP NEPA Procedures*:

- Categorical Exclusion Evaluation (CEE) – DM-1B, Chapter 3;
- Environmental Assessment (EA) – DM-1B, Chapter 4; and
- Environmental Impact Statement (EIS) – DM-1B, Chapter 5.

Most detailed wetland delineation studies are completed during the preliminary design phase. Each evaluation includes an environmental analysis that guides the selection of the least environmentally damaging, practicable alternative for the project.⁸

CEEs are used for projects that do not individually or cumulatively have a significant environmental effect. A CEE is prepared as a Level 1A, Level 1B, or Level 2, with each higher level requiring greater detail and more intensive review for approval.

EAs and EISs are typically required for projects that involve greater degrees of environmental impacts and/or controversy.

EAs are brief reports that provide sufficient evidence and analysis for determining whether an EIS is required, and facilitating the preparation of an EIS when one is necessary. If an EIS is not required, the EA documentation is used to prepare a finding of no significant impact (FONSI). FONSI help to identify better alternatives and mitigation measures.

As defined in PennDOT DM-1B, Chapter 5, EISs are used for complex projects with significant impacts to a variety of environmental resources. Some examples of these types of projects are listed below:

- A new limited-access highway;
- Highways of four or more lanes constructed on new alignment;
- Long highway or roadway segments of two or more lanes constructed on new alignment;

Most detailed wetland delineation studies are completed during the preliminary design phase.

Each evaluation includes an environmental analysis that guides the selection of the least environmentally damaging alternative for the project.

⁸ An Environmental Evaluation Report (EER) is required under PA Act 120 for 100% state-funded projects involving transportation routes or programs that require the acquisition of new or expanded right-of-way that significantly affect the environment.

The NEPA alternatives process and project need defines the practicality of the LEDPA analysis. Adjustments of the selected alternative may need to be evaluated in final design to further avoid and minimize impacts to waters.

- Construction or extension of fixed guideway systems (e.g., exclusive busway), expected to cause major shifts in travel patterns and land use; and
- Construction involving extensive demolition, displacement of many individuals or businesses, or substantial disruption to local traffic patterns.

The proposed wetland and watercourse impacts outlined in the NEPA document should indicate the types of permit authorizations (permits) that will be needed in final design.

In addition, the NEPA documentation can be used in the alternatives analysis required under the federal and state permitting processes to avoid and minimize impacts to waters from activities involving a discharge of dredged or fill material by selecting the least environmentally damaging, practicable alternative (LEDPA).

The NEPA alternatives process and project need can be used in the Section 404 LEDPA analysis. Adjustments of the selected alternative may need to be evaluated in final design to further avoid and minimize impacts to waters.

Any activity that encroaches on wetlands, waterways, bodies of water, or floodways usually requires some form of authorization or notification from DEP and the USACE.

Wetland Findings Procedures

Executive Order No. 11990, Protection of Wetlands (Appendix A), outlines the responsibility of agencies in avoiding and minimizing impacts to wetlands. In order to satisfy the Executive Order, the environmental document must contain proper documentation of avoidance and minimization efforts explaining: (1) there is no practicable alternative (the “P” in LEDPA) to such construction, and (2) the proposed action includes all practical measures to minimize harm to wetlands which may result from such use.

Final Design Phase

All PennDOT projects that impact wetlands or regulated waterways require PA Chapter 105 and Section 404 authorization, with the exception of isolated wetlands without a significant nexus. Isolated wetlands only require PA Chapter 105 authorization. These authorizations are usually obtained during final design. These projects may include roadway and shoulder widening and resurfacing; bridge, culvert, and pipe replacement; or new roadway construction.

To expedite permit authorization in Pennsylvania, the USACE and DEP have developed a joint permit review process that uses one permit application for both state and federal approvals. Permit forms are available in Appendix A.

Many permit applications may be filed electronically using the DEP and PennDOT Joint Permit Application Expert System 2 (JPA2). See Appendix A for a link to the JPA system.

The USACE has developed PASPGP to streamline the permitting process for projects with wetland impacts within certain limits. PASPGP integrates federal standards under Section 404 with state standards under PA Chapter 105 allowing DEP to issue federal authorization. Obtaining PASPGP approval satisfies both the federal and state permitting requirements.

PASPGP applies to the discharge of dredged, excavated, or fill material and/or the placement of structures that are part of a single project, including both temporary and permanent features, which individually result in direct or indirect impacts to one acre or less of Waters of the United States—including jurisdictional wetlands. These specific activities are regulated by Section 404 of the CWA and/or Section 10 of the RHA and the DSEA under PA Chapter 105. The permit defines the acreage of impact to Waters of the United States—including jurisdictional wetlands—as the total area of direct impact (i.e., fill area) plus the area indirectly affected by flooding, excavation, or drainage as a result of the project.

PASPGP applies to project activities that impact (directly or indirectly) one acre or less of Waters of the United States, including wetlands.

The USACE has established three categories of review under the PASPGP (Category I, Category II, and Category III) which determine the procedures for notification and review of permit applications. Under the PASPGP permitting process, projects with minor impacts require less review time than projects with greater impacts. (See Appendix F – Pennsylvania State Programmatic General Permit-4.) The three review categories identify situations where DEP can and cannot issue the federal authorization under PASPGP. (See Table 10 for a summary of PASPGP categories.)

Permit Framework

Different state and federal permits are required depending on the type and extent of encroachment activity in wetlands and watercourses in Pennsylvania. Table 7 presents a framework to assist in determining which permit is required for a project.

Water Obstruction and Encroachments Permitting

In most cases, applying for a PA Chapter 105 permit (through DEP) also makes application for a USACE Section 404 authorization. The following section highlights the types of permits commonly required for PennDOT projects.

Table 7: Summary of Permits under State and Federal Permitting Programs

State (See DEP website): PA Chapter 105 Permit Program	Federal (See USACE website): Section 404 Permit Program
<p>1. Waivers (105.12) – Water-related activities that do not require state permits. Waivers include water obstructions, encroachments, and aerial crossings. One type of waiver commonly used (Waiver #2) does not allow any wetland involvement. The drainage area cannot exceed 100 acres of the waiver. Waiver #6 is commonly used for work in roadside drainage ditches.</p>	<p>1. Non-Regulated – Water-related activities including aerial crossings, abandoned mine lands, acid mine drainage, and channel-cleaning maintenance activities. 33 CFR Parts 320-330, Section 323.4, identifies non-regulated activities.</p>
<p>2. General Permits – Specific activities authorized if impacts meet threshold requirements. Typical General Permits for PennDOT projects include:</p> <ul style="list-style-type: none"> GP-3 Bank Rehabilitation and Protection GP-4 Intake and Outfall Structures GP-5 Utility Line Stream Crossings GP-7 Minor Road Crossings GP-8 Temporary Road Crossings GP-11 Maintenance, Repair, and Replacement 	<p>2. PASPGP – Generally allows impacts to one acre or less of wetlands and less than 250 linear feet of stream channel. Cumulative impacts cannot total more than one acre under Categories I and II.</p> <p>The PASPGP is divided into three review categories (I, II, and III) based on the magnitude of the impact or controversy associated with the project. Table 10 summarizes the criteria for the three PASPGP categories.</p> <p>Category III may include more than 250 linear feet of stream impacts or more than 1 acre of wetland impacts. Generally, most impacts greater than 250 linear feet are associated with intermittent and ephemeral watercourses.</p> <p>Essentially, linear projects may be authorized by PASPGP as long as there are no individual crossing impacts greater than one acre of waters.</p> <p>PASPGP cannot be used for impacts to certain water bodies (see Table 8) or other specified activities (see page 63).</p> <p>PASPGP Category I and II permits (those that are not reviewed by USACE) are issued by DEP along with the General Permit.</p>
<p>3. Standard Permits – All other activities that do not pre-qualify under Waivers or General Permits, typically for all road projects that impact more than one acre of wetland.</p> <p>Small Projects Permits are another type of permit used for waterway encroachments. However, since they cannot be used for activities that impact wetlands, they are not addressed in this handbook.</p>	<p>3. Individual Permits – All activities that do not meet the conditions in 33 CFR Part 323 for discharges not requiring permits or do not qualify for a PASPGP. Typically applies to projects that cause more than one acre of impacts to Waters of the United States, including both temporary and permanent impacts.</p>

USACE Section 404 Permitting

Most USACE Section 404 permits used by PennDOT are PASPGP authorizations (see Table 10). The federal PASPGP is a streamlined permitting process that integrates federal standards under Section 404 of the CWA with state standards under PA Chapter 105. The PASPGP is not an all-inclusive permit; there are specific activities that are ineligible for authorization under PASPGP. Project impacts are calculated for a single and complete project and include all temporary and permanent impacts.

The specific waterways for which PASPGP cannot be used are listed in Table 8. See Appendix F for details on ineligible activities.

Federal – Pennsylvania State Programmatic General Permit Authorization

The federal PASPGP authorizes activities that impact WOTUS, including wetlands, within certain limits. Essentially, the limits are up to one acre and less than 250 linear feet of impacts. See Table 7 for more details. Most Department of the Army authorizations issued in Pennsylvania are PASPGP. A few Individual Permits are issued for projects impacting more than one acre of regulated waters, and a few Nationwide Permit Number 27 authorizations are issued for restoration projects (including mitigation projects).

Table 8: Waters Ineligible for PASPGP

Water Body	Description of Ineligibility
<ul style="list-style-type: none"> • Delaware River downstream of Trenton Railroad Bridge • Schuylkill River downstream of the Fairmont Dam • Ohio River • Beaver River • Little Beaver River • Mahoning River • Monongahela River • Youghiogheny River from its mouth at McKeesport, Pennsylvania, to River Mile 31.2 at West Newton, Pennsylvania • Allegheny River from its mouth in Pittsburgh, Pennsylvania, to River Mile 197.4 at Kinzua Dam north of Warren, Pennsylvania • Kiskiminetas River from its mouth near Freeport, Pennsylvania, to River Mile 26.8 at Saltsburg, Pennsylvania • Tenmile Creek from its mouth at Millsboro, Pennsylvania, to River Mile 2.7 	<p>PASPGP does not apply to any activities waterward of the ordinary high-water line on non-tidal waters and/or the mean high-water line on tidal waters on the Pennsylvania water bodies listed to the left. A PASPGP can, however, be applied to tributaries to these waters.</p>
<p>Lake Erie</p>	<p>For activities that require submittal of a Joint Permit Application or EA to DEP.</p>

Additional Activities Ineligible for PASPGP

The following circumstances render a project ineligible for PASPGP authorization:

- Single and complete or linear projects that will have more than minimal individual or cumulative adverse impacts as determined by USACE. (Note there is no set threshold for what is considered more than minimal individual or cumulative adverse impacts.)
- Single and complete projects that do not comply with the terms and conditions of the PASPGP, including those listed in each project's respective category (I, II, or III).
- Single and complete projects that temporarily and/or permanently impact (both direct and/or indirect) more than one acre of WOTUS, including jurisdictional wetlands.
- Instances where EPA's Regional Administrator exercises his/her authority under Section 404(c) of the CWA to prohibit, deny, restrict, or withdraw the use of any defined area as a disposal site.
- Designated Special Case circumstances identified by the EPA's Regional Administrator concerning determination and limits of geographic jurisdiction of Section 404.
- Activities that have been denied a Chapter 105 permit, Section 401 WQC, or a Coastal Zone Consistency Determination.
- Any activities that would divert more than 10,000 gallons per day of surface water or groundwater into or out of the Lake Erie Watershed.

Additional information related to DEP and USACE permitting requirements can be obtained on the DEP or USACE websites. (Also see Appendix G – USACE Letter: Exemptions for Maintenance Activities for Culvert/Pipe Replacement, and Appendix H – Publication 23 Flowchart: Waivers for Maintenance Operations).

State DEP – Waivers

Table 9: Summary of State DEP Waivers (Federal: PASPGP – Category I)

Waiver	Authorized under PA Chapter 105.12	Authorized under PASPGP – Category I	Waiver Definition
Waiver No. 2 ⁹	Yes	Section 404(f) Exempt	Replacement of culvert pipes 48 inches or less on watersheds less than 100 acres. The linear length of the pipes or culvert may not exceed 250 feet. The replacement must occur at the same location. If the existing pipe is determined to be inadequate, a maximum diameter increase of six inches may be installed at the same location for pipes less than 48 inches in diameter. Does not apply to wetlands.
	Yes	No*	Water obstruction in a stream or floodway with a drainage area of 100 acres or less. *Must be reviewed by the USACE.
Waiver No. 6 ⁹	Yes	USACE does not have jurisdiction	Activities in roadside drainage features and stormwater management ponds that are not regulated as WOTUS.
	Yes	Yes	Water obstruction located in, along, across, or projecting into a stormwater management facility (including roadside ditches) or an erosion and sedimentation pollution control facility that meets the requirements of PA Chapter 102.
Waiver No. 12	Yes	Yes	Construction of staff gauges, water-recording devices, or water quality testing devices.
Waiver No. 16	Yes	Yes	Restoration activities undertaken and conducted pursuant to a restoration plan that has been approved, in writing, by DEP.

⁹ Note: A Section 404 permit is not required for these listed activities provided they comply with the waiver definition.

State DEP – General Permits (Federal: PASPGP – Category I)

Typically, GP-3, GP-4, GP-5, GP-7, GP-8, and GP-11 are the DEP General Permits that apply to PennDOT projects. Specific guidelines for acceptable wetland impacts with these permits can be found on the DEP website.

DEP requires a registration form for General Permits (see Appendix A). The PASPGP Category I and II permits (those that are not reviewed by USACE) are issued when DEP issues the General Permit.

- GP-1 – Fish Habitat Enhancement Structures
- GP-2 – Small Docks and Boat Launching Ramps
- GP-3 – Bank Rehabilitation and Bank Protection
- GP-4 – Intake and Outfall Structures
- GP-5 – Utility Line Stream Crossings
- GP-6 – Agricultural Crossings and Ramps
- GP-7 – Minor Road Crossings
- GP-8 – Temporary Road Crossings¹⁰
- GP-9 – Agricultural Activities
- GP-10 – Abandoned Mine Reclamation
- GP-11 – Maintenance, Testing, Repair, Rehabilitation, and Replacement of Water Obstructions and Encroachments

Table 10: Summary of PASPGP Categories

Category	Criteria	Review
<p>PASPGP Category I – Non-Reporting</p> <p>Typically for activities authorized at the state level under DEP Waiver and General Permits, Maintenance Permit E-9999, emergency activities, channel cleaning 50 feet upstream or downstream of a bridge or culvert, and normal maintenance and repair of an existing dam. Also Waiver Nos. 12 and 16.</p>	<ul style="list-style-type: none"> • Individual components of a single and complete project which temporarily or permanently result in direct and/or indirect impacts that total no more than 0.25 acre of WOTUS, including wetlands, and not more than 250 feet of impacts to streams and other watercourses. • Mitigation required for wetland impacts that are greater than de minimis (defined as less than or equal to 0.05 acre). • No forwarding (i.e., reporting) requirement to the USACE. • Limited exceptions exist for the 250 linear feet threshold (see Appendix F – Pennsylvania State Programmatic General Permits-4). • Normal maintenance includes any channel cleaning 50 linear feet upstream and/or downstream of a bridge or culvert. 	<ul style="list-style-type: none"> • DEP

¹⁰ The proposed rule revising GP-8 is available in Appendix A.

Category	Criteria	Review
<p>PASPGP Category II – Reporting through publication in the PA Bulletin</p> <p>Typically for activities authorized at the state level under PA Chapter 105 Standard Permit.</p>	<ul style="list-style-type: none"> Individual components of a single and complete project which temporarily or permanently result in direct and/or indirect impacts less than or equal to one acre of WOTUS, including wetlands, and not more than 250 linear feet of impacts to streams and other watercourses (except for GP-3 authorizations). Reporting to the USACE, public, and state and federal natural resource agencies through the Pennsylvania Bulletin. 	<ul style="list-style-type: none"> DEP – PA Chapter 105. USACE can review Pennsylvania Bulletin for publication of permits and can request copies on a case-by-case basis. DEP can forward application to USACE, if so requested. USACE retains discretionary authority to require Individual Permit. PA Chapter 105 approval generally acts as PASPGP approval.
<p>PASPGP Category III – Reporting through publication in the PA Bulletin</p> <p>Typically for activities authorized under Section 7 of the Dam Safety and Encroachments Act, PA Chapter 105, and 401 Water Quality Certification, and in certain cases, Coastal Zone Management Consistency.</p>	<ul style="list-style-type: none"> Individual components of a single and complete project which temporarily or permanently result in direct and/or indirect impacts to more than 0.25 acre of WOTUS, including wetlands, or more than 250 linear feet of stream. Areas potentially containing threatened, endangered, or proposed species or its critical habitat (e.g., bog turtles, freshwater mussels, etc.). Activities potentially obstructing fish passage. Adverse effects to cultural resources that are listed on or are eligible for listing on the National Register of Historic Places. Wild or Scenic Rivers. Permit modifications exceeding eligibility limits. Most gravel bar removals (GP-3). Small dams (Waiver No. 11). Water obstruction in a stream or floodway with a drainage area of 100 acres or less (Waiver No. 2). Pond and lake maintenance, especially impacting wetlands (Waiver No. 14). Any Category I or II project where a resource agency may have a concern. 	<ul style="list-style-type: none"> DEP – PA Chapter 105. DEP forwards application for USACE to conduct a project-specific review. USACE retains discretionary authority to require Individual Permit. If USACE does not require an Individual Permit, DEP ensures that USACE’s comments are addressed and PA Chapter 105 approval acts as PASPGP approval.
<p>Not eligible for PASPGP</p>	<ul style="list-style-type: none"> Projects that impact more than one acre or activity that does not meet other general conditions of PASPGP. See Table 8 and Additional Activities Ineligible for PASPGP for more details. 	<ul style="list-style-type: none"> DEP and USACE – Individual Permit Review and authorization.

Acceptable Bog Turtle Avoidance Measures for use with DEP General Permits and USACE PASPGP Category I Authorizations

The USFWS and PFBC have concurred with two types of avoidance measures for use on a project-specific basis in areas that may contain suitable bog turtle habitat where use of a General Permit is intended for PA Chapter 105 and Section 404 authorization. The most commonly used avoidance measure is a pre-construction clearance survey. A pre-construction survey must include an abbreviated Phase 2 survey that is conducted in the presence of a recognized qualified bog turtle surveyor to remove any species individuals from all areas within the project's limit of disturbance. Once any present turtles have been removed, heavy duty silt barrier fencing (super silt fence) is installed around the perimeter of the limit of disturbance. This fence prevents the any bog turtles or other herptiles from entering the project's limit of disturbance.

Another avoidance measure is an inactive season replacement. This allows for the work to be completed between October 1 and March 31 (in most cases), which is considered the bog turtle inactive season. This avoidance measure may only be implemented on projects where there are no potential hibernacula within the limit of disturbance. Coordination with PFBC and USFWS is required to approve the use of this avoidance measure and will be evaluated on a project-specific basis. This measure can be implemented as a standalone avoidance measure or combined with a pre-construction survey, depending on site-specific conditions and habitat characteristics.

The Baltimore District of the USACE and DEP have concurred with these avoidance measures for use with DEP General Permit Applications and USACE PASPGP Category I Authorizations. Given that using a General Permit and a PASPGP Category I Authorization implies a minimal impact to environmental resources, PFBC and USFWS have determined that, in certain cases, a pre-construction survey and/or time-of-year restrictions are sufficient to avoid adverse effects to bog turtles. Not all projects that require General Permits and contain bog turtle habitat wetlands within the project area qualify for a pre-construction survey and/or time-of-year restrictions; such restrictions are at the discretion of the agencies with jurisdiction over the protection of bog turtles and their habitat. If a pre-construction survey is the recommended action through coordination with both USFWS and PFBC, and a General Permit is the intended authorization, the terms of the survey must be proffered in the application package. DEP and USACE Baltimore District have directed permittees to describe the avoidance measures in the project description portion of the permit registration form and provide details in the construction sequence or Erosion and Sedimentation Control Plan. In cases where USFWS requires any special conditions, the project becomes a PASPGP Category III and USACE must issue the permit with USFWS special conditions.

Also necessary for authorization is proper documentation of both federal and state agency coordination involving bog turtles. This includes, but is not limited to, a PNDI receipt, all coordination letters with USFWS and PFBC, a Phase I Bog Turtle Habitat Survey, and any other relevant information discussed in this chapter.

State DEP – Standard and Small Project PA Chapter 105 Permit (Federal: PASPGP - Categories II and III)

These permits are used for road, bridge, or culvert projects. These permits do not meet the general conditions of the DEP General Permits.

A DEP Small Projects permit can be used to authorize projects with insignificant impacts, including no wetland impacts. Applications for small projects permits are administratively less burdensome.

A Standard PA Chapter 105 Permit is usually required for projects that result in temporary and/or permanent direct and/or indirect impacts of more than one acre of WOTUS, including wetlands. The requirements for a Standard PA Chapter 105 Permit are outlined on the DEP website and are summarized in this handbook. Usually, a Joint Permit Application (JPA) form is completed.

Permit Application Process

Application Format and Content

The joint permit review process only requires the completion of DEP Joint Permit Application (JPA) forms to fulfill both state and federal requirements. General Permit (GP) registrations and JPA forms may be submitted through the DEP-PennDOT JPA system. Additional forms required with the JPA are the Single and Complete Project Screening Form and the General Information Form.

- Use the **General Permit Registration Form** when filing for a **DEP General Permit**. See Appendix A for a General Permit Registration Form. The form is also available on the DEP website.
- Use the **JPA Form** when filing for a **DEP Standard Permit** (see Appendix A for the JPA Form). This form can be used for wetland and watercourse encroachments that exceed conditions listed in the General Permits and therefore require both state and federal authorization. The form is also available on the DEP website.

The Joint Permit Application should be prepared in accordance with PA Chapter 105.13(d)(1) and should include the following items (see Appendix A for all JPA forms):

- **General Information Form.**
- **Joint Permit Application Form.**
- **Municipal and County Notification of Permit Application** (also known as Act 14 Notification).
- **Cultural Resource Notification Form** – This is often substituted with letters obtained as part of NEPA clearance or exempted under the Cultural Resources Programmatic Agreement for Minor Transportation Projects – Advisory Council.
- **PNDI-Supplement No. 1** – Heritage Geographic Information System (HGIS) database inquiries and printed results are now accepted in lieu of Supplement No. 1. It may also be necessary to include all documentation from other state and federal agencies regulating threatened and endangered species.

A DEP Small Projects permit can be used to authorize projects with insignificant impacts, including no wetland impacts.

- **Project Description** – Identifies the area, linear distance, and volume of temporary and permanent impacts to WOTUS, including wetlands.
- **Color Photographs** – Include a map showing the location and direction from which the picture was taken.
- **EA Form** – Include the following:
 - Enclosure A – Wetland Identification and Delineation (Wetland I&D) Report
 - Enclosure B – Project Location Map
 - Enclosure C – Description of all aquatic resources (wetlands, streams, etc.)
 - Enclosure D – Project Impacts (quantitative descriptions for all impacts, temporary and permanent, usually in terms of acres, linear feet, and volume)
- **Alternatives Analysis** – Comparison of alternatives with primary emphasis on impacts to waters.
- **Site Plan** – Include cross-sectional and profile views of the affected regulated waters for pre- and post-construction conditions.
- **Approved E&S Pollution Control Plan (E&S Plan)** – Prepared in accordance with PA Chapter 105.13(f) and Chapter 102. Include copy of approval letter for the E&S Plan from the county conservation district. An E&S Plan letter may be tied to an NPDES permit.
- **Hydrologic and Hydraulic Analysis** – Prepared in accordance with PA Chapter 105.151 for all required stream-crossing structures.
- **Stormwater Management Analysis** – Prepared in accordance with PA Chapter 105.13(e)(1)(v), including a letter from the municipality indicating consistency with the approved Act 167 Plan, if applicable. If a consistency letter cannot be obtained, include the municipality's comments together with PennDOT's response indicating the changes made or the reasoning why PennDOT's design is consistent with the approved plan. Please see the consistency guidance memo included as Appendix N of this document.
- **Floodplain Management Plan** – Prepared in accordance with PA Chapter 105.13(e)(1)(vi), including a letter from the municipality indicating consistency with its local Floodplain Management Program, if applicable.
- **Risk Assessment** – Submit if the Stormwater Management Analysis or Floodplain Management Analysis indicates increases in peak rates of runoff or flood elevations, in accordance with PA Chapter 105.13(d)(1)(vii).
- **Registered Professional Engineer's Seal and Certification** – Affixed to all plans, specifications, and design reports accompanying the application in accordance with PA Chapter 105.13(i), if required.
- **Mitigation Plan** – Describe the actions proposed in accordance with the definition of mitigation in PA Chapter 105.1 (d)(1)(ix) and the 2008 Final Compensatory Mitigation Rule (see Appendix J).
- **Bog Turtle Phase I Habitat Survey Report** – For projects located in any of the specified bog turtle counties.
- **Phase II Bog Turtle Survey Report** – For projects where a pre-construction survey was conducted as an avoidance measure.

- **Restoration Plan for Temporary Impacts** – Describe the actions proposed to restore temporarily impacted wetlands.

Permit Review Steps and Review Periods (Administrative and Technical)

The review time for a permit application varies depending on whether it is a General Permit or a Standard Permit. General permits typically have the shortest review time. Longer time periods may apply if additional information is required following an administrative completeness review or a technical review. PennDOT has MOUs/IAs with the permitting and resource agencies that specify review timelines.

Technical Review of a Permit Application: Alternatives Analysis and Steps of Mitigation

Technical review of a permit application involves evaluating the estimated impacts to regulated resources for each alternative studied. The alternatives analysis (submitted with the permit application) provides detailed information on alternative locations, routings, and designs to avoid or minimize adverse environmental impacts, especially to wetlands and waters. The NEPA document is used in the alternatives analysis required under the federal and state permitting processes to avoid and minimize impacts to waters. Adjustments within the selected alternative may need to be evaluated in final design to further avoid and minimize impacts to waters. Both the state and federal permit reviews evaluate the “steps of mitigation,” which proceed in the following order:

- Avoidance – Relocating elements of the project to avoid direct impacts to wetlands and waters.
- Minimization – Employing tactics such as retaining walls and/or steepened slopes to minimize direct impacts to wetlands and waters.
- Compensation – Review of proposed compensation measures for unavoidable impacts to wetlands and waters (see Chapter 7).

USACE Section 404(b)(1) Analysis

A Section 404(b)(1) of the CWA Analysis is required as part of a USACE Individual Permit. The Section 404(b)(1) Analysis involves a detailed review of the proposed impacts to related environmental features associated with a proposed wetland encroachment permit. Regulations governing the Section 404(b)(1) Analysis can be found at 40 CFR § 230, Subparts B through F. The Environmental Assessment Section of the Joint Permit Application must be prepared in accordance with these regulations.

- **Subpart B** – Compliance with the Guidelines (Section 404 of the CWA)
- **Subpart C** – Potential Impacts on the Physical and Chemical Characteristics of the Aquatic Ecosystem
- **Subpart D** – Potential Impacts on Biological Characteristics of the Aquatic Ecosystem
- **Subpart E** – Potential Impacts on Special Aquatic Sites
- **Subpart F** – Potential Effects on Human Use Characteristics

Most subparts contain subcomponents that address the type and magnitude of impact and the proposed mitigation.

- **Subpart B** – Has no subcomponents.

- **Subpart C** – Addresses potential impacts to physical and chemical components of the aquatic ecosystem, including the following:
 - 230.20 – Substrate
 - 230.21 – Suspended Particulates/Turbidity
 - 230.22 – Water
 - 230.23 – Current Patterns and Water Circulation
 - 230.24 – Normal Water Fluctuations
 - 230.25 – Salinity Gradients
- **Subpart D** – Addresses potential impacts to biological components of aquatic ecosystems, including aquatic organisms (amphibians, reptiles, fish, and macroinvertebrates) and their food webs.
 - 230.30 – Threatened and Endangered Species
 - 230.31 – Aquatic Organisms and Food Webs
 - 230.32 – Other Wildlife
- **Subpart E** – Addresses potential impacts to Special Aquatic Sites.
 - 230.40 – Sanctuaries and Refuges
 - 230.41 – Wetlands
 - 230.42 – Mud Flats
 - 230.43 – Vegetated Shallows
 - 230.44 – Coral Reefs
 - 230.45 – Riffle and Pool Complexes
- **Subpart F** – Addresses potential impacts to human use characteristics.
 - 230.50 – Municipal and Private Water Supplies
 - 230.51 – Recreational and Commercial Fisheries
 - 230.52 – Water-Related Recreation
 - 230.53 – Aesthetics
 - 230.54 – Section 4(f) Features

Chapter 8 Summary

1. Federal protection of wetlands is provided through Section 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act (RHA), and supporting regulations.
2. State protection of wetlands is provided through PA Chapter 105 and Section 401 of the CWA Water Quality Certification (WQC).
3. Preliminary design of a transportation project: National Environmental Policy Act (NEPA) applies (see PennDOT Publication 10B, *Design Manual Part 1B, Post-TIP NEPA Procedures*). One of three levels of environmental evaluation will be required: Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement. These guide selection of the least environmentally damaging, practicable alternative for the project.
4. Final Design of a transportation project: PA Chapter 105 authorization is required. If the wetland is not isolated and has a “significant nexus” with navigable waters, Section 404 of the CWA authorization is also required.

5. USACE and DEP have developed a joint review process that uses one permit application for both state and federal approvals. In most cases, applying for a PA Chapter 105 permit through DEP also makes application for a USACE Section 404 authorization.
6. PASPGP is a streamlined permitting process developed by USACE that may be used for projects that impact one acre or less of wetlands or less than 250 linear feet of waterways (eligible waters only). PASPGP approval satisfies both federal and state permitting requirements and is reviewed by USACE and DEP. There are three categories under PASPGP, with increasing documentation and review requirements based on the magnitude of the impact of the project on wetlands. PASPGP Category I authorizations correspond to DEP General Permits; PASPGP Category II and III permits correspond to DEP Standard Permits and Small Project Permits, as applicable.
7. For projects impacting more than one acre of wetlands, Standard Permits are typically issued under the PA Chapter 105 permit program and Individual Permits are typically issued under the Section 404 of the CWA permit program.
8. Application process:
 - Use the DEP General Permit registration form when filing for a DEP General Permit (project impacts less than one acre of wetlands and meets other conditions).
 - Use the DEP Joint Permit Application form, submitted through the DEP-PennDOT JPA online system, for state and federal authorization of projects exceeding the criteria for a General Permit. The application includes the following items, prepared in accordance with PA Chapter 105 and Section 404 of the CWA:
 - General Information Form
 - Joint Permit Application Form
 - Municipal and County Notification of Permit Application
 - Cultural Resource Notification Form
 - PNDI-Supplement No. 1
 - Project Description
 - Color Photographs
 - Environmental Assessment Form
 - Alternatives Analysis
 - Site Plan
 - Approved E&S Pollution Control Plan
 - Hydrologic and Hydraulic Analysis
 - Stormwater Management Analysis
 - Floodplain Management Plan
 - Risk Assessment
 - Registered Professional Engineer's Seal and Certification
 - Mitigation Plan
 - Bog Turtle Phase I Habitat Survey Report

CHAPTER 9:

Permit Execution and Special Conditions

A draft permit is initially issued when an applicant applies for an Individual Permit under PA Chapter 105 and Section 404 of the CWA. The PennDOT district should review the draft permit carefully and note the following:

- Does the project description in the permit accurately match the proposed project?
- Does the mitigation required by the permit match the mitigation proposed in the application process?
- Are the special conditions imposed by the permit acceptable?
 - PennDOT has developed a set of Standard Special Conditions in conjunction with the USACE and the DEP. See Appendix L – Special Conditions Concerning Compensation/Mitigation Sites.
 - If any of the special conditions listed differ from the Standard Special Conditions developed by agreement with the regulatory agencies, coordination with PennDOT’s Environmental Policy and Development Section and Office of Chief Counsel is required prior to permit acceptance.

If the answers to the above three questions are yes, the applicant (e.g., PennDOT) should sign the permit and return the appropriate copies to the issuing agency. The permit has now been executed and is binding upon the applicant, who is now the permittee.

If the answers to any of the above questions are no, the PennDOT district should seriously consider not signing the permit. Work with the staff in the Environmental Policy and Development Section and contact the permitting agency. In many cases, problems with the project description and/or the mitigation description are administrative errors that can be addressed quickly, allowing a revised draft permit to be issued. However, problems with unacceptable special conditions are more difficult. Guidelines for elevating these issues can be found in 33 CFR Parts 325 and 332 as well as in 40 CFR Part 230. It is recommended that you contact the permitting agencies for situations such as the following:

- The special condition represents an unresolved technical or permitting issue that the permitting agency is unwilling to ignore, despite being able to issue a permit for the project.
- The special condition represents a new policy or procedure for the permitting agency which was not previously discussed with the applicant.
- The special condition represents an unexpected announcement late in the permit coordination process. The applicant generally has had little time to review this special condition.
- The special condition represents an extension of agency jurisdiction to include environmental resources or concerns of other resource agencies.

Each of these reasons can be avoided if the applicant and permitting agency discuss and negotiate the special conditions prior to the issuance of the draft permit. Early coordination regarding special conditions affords ample time for evaluation and discussion before the permitting deadline. PennDOT can

request to participate in the development of the draft special conditions (DSC) for consideration by the permitting agencies, as can (if applicable) other resource agencies. This step is especially important in the protection of threatened and endangered species where it is critical to agree on those special conditions that can be executed only during construction and maintenance. Permit special conditions must be consistent with conditions proffered in the Biological Assessment and conditions in the Biological Opinion.

Guidelines for Evaluating Draft Special Conditions

The following guidelines are provided to assist PennDOT project personnel in evaluating the DSC:

- The DSC should be directly related to preventing, minimizing, restoring, or compensating impacts to waters or wetlands.
- There should be a clearly established statutory (regulatory) or executive (Executive Order) basis for any DSC that is not specifically related to waters or wetlands. Examples of a statutory basis could include a DSC related to Section 106 resources or threatened and endangered species or Act 14 67/68 issues. An example of an executive basis could include a DSC related to invasive species.
- A DSC related to compensatory mitigation should be commensurate with the quality and quantity of the impacts and should be a reasonable expenditure of public funds.
- A DSC related to the protection of mitigation areas should contain mutually agreed-upon legal instruments (i.e., easements and deed restrictions) that protect and preserve in perpetuity those mitigation sites within the PennDOT right-of-way. A copy of the forms and instructions for completion are included in Appendix O of this handbook.
- The DSC should not provide for enforcement authority, either direct or implied, to parties other than the permitting agency(ies).
- Any DSC that is new for permits issued to PennDOT should be discussed with PennDOT's Bureau of Project Delivery before including it in a draft permit.
- The DSC should apply attainable performance standards for wetland replacement sites. Special conditions that can be addressed during construction and maintenance should be discussed with the permitting agencies.
- The DSC should make certain that monitoring requirements are proportional to the area created in terms of frequency of monitoring, reporting requirements, and length of time for monitoring. The DSC should also address terms for the preliminary release of the site from monitoring.
- The DSC must be thoroughly reviewed for constructability.

Environmental Commitment Mitigation Tracking System (ECMTS)

Permit conditions that are accepted by PennDOT should be added to the ECMTS (see Appendix T of DM-1X). Appendix T explains how to track mitigation activities and environmental commitments, which activities need to be tracked, and how to track them throughout the entire project delivery process. The ECMTS report, required for all projects, consists of (1) a tracking matrix which must be completed or updated at certain points during project development, (2) appropriate mapping as part of the PS&E

package, and (3) a signature sheet to confirm that mitigation measures and environmental commitments are met during construction.

Chapter 9 Summary

1. Individual Permits: Draft permits are issued initially, providing the applicant an opportunity to verify the project description, mitigation required, and special conditions imposed by the permit. If the draft permit description and requirements are accurate and acceptable, the PennDOT district must sign the permit to execute it and make it legally binding.
2. If any special conditions differ from those discussed with the regulatory agencies and are unacceptable, discuss with PennDOT's Environmental Policy and Development Section and the permitting agencies before signing the permit. Following resolution, a revised draft permit may be issued to modify the special conditions.
3. Add accepted permit conditions to PennDOT's Environmental Commitment Mitigation Tracking System (ECMTS), which monitors compliance with environmental obligations.



District 2-0 Mitigation Area – Kettle Creek Wetland Bank

intentionally blank

SECTION III - Construction



CHAPTER 10:

Construction Monitoring and Management

Permit conditions included in PA Chapter 105 and Section 404 of the CWA authorizations affect PennDOT construction projects in a variety of ways. Chapter 10 provides guidance on addressing wetland and waterways permit conditions such as compliance monitoring and mitigation construction during the project construction phase.

Wetland mitigation monitoring and management involves three tasks:

- Permit condition review;
- Construction management and monitoring; and
- As-built documentation and reporting requirements.

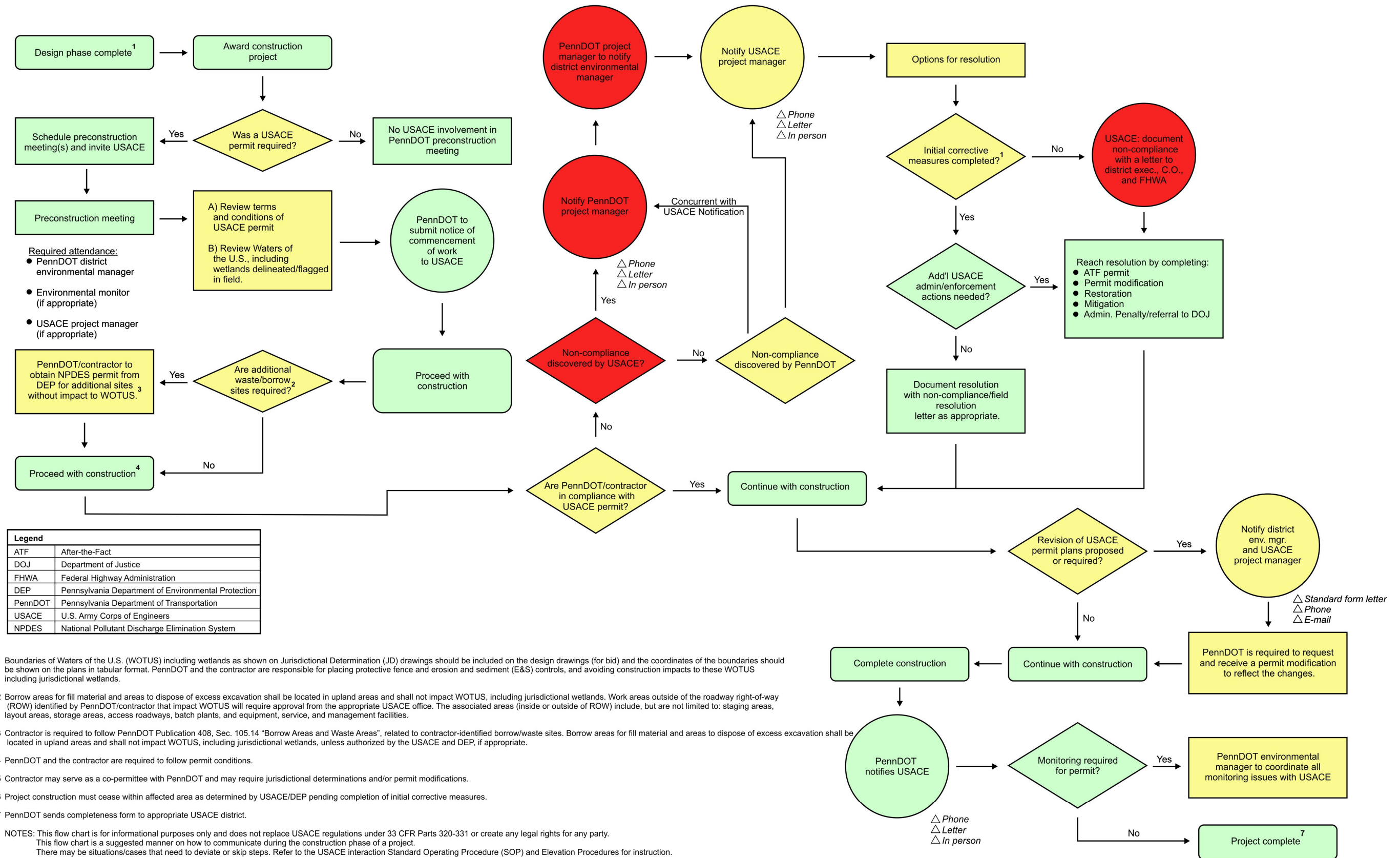
If unforeseen impacts that have not been permitted occur during construction, coordination with the USACE is required as shown in Figure 7. DEP should also be involved as noted.

Permit Condition Review

During the pre-bid or pre-construction meeting with appropriate permitting agencies, the PennDOT environmental manager should review the PA Chapter 105 and Section 404 permit conditions, as well as ECMTS for wetland mitigation construction and the wetland mitigation construction drawings, special provisions, E&S plans, construction items, and contract schedules. The environmental manager should note any special circumstances that could affect regulatory compliance and project completion. The following items may be found in the permit conditions or in the related construction drawings, contract schedules, and special provisions:

- Permit-required start and end dates for mitigation construction, including conservation easements;
- Time-of-year work restrictions related to other resources (cold water fishes, threatened and endangered species habitats, etc.);
- Required notifications to the permitting agencies (may include written and oral notifications and a permit-mandated invitation for a field view);
- Permit-required procedures for a permit modification request related to wetland mitigation areas;
- Special construction techniques and/or special construction equipment;
- Required as-built documentation to be submitted to the permitting agencies at the end of construction; and
- Terms and conditions referenced in the Biological Opinion and Section 106 resolutions.

Figure 7: Communication Flow Chart for USACE and PennDOT



intentionally blank

Wetland Mitigation Construction Monitoring and Management

The failure of wetland mitigation projects is often attributable to poor construction management and monitoring. A wetland mitigation manager/monitor with either direct experience in wetland mitigation design and construction or access to a wetland designer should be designated to oversee the project. Numerous PennDOT personnel are qualified to serve as wetland mitigation managers/monitors, including:

- Construction personnel with wetland construction experience;
- Maintenance personnel with wetland construction experience;
- Environmental professionals, including personnel from the district environmental unit; and
- Construction personnel without wetland construction experience but with ready access to the wetland designer and/or environmental unit.

Responsibilities of the manager/monitor during construction monitoring usually include the following:

- **Pre-Construction Meeting** – A pre-construction meeting with selected contractors and other agencies when appropriate (e.g., when a project involves special conditions for endangered mussel species) may be required as a permit condition to discuss the following items:
 - Meetings with agencies.
 - Design specifications.
 - Permit special conditions and permit transfer.
 - Proposed construction methods and equipment to be used.
 - Specification tolerances and testing requirements, including proper documentation.
 - Procedures for change orders.
 - Procedures for in-field modifications.
 - Construction sequence.
 - Record-keeping during construction and reporting to monitor (retain a copy of the DEP Water Encroachment and Obstruction Permit Completion Report Form and the USACE Permit Compliance Self-Certification Form for PASPGP or notification/certification of work – Completion/Compliance Form for Individual Permits).
 - Maintaining a copy of the permit at the project site at all times.
 - Erosion and sediment controls, approvals, and maintenance.
 - Time-of-year planting restrictions, proposed substitutions, plant availability, and proposed source(s).
 - Areas to avoid during construction (e.g., existing wetlands, archaeological sites, invasive plants, etc.).
 - Rough grading.
 - Stockpiling hydric and/or alluvial soils for use during construction.
 - Adjusting elevations to manage the constructed wetland’s hydrologic intake.
 - Contingency plan in the event of excavating an old stream channel or karst feature.
 - Importance of clays and compaction.
- **Construction Monitoring Activities** – The following list presents important elements for establishing a successful wetland mitigation area. Each element is monitored during wetland

mitigation construction, and the results are reported to the project manager for design and construction and to the district environmental unit:

- Grade elevations (rough and final)
 - Coordinate changes with permitting agencies as necessary.
 - Coordinate activities required by permit condition, such as a post-grading field view, if required.
- Soil compaction (confining subsoil layers or clay lens)
- Soil amendments
- Topsoil placement
- Over-compaction (of topsoil)
- Water control structures
- Habitat enhancement features
- Vegetation
 - Clearing and grubbing
 - Proper hydrologic conditions for planting
 - Correct plant species (see Appendix A to locate native plant nurseries)
 - Healthy plant stocks
 - Installation methods
 - Post-installation maintenance (watering, pruning, etc.)
- Maintenance of erosion and sediment controls

As-Built Documentation and Reporting Requirements

As-built documentation provides important baseline information used to monitor the wetland. A common permit condition is submission of as-built (record) plans to the permitting agencies for reference and review. As-built documentation is also necessary to accurately record in-field changes that occur during construction and may also be used for contracting (pay item) purposes.

As-built documentation should be forwarded to the appropriate parties after the wetland mitigation construction is completed. Certain as-built information may need to be forwarded to the permitting agencies in compliance with permit conditions. All as-built documentation should be forwarded to the PennDOT district environmental unit for use during post-construction monitoring. All CADD files should be sent to PennDOT or the designated monitor.

As-built documentation may include the following items:

- Plan view drawings which illustrate the following:
 - Grade elevations;
 - Limit of grading;
 - Revised plant quantities and locations;
 - As-constructed water control elevations; and
 - Habitat enhancement features.
- Cross sections of final grades (maximum 50-foot intervals), red-lined on the original sections.
- Specification compliance and performance documentation, such as:
 - Analysis of topsoil;

**All CADD files
should be sent to
PennDOT or the
designated monitor.**

- Subsoil compaction; and
- Inspection and certification of plant stocks.
- Identification of any modifications from final design drawings or specifications.
- DEP Completion Report (see Appendix P).

Chapter 10 Summary

1. Permit condition review: Permit requirements must be reviewed by the PennDOT environmental manager and discussed with regulatory agency representatives during a preconstruction meeting. Communication protocols and the process for resolving any non-compliance issues should be established.
2. Wetland mitigation construction monitoring and management: An experienced wetland mitigation manager/monitor should be designated to oversee the project. This individual has numerous detailed responsibilities during the pre-construction meeting and construction phase to ensure proper communication, construction, and compliance.
3. As-built documentation and reporting: Submission of as-built plans is a common permit condition to provide baseline information used to monitor the wetland. Documentation should be submitted to the PennDOT district environmental unit as well as the regulatory agencies. It typically contains:
 - Plan view drawings;
 - Cross sections of final grades;
 - Specification compliance and performance documentation, such as topsoil analysis and certification of plant stocks;
 - Identification of any modification from final design drawings or specifications; and
 - DEP Completion Report (see Appendix P).

CHAPTER 11:

Post-Construction Monitoring

PA Chapter 105 and Section 404 of the CWA permits require post-construction monitoring for compensatory wetland (and stream) mitigation projects. The USACE has issued guidance on minimum monitoring requirements for compensatory mitigation projects with the USACE RGL 08-03 (Appendix I).

The size and complexity of the project determine which of the following components will be included in the post-construction monitoring plan:

- Performance standards;
- Monitoring methodology;
- General site inspection;
- Full monitoring report;
- Monitoring schedule;
- Reporting requirements;
- Adaptive management plan; and/or
- Long-term management plan.

In cases where the mitigation areas are of a single wetland type or a small size, only some of the components may need to be included in the monitoring plan. Required components should be discussed during the permit application review.

The PUMBI contains specific performance standards and monitoring procedures.

The post-construction monitoring methods outlined below are intended as guidance to comply with RGL 08-03. However, these procedures are not binding and are subject to project-by-project interpretation in coordination with permitting agencies. Modification of these procedures is recommended to suit project and site conditions. Monitoring methods and procedures must always comply with all related permit terms and conditions.

The PUMBI contains specific performance standards and monitoring procedures (see Appendix K).

Performance Standards

Measurable performance standards should be developed for each mitigation site that will be monitored. The standards measure the wetland's performance in meeting the mitigation goals for the site. Performance standards are often developed in tandem with the conceptual plan to help advance the design goals. The performance standards should describe how progress toward goals is measured and should be measurable throughout the monitoring life of the project.

Monitoring Methodology

The monitoring methodology encompasses a series of actions to assess how well the mitigation site is meeting its prescribed performance standards. The specific details for each action may be developed with the permitting agencies during the review process for the PA Chapter 105 and Section 404 permits. Standard methodologies that are generally accepted in the scientific community should be used to conduct monitoring activities. One resource is the *USACE Wetlands Delineation Manual, 1987*, and any applicable regional supplements. The monitoring methodology may include the following:

- Complete field mapping of the mitigation area with surveyed habitat zone boundaries, contours, and spot elevations.
- Evaluate the three wetland parameters—vegetation, soils, and hydrology:
 - Vegetation survey to evaluate development of hydrophytic vegetation.
 - Soil investigation to evaluate presence of hydric soils.
 - Wetland hydrology evaluation.
- Identify wetland according to the Cowardin Classification System.
- Inspect water control structures.
- Photograph mitigation site.
- Evaluate wildlife use.
- Prepare the monitoring map.

Field Mapping of the Mitigation Area with Surveyed Boundaries, Contours, and Spot Elevations

Post-construction monitoring focuses on delineation of the jurisdictional wetland boundary and various plant habitat zones and/or plant habitat types to evaluate the success of the wetland mitigation area as measured by the performance standards.

The wetland boundary of each mitigation area is delineated according to the *USACE Wetlands Delineation Manual, 1987*, and any applicable regional supplements. (It is expected that the Routine for Small Area Method will be used, taking into account the atypical nature of the newly created wetlands.) One representative sample location is selected for each plant habitat zone or homogeneous plant community. Wetland delineation field data are used to complete a delineation data form. Wetland boundaries are flagged with numbered survey ribbons or pin flags and are surveyed for inclusion on the monitoring map.

The boundary of each plant habitat zone (both within the wetland and its adjacent buffers) is approximated or surveyed (but not field-flagged) based on the definitions outlined in the performance standards or mitigation goals. The boundaries of the plant habitat zones are included on the monitoring map.

Evaluation of the Three Wetland Parameters

All permit conditions related to specific monitoring activities should be implemented for evaluation of the three wetland parameters: vegetation, soils, and hydrology. PA Chapter 105 and Section 404 permits contain special conditions concerning required activities for evaluating wetland parameters. Required activities often follow procedures which are outlined in the *USACE Wetlands Delineation Manual, 1987*, and any applicable regional supplements.

Survey of Hydrophytic Vegetation

A comprehensive **vegetative profile** is completed for the mitigation area and involves two steps:

- Identify the dominant vegetation; and
- Determine the Cowardin classification based on dominant vegetation.

Methods commonly used to evaluate hydrophytic vegetation are found in the *USACE Wetlands Delineation Manual, 1987*, and any applicable regional supplements.

Dominant plants are often identified using **percent areal coverage**. The percentage of areal coverage is estimated for each plant community and is then compared with the performance standard percentage. If the estimated percent areal coverage is substantially above or below the performance standard percentage, a simple visual estimate can be used. If, however, the estimated percent areal coverage closely approximates the performance standard percentage, a quantified estimation method can be used. The quantified estimation method could include randomly placed one-meter quadrants, line-intercept transects, or a crown-area estimate. Details are available in the *USACE Wetlands Delineation Manual, 1987*, and any applicable regional supplements.

Inspection for **invasive species** is also conducted during the vegetative monitoring and sampling stage. If an invasive species is present and represents more than 10 percent (or as stated in the Section 404/Chapter 105 permit conditions) of the total vegetative coverage of the entire wetland mitigation area, or if it meets the percentage specified in the special conditions listed in the Chapter 105 permit and/or Section 404 permit, an invasive species management plan is prepared as part of the monitoring report. The reporting requirement does not automatically require PennDOT to eradicate all invasive species in the wetland mitigation area, but it does require PennDOT to closely monitor potentially problematic infestations. In minor cases where the invasive species does not threaten the ecological integrity of the area or where its eradication would result in more environmental harm than benefit, PennDOT may elect to simply monitor the situation. In more extreme cases, PennDOT may elect to eradicate the invasive species.

A survey of planted **woody vegetation** is conducted to determine survival and general health of the plants. Surviving planted woody species can be individually counted or investigators can complete a transect study to develop a statistically representative portion from which the survival rate could be extrapolated. Randomly selected planted woody vegetation representing 10 percent of each species is assessed for overall health and productivity. The sample is used to approximate the general health and productivity of the entire population. The parameters for evaluating the health and productivity of woody vegetation could include the following:

- Individual height;
- Individual crown diameter;
- Annual new growth; and
- Overall condition, including evidence of
 - deer damage,
 - insect damage,
 - rodent damage,
 - leaf rust and blights, or
 - growth morphology suggesting a stressed environment.

Investigation of Soils for Presence of Hydric Soils

Soil monitoring and sampling evaluates the quality of the soils as a growing medium and assesses the distribution of hydrology within the wetland replacement area. The program does not emphasize evaluation of hydric soils field indicators because newly forming hydric soils often lack the morphologic characteristics of established hydric soils.

At least one soil sample is collected from each homogeneous community type that has standing water less than one foot in depth. Each soil sample will include shovel excavation of a test pit 12 to 18 inches in depth. The following information should be recorded (this information is taken from the *USACE Wetlands Delineation Manual, 1987*, and any applicable regional supplements):

- Depth of the test pit;
- Depth of each soil horizon (if more than one);
- General texture and color (Munsell color system) of each horizon;
- Visual observations of the suitability of the soils as a growing medium (i.e., topsoil and organic material content, relative state of compaction, etc.);
- Observations of wetland hydrology present at the soil test pit location (i.e., direct observation of saturation or inundation, or other indicator listed in the *USACE Wetlands Delineation Manual, 1987*, and applicable regional supplements); and
- Designation of the hydric soil indicator (F3, F6, etc.) for the sample location.

The soil test pits should be randomly located within each plant community in order to collect a reasonable sample of soil types. The location of each soil test pit is surveyed and included on the monitoring map.

Evaluation of Wetland Hydrology

The purpose of the hydrology monitoring and sampling program is to 1) characterize the distribution of hydrology within each habitat zone, and 2) characterize seasonal fluctuations of the general hydrologic regime of the wetland replacement area. The hydrology monitoring and sampling program will, at a minimum, include the standard hydrologic investigation methods outlined in the *USACE Wetlands Delineation Manual, 1987*, and any applicable regional supplements.

Hydrology should be evaluated in light of seasonal hydrologic conditions. For instance, is the monitoring event being conducted in a drier than usual period, normal period, or wetter than normal period? Seasonal hydrologic conditions can be used to interpret the results of a one-time hydrology monitoring event.

Primary and secondary hydrologic indicators are noted during monitoring and are documented in the monitoring report. More detailed investigations may be conducted at the discretion of the monitoring team to more fully assess project-specific performance standards. The report should include how current hydrology compares with long-term averages. For example, is this sample being taken in a wet or a dry year? Does it appear that we are in the beginning, middle, or end of a climatic cycle? Additional information may be found on the USGS website (www.usgs.gov). In some instances, consultation with the state climatologist's office may be necessary.

Identification of Cowardin Wetland Classification

During each monitoring visit, the vegetative cover in the wetland mitigation area should be classified in accordance with the Cowardin Classification System. Detailed performance standards related to the Cowardin classification are contained in the PUMBI (pages 33-35 of the PUMBI – Appendix K).

Inspection of Water Control Structures

During each monitoring visit, the water control structure(s) at both the primary and emergency outlets should be inspected to assess the following:

- Function of the outlet structure (i.e., is it maintaining the proper water elevation?);
- Stability of the outlet structure; and
- Recommended remedial actions for the outlet structure.

Additional information about the use of weirs and spillways can be found in Chapter 13 of the United States Department of Agriculture's (USDA) Engineering Field Handbook, *Wetlands Restoration, Enhancement, or Creation, 1997*. Chapter 13 is available in Appendix A.

Photographs of Mitigation Site

Permanent observation points are selected for photographs of the site and submitted with each monitoring report. The observation points should be located to provide a panoramic view of the wetland mitigation area when the photographs are viewed together.

Evaluation of Wildlife Use

All direct (observation) and indirect (sign) evidence of wildlife usage should be recorded using both full and limited monitoring events. Wildlife observations can be completed by the wetland scientist conducting the general site monitoring. If a site-specific performance standard requires a specific measurement of a particular species, a specialist may be required for the monitoring. Wildlife observations may evaluate terrestrial vertebrates and aquatic vertebrates/invertebrates. Wildlife usage that is or could be detrimental to the wetlands (deer, muskrats, beaver, geese, etc.) should be noted. Moderate detrimental wildlife usage should be carefully monitored during future monitoring events. Extreme detrimental wildlife usage should be addressed by a remediation plan if the wildlife damage would reduce the likelihood of attaining a performance measure.

Preparing the Wetland Monitoring Map

A wetland monitoring map is prepared by the post-construction wetland mitigation area monitoring team to supplement the as-built map prepared during construction. The monitoring map may include the following information (the features outlined below represent as-built conditions):

- Location of the entire surveyed boundary of both the mitigation site and the area determined to be wetland in the mitigation site;
- Location of berms, water-control structures, and out slopes;
- Location of the water line;
- Locations of habitat zones (emergent, scrub-shrub, forested, and open water wetlands) within the delineated wetland boundary;
- Approximate locations of homogeneous plant communities within each of the habitat zones;
- Location of monitoring features, such as:
 - Photographic reference points,
 - Wetland delineation data points,
 - Vegetative sampling points and plots, and
 - Soil sampling points; and

- Tabulation of select site data including total size of the mitigation area, total size of the wetland replacement area, size of each habitat zone, and a summary of the mitigation size required in the permit.

Much of the information included on the monitoring map is collected during the first monitoring event and can be updated as appropriate during subsequent monitoring visits. **The monitoring map is the primary exhibit documenting the post-construction monitoring effort.** The map should show changes that occur during the monitoring process. Changes that need to be documented can occur as early as the time period between preparation of the construction as-built drawings and the first monitoring. Changes should be documented in the adaptive management summary in the mitigation monitoring report.

General Site Inspection

A general site inspection should be made at each wetland mitigation area to evaluate the overall physical condition of the site. The general site inspection assesses the stability and working condition of the berms and water control structures related to the hydrology of the wetland mitigation area. The general site inspection also checks for active erosion or muskrat damage that is currently affecting or could adversely affect the wetland mitigation area. Any unstable areas or non-working water control structures should be documented in the monitoring report along with recommendations to remediate the problem or a description of repairs already made to the structure.

If the site inspection is conducted as a limited monitoring event without the above-detailed protocol, the following additional items should be included in the general site inspection:

- General assessment of the vegetation;
- General assessment of site stability (i.e., water control structures and erosion);
- General assessment of hydraulic conditions;
- General observations related to wildlife usage;
- Other observations related to performance standards and mitigation goals;
- Photographs from the reference points; and
- Preparation of a monitoring inspection memorandum.

Monitoring Report

A monitoring report should be prepared each year, as specified in the monitoring plan (see Post-Construction Monitoring Schedule section, following). See Appendix I for the RGL 08-03. The Final Mitigation Rule (Appendix J) details the regulatory requirements, and RGL 08-03 provides applicants with guidance on streamlining the monitoring report efforts for a compensatory mitigation site. The RGL discourages the preparation and submission of lengthy reports that have only general information. Additionally, the RGL suggests limiting the length of a monitoring report to 10 pages or less. The RGL makes provisions for large or complex sites that may require more than the suggested 10 pages. In order to archive a standard monitoring report, PennDOT has developed a standardized reporting protocol (see Appendix A). All wetland monitoring reports will be provided using the Standard Monitoring Report Forms. A link to the forms is available in Appendix A. The contents of the report specified in RGL 08-03 are as follows:

1. Project Overview (1 page)

- USACE permit number or name of the mitigation bank or in-lieu fee project.
- Name of party responsible for conducting the monitoring and the date(s) the inspection was conducted.
- A brief paragraph describing the purpose of the approved project, acreage and type of aquatic resources impacted, and mitigation acreage and type of aquatic resources authorized to compensate for the aquatic impacts.
- Written description of the location, any identifiable landmarks of the compensatory mitigation project, including information to locate the site perimeter(s), and coordinates of the mitigation site (expressed as latitude, longitude, Universal Transverse Mercator (UTM) coordinates, state plane coordinate system, etc.).
- Dates that the compensatory mitigation project commenced and/or was completed.
- Short statement on whether the performance standards are being met.
- Dates of any recent corrective or maintenance activities conducted since the previous report submission.
- Specific recommendations for any additional corrective or remedial actions.

2. Requirements (1 page)

List the monitoring requirements and performance standards, as specified in the approved mitigation plan, mitigation banking instrument, or special conditions of the Department of the Army (DA) permit, and evaluate whether the compensatory mitigation project site is successfully achieving the approved performance standards or at least trending toward success. A table is recommended for comparing the performance standards with the conditions and status of the developing mitigation site.

3. Summary Data (maximum of 4 pages)

Summary data should be provided to substantiate the success and/or potential challenges associated with the compensatory mitigation project. It is recommended that photo documentation be provided to support the findings and recommendations referenced in the monitoring report and to assist the project manager in assessing whether the compensatory mitigation project is meeting applicable performance standards for that monitoring period. Submitted photographs should be formatted to print on a standard 8½"x11" sheet, dated, and clearly labeled with the direction from which the photograph was taken. The photograph location points should also be identified on the appropriate maps.

4. Maps (maximum of 3 pages)

Maps should be provided to show the location of the compensatory mitigation site relative to other landscape features, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation plan. In addition, the submitted maps should clearly delineate the mitigation site perimeter(s), which will assist project managers in locating the mitigation area(s) during subsequent site inspections. Each map or diagram must fit on a standard 8½"x11" sheet and include a legend and the location of any photos submitted for review. As-built plans may be included.

5. Conclusions (1 page)

A general statement should be included describing the conditions of the compensatory mitigation project. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed by the permittee, including a timetable, must be provided. The USACE district commander will ultimately determine whether or not the mitigation site is successful for a given monitoring period.

PennDOT has developed a standard PDF monitoring report format (Appendix A) that complies with the information requirements of RGL 08-03 and includes many of the performance standards contained in the PUMBI.

Detailed descriptions of the monitoring report requirements can be found in the USACE Final Compensatory Mitigation Rule, provided in Appendix J.

The monitoring reports for project-specific and non-PUMBI wetland bank mitigation sites are to be submitted by the PennDOT engineering district to the permitting agencies according to the conditions of the permit. The monitoring reports for PUMBI wetland bank sites are to be submitted by the engineering district to the PennDOT Environmental Policy and Development Section no later than March 15 of the monitoring year. If the district cannot meet this submission schedule, then the assistant district engineer for design must request an extension of not more than 30 days from the chief of the Environmental Policy and Development Section. The Environmental Policy and Development Section will then compile wetland bank monitoring reports and provide one comprehensive monitoring report submission to the IRT co-chairs, as specified in the Statewide Wetland Banking Agreement.

Post-Construction Monitoring Schedule

Combining full monitoring events, site inspections, and agency field views could result in a more cost-effective monitoring program. If agency personnel are unavailable to field view all wetland mitigation sites every year, two site inspections per year should be specified as an alternative to the agency field view. An optimal monitoring schedule for a standard five-year monitoring period would include the following:

- **Year 1**
 - Site inspection – June (early summer)
 - Agency field view – late summer
 - First Monitoring Report – December
- **Year 2**
 - Full monitoring event – June (early summer)
 - Agency field view – late summer
 - Monitoring Report – December
- **Year 3**
 - Site inspection – June (early summer)
 - Agency field view – late summer
 - Monitoring Report – December
- **Year 4**
 - Site inspection – June (early summer)

- Agency field view – late summer
- Monitoring Report – December
- **Year 5**
 - Full monitoring event – June (early summer)
 - Agency field view – late summer
 - Monitoring Report – December

Project-Specific Wetland Mitigation Sites

Unless specified in the permit, post-construction monitoring of wetland mitigation sites generally begins during the first full growing season after the wetland has been constructed. Typically monitoring continues for five years or 100 percent credit utilization, whichever is longer.

In the case of project-specific mitigation, the permitting agencies determine the length of the monitoring period as negotiated during the draft permit review process. Permitting agencies may authorize a permittee to be released from “full” monitoring if the mitigation area has demonstrated success. For the purposes of this handbook, full monitoring encompasses the procedures outlined in the previous sections of this chapter: Monitoring Methodology, General Site Inspection, and Monitoring Report. The monitoring period specified in the permit usually remains in effect until the period has expired. If the site has not achieved the performance standards identified during the permitting process, then the permitting agencies may require that the monitoring period be extended beyond the limits identified in the permit. Detailed monitoring and reports are not required after the site has been released.

For the first two years, the permitting agencies may require two full monitoring events per year with a report submitted after each monitoring event, or a single report may be required before the end of the calendar year. In some situations, monitoring more than once a year is appropriate based on the type of wetlands being developed and/or specific performance standards being measured. The number of monitoring events required can be discussed during the permit review process and written into the permit conditions. In cases where monitoring activities are proposed for more than once a year, the regulatory and administrative record for the project should clearly list the rationale for this review frequency. Permitting agencies may elect to end full monitoring events before the completion of the five-year monitoring period, on a project-specific basis, if they are satisfied with the outcome of the project site before five years.

At the discretion of the permitting agencies, limited monitoring events may be substituted for full monitoring events. Limited monitoring events may include a site inspection by the monitoring team and a separate agency field view hosted by the district environmental manager. A site inspection provides an opportunity for the monitoring team to make general comments and observations about the success of the wetlands based on professional experience. An agency field view provides an opportunity for permit and resource agencies to visually assess the success of the wetland and provide comments to the district environmental manager.

In addition to the monitoring report completed at the end of Year 5, a monitoring closeout report is completed for review by the permitting agencies. The monitoring closeout report briefly summarizes the findings of the monitoring study and discusses how the mitigation area has met the performance standards. The monitoring closeout report also formally requests closure of the post-construction monitoring period. Closure can be requested during any year if the wetland is meeting its performance goals.

Wetland Bank Sites

Unless specified in the wetland bank final mitigation plan (FMP), post-construction monitoring of wetland mitigation sites generally begins during the first full growing season after the wetland has been constructed. Monitoring typically continues for five years or 100 percent credit utilization, whichever is longer.

As determined during the bank establishment process, the IRT chairs determine the length of the monitoring period. The IRT chairs may authorize the PennDOT district's release from full monitoring if the mitigation area has demonstrated success. For the purposes of this handbook, full monitoring encompasses the procedures outlined in Chapter 11. The monitoring period specified in the FMP usually remains in effect until the period has expired. If the site has not achieved the performance standards identified during the permitting process, then the IRT chairs may require the monitoring period to be extended beyond the limit identified in the FMP. Detailed monitoring and reports are not required after the site has been released.

In some situations, monitoring more than once a year is appropriate based on the type of wetlands being developed and/or specific performance standards being measured. The number of monitoring events required can be discussed during the bank establishment process and written into the FMP. In cases where monitoring activities are proposed for more than once a year, the regulatory and administrative record for the project should clearly list the rationale for this review frequency.

At the discretion of the IRT chairs, limited monitoring events may be substituted for full monitoring events. Limited monitoring events may include a site inspection by the monitoring team and a separate agency field view hosted by the district environmental manager. A site inspection provides an opportunity for the monitoring team to make general comments and observations about the success of the wetlands based on professional experience. An agency field view provides an opportunity for permit and resource agencies to visually assess the success of the wetlands and provide comments to the district environmental manager. A single monitoring report should be submitted to the IRT before May 31 of the following year.

At the end of five years or as otherwise established in the FMP, the district may submit a request to the IRT chairs for a reduced monitoring frequency. The requested timing may be based on a certain interval (e.g., every two years) or on credit debiting milestones (e.g., when the district has used 80 percent of the credits that were available at the end of the fifth monitoring year). When the wetland bank site has no more available credits, the district may submit a monitoring closeout report. The report briefly summarizes the findings of the monitoring study, discusses how the mitigation area has met its performance standards, and summarizes the credits debited from the site. The monitoring closeout report also formally requests closure of the post-construction monitoring period.

Reporting Requirements

A monitoring report should be submitted each monitoring year in accordance with the site-specific approved monitoring plan. All wetland monitoring sites—project-specific or wetland banks—must use the Standard Monitoring Report Forms to prepare the required monitoring reports. Project-specific monitoring reports should be submitted by the district to the permitting agencies. Monitoring reports for wetland banks operated under the statewide wetland banking agreement must be submitted to the PennDOT Environmental Policy and Development Section annually. The reporting documents should be

submitted to the district environmental manager for review and comment prior to submitting them to either the permitting agencies or the Environmental Policy and Development Section.

Adaptive Management Plan

The USACE's RGL 08-03 (Appendix I) and the *Compensatory Mitigation Rule* (Appendix J) recommend including an adaptive management plan in the wetland mitigation plan as a framework for addressing unforeseen problems during construction and post-construction monitoring. In most cases, the plan specifies that PennDOT will:

- Maintain ownership of the site(s);
- Maintain sole responsibility for the functional success of the site(s);
- Repair unforeseen damage to the site(s); and
- Provide alternative wetland mitigation should the proposed mitigation area fail or if available wetland bank debits have been exceeded. Alternative mitigation may include repair or modification of the failed site, or mitigation at a new location.

PennDOT will have maintenance responsibilities that are decided based on agency comments, field views of the site, and monitoring plan requirements.

Long-Term Management Plan

Large wetland mitigation areas that are disjunct from other transportation facilities create management challenges that PennDOT is not structured to address. PennDOT aims to transfer ownership of large off-site wetland mitigation areas to agencies or organizations with mission statements suited to the management and permanent protection of wetlands and waters. PennDOT should coordinate with both DEP and USACE as part of this process of transferal. In addition, the transfer of the land will be included as part of the long-term management plan of the site.

If PennDOT retains ownership, the long-term management plan should identify the parties responsible for maintenance and the funding source that supports that effort.

Chapter 11 Summary

1. State and federal wetland permits require post-construction monitoring in compliance with general published guidance and the project's post-construction monitoring plan.
2. The intent is to ensure that the mitigation site meets the mitigation goals. The post-construction monitoring plan specifies:
 - Performance standards;
 - Monitoring methodology;
 - General site inspection;
 - Full monitoring report;

- Monitoring schedule;
- Reporting requirements;
- Adaptive management plan; and
- Long-term management plan.



District 10-0 Mitigation Area – DuBois Airport Wetland Bank

intentionally blank

**SECTION IV -
Maintenance &
Management**



CHAPTER 12:

Maintenance Operations and Repairs

This chapter is intended as a tool for PennDOT employees engaged in maintenance activities, to support consistent operations and compliance with federal and state laws and other regulations for wetland resources.

PennDOT has promoted environmental stewardship by adopting the Strategic Environmental Management Program (SEMP) and by implementing environmental pilot projects within its district maintenance units. SEMP is a department-wide program based on the principles of environmental protection and prevention of pollution as they relate to PennDOT activities. Two important steps in the SEMP process include 1) analyzing maintenance activities and operations for their effects on the environment and 2) determining the specific permits required to carry out those activities.

While the scope of this handbook is limited primarily to wetlands, this chapter does address compliance with regulations concerning impacts and permitting for transportation work in all regulated waters, including wetlands.

Examples of Regulated Maintenance Activities

Regulated activities that may be conducted during PennDOT maintenance projects include excavation or placement of fill, replacement of small structures such as pipes, repair and maintenance of bridges and culverts, and aerial and underground crossings of utility lines. Examples of specific maintenance activities that usually require PA Chapter 105 and Section 404 permits include the following:

- Pipe and culvert replacement, repair, and maintenance;
- Bridge repair and maintenance;
- Roadway repair;
- Wetland mitigation site construction and maintenance;
- Disposal of shoulder cuttings and other materials; and
- Emergency repairs to structures and/or roadways.

Wetlands and Waters in Maintenance Operations

Compliance with state and federal regulations in maintenance operations requires the commitment and awareness of all maintenance personnel. Chapter 12 examines the three components of regulatory compliance for wetlands and waters in maintenance operations: screening, permitting, and permit compliance.

- **Part 1 – Screening for Regulated Waters:** This task is carried out by county maintenance managers with assistance from the district environmental staff, as needed.
- **Part 2 – Permitting:** This task is carried out by environmental specialists and permit coordinators in each district.

- **Part 3 – Permit Compliance:** This task is the responsibility of all maintenance personnel. Most violations related to PA Chapter 105 and Section 404 result from failure to comply with permit conditions.

Large Maintenance Install Projects

Larger reconstruction, safety, and capacity-adding projects are typically developed within the design units, even if constructed by maintenance staff. These projects work through the planning, design, and permit process as described in Chapters 4 through 9.

Part 1 – Screening for Regulated Waters

The initial determination of the presence of a wetland in the project area may be simplified if there are easy-to-recognize common wetland plants (such as cattails or skunk cabbage) or ponded water on the site. Also, wetland presence can be determined more easily if there is a long-term familiarity with the site and knowledge that the area is flooded for periods of time during the growing season or if it is known from experience that the soil near the land surface is often saturated. Sometimes local landowners provide important clues about the presence or absence of a wetland. For example, if a landowner requests spoil material to be used as fill on a section of property because it remains wet throughout much of the year, maintenance personnel should suspect that the area may be a wetland and should not add fill to it. It is important to note that even though a property owner may sign a form giving PennDOT permission to add fill to the area, PennDOT is not allowed to do so if it is a wetland. According to federal and state laws and regulations, a permit is required for this activity. When in doubt about whether or not a specific area is a wetland, it is best to check with the PennDOT supervisor or the district environmental manager for confirmation.

Although the district and county maintenance managers have the primary responsibility for screening maintenance projects for the presence of regulated waters, all maintenance personnel should be able to recognize the typical landscape features that indicate the potential presence of regulated waters. The following checklist provides a preliminary determination of regulated waters present in the project area.

- Is the project located within the floodplain of a river or stream?
- Is the project located within 50 feet of a river or stream?
- Does the project area contain ditches or swales that flow year-round or have non-vegetated bottoms (bare ground, rock, gravel, etc.)?
- Does the area have standing water or water-logged soils?
- Does the area appear to collect and hold surface water runoff?
- Does the area contain black or mottled soils (brown, yellow, or red soils with gray or black spots in blocks)?
- Does the area contain common wetland plants (cattails, skunk cabbage, reeds, alders, or willows)?

If the answer to any of the above screening questions is YES, the project may contain regulated waters. Notify your supervisor or environmental specialist before proceeding.

Remember that just because a wetland or water is inside the right-of-way does not automatically mean it is not regulated waters. Usually stormwater ponds and roadside ditches are not regulated waters. However, they are regulated waters if:

- They were originally built in regulated waters; or
- They connect to other regulated waters.

Remember that just because a wetland or water is inside the right-of-way does not automatically mean it is not regulated waters. Usually stormwater ponds and roadside ditches are not regulated waters. However, they are regulated waters if:

- They were originally built in regulated waters; or
- They connect to other regulated waters.

Part 2 – Permitting

After it has been determined that a regulated water is in the maintenance project area, the project is forwarded to the appropriate environmental specialist for permitting. The flow charts (Figure 8) on the following pages track the permitting process for maintenance projects. These charts have been modified from the SEMP manual to include a cross reference to the appropriate sections of this handbook. Abbreviations for responsible personnel are noted next to each activity block.

Direct and Indirect Impacts on Wetlands

As noted in previous chapters in this handbook, it is important to estimate early on the possible impacts to wetlands and their adjacent or connected streams and lakes (see Chapter 6 for estimating impacts to wetlands). Maintenance activities may have direct and indirect impacts on wetlands or their associated waters. Direct impacts require permits authorized by both PA Chapter 105 and Section 404 of the CWA. Discharge of sediment is regulated by the NPDES program, which is Section 402 of the CWA and PA Chapter 102.

Permit Types

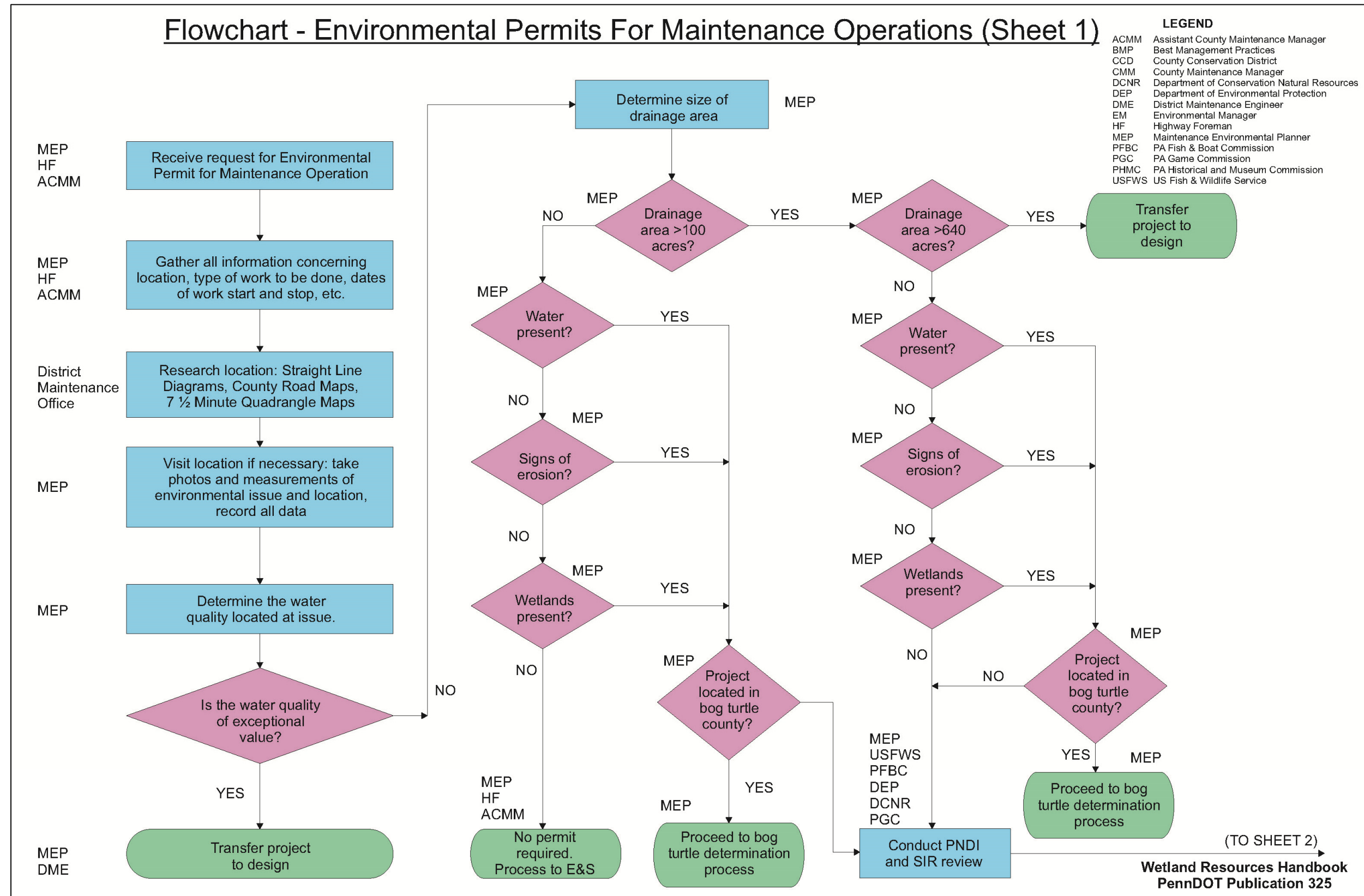
Maintenance operations include a broad range of activities that could impact the project area. Activities such as placing heavy equipment within wetland habitats, excavating in or near wetlands, or dumping fill material in wetlands require an array of permits (see Chapter 8). All work activities in regulated waters require some type of permit or authorization from the DEP for PA Chapter 105 regulations and from the USACE for Section 404 regulations. The following information describes the permits usually associated with maintenance projects. Chapter 8 of this handbook provides a detailed discussion of all permits. (See Appendix A for the DEP website containing all General Permits.)

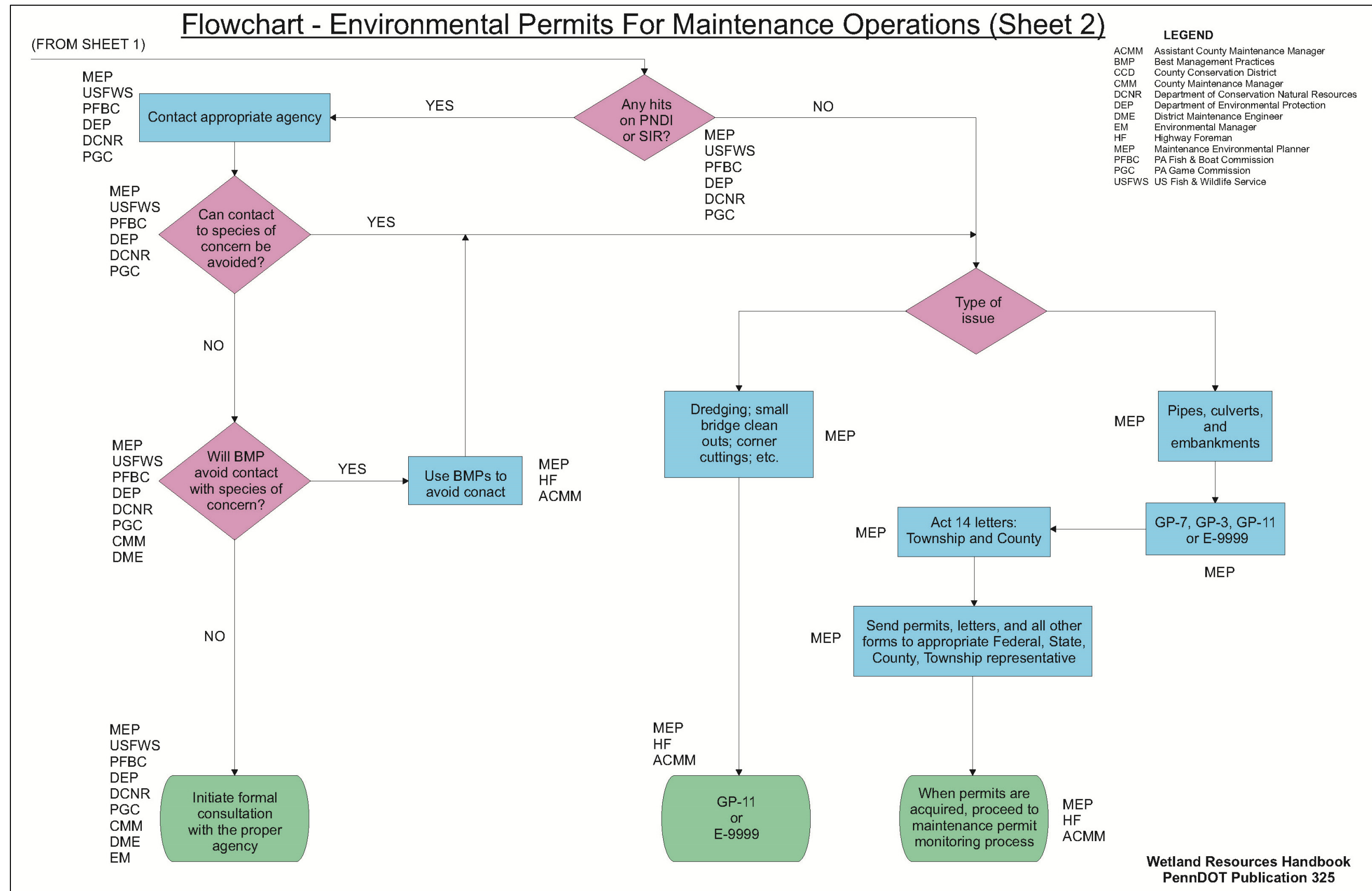
DEP PA Chapter 105 Permits

DEP, under the Dam Safety and Encroachments Act (PA Chapter 105), authorizes several types of permits:

- Waivers;
- General Permits;
- Small Project Permits;
- Standard Permits; and
- Emergency Permits.

Figure 8: Environmental Permitting for Maintenance Operations

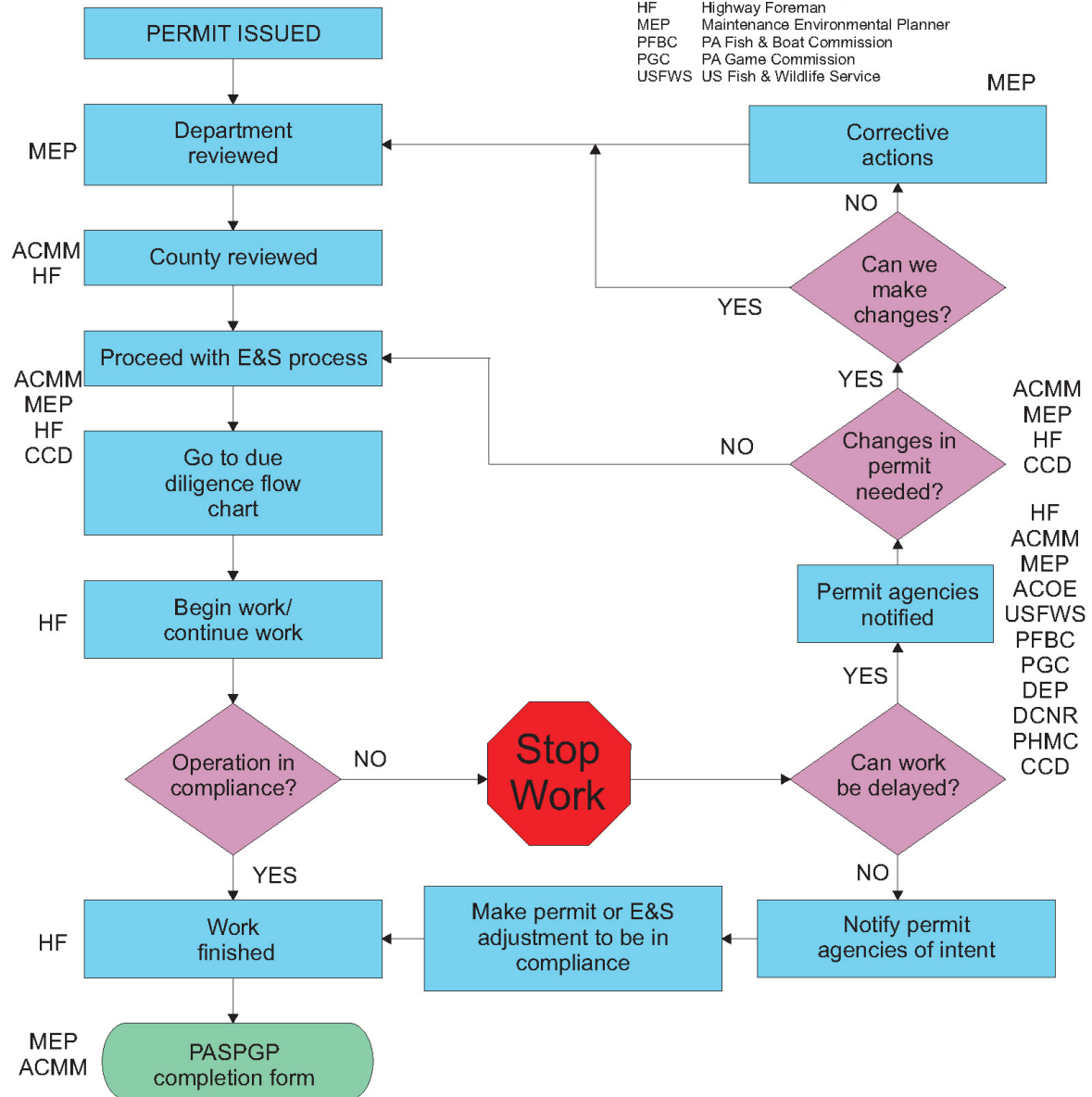




Maintenance Permit Monitoring

LEGEND

- ACMM Assistant County Maintenance Manager
- BMP Best Management Practices
- CCD County Conservation District
- CMM County Maintenance Manager
- DCNR Department of Conservation Natural Resources
- DEP Department of Environmental Protection
- DME District Maintenance Engineer
- EM Environmental Manager
- HF Highway Foreman
- MEP Maintenance Environmental Planner
- PFBC PA Fish & Boat Commission
- PGC PA Game Commission
- USFWS US Fish & Wildlife Service



Wetland Resources Handbook
PennDOT Publication 325

Waivers

DEP also authorizes activities that are waived from permit requirements. DEP PA Chapter 105 Waiver 2 is commonly used because it allows maintenance activities on an existing bridge, roadway surface, or developed shoulder that lies within or near **a drainage area of less than 100 acres** and **does not** impact wetlands. Existing pipes less than 48 inches in diameter can be replaced without a DEP permit under Waiver 2 [105.12(a)2] if no wetlands are impacted. Most drainage ditches can be maintained to their original cross-sectional area using Waiver 6 [105.12(a)6]. **No wetland impacts are authorized for this waiver. However, if a pocket of hydrophytic vegetation (e.g., cattails) is found in a drainage ditch and the boundary of the hydrophyte pocket is solely within the ditch, the delineated wetland is eligible for a Waiver 6** (see Figure 2: Summary of USACE and DEP Jurisdictions). If off-road access or staging areas are necessary, they cannot extend into wetlands for use of this waiver. Use of this waiver does not require submission of information to DEP for approval. However, sufficient information should be prepared and retained in PennDOT's files to verify qualified use of this waiver. The information would be available to DEP in the event of a general inquiry or complaint investigation.

If a maintenance activity does not qualify for a DEP PA Chapter 105 Waiver, it usually falls into one of the following other permit categories. These categories represent the most common permits used for maintenance operations, however the information provided here is not a complete assessment of all permits and their requirements. See Chapter 8 and also contact the district environmental staff or the district permit coordinator for more information.

General Permit E-9999

General Permit E-9999 is issued to PennDOT to clean existing bridges and culverts. As with General Permit 11, General Permit E-9999 limits cleaning to **50 feet upstream and 50 feet downstream**. General Permit E-9999 also limits the amount of material that can be removed from the adjacent floodplain. Due to the similarities in limits to cleaning, the project should be discussed with the district maintenance supervisor to identify which permit applies. An E-9999 permit cannot be used for any wetland impacts, including de minimis impacts.

DEP General Permit 11 – Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments

This permit is used for existing, currently serviceable (presently in service or recently removed from service) water obstructions and encroachments, provided that environmental impacts are minimal. This permit is applicable to bridges, culverts, pipelines, and utilities and for removal of sediment and debris. This permit is not applicable to dams.

In addition, other conditions need to be considered and criteria met when applying for General Permit 11. A few are listed below.

- Removal of debris and assimilated sediment to ensure that adequate hydraulic capacity for bridges and culverts is limited to **50 feet upstream and downstream** of the bridge or culvert.
- Permanent impacts to wetlands are limited to a **cumulative total of 0.05 acre per project**.
- No new stream relocations are authorized.
- Stream enclosures are excluded. (A stream enclosure is a structure greater than 100 feet long, measured upstream to downstream.)
- Increases in bridge width or culvert length are excluded. See General Permit for specific details.
- No significant reduction in existing waterway opening is authorized.

DEP General Permit 7 – Minor Road Crossings

This permit is for construction, operation, and maintenance of a minor road crossing less than 100 feet in length across wetlands which disturbs **less than 0.1 acre of wetlands**, or over a stream where the **watershed drainage is 1.0 square mile or less**. These types of activities include replacement of culverts and bridges; work on headwalls, abutments, or piers; and replacement of riprap.

DEP General Permit 8 – Temporary Road Crossings

Temporary road crossings¹¹ are defined by DEP as “a road installed for a period of time not to exceed one year across a wetland, or across or along a stream utilizing a pipe culvert or a series of culverts, a bridge, a causeway, or a ford.” This includes construction, operation, and maintenance of temporary road crossings over regulated Waters of the Commonwealth, including wetlands. The crossing must be located at the narrowest practicable point of the wetland and the length of the crossing within the wetland **must be less than 200 feet**.

No General Permit can be used in the following circumstances:

- Whenever historic, cultural, or archaeological sites that are eligible or listed in the National Register of Historical Places, or local historical sites officially approved or recognized by a municipality are present.
- Unless the PFBC provides written approval, no work can be undertaken on stocked trout streams from March 1 through June 15 or on wild trout streams from October 1 through December 31.
- Whenever sites that serve as habitat for species listed as threatened or endangered under the ESA of 1973, the Wild Resource Conservation Act, the Fish and Boat Code, or the Game and Wildlife Code are present. Sites may be checked through PNDI at www.naturalheritage.state.pa.us.
- EV/HQ streams and wetlands (see Chapter 6).

Small Projects Permits and Standard Permits

Small Projects Permits and Standard Permits are not commonly required for maintenance activities. However, certain unique maintenance projects may be ineligible for the DEP General Permits discussed above and would require a Standard Permit or a Small Projects PA Chapter 105 Permit. See Chapter 9 for a discussion of these permits.

Emergency Permit

Emergency PA Chapter 105 and Section 404 permits can be issued quickly to correct situations posing a threat to public safety. Public safety issues can include the operating condition of the roadway as well as access by emergency services. Emergency Permits may be issued in various forms but often involve a field inspection and meetings with the appropriate agencies. Emergency Permits should be authorized by both DEP and the USACE. Emergency Permits are generally obtained by the district environmental manager or the maintenance environmental planner.

¹¹ A proposed rule was published revising General Permit 8 and a final rule is anticipated. The revised General Permit BWEW-GP-8, Temporary Crossings and Environmental Testing or Monitoring Activities, is available in Appendix A.

USACE Section 404 Permits

The USACE, under Section 404 of the CWA, authorizes maintenance activities through an exemption, the PASPGP, or an Individual 404 Permit. Most maintenance activities are authorized under the Section 404(f) exemption or the PASPGP.

404(f) Exemptions

Section 404(f) of the CWA exempts the need for a permit when conducting maintenance and repair activities on currently serviceable transportation facilities (bridges, culverts, approaches, etc.). This includes the replacement of existing pipes that are less than 48 inches in diameter, if no wetlands are impacted.

PA State Programmatic General Permit (PASPGP)

PASPGP essentially authorizes activities that impact one acre or less of wetland or less than 250 linear feet of waterway. All components of the project that result in temporary or permanent impacts must be considered in determining the area affected.

Most maintenance activities that do not qualify for an exemption are authorized by PASPGP. Maintenance projects that involve cultural resources or threatened and endangered species may receive additional scrutiny by the USACE as part of the PASPGP review process. Other limiting factors guiding use of the PASPGP are whether the maintenance activity is a linear project or whether it will impact more than 250 linear feet of a stream or more than 0.25 acre of a Waters of the United States. Unresolved impacts to cultural resources or threatened and endangered species may require the USACE to elevate the project to an Individual Permit. See Appendix F for a copy of PASPGP-4.

Part 3 – Permit Compliance

Each PA Chapter 105 and Section 404 permit issued for a maintenance project contains legally binding conditions that convey additional protective measures to wetlands and streams. (See Chapter 9 for a discussion of special conditions.) These permit conditions must be adhered to or the permit becomes void and the applicant may be subject to penalties or fines. Permit conditions usually specify the following:

- Which regulatory agencies need to be notified before and after project construction;
- The time of year that the project activities may occur;
- The staging and sequencing of project activities;
- The extent and limits of the work area;
- Special measures to protect threatened and endangered species;
- Special measures to protect water quality;
- Requirements for reporting the discovery of archaeological materials; and
- Requirements for restoring the project area following temporary impacts or mitigation activities following permanent impacts.

The on-site foreman or the site supervisor is responsible for permit compliance and should insist on reviewing a copy of the permit with the permit conditions before beginning maintenance work. The permit and permit conditions must be available on site for reference while performing maintenance activities, and the SEMP maintenance permit monitoring flow chart should be followed. Failure to carry

out the permit conditions will lead to a notice of violation against PennDOT and could result in disciplinary action against the responsible on-site managers and supervisors.

Permit compliance is the responsibility of all maintenance personnel. Chapters 9 and 10 of this handbook discuss permit conditions and implementation of permit conditions during construction. Most violations related to Section 404 and PA Chapter 105 result from failure to comply with permit conditions.

If there is any confusion concerning how to implement a permit condition, contact the environmental manager's office for assistance.

Most violations related to Section 404 and PA Chapter 105 result from failure to comply with permit conditions.

Notices of Violation (NOV) and Enforcement Action

If PennDOT personnel are approached by employees of DEP or the USACE and are ordered to cease and desist a maintenance activity, PennDOT personnel should immediately contact their supervisor regarding appropriate steps and procedures.

PennDOT resolves most NOV's through voluntary compliance. Voluntary compliance is a process of working with the enforcement officer (from DEP, PFBC, and/or USACE) to develop a mutually agreeable remediation strategy to correct or mitigate the NOV.

Chapter 12 Summary

1. PennDOT has adopted the Strategic Environmental Management Program (SEMP) to promote environmental stewardship by its district maintenance units. Two steps in the SEMP process are:
 - Analyzing maintenance activities and operations for their effects on the environment; and
 - Determining the specific permits required to carry out those activities.
2. Many common PennDOT highway maintenance tasks could impact nearby wetlands, and therefore would be subject to PA Chapter 105 and Section 404 of the CWA permits. Regulated activities may include:
 - Pipe and culvert replacement, repair, and maintenance;
 - Bridge replacement, repair, and maintenance;
 - Roadway repair and widening;
 - Wetland mitigation site construction and maintenance;
 - Disposal of shoulder cuttings and other materials; and
 - Emergency repairs to structures and/or roadways.
3. Regulatory compliance for wetlands and waters during maintenance operations has three components: screening (identifying regulated waters), permitting, and permit compliance.
4. Screening for regulated waters is conducted by county maintenance managers with assistance from district environmental staff. However, all maintenance personnel should be able to recognize the typical landscape features of potentially regulated waters, including proximity to a river or stream, the drainage characteristics and colors of the soil, and common wetland plants such as cattails and skunk cabbage.

5. Permitting is carried out by environmental specialists and permit coordinators in each district. Direct impacts require permits authorized by both PA Chapter 105 and Section 404 of the CWA. Discharge of sediment is regulated by the NPDES program (Section 402 of the CWA).
6. Compliance is the responsibility of all maintenance personnel; the foreman or site supervisor must review and communicate the permit conditions before maintenance work begins. Permit conditions usually specify the following:
 1. Which regulatory agencies need to be notified before and after project construction.
 2. The time of year that the project activities may occur.
 3. The staging and sequencing of project activities.
 4. The extent and limits of the work area.
 5. Special measures to protect threatened and endangered species.
 6. Special measures to protect water quality.
 7. Requirements for reporting the discovery of archaeological materials.
 8. Requirements for restoring the project area following temporary impacts or mitigation activities following permanent impacts.



District 9-0 Mitigation Area – Fulton AWC Wetland Bank

Appendices



- APPENDIX A: Useful Websites and Forms**
- APPENDIX B: Agency Web Site Addresses**
- APPENDIX C: USACE Regulatory Letter 05-05: Ordinary High Water Mark Identification**
- APPENDIX D: USACE Regulatory Guidance Letter 08-02: Jurisdictional Determination (JD)**
- APPENDIX E: Functional Assessment Methodologies**
- **New England Descriptive Method**
 - **Wetland Function-Value Evaluation Form**
 - **Wet Evaluation Technique (WET) Version 2.0**
 - **Hydrogeomorphic Approach (HGM)**
- APPENDIX F: Pennsylvania State Programmatic General Permit-4**
- APPENDIX G: USACE Letter – Exemptions for Maintenance Activities for Culvert/Pipe Replacement**
- APPENDIX H: Publication 23 Flowchart: Waivers for Maintenance Operations**
- APPENDIX I: USACE Regulatory Guidance Letter 08-03**
- APPENDIX J: 2008 USACE Final Compensatory Mitigation Rule**
- APPENDIX K: PennDOT Umbrella Mitigation Banking Instrument & Timelines for Bank or ILF Instrument Approval and Dispute Resolutions**
- APPENDIX L: Standard Permit Conditions: Special Conditions Concerning Compensation/Mitigation Sites**
- APPENDIX M: USACE Baltimore District Survey Standards**
- APPENDIX N: PA DEP Stormwater Management Consistency Guidance Memo**
- APPENDIX O: Model Declaration of Restrictive Covenants and Model Conservation Easement for the Pennsylvania State Programmatic General Permit-4**
- APPENDIX P: DEP Completion Report**

APPENDIX A

USEFUL WEBSITES AND FORMS

USEFUL WEBSITES

Baltimore District Contacts & PADOT Contacts

<http://www.nab.usace.army.mil/Missions/Regulatory/Contacts.aspx>

Chapter 13 of the United States Department of Agriculture's (USDA) Engineering Field Handbook, *Wetlands Restoration, Enhancement, or Creation, 1997*

<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17765.wba>

Clean Water Act of 1977, as amended, 1987, Section 404

<http://epw.senate.gov/water.pdf>

Classification of Wetlands and Deepwater Habitats of the United States

<http://www.fws.gov/wetlands/documents/classification-of-wetlands-and-deepwater-habitats-of-the-united-states.pdf>

DEP Design Criteria for Wetland Replacement

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Version-48803/363-0300-001.pdf>

Endangered Species Act, 1973

<http://epw.senate.gov/esa73.pdf>

EPA Wetlands Helpline

www.epa.gov/owow/wetlands/wetline.html

Executive Order 11990: Protection of Wetlands, 1977

<http://www.archives.gov/federal-register/codification/executive-order/11990.html>

Federal Wetland Regulations

www.wetlands.com/regs/tlpge01a.htm

Federally Listed Species in Pennsylvania

http://ecos.fws.gov/tess_public/pub/stateListingIndividual.jsp?state=PA&status=listed

Final Compensatory Mitigation Rule (2008)

<http://www.poa.usace.army.mil/Portals/34/docs/regulatory/33cfr332.pdf>

Food Security Act of 1985, as amended, 1990 and 1996

<http://nationalaglawcenter.org/farmbills/>

Glossary of Water Quality Monitoring Terms

<http://water.usgs.gov/wicp/appendixes/AppendA.html>

Historic Sites Act of 1935

www.cr.nps.gov/local-law/FHPL_histsites.pdf

Joint Permit Application Expert System 2 (JPA2)

[https://www.dotdom1.state.pa.us/domcfg.nsf/\\$\\$LoginPennDOT?Open&LURDjpa2/jpahome.nsf/homeframeset?open](https://www.dotdom1.state.pa.us/domcfg.nsf/$$LoginPennDOT?Open&LURDjpa2/jpahome.nsf/homeframeset?open)

Jurisdictional Determinations and Clean Water Act Guidance

<http://www.usace.army.mil/missions/civilworks/regulatoryprogramandpermits/relatedresources/cwaguidance.aspx>

Mitigation Plan Checklist

http://www.nwo.usace.army.mil/Portals/23/docs/regulatory/mitigation/200508-MitigationGuide-Appx_B.pdf

MPMS IQ System

http://www.dot7.state.pa.us/MPMS_IQ/Mapping

National Academy of Science, National Research Council, *Wetlands: Characteristics and Boundaries*. 1995.

www.nap.edu/catalog/4766.html

National Environmental Policy Act (NEPA) of 1969

<http://www.environment.fhwa.dot.gov/projdev/index.asp>

National Registry of Natural Landmarks

www.nature.nps.gov/nnl/docs/NNLRegistry.pdf

National Wetlands Mitigation Action Plan, 2002

www.water.epa.gov/lawsregs/guidance/wetlands/upload/2003_07_10_wetlands_map1226withsign.pdf

National Wetlands Inventory Wetlands Mapper

www.fws.gov/wetlands/Data/Mapper.html

National Wild and Scenic Rivers

<http://www.rivers.gov/>

Native Plant Nurseries

www.plantnative.com

Navigable Waters by USACE district:

- Pittsburgh: <http://www.lrp.usace.army.mil/Missions/Regulatory.aspx>
- Philadelphia: <http://www.nap.usace.army.mil/Missions/Regulatory/DistrictBoundaries.aspx>
- Baltimore: <http://www.nab.usace.army.mil/Missions/Regulatory.aspx>

New England Descriptive Method

<http://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/HighwaySupplement.pdf>

PA DEP General Permits

<http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-11421>

Pennsylvania Act 120 of 1970

<http://www.palrb.us/pamphletlaws/19001999/1970/0/act/0120.pdf>

Pennsylvania Code, Title 25, Chapter 105 Dam Safety and Encroachments Act of 1978, as amended

www.pacode.com/secure/data/025/chapter105/chap105toc.html

Pennsylvania Fish and Boat Code, Title 30, 1980

<http://www.pacode.com/secure/data/058/partIItoc.html>

Pennsylvania Floodplain Management Act (Act 166), 1978

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-52107/3930-BK-DEP0447%20Act%20166%20of%201978.pdf>

Pennsylvania Game and Wildlife Code – Title 34, Chapter 21, Section 2167, 1988

<http://www.pacode.com/secure/data/058/partIIItoc.html>

Pennsylvania Scenic Rivers Act, 1982

www.dcnr.state.pa.us/brc/conservation/rivers/scenicrivers/riversprograminformation/scenicriversact/index.htm

Pennsylvania Trout Water Classifications

http://www.fish.state.pa.us/waters_trout.htm

Proposed General Permit 8

http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-97474/3150-PM-BWEW0508_DRAFTforPUBLICcomment_withWaterEdits.pdf

Rivers and Harbors Act of 1899, Section 10

<http://water.epa.gov/lawsregs/guidance/wetlands/sect10.cfm>

Section 7 Consultation Handbook

<http://www.fws.gov/endangered/esa-library/index.html#consultations>

Significant Nexus - Rapanos v. United States & Carabell v. United States

http://water.epa.gov/lawsregs/guidance/wetlands/upload/2008_12_3_wetlands_CWA_Jurisdiction_Following_Rapanos120208.pdf

Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers (2001)

http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/2003_SWANCC_guidance.pdf

State-Listed Species:

- Fish, Reptiles, Amphibians, and Invertebrates
<http://www.pacode.com/secure/data/058/chapter75/s75.1.html>
<http://www.pacode.com/secure/data/058/chapter75/s75.2.html>
- Mammals and Birds
<http://www.pacode.com/secure/data/058/chapter133/subchapBtoc.html>
<http://www.pacode.com/secure/data/058/chapter133/subchapCtoc.html>
- Plants
<http://www.pacode.com/secure/data/017/chapter45/s45.12.html>
<http://www.pacode.com/secure/data/017/chapter45/s45.13.html>

State Wetland Programs

www.aswm.org/swp/pennsylvania9.htm

Statewide PUMBI Memorandum of Understanding

<http://www.pabulletin.com/secure/data/vol30/30-15/617.html>

Threatened and Endangered Species Desk Reference, Pub. 546

<ftp://ftp.dot.state.pa.us/public/pubsforms/Publications/PUB%20546.pdf>

USACE Regulatory Guidance Letters

<http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx>

United States Army Corps of Engineers. *Corps of Engineers Wetlands Delineation Manual*, (Technical Report Y-87-1, 1987 Manual)

<http://el.erdc.usace.army.mil/elpubs/pdf/wlman97.pdf>

United States Army Corps of Engineers. *Corps of Engineers Wetlands Delineation Manual, Regional Supplements*

http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx

United States Army Corps of Engineers. *33 CFR Parts 325 and 332 and Environmental Protection Agency, 40 CFR Part 230*

<http://www.epa.gov/fedrgstr/EPA-WATER/2008/April/Day-10/w6918a.pdf>

US EPA Executive Order No. 11990, Protection of Wetlands

<http://www.epa.gov/owow/wetlands/regs/eo11990.html>

USFWS *A Classification of Wetlands and Deepwater Habitats of the United States* by Cowardin et al., 1979

<http://fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf>

Wild and Scenic Rivers Act of 1968

<http://www.rivers.gov/documents/wsr-act.pdf>

Wild Resource Conservation Act of 1982 – Conservation of Pennsylvania Native Plants

www.legis.state.pa.us/WU01/LI/LI/US/PDF/1982/0/0170..PDF

Wilderness Act of 1964

<http://laws.fws.gov/lawsdigest/wildrns.html>

FORMS

Bog Turtle Habitat Screening Form

http://www.nap.usace.army.mil/Portals/39/docs/regulatory/paspgp/bt_screen.pdf

Joint Permit Application Forms

<http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-9531>

PASPGP-4 Cumulative Impacts Project Screening Form and General Permit Registration Form

[http://www.dotdom1.state.pa.us/jpa%5CjpaApplications.nsf/ByUNID/D1EE95A94E46746F8525724B0064A29A/\\$File/GP-1%20Permit%20Application.pdf?OpenElement](http://www.dotdom1.state.pa.us/jpa%5CjpaApplications.nsf/ByUNID/D1EE95A94E46746F8525724B0064A29A/$File/GP-1%20Permit%20Application.pdf?OpenElement)

PennDOT Standard Monitoring Report Forms

ftp://ftp.dot.state.pa.us/Bureau_of_Project_Delivery/Environmental/Wetland_Bank_Monitoring_Reports/2014%20Monitoring%20Reporting%20Forms/

USACE Jurisdictional Determination Forms

- Baltimore District
<http://www.nab.usace.army.mil/Missions/Regulatory/JurisdictionalDeterminations.aspx>
- Philadelphia District
<http://www.nap.usace.army.mil/Missions/Regulatory/JurisdictionalDeterminations.aspx>
- Pittsburgh District
<http://www.lrp.usace.army.mil/Missions/Regulatory/FormsandPublications.aspx>

USACE Wetland Identification and Delineation Forms

- Eastern Mountains and Piedmont Region
http://www.usace.army.mil/portals/2/docs/civilworks/regulatory/reg_supp/int_emp_df24b.pdfhttp://www.usace.army.mil/portals/2/docs/civilworks/regulatory/reg_supp/int_emp_df24b.pdf
- Northcentral and Northeast Region
http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/ncne_df_v2.pdf

APPENDIX B

AGENCY WEB SITE ADDRESSES

AGENCY WEB SITE ADDRESSES

DCNR	Pennsylvania Department of Conservation and Natural Resources www.dcnr.state.pa.us
FHWA	Federal Highway Administration www.fhwa.dot.gov
NRCS	Natural Resources Conservation Service www.nrcs.usda.gov
PA DEP	Pennsylvania Department of Environmental Protection www.dep.state.pa.us
PennDOT	Pennsylvania Department of Transportation www.dot.state.pa.us
PFBC	Pennsylvania Fish and Boat Commission www.fish.state.pa.us
PGC	Pennsylvania Game Commission www.pgc.state.pa.us
USACE	United States Army Corps of Engineers www.usace.army.mil www.nab.usace.army.mil Baltimore District www.nap.usace.army.mil Philadelphia District www.lrp.usace.army.mil Pittsburg District Regulatory Guidance Letters www.usace.army.mil/inet/functions/cw/cecwo/reg/rglsindx.htm Administrative appeals process for Jurisdictional Determinations www.usace.army.mil/inet/functions/cw/cecwo/reg/33cfr331.htm
USDA	United States Department of Agriculture www.usda.gov
USEPA	United States Environmental Protection Agency www.epa.gov
USFWS	United States Fish and Wildlife Service www.usfws.gov
USGS	United States Geological Survey www.usgs.gov

APPENDIX C

USACE REGULATORY LETTER 05-05

ORDINARY HIGH WATER MARK IDENTIFICATION



US Army Corps
of Engineers.

REGULATORY GUIDANCE LETTER

No. 05-05

Date: 7 December 2005

SUBJECT: Ordinary High Water Mark Identification

1. Purpose and Applicability

a. **Purpose.** To provide guidance for identifying the ordinary high water mark.

b. **Applicability.** This applies to jurisdictional determinations for non-tidal waters under Section 404 of the Clean Water Act and under Sections 9 and 10 of the Rivers and Harbors Act of 1899.

2. General Considerations

a. **Regulation and Policy.** Pursuant to regulations and inter-agency agreement,¹ the U.S. Army Corps of Engineers (Corps) determines, on a case-by case basis, the extent of geographic jurisdiction for the purpose of administering its regulatory program. For purposes of Section 404 of the Clean Water Act (CWA), the lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. For purposes of Sections 9 and 10 of the Rivers and Harbors Act of 1899, the lateral extent of Federal jurisdiction, which is limited to the traditional navigable waters of the United States, extends to the OHWM, whether or not adjacent wetlands extend landward of the OHWM.

Corps regulations define the term "ordinary high water mark" for purposes of the CWA lateral jurisdiction at 33 CFR 328.3(e), which states:

"The term *ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

1. Memorandum of Agreement between the Department of the Army and Environmental Protection Agency Concerning the Determination of the Geographical Jurisdiction of the Section 404 Program and the Application of the Exemptions under Section 404(f) of the Clean Water Act, January 19, 1989

This definition is virtually identical to the definition of the term “ordinary high water mark” found at 33 CFR Section 329.11(a)(1), describing the lateral extent of Federal jurisdiction over non-tidal traditional navigable waters of the United States subject to Sections 9 and 10 of the Rivers and Harbors Act of 1899 (RHA). When the definition from 33 CFR Section 329.11(a)(1) was reproduced at 33 CFR 328.3(e), the semi-colons of the former definition were mistakenly changed to commas in the latter definition. Consequently, the definition of “ordinary high water mark” in Part 328 is not as clear in meaning as is the definition of the same term in Part 329, even though the two definitions were to serve the same basic purpose (i.e., establishing the lateral extent of jurisdiction, in the absence of adjacent wetlands).²

Both definitions of the term “ordinary high water mark” begin by discussing physical characteristics that indicate the location of the OHWM on the shore of a water body. Furthermore, both OHWM definitions conclude with the statement the OHWM can be determined using “other appropriate means that consider the characteristics of the surrounding areas”.³ Prior to this Regulatory Guidance Letter (RGL), neither the Corps nor the U.S. Environmental Protection Agency has issued any additional clarifying national guidance for use by Corps regulatory program staff in identifying the location of the OHWM for the CWA on a case-by-case basis.⁴

b. Practice. In making OHWM determinations, Corps districts generally rely on physical evidence to ascertain the lateral limits of jurisdiction, to whatever extent physical evidence can be found and such evidence is deemed reasonably reliable. Physical indicators include the features listed in the definitions at 33 CFR Sections 328.3(e) and 329.11(a)(1) and other appropriate means that consider the characteristics of the surrounding areas. In addition, districts use other methods for estimating the line on the shore established by the fluctuations of water, including, but not limited to, lake and stream gage data, flood predictions, historic records of water flow, and statistical evidence. To the maximum extent practicable, districts generally use more than one physical indicator or other means for determining the OHWM.

3. Guidance.

a. In determining the location of the OHWM for non-tidal water bodies under the CWA or the RHA, districts should give priority to evaluating the physical characteristics of the area that are determined to be reliable indicators of the OHWM. Physical evidence to be evaluated includes those items listed in the definitions at 33 CFR Sections 328.3(e) and 329.11(a)(1). Because many types of water bodies occur with varying conditions, including topography, channel morphology and flow dynamics, districts may consider other physical characteristics indicative of the OHWM.

2. CWA jurisdiction extends laterally landward of the OHWM to include all adjacent wetlands wherever such adjacent wetlands are present. This guidance addresses situations where no such adjacent wetlands exist.

3. Changes in the limits of waters of the U.S. are addressed in 33 CFR 328.5.

4. On 3 June 1983 the Corps of Engineers' Chief Counsel distributed legal guidance to all Corps district and division counsel offices regarding certain legal questions relating to the geographic jurisdiction of Section 10 of the Rivers and Harbors Act of 1899, including questions relating to the OHWM.

b. The following physical characteristics should be considered when making an OHWM determination, to the extent that they can be identified and are deemed reasonably reliable:

Natural line impressed on the bank	Sediment sorting
Shelving	Leaf litter disturbed or washed away
Changes in the character of soil	Scour
Destruction of terrestrial vegetation	Deposition
Presence of litter and debris	Multiple observed flow events
Wracking	Bed and banks
Vegetation matted down, bent, or absent	Water staining
	Change in plant community

This list of OHWM characteristics is not exhaustive. Physical characteristics that correspond to the line on the shore established by the fluctuations of water may vary depending on the type of water body and conditions of the area. There are no “required” physical characteristics that must be present to make an OHWM determination. However, if physical evidence alone will be used for the determination, districts should generally try to identify two or more characteristics, unless there is particularly strong evidence of one.

c. Where the physical characteristics are inconclusive, misleading, unreliable, or otherwise not evident, districts may determine the OHWM by using other appropriate means that consider the characteristics of the surrounding areas, provided those other means are reliable.⁵ Such other reliable methods that may be indicative of the OHWM include, but are not limited to, lake and stream gage data, elevation data, spillway height, flood predictions, historic records of water flow, and statistical evidence.

d. When making OHWM determinations, districts should be careful to look at characteristics associated with ordinary high water events, which occur on a regular or frequent basis. Evidence resulting from extraordinary events, including major flooding and storm surges, is not indicative of the OHWM. For instance, a litter or wrack line resulting from a 200-year flood event would in most cases not be considered evidence of an OHWM.


e. Districts will document in writing the physical characteristics used to establish the OHWM for CWA and/or RHA jurisdiction. If physical characteristics are inconclusive, misleading, unreliable, or not evident, the Districts’ written documentation will include information about the physical characteristics (or lack thereof) and other appropriate means that consider the characteristics of the surrounding areas, which it used to determine the OHWM.

f. To complete an approved jurisdictional determination, districts will have complete and accurate documentation that substantiates the Corps decision. At a minimum, decisions will be documented using the standardized jurisdictional determination information sheet established by

5. In some cases, the physical characteristics may be misleading and would not be reliable for determining the OHWM. For example, water levels or flows may be manipulated by human intervention for power generation or water supply. For such cases, districts should consider using other appropriate means to determine the OHWM.

Headquarters and provided to the districts on August 13, 2004 (or as further amended by Headquarters). Documentation will allow for a reasonably accurate replication of the determination at a future date. In this regard, documentation will normally include information such as data sheets, site visit memoranda, maps, sketches, and, in some cases, surveys and photographs documenting the OHWM.

4. **Duration.** This guidance remains in effect unless revised or rescinded.



DON F. RILEY
Major General, US Army
Director of Civil Works

APPENDIX D

USACE REGULATORY GUIDANCE LETTER 08-02

JURISDICTIONAL DETERMINATION (JD)



**US Army Corps
of Engineers®**

REGULATORY GUIDANCE LETTER

No. 08-02

Date: 26 June 2008

SUBJECT: Jurisdictional Determinations

1. Purpose. Approved jurisdictional determinations (JDs) and preliminary JDs are tools used by the U.S. Army Corps of Engineers (Corps) to help implement Section 404 of the Clean Water Act (CWA) and Sections 9 and 10 of the Rivers and Harbors Act of 1899 (RHA). This Regulatory Guidance Letter (RGL) explains the differences between these two types of JDs and provides guidance on when an approved JD is required and when a landowner, permit applicant, or other “affected party”¹ can decline to request and obtain an approved JD and elect to use a preliminary JD instead.

a. This guidance does not address which waterbodies are subject to CWA or RHA jurisdiction. For guidance on CWA and RHA jurisdiction, see Corps regulations, “Memorandum re: Clean Water Act (CWA) Jurisdiction Following U.S. Supreme Court Discussion in *Rapanos v. United States*,” dated 19 June 2007, and the documents referenced therein.

b. This guidance takes effect immediately, and supersedes any inconsistent guidance regarding JDs contained in RGL 07-01.

2. Approved JDs. An approved JD is an official Corps determination that jurisdictional “waters of the United States,” or “navigable waters of the United States,” or both, are either present or absent on a particular site. An approved JD precisely identifies the limits of those waters on the project site determined to be jurisdictional under the CWA/RHA. (See 33 C.F.R. 331.2.)

a. The Corps will provide (subject to the limitation contained in paragraph 5.b. below) an approved JD to any landowner, permit applicant, or other “affected party” when:

(1) a landowner, permit applicant, or other “affected party” requests an approved JD by name or otherwise requests an official jurisdictional determination, whether or not it is referred to as an “approved JD”;

¹ As defined at 33 CFR 331.2 “affected party” means a permit applicant, landowner, a lease, easement or option holder (i.e., an individual who has an identifiable and substantial legal interest in the property) who has received an approved JD, permit denial or has declined a proffered individual permit.

(2) a landowner, permit applicant, or other “affected party” contests jurisdiction over a particular water body or wetland, and where the Corps is allowed access to the property and is otherwise able to produce an approved JD; or

(3) the Corps determines that jurisdiction does not exist over a particular water body or wetland.

b. An approved JD:

(1) constitutes the Corps’ official, written representation that the JD’s findings are correct;

(2) can be relied upon by a landowner, permit applicant, or other “affected party” (as defined at 33 C.F.R. 331.2) who receives an approved JD for five years (subject to certain limited exceptions explained in RGL 05-02);

(3) can be used and relied on by the recipient of the approved JD (absent extraordinary circumstances, such as an approved JD based on incorrect data provided by a landowner or consultant) if a CWA citizen’s lawsuit is brought in the Federal Courts against the landowner or other “affected party,” challenging the legitimacy of that JD or its determinations; and

(4) can be immediately appealed through the Corps’ administrative appeal process set out at 33 CFR Part 331.

c. The District Engineer retains the discretion to use an approved JD in any other circumstance where he or she determines that is appropriate given the facts of the particular case.

d. If wetlands or other water bodies are present on a site, an approved JD for that site will identify and delineate those water bodies and wetlands that are subject to CWA/RHA jurisdiction, and serve as an initial step in the permitting process.

e. Approved JDs shall be documented in accordance with the guidance provided in RGL 07-01. Documentation requires the use of the JD Form published on June 5, 2007, or as modified by ORM2 or subsequent revisions to the June 5, 2007 JD form approved by Corps Headquarters. Districts will continue to post approved JDs on their websites.

3. A permit applicant’s option to decline to request and obtain an approved JD. While a landowner, permit applicant, or other “affected party” can elect to request and obtain an approved JD, he or she can also decline to request an approved JD, and instead obtain a Corps individual or general permit authorization based on either a preliminary JD, or, in appropriate circumstances (such as authorizations by non-reporting nationwide general permits), no JD whatsoever. The Corps will determine what form of JD is appropriate

for any particular circumstance based on all the relevant factors, to include, but not limited to, the applicant's preference, what kind of permit authorization is being used (individual permit versus general permit), and the nature of the proposed activity needing authorization.

4. Preliminary JDs. Preliminary JDs are non-binding “. . . written indications that there may be waters of the United States, including wetlands, on a parcel or indications of the approximate location(s) of waters of the United States or wetlands on a parcel. Preliminary JDs are advisory in nature and may not be appealed.” (See 33 C.F.R. 331.2.)

a. A landowner, permit applicant, or other “affected party” may elect to use a preliminary JD to voluntarily waive or set aside questions regarding CWA/RHA jurisdiction over a particular site, usually in the interest of allowing the landowner or other “affected party” to move ahead expeditiously to obtain a Corps permit authorization where the party determines that is in his or her best interest to do so.

b. It is the Corps' goal to process both preliminary JDs and approved JDs within 60 days as detailed in paragraph 5 below, so the applicant or other affected party's choice of whether to use a preliminary JD or approved JD should not affect this goal.

c. A landowner, permit applicant, or other “affected party” may elect to use a preliminary JD even where initial indications are that the water bodies or wetlands on a site may not be jurisdictional, if the affected party makes an informed, voluntary decision that is in his or her best interest not to request and obtain an approved JD.

d. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S.

e. Preliminary JDs are also commonly used in enforcement situations because access to a site may be impracticable or unauthorized, or for other reasons an approved JD cannot be completed in a timely manner. In such circumstances, a preliminary JD may serve as the basis for Corps compliance orders (e.g., cease and desist letters, initial corrective measures). The Corps should support an enforcement action with an approved JD unless it is impracticable to do so under the circumstances, such as where access to the site is prohibited.

f. When the Corps provides a preliminary JD, or authorizes an activity based on a preliminary JD, the Corps is making no legally binding determination of any type regarding whether CWA/RHA jurisdiction exists over the particular water body or wetland in question.

g. A preliminary JD is “preliminary” in the sense that a recipient of a preliminary JD can later request and obtain an approved JD if that later becomes necessary or appropriate during the permit process or during the administrative appeal process. If a

permit applicant elects to seek a Corps individual permit based on a preliminary JD, that permit applicant can later raise jurisdictional issues as part of an administrative appeal of a proffered permit or a permit denial, as explained in paragraph 6 below.

h. In all circumstances where an approved JD is not required by the guidance in paragraph 2 of this RGL, District Engineers retain authority to use preliminary JDs. The Corps may authorize an activity with one or more general permits, a letter of permission, or a standard individual permit, with no “official” JD of any type, or based on a preliminary JD, where the District Engineer determines that to be appropriate, and where the permit applicant has been made aware of his or her option to receive an approved JD and has declined to exercise that option. Generally, approved JDs should be used to support individual permit applications, but the applicant should be made aware of his or her option to elect to use a preliminary JD wherever the applicant feels doing so is in his or her best interest.

5. Processing approved and preliminary JDs. Every approved JD and preliminary JD should be completed and provided to the person, organization, or agency requesting it as promptly as is practicable in light of the district’s workload, and site and weather conditions if a site visit is determined necessary.

a. Corps districts should not give preliminary JDs priority over approved JDs. Moreover, every Corps district should ensure that a permit applicant’s request for an approved JD rather than a preliminary JD will not prejudice the timely processing of that permit application. It is the Corps’ goal that every JD requested by an affected party should be completed within 60 calendar days of receiving the request. Regulatory Project Managers will notify their supervisors and develop a schedule for completion of the JD if it is not practicable to meet this 60 day goal.

b. The Corps should not provide either an approved JD or a preliminary JD to any person if the Corps has reason to believe that person is seeking a JD for any purpose relating to a CWA program not administered by the Corps (e.g., CWA Section 402, 303, or 311). In such circumstances the Corps should decline to perform the JD and instead refer the person who requested it to the Federal or state agency responsible for administering that program.

6. JDs and appeals. In any circumstance where a permit applicant obtains a Corps proffered individual permit or a permit denial, based on a preliminary JD, and where the permit applicant elects to pursue an administrative appeal of the proffered permit or the permit denial, the appeal “may include jurisdiction issues,” as stated at 33 C.F.R. 331.5(a)(2). However, if an affected party during the appeal of a proffered permit or a permit denial challenges or questions jurisdiction, those jurisdictional issues must be addressed with an approved JD. Therefore, if, during or as a result of the administrative appeal of the permit denial or the terms and conditions of the proffered permit, it becomes necessary to make an official determination whether CWA/RHA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps should provide an approved JD as soon as is practicable, consistent with the

goal expressed in paragraph 5 above. Such an approved JD would be subject to the same procedures as other approved JDs, such as requirements for coordinating approved JDs with EPA.

7. Key distinction between approved JDs and preliminary JDs. By definition, a preliminary JD can only be used to determine that wetlands or other water bodies that exist on a particular site “may be” jurisdictional waters of the United States. A preliminary JD by definition cannot be used to determine either that there are no wetlands or other water bodies on a site at all (i.e., that there are no aquatic resources on the site and the entire site is comprised of uplands), or that there are no jurisdictional wetlands or other water bodies on a site, or that only a portion of the wetlands or waterbodies on a site are jurisdictional. A definitive, official determination that there are, or that there are not, jurisdictional “waters of the United States” on a site can only be made by an approved JD. The Corps retains the ability to use a “no-permit-required” letter to indicate that a specific proposed activity is not subject to CWA/RHA jurisdiction when that is determined appropriate, but a “no-permit-required” letter cannot make any sort of determination regarding whether there are jurisdictional wetlands or other waterbodies on a site.

8. Mandatory use of the preliminary JD form. In each and every circumstance where a preliminary JD is used, the Corps district must complete the “Preliminary Jurisdictional Determination Form” provided at Attachment 1, which sets forth in writing the minimum requirements for a preliminary JD and important information concerning the requesting party’s option to request and obtain an approved JD, and subsequent appeal rights. The signature of the affected party who requested the preliminary JD will be obtained on the preliminary JD form wherever practicable (e.g., except for enforcement situations, etc.). Where a preliminary JD form covers multiple water bodies or multiple sites, the information for each can be included in the table provided with the preliminary JD form. Information in addition to the minimum of data required on the preliminary JD form can be included on that form, but only if such information pertains to the amount and location of wetlands or other water bodies at the site. Corps regulatory personnel are expected to continue to exercise appropriate judgment and use appropriate information when making technical and scientific determinations as to what areas on the site qualify as water bodies or wetlands. Any such additional information included on the preliminary JD form should not purport, or be construed, to address any legal determination involving CWA/RHA jurisdiction on the site.

9. Data collection. Information about the quality and quantity of the aquatic resources that would be affected by the proposed activity, the types of impacts that are expected to occur, and compensatory mitigation, are obtained by the Corps during the processing of an individual permit application and are included in pre-construction notification for reporting NWP. For example, NWP pre-construction notifications must contain a “description of the proposed project; the project’s purpose; direct and indirect adverse environmental effects the project would cause; . . . a delineation of special aquatic sites and other waters of the United States on the project site.” (Reissuance of Nationwide Permits Notice, 72 Fed. Reg. 11092, at 11194-95 (March 12, 2007).) Applicants should

provide a delineation of special aquatic sites in support of an individual permit or “letter of permission” application.

a. The information on a preliminary JD form should be limited to the amount and location of wetlands and other water bodies on the site and should be sufficiently accurate and reliable that the effective presumption of CWA/RHA jurisdiction over all of the wetlands and other water bodies at the site will support a reliable and enforceable permit decision. When a preliminary JD is used to support a request for a permit authorization, the information on the preliminary JD form is also relevant to the processing of that permit application (e.g., to calculate compensatory mitigation requirements). During the permit process, information in addition to the data on the preliminary JD form is developed and relied upon to support the Corps permit decision; that additional information should be carefully documented as part of the permit process (e.g., through an environmental assessment, 404(b)(1) analysis, combined decision document, or decision memorandum). This additional information for the permit decision should *not* be captured on a preliminary JD form.

b. The type of information collected to support the decision on the permit application will be the same for permit applications supported by approved JDs and for those supported by preliminary JDs. Therefore, decisions and judgments regarding environmental impacts, public interest determinations, and mitigation requirements should be adequately supported regardless of the type of JD used. For this reason, the data necessary to quantify and defend the Corps Regulatory Program’s performance will be available for a permit application regardless of whether it was supported by an approved JD or a preliminary JD.

c. The information used to support an approved JD should be reliable and verifiable. Traditionally, this information has been obtained or verified through a site visit, but now, with information from new, highly sensitive technology and imaging, site visits may not always be required for approved JDs.

d. When documenting preliminary JDs, any available technical, scientific, and observational information about the wetlands or other water bodies can be entered into ORM2 regardless of whether it is the type of information that could inform a formal jurisdictional determination (e.g., discussion of the ecological relationship between water bodies), so long as legal conclusions about jurisdictional status are not included. Any additional, available information that is entered into ORM2 must be accompanied by the warning that the information has not been verified, that it is not an official determination by the government, and that it cannot later be relied upon to determine whether an area is or is not jurisdictional.

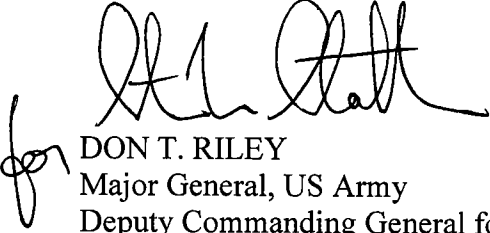
10. Coordination with U.S. Environmental Protection Agency (EPA) and posting.

Districts will continue to post approved JDs on their web sites. Consistent with historical practice, preliminary JDs will not be coordinated with EPA or posted on District websites. Corps Headquarters is modifying the ORM2 data base to collect information regarding use of preliminary JDs, and regarding permit authorizations based on

preliminary JDs, or based on no official form of JD. Until ORM2 is modified to collect and access information related to preliminary JDs, every District should collect basic information, to the maximum extent practicable, on those subjects for purposes of documenting District workload.

11. This guidance remains in effect until revised or rescinded.

Attachment


for DON T. RILEY
Major General, US Army
Deputy Commanding General for Civil and
Emergency Operations

APPENDIX E

**FUNCTIONAL ASSESSMENT METHODOLOGIES
NEW ENGLAND DESCRIPTIVE METHOD
WETLAND FUNCTION-VALUE EVALUATION FORM
WET EVALUATION TECHNIQUE (WET) VERSION 2.0
HYDROGEOMORPHIC APPROACH (HGM)**

FUNCTIONAL ASSESSMENT METHODOLOGIES

USACE NEW ENGLAND DIVISION – DESCRIPTIVE MODEL

This is a functional assessment method that characterizes wetland resources in application for a Section 404 of the Clean Water Act (CWA) Permit. The New England Division’s methodology is “an approach that includes a qualitative description of the physical characteristics of wetlands, identifies the functions and values exhibited, and bases conclusions on ‘best professional judgment.’” This qualitative method supplements additional quantitative wetland assessment methods that generate numerical data.

To view this document, visit www.nae.usace.army.mil/. The document is located under Regulatory/Permitting; Publications; The Highway Methodology Workbook – Supplement; Wetland Functions and Values – A Descriptive Approach.

NEW ENGLAND DESCRIPTIVE MODEL CHECKLIST FOR EVALUATING FUNCTION AND VALUE OF WETLAND

- Groundwater Recharge/ Discharge
- Floodflow Alteration
- Fish and Shellfish Habitat
- Sediment/Toxicant Retention
- Nutrient Removal
- Production Export
- Sediment/Shoreline Stabilization
- Wildlife Habitat
- Recreation
- Education/Scientific Value
- Uniqueness/Heritage
- Visual Quality/Aesthetics
- Endangered Species Habitat
- Other

WET EVALUATION TECHNIQUE (WET)

The WET methodology was initially developed by the Federal Highway Administration (FHWA) as a way to provide a balance between costly site-specific studies and the “best professional judgment” (BPJ) approach. WET assesses the physical, chemical, and biological characteristics of wetlands and assigns values to specific functions of individual wetlands. The methodology has proved to be unwieldy and is no longer the preferred evaluation technique.

HYDROGEOMORPHIC APPROACH (HGM)

The USACE developed this methodology to simplify and replace the WET approach. The HGM compares the characteristics of a specific wetland with those of a group of reference wetlands to assess the functional performance of the study wetland. HGM uses the wetland's indicators (plant communities, plants species, etc.) to assess performance of specific functions of the wetland.

For additional discussion on the WET and the HGM techniques, please visit <http://water.usgs.gov/nwsum/WSP2425/functions.html>.

Wetland Function-Value Evaluation Form

Total area of wetland _____ Human made? _____ Is wetland part of a wildlife corridor? _____ or a "habitat island"? _____













Adjacent land use _____ Distance to nearest roadway or other development _____

Dominant wetland systems present _____ Contiguous undeveloped buffer zone present _____

Is the wetland a separate hydraulic system? _____ If not, where does the wetland lie in the drainage basin? _____

How many tributaries contribute to the wetland? _____ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. _____
 Latitude _____ Longitude _____
 Prepared by: _____ Date _____
 Wetland Impact:
 Type _____ Area _____
 Evaluation based on:
 Office _____ Field _____
 Corps manual wetland delineation
 completed? Y _____ N _____

Function/Value	Suitability		Rationale (Reference #)*	Principal Function(s)/Value(s)		Comments
	Y	N				
 Groundwater Recharge/Discharge						
 Floodflow Alteration						
 Fish and Shellfish Habitat						
 Sediment/Toxicant Retention						
 Nutrient Removal						
 Production Export						
 Sediment/Shoreline Stabilization						
 Wildlife Habitat						
 Recreation						
 Educational/Scientific Value						
 Uniqueness/Heritage						
 Visual Quality/Aesthetics						
ES Endangered Species Habitat						
Other						

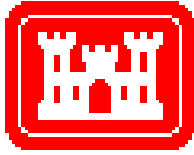
Notes:

* Refer to backup list of numbered considerations.

APPENDIX F

PENNSYLVANIA STATE PROGRAMMATIC GENERAL PERMIT- 4

**Note: PASPGP is renewed every five years. PASPGP-4 will expire on
June 30, 2016 at which point PASPGP-5 will be issued.**



U.S. Army Corps of Engineers

**PENNSYLVANIA STATE PROGRAMMATIC GENERAL PERMIT-4
(PASPGP-4)
July 1, 2011**

TO WHOM IT MAY CONCERN:

Part I – Authorities:

A. Federal Authorities:

1. Section 404(e) of the Clean Water Act (CWA) (33 United States Code [U.S.C.] Section [§] 1344) allows for the issuance of general permits on a statewide basis, which operate in conjunction with a State regulatory program that protects the aquatic environment in a manner equivalent to the Department of the Army regulatory program, provided that the activities permitted under each category of such general permits are similar in nature and result in no more than minimal individual or cumulative adverse effects on the aquatic environment. This Pennsylvania State Programmatic General Permit # 4 (PASPGP-4) is issued pursuant to Section 404(e) and is based on and consistent with the requirements of the CWA 404(b)(1) Guidelines.
2. Upon the recommendation of the Chief of Engineers, and under the provisions of Section 404 of the CWA, as amended, and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403), the Secretary of the Army hereby authorizes the discharge of dredged or fill materials and/or the placement of structures, for a single and complete project, including all attendant features, both temporary and/or permanent, which individually or cumulatively results in impacts to 1.0 acre or less of waters of the United States including jurisdictional wetlands. These discharges and placement of structures must comply with all the terms, conditions, and processing procedures identified in this PASPGP-4. Refer to the definitions and sketches in the Definitions Section for calculating the 1.0-acre eligibility threshold for linear projects.
3. Section 404(q) of the CWA states that agreements are to be entered into in order to minimize, to the maximum extent practicable, duplication, needless paperwork, and delays in the issuance of permits. Memorandums of Agreements (MOAs) have been developed between U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and Environmental Protection Agency (EPA) to outline the means for establishing these goals. The coordination, communication process, professional partnerships, and cooperative working relationships established by these MOAs will be maintained, where applicable, in this PASPGP-4.
4. Section 404(c) of the CWA authorizes the Administrator of EPA to prohibit the specification of any defined area as a disposal site, and to deny or restrict the use of any defined area for

specification as a disposal site, whenever the Administrator determines, after notice and opportunity for public hearings, that the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.

B. State Authorities:

1. The Dams Safety and Encroachments Act, Title 32, Pennsylvania Statutes, 693.1 – 693.27
2. The Clean Streams Law, 35 P.S. §§ 691.1 – 693.1001
3. Dam Safety and Waterway Management Rules and Regulations, Title 25, Pennsylvania Code, Chapter 105 [hereinafter cited as 25 Pa. Code, Chapter 105; specific sections will be referred to by abbreviation
4. All other applicable regulations.

Part II – Definitions:

The following terms are defined for the purposes of PASPGP-4:

Dredged Material – The term “Dredged Material” is defined at 33 CFR § 323.2(c) as:

“The term dredged material means material that is excavated or dredged from waters of the United States.”

Discharge of Dredged Material – The term “Discharge of Dredged Material” is defined at 33 CFR § 323.2(d). The definition is defined, in part, as:

“(1) Except as provided below in paragraph (d)(2), the term discharge of dredged material means any addition of dredged material into, including redeposit of dredged material other than incidental fallback within, the waters of the United States. The term includes, but is not limited to, the following:

- (i) The addition of dredged material to a specified discharge site located in waters of the United States;
- (ii) The runoff or overflow from a contained land or water disposal area; and
- (iii) Any addition, including redeposit other than incidental fallback, of dredged material, including excavated material, into waters of the United States which is incidental to any activity, including mechanized landclearing, ditching, channelization, or other excavation.

(2) The term discharge of dredged material does not include the following:

- (i) Discharges of pollutants into waters of the United States resulting from the onshore subsequent processing of dredged material that is extracted for any commercial use (other than fill). These discharges are subject to section 402 of the Clean Water Act even though the extraction and deposit of such material may require a permit from the Corps or applicable State section 404 program;
- (ii) Activities that involve only the cutting or removing of vegetation above the ground (e.g., mowing, rotary cutting, and chain sawing) where the activity neither substantially disturbs the root system nor involves mechanized pushing, dragging, or other similar activities that redeposit excavated soil material; and
- (iii) Incidental fallback.”

Fill Material – The term “Fill Material” is defined at 33 CFR § 323.2(e) as:

“(1) Except as specified in paragraph (3) of this definition, the term fill material means material placed in waters of the United States where the material has the effect of:

- (i) Replacing any portion of a water of the United States with dry land;
or
- (ii) Changing the bottom elevation of any portion of a water of the United States.

(2) Examples of such fill material include, but are not limited to: rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structures or infrastructure in the waters of the United States.

(3) The term fill material does not include trash or garbage.”

As clarified in Regulatory Guidance Letter (RGL) 90-08, “projects involving pilings meet the definition of ‘fill’ when they have the physical effect or functional use and effect of fill; that is, pilings may be regulated when they constitute the equivalent ‘of replacing an aquatic area with dry land or changing the bottom elevation of a waterbody.’ As was explained in RGL 88-14, pilings may have this function or effect when they are placed so as to facilitate sedimentation, or are placed so densely that they in effect displace a substantial percentage of the water in the project area.”

Discharge of Fill Material – The term “Discharge of Fill Material” is defined at 33 CFR § 323.2(f) as:

“The addition of fill material into waters of the United States. The term generally includes, without limitation, the following activities: Placement of fill that is necessary for the construction of any structure or infrastructure in a water of the United States; the building of any structure, infrastructure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, or other uses; causeways or road fills; dams and dikes; artificial islands; property protection and/or reclamation devices such as riprap, groins, seawalls, breakwaters, and revetments; beach nourishment; levees; fill for structures such as sewage treatment facilities, intake and outfall pipes associated with power plants and subaqueous utility lines; placement of fill material for construction or maintenance of any liner, berm, or other infrastructure associated with solid waste landfills; placement of overburden, slurry, or tailings or similar mining-related materials; and artificial reefs. The term does not include plowing, cultivating, seeding and harvesting for the production of food, fiber, and forest products.”

Eligibility Threshold – The maximum acreage of temporary and/or permanent impacts, both direct and indirect, to waters of the United States and Navigable Waters as a result of the regulated activity, used to determine PASPGP-4 eligibility.

a. **Direct Impacts** – For purposes of this permit, direct impacts to waters of the United States and Navigable Waters includes the impact area from the direct footprint of the regulated activity (i.e., fill area).

b. **Indirect Impacts** – For purposes of determining eligibility thresholds for this permit, indirect impacts to waters of the United States and Navigable Waters include the areas indirectly affected by flooding, draining, or excavation as a result of the regulated activity.

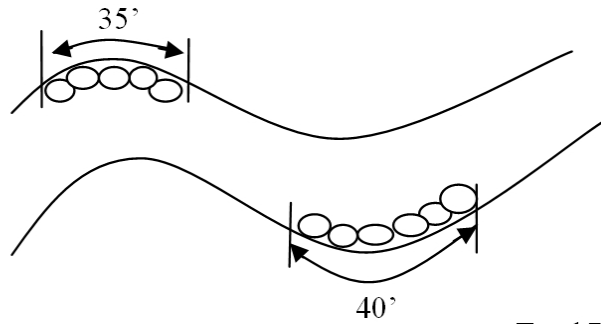
Independent Utility – The term “Independent Utility” is defined as:

“A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.”

See also discussion under “Single and Complete Project”.

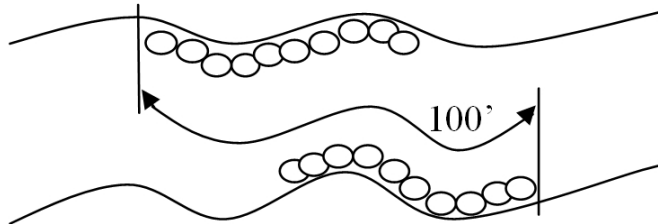
Linear Footage of Stream Impact – For categorical determinations (250 linear feet or 500 linear feet) involving stream impacts, the linear footage of stream impact should be measured as follows (this is not used for calculating impacts to wetlands and open water impoundments which are based on square feet):

a. For regulated work on one stream bank, the linear footage of a stream impact should be measured along the bank being impacted. When both streams banks are being impacted at separate locations, the linear footage of stream impact is also measured along the banks being impacted.



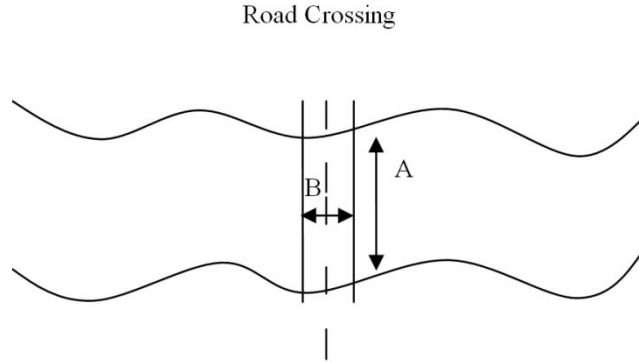
Total 75 Linear Feet

b. For regulated work proposed along both stream banks, where at least a portion of the work on the opposing stream bank is overlapping, the linear footage of stream impact should be measured along the centerline of the stream.



Total 100 Linear Feet

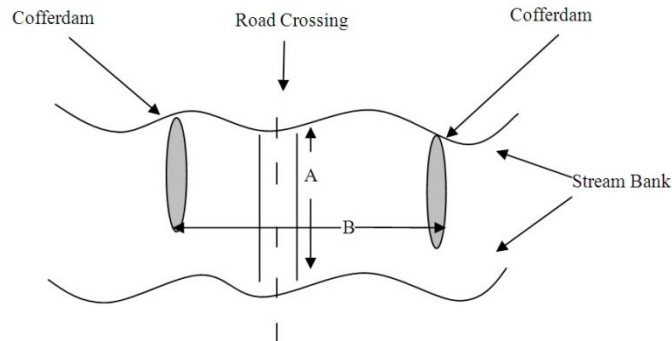
c. For transverse impacts (perpendicular to the stream bank), the linear footage of stream impact should be measured from the top of bank to the top of the opposite bank and from the upstream to downstream limits of work. The linear footage of stream impact, for categorical determination, is the greater of these two measurements.



A (width) or B (length) whichever is greater.

d. Dewatering – if work involves dewatering of a stream channel, measure the centerline of the stream channel that is impacted through filling, dewatering, and/or flooding, and measure from top of stream bank to top of stream bank. The linear footage of stream impact, for categorical determination, is the greater of these two measurements.

A (width) or B (length) whichever is greater.



Mean High Water Line (MHWL) - The term “Mean High Water Line” is used in tidally influenced waters and is described at 33 CFR § 329.12(a)(2) as:

“Shoreward limit of jurisdiction. Regulatory jurisdiction in coastal areas extends to the line on the shore reached by the plane of the mean (average) high water. Where precise determination of the actual location of the line becomes necessary, it must be established by survey with reference to the available tidal datum, preferably averaged over a period of 18.6 years. Less precise methods, such as observation of the “apparent shoreline” which is determined by reference to physical markings, lines of vegetation, or changes in type of vegetation, may be used only where an estimate is needed of the line reached by the mean high water.”

Ordinary High Water Mark (OHWM) – The term “Ordinary High Water Mark” is defined at 33 CFR § 328.3(e) as:

“The line, on non-tidal rivers, above the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas.”

Pennsylvania Department of Environmental Protection (PADEP) – Use of PADEP throughout this document refers to any delegated PADEP Program or agency that has the authority to implement Chapter 105.

Restoration Activities – Activities associated with the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource.

Single and Complete Project – The term “single and complete project” is defined as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers.

To ensure consistency with the requirements of the CWA 404(b)(1) Guidelines and the National Environmental Policy Act, clear purpose and function is required for all projects.

For non-linear projects, the single and complete project must have independent utility (see definition). For linear single and complete projects, the independent utility determination is based on the overall project.

For linear projects, the “single and complete project” (i.e., single and complete crossing) will apply to each crossing of a separate water of the United States (i.e., single waterbody) at that location; except that for linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies.

Linear projects involve activities required for the construction, expansion, modification, or improvement of projects that have one or more crossings of jurisdictional waters (e.g., highways, gas pipelines, fiber optic lines, railways, wastewater pipelines, utility lines, etc.). For linear projects, each single and complete project (i.e. typically, each single crossing) and the cumulative impacts of regulated fills needed to accomplish the overall project, will be considered to determine the appropriate PASPGP-4 Category of review. An applicant proposing a linear project must submit information describing the locations of the starting point, end point, and proposed crossings, and all other impacts to aquatic resources.

The overall project, for purposes of PASPGP-4, includes all regulated activities that are reasonably related and necessary to accomplish the project purpose. Linear projects may be composed of more than one “single and complete project”, but require disclosure of all impacts to aquatic resources necessary to accomplish the overall project’s purpose. In addition, the

cumulative impacts of all crossings of waters and/or wetlands must be known in order to assess the cumulative impacts of the project and determining the PASPGP-4 Category of activity (greater than one acre or greater than 250 linear feet of stream impact is a Category III activity). For example, a linear project consisting of three stream crossings that total less than a combined one-acre of jurisdictional impacts and less than 250' linear feet of stream impacts will qualify as a Category I activity under PASPGP-4. Conversely, the project will be considered a Category III activity if the combined jurisdictional impacts are greater than one acre and/or greater than 250' linear feet of stream. Both eligibility thresholds will apply to each single and complete crossing (single and complete project) once the appropriate category of review is identified. In these examples, each of the three crossings is eligible for authorization under PASPGP-4 provided each crossing does not impact more than one acre of jurisdictional waters. A total of three verifications to use the PASPGP-4 would be issued for the overall/linear project: one verification for each crossing.

Structure – The term “Structure” is defined at 33 CFR §322.2(b) as:

“The term structure shall include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling aid to navigation, or any other obstacle or obstruction.”

Utility Line – Any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term ‘utility line’ does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Waters of the United States and Navigable Waters of the United States – The terms waters of the United States and Navigable Waters of the United States are defined by Federal Regulations at 33 CFR Part §328.3 and §329.4.

Waterbody – A waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent (meaning bordering, contiguous, or neighboring) to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of “water bodies” include streams, rivers, lakes, ponds, and wetlands.

Part III - Scope of Activities:

The PASPGP-4 applies to the discharge of dredged or fill materials and/or the placement of structures, for a single and complete project, including all attendant features both temporary and/or permanent, which individually or cumulatively results in direct or indirect impacts to 1.0 acre or less of waters of the United States, including jurisdictional wetlands. The PASPGP-4 applies only to activities within the Commonwealth of Pennsylvania. Discharges of dredged or fill materials and/or the placement of structures that comply with all terms, conditions, and processing procedures contained in the PASPGP-4, and have only minimal individual or cumulative environmental impacts, are authorized.

The PASPGP-4 does not obviate the need to obtain other Federal, State, or local authorizations required by law. Likewise, the PASPGP-4 does not grant any property rights or exclusive privileges, injury to the property or rights of others, and/or the interference with any existing or proposed Federal project.

In issuing PASPGP-4 the Federal government does not assume any liability for damages to the permitted project, or uses thereof, as a result of other permitted or unpermitted activities, or from natural causes, or from damages that are the result of current or future activities undertaken by, or on behalf of, the United States in the public interest. Additionally, the Federal government does not assume any liability of damages to persons, property, or to other permitted, or unpermitted activities, or structures caused by the activity authorized by this permit. Lastly, the Federal government does not assume any liability for damages caused by design or construction deficiencies associated with the permitted work and/or claims associated with any future modification, suspension, or revocation of this permit.

In order to reduce potential risk of injury to workers and damage to construction equipment from sudden increases in waterway flow velocities caused by upstream Corps dam water releases, it is recommended that the permittee contact the appropriate Corps of Engineer, Area Engineer Office, for the area the work is occurring in, to obtain a schedule of water release dates. It is recommended that no in-water work be performed during periods of high water flow velocities. Any work performed at the project site is at the permittee's own risk.

A. Activities NOT eligible for PASPGP-4. To receive Federal authorization for these activities, a permit application must be submitted to the appropriate Corps District Office:

1. Single and complete or linear projects that will have more than minimal individual or cumulative adverse environmental impacts as determined by the Corps of Engineers.
2. Single and complete projects that do not comply with all terms and conditions of the PASPGP-4, including the terms and conditions specific to each listed category of activities.
3. Single and complete projects that will result in a total of more than 1.0 acre of temporary and/or permanent impacts, both direct and/or indirect, to waters of the United States, including jurisdictional wetlands, as defined above in Part II.

4. Activities located waterward of the ordinary high water mark (OHWM) on non-tidal waters and/or the mean high water line (MHWL) on tidal waters on the following Pennsylvania waterbodies:

- a. The Delaware River, downstream of the Morrisville-Trenton Railroad Bridge in Morrisville, Pennsylvania;
- b. The Schuylkill River downstream of the Fairmount Dam in Philadelphia, Pennsylvania;
- c. All of the Ohio River;
- d. All of the Beaver River;
- e. All of the Little Beaver Creek;
- f. All of the Mahoning River;
- g. All of the Monongahela River;
- h. The Youghiogheny River from its mouth at McKeesport, Pennsylvania to river mile 31.2 at West Newton, Pennsylvania;
- i. The Allegheny River, from its mouth in Pittsburgh, Pennsylvania to river mile 197.4 at Kinzua Dam, north of Warren, Pennsylvania;
- j. The Kiskiminetas River from its mouth near Freeport, Pennsylvania to river mile 26.8 at Saltsburg, Pennsylvania;
- k. Tenmile Creek from its mouth at Millsboro, Pennsylvania to river mile 2.7; and
- l. Lake Erie activities which require submittal of a Joint Permit Application or Environmental Assessment to the PADEP. For Lake Erie, the OHWM is located at elevation 573.4.

5. Instances where EPA's Regional Administrator has notified the District Engineer and applicant in writing that he is exercising his authority under 404 (c) of the CWA to prohibit, deny, restrict, or withdraw the use of any defined area for specification as a disposal site for the discharge of dredged or fill material.

6. Designated Special Case circumstances identified by the Regional Administrator of EPA, as defined in the MOA between the Department of the Army and the EPA concerning the determination and limits of geographic jurisdiction of the 404 program. Geographic areas established by the EPA would be advertised by Corps Public Notice as ineligible for Federal authorization under the PASPGP-4.

7. Activities that have been denied a PADEP Chapter 105 Permit, a CWA Section 401 Water Quality Certification, or a Coastal Zone Consistency Determination.

8. Any activities that would divert more than 10,000 gallons per day of surface water or groundwater into or out of the Great Lakes Basin (Lake Erie Watershed).

B. Activities Eligible for PASPGP-4:

1. All activities listed in Categories I, II and III, which the Corps determines will have no more than minimal adverse environmental effects. All authorized activities must be in compliance with all the terms and conditions of the PASPGP-4, including the terms and conditions specific to each listed category of activities. The Corps will consider the comments and concerns of the other regulatory resource agencies and the public, as appropriate, for activities in Categories II and III, prior to making a decision.

2. All activities authorized under PASPGP-3 where the verification did not expire prior to June 30, 2011, are reauthorized by the PASPGP-4 without further notice to the applicable Corps District provided the proposed regulated activities comply with all terms, conditions, limits, and best management practices identified and required by the PASPGP-4; all special conditions attached to the original PASPGP-3 authorization; and all applicable PADEP Chapter 105 authorizations. The duration of these reauthorizations will be for: the term of the PASPGP-4 (June 30, 2016) for Category I or II activities, or the applicable PADEP Chapter 105 authorization, or five years from the original verification of the PASPGP-3 Category III activities, whichever is less.

Part IV – Categories of Activities Authorized by PASPGP-4:

To determine the appropriate category of activity for linear projects, the sum of all impacts for all crossings of waters and/or wetlands associated with the overall linear project is used when calculating the acreage and/or linear footage thresholds.

A. Category I Activities:

The following activities are authorized by the PASPGP-4 without notification to the applicable Corps District, provided the proposed regulated activities comply with all terms, conditions, limits, best management practices, and processing procedures identified and required by the PASPGP-4, and all applicable PADEP Chapter 105 authorizations. See Part IV.C.4., for situations whereby a Category III review is required to ensure compliance with the Endangered Species Act (ESA). These activities correspond to specific PADEP Chapter 105 General Permits (GPs); Waivers; Individual Permits numbered E-999x; Emergency Permits; Letters of Authorization; and Waiver Letters of Maintenance.

Project specific activities as listed in activities 1 through 28 below are eligible for PASPGP-4 authorization provided:

- The single and complete project, including all attendant features both temporary and/or permanent, results in no more than 1.0 acre of direct and/or indirect impacts to waters of the United States, including jurisdictional wetlands; or

- The single and complete project, including all attendant features, results in the temporary and/or permanent direct and/or indirect impact to 250 linear feet or less of streams, rivers, other watercourses and open water areas (see exceptions below).

Exceptions to 250 Linear Feet Threshold:

- For those activities that are authorized under the PADEP GP-1 for Fish Habitat Enhancement Structures, the linear threshold is 500 linear feet or less, of stream channel including wetlands.
- For those activities that are authorized under PADEP GP-3 for Stream Bank Rehabilitation and Protection, the linear threshold is 500 linear feet or less, of stream channel.

Project specific activities as listed in activities 1 through 20, and 22 through 28 below are eligible for PASPGP-4 authorization provided:

- The applicant or PADEP has run a Pennsylvania Natural Diversity Inventory (PNDI) search within the last 12 months and receives no conflicts related to Federally-listed species; or the project/activity receives a “No Effect” determination from the Corps; or the project/activity has received a clearance from the USFWS that it will not affect federally-list species. If the PNDI search results include avoidance measures from the USFWS, then the project/activity must be processed as a Category III Activity.

Project specific activities as listed in 21 below are eligible for PASPGP-4 authorization provided:

- The applicant, PADEP, or the Corps completes a PNDI search prior to verification of the PASPGP-4 authorization or promptly after verification of the PASPGP-4 authorization. Where the PNDI search identifies a conflict with a federally-listed species, the Corps will consult with the USFWS in accordance with the Emergency Consultation provisions of the ESA (50 CFR 402.05). Specific procedures for after-the-fact coordination are detailed in the PASPGP-4 Standard Operating Procedures.

1. Fish Habitat Enhancement Structures: This is limited to the construction, installation, operation, and maintenance of fish habitat enhancement structures for a maximum of 500 linear feet of stream channel, or one acre in a lake, reservoir or pond. Fish habitat enhancement structures authorized consist of: deflectors, low flow channel structures, channel blocks, muddills and boulders, felled shoreline trees, special tire structures, brush structures, rubble reefs, half-log structures, elevated boulder structures, and spawning/nursery structures placed in streams, lakes, ponds or reservoirs as developed in coordination with the PFBC. This activity must be authorized pursuant to PADEP GP-1.

2. Small Docks and Boat Launching Ramps: This is limited to the installation, operation, modification, and maintenance of small docks and boat launch ramps in and along waters of the United States. This activity must be authorized pursuant to PADEP GP-2.

3. **Bank Rehabilitation, Bank Protection, and Gravel Bar Removal:** This is limited to the installation, operation, modification, and maintenance of bank rehabilitation and protection for a maximum of 500 linear feet; and the removal of gravel bars for a maximum of 250 linear feet along waters of the United States. This activity must be authorized pursuant to PADEP GP-3.
4. **Intake and Outfall Structures:** This is limited to the construction, operation and maintenance of intake and outfall structures in, along, across, or projecting into waters of the United States. This activity must be authorized pursuant to PADEP GP-4.
5. **Utility Line Stream Crossings:** This is limited to the installation, operation, and maintenance of utility line stream crossings of waters of the United States. This activity must be authorized pursuant to PADEP GP-5.
6. **Agricultural Crossings and Ramps:** This is limited to the installation, operation, and maintenance of agricultural crossings and ramps in waters of the United States. This activity must be authorized pursuant to PADEP GP-6.
7. **Minor Road Crossings:** This is limited to 1) the construction, operation, and maintenance of a minor road crossing across wetlands which individually impacts less than 0.10 acre of wetlands, or cumulatively impacts less than 0.25 acre of wetlands; 2) the construction, operation, and maintenance of a minor road crossing across a stream where the watershed drainage is 1.0 square mile or less; and 3) the removal of an existing minor road crossing across a stream where the drainage area is 1.0 square mile or less. This activity must be authorized pursuant to PADEP GP-7.
8. **Temporary Road Crossings:** This is limited to the construction, operation, and maintenance of temporary road crossings of waters of the United States. This activity must be authorized pursuant to PADEP GP-8.
9. **Agricultural Activities:** This is limited to the installation, operation, modification, and maintenance of certain agricultural activities that encroach into streams and their floodways or bodies of water wholly or in part within or forming part of the boundary of the Commonwealth of Pennsylvania. These agricultural activities are grassed or lined waterways, terraces, diversions, waste storage facilities, spring development, and minor drainage that supports these activities and is necessary for contour strips when engaged in as part of an existing agricultural operation and shall only be implemented as part of a conservation plan consistent with the 25 Pa. Code, Chapter 102 (relating to erosion control) and approved by the appropriate Pennsylvania County Conservation District. This activity must be authorized pursuant to PADEP GP-9.

- 10. Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments:** This is limited to any activity eligible for a PADEP GP-11 that permanently impacts less than 0.05 acres of wetlands or less than 250 linear feet of stream. Any work associated with: 1) a Corps Civil Works Project; 2) on Corps Property; or 3) areas which are part of Corps Rehabilitation and Inspection Program shall be forwarded to the Corps as a Category III activity. This activity must be authorized pursuant to PADEP GP-11.
- 11. Private Residential Construction in Wetlands:** This is limited to the placement of dredged and/or fill material in, or the excavation of, non-tidal wetlands for the construction or expansion of a single family home for the personal residence of the permittee, including reasonable and necessary features such as a driveway, storage shed and utilities on a residential lot purchased by the permittee prior to November 22, 1991, within established subdivisions approved by the local governing authority where such activities do not impact greater than 0.50 acre of non-tidal wetlands. This activity must be authorized pursuant to PADEP GP-15.
- 12. Activities Waived at 25 PA Code § 105.12(a)(1) - Waiver 1 - Small Dams Not Exceeding 3 Feet in Height in a Stream Not Exceeding 50 Feet in Width:** This is limited to the construction of small dams not exceeding 3 feet in height in a stream, not exceeding 50 feet in width, except wild trout streams designated by the PFBC in accordance with 58 PA Code § 57.11. This corresponds to activities authorized pursuant to PADEP Waiver 1.
- 13. Activities Waived at 25 PA Code § 105.12(a)(6) - Waiver 6 - Stormwater Management and Erosion Control:** This is limited to a water obstruction or encroachment located in, along, across, or projecting into an existing stormwater management facility or an erosion and sedimentation pollution control facility which meets the requirements in 25 Pa. Code, Chapter 102 (relating to erosion and sediment control), if the facility was constructed and continues to be maintained for the designated purpose. This corresponds to activities authorized pursuant to PADEP Waiver 6.
- 14. Activities Waived at 25 PA Code § 105.12(a)(7)(8) - Waiver 7 and 8 - Activities Related to Crop Production:** This is limited to maintenance of field drainage systems for crop production and for plowing, cultivating, seeding or harvesting for crop production. This corresponds to activities authorized pursuant to PADEP Waivers 7 and 8.
- 15. Activities Waived at 25 PA Code § 105.12(a)(9) - Waiver 9 - Minor Stream Fords:** This is limited to construction and maintenance of ford crossings of streams for individual private personal use, which require only grading of banks for approach roads and the placement of not more than 12 inches of gravel for roadway stability. Fords may not be used for commercial purposes and shall cross the regulated waters of the United States in the most direct manner. This does not apply to activities in exceptional value streams, as listed under 25 Pa. Code, Chapter 93 (relating to water quality standards) or in wild trout streams, designated by the PA Fish and Boat Commission. This corresponds to activities authorized pursuant to PADEP Waiver 9.

16. Activities Waived at 25 PA Code § 105.12(a)(10) - Waiver 10 - Navigational Aids: This is limited to a navigational aid or marker, buoy, float, ramp, or other device or structure for which a permit has been issued by the PFBC under Title 30, Pennsylvania Consolidated Statutes, Section 5123(a)(7) (relating to general boating regulations). This corresponds to activities authorized pursuant to PADEP Waiver 10.

17. Activities Waived at 25 PA Code § 105.12(a)(12) - Waiver 12 - Activities Related to Use of Water Recording, Gauging, and Testing Devices: This is limited to the construction, operation, or removal of staff gauges, water recording devices, water quality testing devices, including, but not limited to, sensors, intake tubes, weirs, and small buildings which contain required instruments and similar scientific structures. This corresponds to activities authorized pursuant to PADEP Waiver 12.

18. Activities Waived at 25 PA Code § 105.12(a)(14) - Waiver 14 - Artificial Ponds and Reservoir Maintenance: This corresponds to activities authorized pursuant to PADEP Waiver 14. PADEP Waiver 14 authorizes the maintenance of an artificial pond or reservoir to its original storage capacity where:

The contributory drainage area is less than or equal to 100 acres;

The greatest depth of water at maximum storage elevation is less than or equal to 15 feet; and

The impounding capacity at maximum storage elevation is less than or equal to 50-acre feet.

19. Activities Waived at 25 PA Code § 105.12(a)(16) - Waiver 16 - Restoration Activities: Activities undertaken and conducted pursuant to a restoration plan, which has been approved, in writing, by PADEP. These activities include the following:

a. **PADEP, Bureau of Abandoned Mine Reclamation (BAMR) approved and/or sponsored restoration activities** –provided the activity impacts less than 0.05 acre of vegetated wetland (as defined by the Corps of Engineers 1987 Wetlands Delineation Manual, including all applicable guidance and regional supplements (1987 Manual) or the body of water or associated discharge from a body of water has a pH < 5.0, or any of the following elevated metal levels:

i. Aluminum > 0.6 mg/l

ii. Iron > 7.0 mg/l

iii. Manganese > 4.0 mg/l

b. **Other Restoration Activities** – Restoration activities whereby PADEP has issued a programmatic 401 Water Quality Certification conditioned upon receiving approval by the Environmental Review Committee (ERC). To be authorized by PASPGP-4, the activity must be approved by ERC. Note: the activity will be reviewed as Category III, if applicable.

20. PADEP Individual Permits numbered E-999X: This is limited to maintenance activities performed in or along waters of the United States, by the following certain Commonwealth of Pennsylvania agencies:

The Pennsylvania Department of Transportation (District 1 - E61-9999; District 2 - E17-9999; District 3 - E41-9999; District 4 - E35-9999; District 5 - E39-9999; District 6 - E23-9999; District 8 - E22-9999; District 9 - E07-9999; District 10 - E32-9999; District 11 - E02-9999; and District 12 - E26-9999);

The Pennsylvania Turnpike Commission (E22-9995);

The Pennsylvania Department of Conservation and Natural Resources, Bureau of State Parks (Region 1 - E12-9998; Region 2 - E10-9998; Region 3 - E05-9998; Region 4 - E09-9998); and

The Pennsylvania Game Commission (SE Region - E06-9996; SC Region - E31-9996; NE Region - E40-9996; NC Region - E41-9996; NW Region - E61-9996; SW Region - E65-9996).

This activity must be authorized pursuant to PADEP Individual Permits numbered E-999X. The maintenance work must be performed as described on a submitted work schedule, submitted to PADEP Regional Offices, with all work performed in accordance with PADEP standards for that particular agency's maintenance agreement.

21. Emergency Activities: These activities involve the immediate remedial action when necessary to alleviate an imminent threat to life, property, or the environment. Stream relocation or channelization is not authorized under this category of activities except when a stream has left its channel as a result of a distinct recent storm event and channel work is required to restore the stream flow to pre-storm conditions. These activities must be authorized pursuant to PADEP Emergency Permits.

22. Normal Maintenance and Repair of an Existing Dam: This is limited to the normal maintenance and repairs of an existing, jurisdictional dam and will not involve major modification to the dam. This activity must be authorized pursuant to PADEP Letter of Authorization.

23. Existing Structures or Activities completed prior to July 1, 1979: Activities authorized pursuant to 25 Pa. Code § 105.12(b)(1-7):

a. A dam not exceeding 5-feet in height in a non-navigable stream operated and maintained for water supply purposes;

b. A dam of Size Classification C and Hazard Potential Classification 3 and does not have a significant effect on coastal resources or an adverse impact on the environment;

c. A fill not located on navigable lakes and navigable rivers;

d. A stream bank retaining device;

- e. A stream crossing other than a crossing located on submerged lands of this Commonwealth and a crossing by pipelines for conveyance of petroleum products and gas;
- f. An outfall, headwall or water intake structure; and
- g. A culvert, bridge or stream enclosure with a drainage area \leq 5 square mile.

24. Operation, Maintenance and Monitoring of Structures and Activities listed in 23 a-g above completed prior to July 1, 1979: Activities authorized pursuant to 25 Pa. Code § 105.12 (c).

25. Miscellaneous Activities: The following activities are not in most cases regulated pursuant to Section 404 of the CWA because they do not involve a discharge of dredged and/or fill material, or the activity meets a Section 404(f)(1) exemption. However, in some instances, the work is regulated and will require either a Section 404 or Section 10 permit. These correspond to activities authorized by PADEP Waivers, General Permits, and Waiver Letters of Maintenance provided they are implemented as described in the applicable PADEP authorization:

- a. PADEP GP-10 - Abandoned Mine Reclamation;
- b. PADEP Waiver 15 - Abandoned Mines;
- c. PADEP Waiver 3 - Aerial Crossings;
- d. PADEP Waiver 5 - Acid Mine Drainage;
- e. PADEP Waiver 13 - Abandoned Railroad Bridges and Culverts; and
- f. Waiver Letters of Maintenance for:
 - i. Channel Cleaning at Bridges and Culverts - Stream channel maintenance within 50 feet upstream and downstream of an existing bridge or culvert, performed in accordance with the maintenance provision of a previously issued PADEP permit and the PADEP *Standards for Channel Cleaning at Bridges and Culvert*; or
 - ii. Bridge and Culvert Repair - Maintenance to an existing culvert, bridge, or stream enclosure constructed prior to July 1, 1979, on a watercourse where the drainage area is five square miles or less.

26. Activities Related to Residential, Commercial and Institutional Developments: Any activity for the purpose of constructing new or expanding an existing residential, commercial, or institutional subdivision or development where greater than 0.25 acre of wetlands (in addition to those being directly impacted by the proposed project) are located within the property boundary and the application includes a proposed deed restriction, conservation easement, or deed restricted open space area, that protects such wetlands from activities such as filling, draining, mowing, placement of structures, cutting of vegetation, clearing or plowing of natural vegetation (also see Part VI.A.24). Applications that do not include a proposed conservation

instrument/deed restriction may still qualify for a PASPGP-4; under a Category III review (see Part IV.C.8).

27. **Maintenance:** Activities conducted under the terms and conditions of a previously issued PADEP authorization which requires operation and maintenance in accordance with the terms and conditions of the PADEP authorization.

28. **Grandfather Clause:** All activities authorized by PASPGP-3, where the authorization did not expire prior to June 30, 2011, are reauthorized by the PASPGP-4 without further notice to the applicable Corps District provided the proposed regulated activities comply with all terms, conditions, limits, and best management practices identified and required by the PASPGP-4 and the applicable PADEP authorizations. In addition, all special conditions attached to the original PASPGP-3 authorization are special conditions of the PASPGP-4 authorization. Requests for modification of the authorized work and/or special conditions must be submitted in writing to the applicable Corps District. For Category I or II activities, the duration of these reauthorizations will be for the term of the PASPGP-4 (June 30, 2016) or the applicable PADEP Chapter 105 authorization, whichever is less. For Category III Activities the duration of these reauthorizations will be for five years from issuance of the PASPGP-3 verification or when the applicable PADEP Chapter 105 authorization expires, whichever is less.

B. Category II Activities:

This category includes activities that do not meet the terms and conditions of any activity listed in Category I, and requires notification through publication in the PA Bulletin as required by 25 PA Code Chapter 105.21(a) of the Dam Safety and Encroachments Act, 32 P.S. § 693.1, et seq. Only activities that result in the discharge of dredged or fill materials and the placement of structures for a single and complete project, including all attendant features, both temporary and or permanent, which individually or cumulatively result in direct or indirect impacts to 1.0 acre or less of waters of the United States, including jurisdictional wetlands, or 250 linear feet or less of streams, rivers, other watercourses and open water areas are authorized. For linear projects, the sum of all impacts for all crossings of waters and/or wetlands associated with the overall linear project is used when calculating the acreage and/or linear footage thresholds. These activities may be authorized by the PASPGP-4 after an opportunity for review and comment by the Corps, all other Federal and State resource agencies, and the general public, through publication in the PA Bulletin at least 30 days prior to the effective date of the PADEP authorization.

For a Category II Activity to be authorized by PASPGP-4, the applicant or PADEP is required to run a PNDI search within the last 12 months and receive no conflicts related to federally-listed species; or the project/activity must receive a “No Effect” determination from the Corps; or the project/activity must receive a clearance from the USFWS that it will not affect federally-listed species. If the PNDI search results include avoidance measures from the USFWS, then the project/activity must be processed as a Category III Activity. See Part IV.C.4 for additional stipulations whereby a Category III review is required to ensure compliance with the Endangered Species Act (ESA).

1. **Activities Requiring Pennsylvania State Permits or Approvals:** This is limited to activities authorized pursuant to a PADEP Individual Permit (including a Small Projects Permit), Dam Permit, or Environmental Assessment Approval and request for 401 Water Quality Certification.
2. **The Removal of Abandoned Dams, Water Obstructions, and Encroachments:** This is limited to activities authorized by PADEP for the removal of abandoned dams, water obstructions, or encroachments, where PADEP determines in writing, on the basis of data, information, or plans, submitted by the applicant, that the removal of the abandoned dam, water obstruction, or encroachment will not imperil life or property, have significant effect on coastal resources, or have an adverse impact on the environment, and the plans provide for restoration and stabilization of the project area. This corresponds to activities authorized pursuant to PADEP Waiver 11.
3. **Restoration Activities:** This is limited to restoration activities undertaken and conducted pursuant to a restoration plan, which has been approved, in writing, by PADEP. This corresponds to activities authorized pursuant to PADEP Waiver 16. This does not include those activities identified in Part IV.A.19.
4. **Activities Related to Residential, Commercial and Institutional Developments:** Any activity for the purpose of constructing a new or expanding an existing residential, commercial, or institutional subdivision or development where greater than 0.25 acre of wetlands (in addition to those being directly impacted by the proposed project) are located within the property boundary; and the application includes a proposed deed restriction, conservation easement, or deed restricted open space area, that protects such wetlands from activities such as filling, draining, mowing, placement of structures, cutting of vegetation, clearing or plowing of natural vegetation (also see Part VI.A.24). Applications that do not include a proposed conservation instrument/deed restriction may still qualify for a PASPGP-4, under a Category III review (see Part IV.C.8.)

C. Category III Activities:

Activities listed below as Category III will receive a project specific review by the Corps of Engineers to verify that no more than minimal adverse environmental impacts would occur. The Corps will coordinate with the appropriate Federal and State resource agencies in order to make its minimal impact determination. This category includes activities listed in or eligible for Category I or Category II that require additional case by case review due to issues of Federal concern as listed below. Category III projects may be verified to use PASPGP-4 only after case by case opportunity for review and comment by all appropriate Federal and State resource agencies and a determination by the Corps that the activity will have no more than minimal adverse environmental impacts.

These activities correspond to activities authorized pursuant to Section 7 of the Dam Safety and Encroachments Act, 32 P.S. § 693.1, et seq., and the rules and regulations promulgated there under in the PA Bulletin (codified at 25 Pa. Code, Chapter 105). In order to qualify for PASPGP-4, these activities must receive the applicable PADEP Chapter 105 authorization and

401 Water Quality Certification, and in certain circumstances, Coastal Zone Management Consistency.

All Category III projects that require PADEP Individual Permits (except for Individual Permit numbered E-999x), Small Projects Permits, Dam Permits, or Environmental Assessment Approvals, will also be reviewed by the general public through publication in the PA Bulletin. Notification for these activities will be through publication in the PA Bulletin at least 30 days prior to the effective date of the permit, as required by 25 PA Code Chapter 105.21(a) of the Dam Safety and Encroachments Act, 32P.S. § 693.1, et seq., and the rules and regulations promulgated there under in the PA Bulletin (codified at 25 PA Code, Chapter 105). Coordination will be accomplished by forwarding copies of all project application files to the Corps of Engineers.

1. Activities Normally Authorized Under Category I or Category II: Applications for activities whereby the Corps, or other Federal, and/or State resource agencies, have requested a Corps review of the application. The request for a Category III review must be made prior to verification of PASPGP-4 by PADEP.

2. Activities Exceeding Thresholds:

a. Activities listed in Category I, and/or Category II that individually or cumulatively impact more than 1.0 acre of waters of the United States including jurisdictional wetlands, including all attendant features, both temporary and permanent, for a single and complete project; or that impact greater than 250 linear feet of streams, rivers, other watercourses, except fish habitat enhancement structures authorized under PADEP GP-1 and bank rehabilitation and protection, authorized under PADEP GP-3 that affect 500 linear feet or less. The 1.0 acre area measurement includes the sum total of all waters of the United States including both jurisdictional wetlands and streams, rivers, other watercourses.

b. For linear projects, the 250 linear foot threshold for stream impacts is applied to the total cumulative impacts of all crossings associated with the overall linear project, regardless of the type of PADEP authorization or combination of authorizations used to approve the overall project.

c. Overall linear projects that have cumulative permanent and temporary impacts to waters of the United States, including jurisdictional wetlands, which exceed 1.0 acre may still be eligible for PASPGP-4 authorization through a Category III review, provided no single and complete project exceeds the 1 acre threshold (see Part II for definition of single and complete project and acreage calculations). This verification of eligibility will be made by the Corps of Engineers.

3. Projects with Previous Federal Authorization:

a. All applications that involve additional regulated activities, where the project previously received a Department of the Army Individual Permit, a Nationwide Permit, or a PASPGP processed by the Corps as a Category III Activity.

b. All applications that involve additional regulated activities, whereby a PASPGP was previously verified by PADEP for the overall project and the combined total impacts (previously authorized and newly proposed impacts) now require a Category III review.

4. Activities Which May Affect Threatened or Endangered Species or Their Critical Habitat:

a. Activities or projects proposed in waterways occupied by Federally listed, proposed, or candidate mussels or fish as indicated below, or in waters of the United States within 300 feet of these listed waterways, unless the activities or projects have received documented clearance from the USFWS, or a No Effects determination from the Corps.

WATERWAYS	COUNTY
Allegheny River (from Kinzua Dam to the Ohio River)	Armstrong, Clarion, Forest, Venango, Warren,
Conewango Creek	Warren
French Creek	Crawford, Erie, Mercer, Venango
Conneaut Outlet	Crawford
Conneauttee Creek	Crawford
LeBoeuf Creek	Erie
Muddy Creek	Crawford
Shenango River, Pymatuning Reservoir to Big Bend	Crawford and Mercer
Delaware River	Monroe, Pike, Wayne
Cussewago Creek	Crawford
Little Mahoning Creek	Indiana
Little Shenango River	Mercer
Oil Creek	Venango
West Branch of French Creek	Erie
Woodcock Creek	Crawford

b. Activities or projects with proposed impacts to Federally regulated wetlands, require bog turtle screening procedures in counties of documented bog turtle occurrence listed below, unless the activities or projects have received documented clearance from the USFWS, or a No Effect determination from the Corps.

Counties: Adams, Berks, Bucks, Carbon (only Aquashicola Creek Watershed), Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Schuylkill (only Swatara Creek Watershed), and York.

c. Activities or projects, whereby a PNDI search identifies a potential conflict(s) for Federally listed species, and/or avoidance measures unless the activities or projects have received documented clearance from the USFWS, or a “No Effect” determination from the Corps, for the project.

5. Activities Authorized at 25 PA Code § 105.131(c) –Maintenance of Reservoirs of Jurisdictional Dams: This work is associated with maintenance dredging of the reservoir’s design storage capacity including the removal of accumulated sediments. This corresponds to activities authorized pursuant to Section 7 of the Dam Safety and Encroachments Act, 32 P.S. § 693.1, et seq., and the rules and regulations promulgated there under in the PA Bulletin (codified at 25 PA. Code, Chapter 105, § 105.131 (c)).

6. Activities Potentially Affecting Historic or Cultural Resources: Any activity which may adversely affect cultural resources, which are listed or eligible for listing in the National Register of Historic Places pursuant to the requirements of Section 106 of the National Historic Preservation Act (NHPA). This includes projects where the Pennsylvania Historic and Museum Commission (PHMC) in cooperation with the State Historic Preservation Officer (SHPO) have determined that archaeological or other cultural resources are believed to exist within the permit area.

7. Activities Potentially Affecting Wild Or Scenic Rivers: Any activity which occurs in a component of the National Wild and Scenic River System or in a river officially designated by Congress as a “Study River” for possible inclusion in the System are forwarded to the Corps as a Category III activity, unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect any Wild and Scenic River including study rivers. While the Wild and Scenic portion of the Allegheny River is ineligible for the PASPGP-4, regulated activities occurring landward of the OHWM of this river, are eligible for authorization under the PASPGP-4. Additionally identified designated and study rivers approved and included in the National Wild and Scenic River System subsequent to the publication of this document are to be considered in this sub-category. The designated Wild and Scenic Rivers are:

a. Allegheny River, from the Kinzua Dam Mile 197.2, downstream approximately 7 miles to the US Route 6 Bridge, at mile 190.7, in Warren, then from the Buckaloons Recreation Area in Allegheny National Forest at mile 181.7 downstream 47 miles to Alcorn Island just north of Oil City at river mile 133.7, and then continuing from the Franklin Wastewater Treatment Plant at mile 122.7, downstream 31 miles to the refinery at Emlenton mile 90.7;

b. Clarion River from mile 91.1 in the Borough of Ridgeway, Elk County, Pennsylvania, at the National Forest and Gamelands Boundary to mile 39.4 at the normal pool elevation of Piney Dam;

c. Upper Delaware Scenic and Recreational River, including the ¼ mile buffer from each bank, beginning at Hancock, New York, and continuing 73.4 river miles to Mill Rift, Pennsylvania;

d. Middle Delaware Scenic and Recreational River (from bank to bank) as it flows through the Delaware Water Gap National Recreation Area;

e. Lower Delaware River beginning 7 river miles north of Belvidere, New Jersey, continuing to Washington Crossing, Pennsylvania, including Paunacussing Creek within Solebury Township, all of the Tinicum Creek including Rapp Creek and Beaver Creek Tributaries, and Tohickon Creek from the mouth to the Lake Nockamixon Dam, including a ¼ mile buffer from each bank; and

f. White Clay Creek watershed including all of its tributaries.

8. Activities Related to Residential, Commercial and Institutional Developments: Any activity for the purpose of constructing a new, or expanding an existing residential, commercial, or institutional subdivision or development where greater than 0.25 acre of wetlands (in addition to those being directly impacted by the proposed project) are located within the property boundary; and the application does not include a proposed deed restriction, conservation easement, or deed restricted open space area, that protects such wetlands from activities such as filling, draining, mowing, placement of structures, cutting of vegetation, clearing or plowing of natural vegetation (also see Part VI.A.24).

9. Activities Requiring an Environmental Impact Statement (EIS): Applications containing an EIS, references to an EIS by a Federal agency, or references to the Corps being a cooperating agency on an EIS.

10. Activities within Portions of the Delaware River: Any activity located waterward of the OHWM in the Delaware River, upstream of the Morrisville-Trenton Railroad Bridge in Morrisville, Pennsylvania. For additional Category III activities within and adjacent to the Delaware River, see Part IV.C.4.a. and 7.c-e. Any activity located waterward of the OHWM in the Delaware River, downstream of the Morrisville-Trenton Railroad Bridge, is ineligible for PASPGP-4.

11. Activities across State Boundaries: Activities where the regulated activity or area of indirect impact (secondary impact) is not wholly located within the Commonwealth of Pennsylvania, i.e. the regulated activity extends across state boundaries.

12. Coal and Non-Coal Mining Activities: Activities authorized pursuant to Chapter 105 permits in conjunction with coal and non-coal mining permits issued by the PADEP District Mining Offices (Bureau of Mining and Reclamation), including activities authorized pursuant to PADEP Waiver 4 [25 Pa. Code §105.12(a)(4)]and GP-101 and 102.

13. Construction of Mitigation Banks and In Lieu Fee sites: Regulated activities associated with the construction of Mitigation Banks and In Lieu Fee sites, developed to meet the requirements with the Corps and EPA April 10, 2008 Compensatory Mitigation for Losses of Aquatic Resources: Final Rule.

14. Activities Waived at 25 PA Code § 105.12(a)(2) - Waiver 2 - Water Obstructions in a Stream or Floodway With a Drainage Area of 100 Acres or Less: Any activity authorized as a Waiver 2, which includes water obstructions in a stream or floodway with a drainage area of

100 acres or less. This waiver does not apply to wetlands within the floodway. This corresponds to activities authorized pursuant to PADEP Waiver 2.

15. Activities Affecting Corps Civil Works Projects, Corps Property, or Projects Part of Corps Rehabilitation and Inspection Program: All activities that may alter, use, build upon, attempt to possess, or that may harm or impair any existing or proposed Corps Civil Works project, any Corps-owned or managed property, or projects that are part of a Corps Rehabilitation and Inspection Program.

Part V– Procedures:

A. Application Submittal:

Applicants must submit the required PADEP permit application and completed PASPGP-4 Project Screening Form to the appropriate PADEP office. For Category III Activities, where PADEP does not require a permit application, an application shall be submitted directly to the appropriate Corps District. The application must identify all impacts to waters and wetlands, including the direct and indirect impacts, both temporary and permanent, for the overall project, including all attendant features. The delineation of wetland boundaries shall be accomplished in accordance with the 1987 Manual, as amended or updated, and appropriate guidance issued by the Corps of Engineers.

B. PASPGP-4 Review Procedures:

1. **Category I (Project-specific Corps review not required):** Permit applications are reviewed by PADEP in accordance with their review procedures and the PASPGP-4 procedures. PADEP will attach the PASPGP-4 verification to the State authorization, and provide to the applicant. PADEP will also provide a copy of the application, the State authorization, and the PASPGP-4 verification to the applicable Corps District.

2. **Category II Review:** All Category II activities will be published in the PA Bulletin, as a Public Notice. The Corps and resource agencies will review the PA Bulletin to determine the need for Federal review, on a case-by-case basis. One copy of the permit application will be maintained in the PADEP Regional Office for resource agency review. If the Corps or a resource agency requests a proposed project as a Category III activity, it must notify the appropriate PADEP Office, prior to the permit issuance. PADEP will forward the application to the appropriate agency. If the application is not forwarded as a Category III activity, PADEP will attach the PASPGP-4 verification along with the State authorization to the applicant, and provide a copy of the application, the State authorization, Record of Decision, and the PASPGP-4 verification to the applicable Corps District.

3. **Category III Review:** Applications for projects identified as Category III will be forwarded to the Corps for review and, when applicable, coordinated with any other Federal and State resource agency to determine eligibility for authorization under PASPGP-4. After completion of the Corps review, the Corps will:

a. Notify PADEP that the activity is eligible for authorization under PASPGP-4, with or without special conditions, and they should attach PASPGP-4 verification to their authorization when issuing;

b. Notify PADEP and the applicant that the project is not eligible for authorization under PASPGP-4 and the work requires another type of Federal authorization;

c. Notify the applicant directly with regard to PASPGP-4 applicability, and copy PADEP with such notification, if PADEP has issued/verified their authorization/registration prior to the Corps completing its review; or

d. Inform the applicant directly that a Section 10 and/or 404 authorization is not required for the proposed work. In such cases, the Corps will copy PADEP with such notification to the applicant.

C. Agency Objection:

Any Federal or State resource agency may object to authorization of a specific project prior to verification of the PASPGP-4. The Corps will attempt to resolve the objection and may include project specific conditions to protect the public interest.

D. Other Types of Corps Permit Review:

If a project is ineligible under the terms and conditions of the PASPGP-4, the Corps will notify PADEP and the applicant that the project will require further evaluation under alternative permit procedures. All information submitted by the applicant for the PASPGP-4 review will be used to initiate the review by the Corps for the alternative permit review. Additional information may be requested to complete the review. During the alternative permit review, the Corps may determine that the impacts have been reduced such that the activity imposes only minimal adverse environmental effects and the proposed project meets the terms and conditions of the PASPGP-4. At that time, the Corps may verify PASPGP-4 eligibility for the project.

E. Corps Discretionary Authority:

Notwithstanding compliance with the terms and conditions of the PASPGP-4, the Corps retains discretionary authority to require a Corps Individual Permit review for any project based on concerns for the aquatic environment or for any other factor of the public interest. This authority is invoked, on a case-by-case basis, whenever the Corps determines that the potential consequences of the proposal warrant individual review, based on the concerns stated above. This authority may be invoked for projects with cumulative environmental impacts that are more than minimal or if there is a special resource or concern associated with a particular project, which is not addressed with stipulations of the PASPGP-4, and warrants greater review.

Part VI – General Conditions and Procedural Requirements:

All activities authorized under PASPGP-4 must be in compliance with the following. Failure to comply with all conditions of the authorization, including special conditions, will constitute a

permit violation and may be subject to criminal, civil, or administrative penalties, and/or restoration:

A. General Conditions:

1. **Permit Conditions:** The permittee shall comply with all terms and conditions set forth in the PADEP authorization for use of this permit, including all conditions of Section 401 Water Quality Certification, and any subsequent amendment or modification to such authorization. The permittee shall conduct all work and activities in strict compliance with all approved maps, plans, profiles, and specifications used by PADEP and/or the Corps as the basis for its authorization or subsequent modification of authorization.

2. **Aquatic Life Movements:** No activity may substantially disrupt the movement of those species of aquatic life indigenous to the waterbody, including those species which normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be appropriately depressed to maintain aquatic life movement and low flow conditions.

3. **Threatened and Endangered Species:** If an activity is authorized under the PASPGP-4, and a Federally listed threatened or endangered species, or proposed species or critical habitat, is subsequently found to be present, all work must cease, and the Corps and USFWS (or NMFS) must be notified. The PASPGP-4 verification is suspended and will not be re-issued until consultation pursuant to Section 7 of the ESA is concluded and adverse effects to Federally listed threatened, endangered, and proposed species and critical habitat are avoided.

Furthermore, persons have an independent responsibility under Section 9 of ESA to not engage in any activity that could result in the "take" of a Federally listed species.

4. **Spawning Areas:** The permittee shall comply with all time-of-year restrictions as set forth by the PFBC or other designated agency. Discharges or structures in spawning or nursery areas shall not occur during spawning seasons, unless written approval is obtained by the PFBC or other designated agency. In addition, work in areas used for other time sensitive life span activities of fish and wildlife (such as hibernation or migration) may necessitate the use of seasonal restrictions for avoidance of adverse impacts to vulnerable species. Impacts to these areas shall be avoided or minimized to the maximum extent practicable during all other times of the year.

5. **Waterfowl Breeding and Wintering Areas:** Activities including discharges of dredged or fill material or the placement of structures in breeding and wintering areas of migratory waterfowl must be avoided to the maximum extent practicable.

6. **Shellfish Production:** No discharge of dredged or fill material and/or the placement of structures may occur in areas of concentrated shellfish production, unless the discharge is directly related to an authorized shellfish harvesting activity.

7. **Adverse Effects From Impoundments:** If the activity, including the discharge of dredged or fill material or the placement of a structure, creates an impoundment of water, the adverse

effects on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow, including impacts to wetlands, shall be minimized to the maximum extent practicable.

8. Obstruction of High Flows: To the maximum extent practicable, the activity must be designed to maintain pre-construction downstream flow conditions (i.e., location, capacity, and flow rates). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters), and the structure or discharge of dredged and/or fill material shall be designed to withstand expected high flows.

9. Erosion and Sediment Controls: During construction, appropriate erosion and siltation controls must be used and maintained in effective operating condition in accordance with State regulations. All exposed soil and other fill material must be permanently stabilized.

10. Suitable Material: No activity, including discharges of dredged and/or fill material or the placement of structures, may consist of unsuitable material (i.e., asphalt, trash, debris, car bodies, etc.). No material discharged shall contain toxic pollutants in amounts that would violate the effluent limitation standards of § 307 of the CWA.

11. Temporary Fill: Temporary fill in waters and wetlands authorized by the PASPGP-4 (i.e., access roads and cofferdams) shall be properly constructed and stabilized during use to prevent erosion and accretion. Temporary fill in wetlands shall be placed on geotextile fabric laid on existing wetland grade. Whenever possible, rubber or wooden mats should be used for equipment access through wetlands to the project area. Temporary fills shall be removed, in their entirety, to an upland site, and suitably contained to prevent erosion and transport to a waterway or wetland. Temporary fill areas shall be restored to their preconstruction contours, elevations, and hydrology and revegetated with non-invasive, native species.

12. Equipment Working in Wetlands: Measures must be taken to minimize soil disturbance when heavy equipment is used in wetland areas. These measures include, but are not limited to, avoiding the use of such equipment, use of timber mats or geotextile fabric, and the use of low pressure tire vehicles.

13. Installation and Maintenance: Any structure or fill authorized shall be properly installed and maintained to ensure public safety.

14. PASPGP-4 Verification:

a. The PASPGP-4 expires June 30, 2016, unless suspended or revoked.

b. Activities authorized under a project specific PASPGP-4 expire June 30, 2016, unless suspended, revoked, or the PADEP authorization expires, whichever date occurs sooner. Activities authorized under the project specific PASPGP-4 that have commenced construction or are under contract to commence construction will remain authorized provided the activity is completed within 12 months of the date of the PASPGP-4's expiration, modification, or revocation; or until the expiration date of the project specific verification, whichever is sooner.

15. **One-Time Use:** A PASPGP-4 authorization is valid to construct the project, or perform the activity, one time only, except for PASPGP-4 authorizations specifically issued for reoccurring maintenance activities.

16. **Water Supply Intakes:** No activity, including discharges of dredged and/or fill material and/or the placement of structures, may occur in the proximity of a public water supply intake and adversely impact the public water supply.

17. **Cultural Resources:** For all activities verified under a PASPGP-4, upon the discovery of the presence of previously unknown Historic Properties (historic or archaeological), all work must cease and the permittee must notify the SHPO and the Corps of Engineers. The PASPGP-4 authorization is not valid until it is determined, through the Section 106 consultation process, whether the activity will have an effect on the Historic Property. The PASPGP-4 may be reverified and special conditions added if necessary, after an effects determination on the Historic Property is made. The PASPGP-4 authorization may be suspended and/or revoked in accordance with 33 CFR 325.7 for the specific activity if an adverse affect on the Historic Property cannot be avoided or mitigated.

18. **Tribal Rights:** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

19. **Corps Civil Works Projects:** The PASPGP-4 does not authorize any work which will interfere with an existing or proposed Corps Civil Works project (i.e., flood control projects, dams, reservoirs, and navigation projects). The permittee understands and agrees that, if future operations by the United States require removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal, relocation, or alteration.

20. **Navigation:** No activity authorized under PASPGP-4 may cause more than a minimal adverse affect on navigation. No attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein. In addition, activities that require temporary causeways that prohibit continued navigational use of a waterway (i.e., temporary causeways extending greater than $\frac{3}{4}$ the width across the waterway) shall be removed in their entirety upon completion of their use. Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

21. **Inspections:** The permittee shall allow a District Engineer or his authorized representative(s) to make periodic inspections at any time deemed necessary in order to ensure that the work is being performed in accordance with all the terms and conditions of the PASPGP-4. The District Engineer may also require post-construction engineering drawings (as-built plans) for completed work.

22. **PASPGP-4 Permit Compliance Self Certification Form:** A Self Certification Form, regarding the PASPGP-4 authorized work and required mitigation, will be forwarded to each permittee with the PASPGP-4 verification. Every permittee, who receives a written PASPGP-4 verification, shall submit the signed Self Certification Form upon completion of the authorized work and required mitigation. The completed form shall be returned to the appropriate Corps District.

23. **Permit Modifications:** Any proposed modification of the authorized overall project that results in a change in the authorized impact to, or use of waters of the United States, including jurisdictional wetlands, must be approved by PADEP. Corps approval is also required if the overall project had been previously reviewed by the Corps as a Category III activity, or the proposed modification causes the overall project impacts to exceed 1.0 acre of waters of the United States, including jurisdictional wetlands, or 250 linear feet of streams, rivers, other watercourses and open water areas. Project modifications that cause the overall project impacts to exceed 1.0 acre of waters of the United States, including wetlands, may not be eligible for PASPGP-4 and will be forwarded to the Corps for review.

24. **Recorded Conservation Instruments:** As per Part IV.A.26 and Part IV.B.4 and Part IV.C.8 of this permit, proposed Draft Conservation Instruments may be submitted by the applicant as part of the permit application package for review and approval. When such proposed Conservation Instruments are submitted by the applicant, verification of the recorded deed restriction, conservation easement, or deed restricted open space area shall be forwarded to the appropriate Corps District and appropriate PADEP offices, prior to the initiation of any permitted work.

25. **Property Rights:** This PASPGP-4 does not convey any property rights, either in real estate or material, or any exclusive privileges; nor does it authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations.

26. **Navigable Waters of the United States (Section 10 Waters):** In addition to the conditions referenced above, the following conditions are applicable for navigable waters of the United States eligible for the PASPGP-4. The PASPGP-4 may be used to authorize work in the following navigable waters of the United States:

a. Codorus Creek – from the confluence with the Susquehanna River 11.4 miles upstream to the Indian Rock Dam in York, Pennsylvania;

b. Main Stem Susquehanna River – from the confluence with the Chesapeake Bay upstream to Athens, Pennsylvania (approximately 4 miles south from the New York State line);

c. West Branch of the Susquehanna River – from the confluence with the main stem Susquehanna River upstream to the dam at Lock Haven, Pennsylvania;

- d. Chester Creek – from the confluence with the Delaware River 2 miles upstream;
- e. Crum Creek – from the confluence with the Delaware River 1 mile upstream to the upstream side of the dam at Eddystone;
- f. Darby Creek – from the confluence with the Delaware River 5 miles upstream to the upstream side of 84th Street Bridge in Philadelphia;
- g. Delaware River – from the Morrisville-Trenton Railroad Bridge in Morrisville, Pennsylvania, including the West Branch of the Delaware River, upstream to the Pennsylvania/New York border at the 42nd parallel;
- h. Lehigh River – from the confluence with the Delaware River 72 miles upstream to the downstream side of PA Route 940 Bridge;
- i. Neshaminy Creek – from the confluence with the Delaware River, including the Neshaminy State Park Harbor Project at the mouth of Neshaminy creek, 4 miles upstream to the downstream side of the Newportville Bridge;
- j. Pennypack Creek – from the confluence with the Delaware River 2 miles upstream to the downstream side of Frankford Avenue Bridge in Philadelphia;
- k. Ridley Creek – from the confluence with the Delaware River 1 mile upstream to the upstream side of the Baltimore and Ohio Railroad Bridge in Chester, Pennsylvania;
- l. Schuylkill River – from the Fairmont Dam, 104 miles upstream to Port Carbon, Pennsylvania; and
- m. Schuylkill Navigation Channel (Manayunk Canal) – along the Schuylkill River for two miles from the Flat Rock Dam to Lock Street in the Manayunk Section of Philadelphia, Pennsylvania.

27. For Aerial Transmission Lines Across Navigable Waters:

- a. The following minimum clearances are required for aerial electric power transmission lines crossing navigable waters of the United States. These clearances are related to the clearances over the navigable channel provided by existing fixed bridges, or the clearances which would be required by the United States Coast Guard for new fixed bridges, in the vicinity of the proposed aerial transmission line. These clearances are based on the low point of the line under conditions producing the greatest sag, taking into consideration temperature, load, wind, length of span, and type of supports as outlined in the National Electrical Safety Code:

NOMINAL SYSTEM VOLTAGE (kV)	Minimum additional clearance (ft.) above clearance required for bridges.
115 and below	20
138	22
161	24
230	26
350	30
500	35
700	42
750-765	45

i. Clearances for communication lines, stream gauging cables, ferry cables, and other aerial crossings must be a minimum of ten feet above clearances required for bridges, unless specifically authorized otherwise by the District Engineer.

ii. Corps of Engineer regulation ER 1110-2-4401 prescribes minimum vertical clearances for power communication lines over Corps lake projects. In instances where both this regulation and ER 1110-2-4401 apply, the greater minimum clearance is required.

b. **Encasement:** The top of the cable, encasement, or pipeline shall be located a minimum of three feet below the existing bottom elevation of the streambed and shall be backfilled with suitable heavy material to the preconstruction bottom elevation. Where the cable, encasement, or pipeline is placed in rock, a minimum depth of one foot from the lowest point in the natural contour of the streambed shall be maintained. When crossing a maintained navigation channel, the requirements are a minimum of eight feet between the top of the cable, encasement, or pipeline and the authorized depth of the navigation channel. For maintained navigational channels, where the utility line is placed in rock, a minimum depth of two feet from the authorized depth of the navigation channel shall be maintained.

c. **As-built drawings:** Within 60 days of completing an activity that involves an aerial transmission line, submerged cable, or submerged pipeline across a navigable water of the United States (i.e., Section 10 waters), the permittee shall furnish the Corps and the National Oceanic and Atmospheric Administration, Nautical Data Branch, N/CS26, Station 7317, 1315 East-West Highway, Silver Spring, Maryland, 20910 with professional, certified as-built drawings, to scale, with control (i.e., latitude/longitude, state plane coordinates), depicting the alignment and minimum clearance of the aerial wires above the mean high water line at the time of survey or depicting the elevations and alignment of the buried cable or pipeline across the navigable waterway.

d. **Aids to Navigation:** The permittee must prepare and provide for United States Coast Guard (USCG) approval, a Private Aids To Navigation Application (CG-2554). The form can be found at: http://www.uscg.mil/forms/cg/CG_2554.pdf. Within 30 days of the date of receipt of the USCG approval, the permittee must provide a copy to the applicable Corps District.

B. Procedural Requirements:

1. **Waters of the United States Including Jurisdictional Wetlands:** Applicants are responsible for ensuring that all boundaries of waters and wetlands are accurately shown on the project plans. The delineation of waters and wetlands shall be completed in accordance with the 1987 Manual and any applicable Regional Supplement.

2. **Overall Project:** The PASPGP-4 shall not be used for piecemeal work. All applications for use of this permit must be submitted, through PADEP, accompanied by a properly completed PASPGP-4 Screening Form. All components of an overall project shall be evaluated together for purposes of determining activity category, cumulative impacts, and PASPGP-4 eligibility and authorization. See definition of single and complete project for additional clarification on an overall project.

3. **State Authorization:** The activity must receive State authorization. For the purpose of this requirement, any one of the following would be considered as State authorization:

a. A PADEP Chapter 105 Water Obstruction and Encroachment Permit, including a PADEP approved Environmental Assessment pursuant to 25 Pa. Code 105.15; or

b. A PADEP GP issued pursuant to 25 Pa. Code 105.441 – 105.449, or

c. A PADEP approved Environmental Assessment for activities not otherwise requiring a PADEP permit pursuant to 25 Pa. Code 105.15(a)(b)(c), or

d. A CWA Section 401 Water Quality Certification for activities which qualify for waiver of PADEP permit requirements per 25 Pa. Code 105.12, or

e. A PADEP Dam Permit, including the maintenance or repairs of existing authorized dams, including maintenance dredging , or,

f. A PADEP Emergency Permit issued pursuant to 25 Pa. Code 105.64, or

g. A PADEP permit for the construction of a bridge or culvert (including bridges and culverts authorized by PADEP prior to the implementation of the PASPGP-1 in March 1995), which allows for maintenance activities of bridges and culverts, or

h. A PADEP Chapter 105 Dam Safety and Encroachment Enforcement Action, or

i. A CWA Section 401 Water Quality Certification where no other State authorization as listed above, is required.

4. **Other Authorizations:** Additional Federal, State and/or local authorizations or approvals are required, where applicable, and must be secured by the applicant, prior to initiating any discharge of dredged or fill material, and/or the placement of structures into waters of the United States, including jurisdictional wetlands. These approvals include, but are not limited to:

a. A 401 Water Quality Certification issued by PADEP pursuant to Section 401 of the CWA;

b. A Consistency Determination issued by PADEP pursuant to Section 307 of the Federal Coastal Zone Management Act for activities located within designated Coastal Zone Management Areas; and

c. Fills within 100-Year floodplains. The activity must comply with applicable FEMA approved state or local floodplain management requirements.

5. **Corps Special Conditions:** The Corps may impose other special conditions on a project authorized pursuant to the PASPGP-4, where it is determined necessary to minimize adverse environmental effects or based on any other factor of the public interest.

6. **Avoidance, Minimization and Compensatory Mitigation:** Discharges of dredged or fill material and/or the placement of structures into waters of the United States, including jurisdictional wetlands must be avoided and minimized to the maximum extent practicable. Applicants must avoid and minimize impacts to the aquatic environment, in accordance with the PADEP requirements under Chapter 105.1 *Mitigation*, 105.13(d)(1)(viii), 105.14(b)(7), 105.16(a), 105.18a(a)(3), and 105.18a(b)(3). Once avoidance and the minimization of unavoidable adverse impacts have been demonstrated to the satisfaction of the reviewing office (Corps or PADEP) compensatory mitigation may be used to offset unavoidable adverse impacts. All mitigation must be accomplished in accordance with the Corps and EPA April 10, 2008 Compensatory Mitigation for Losses of Aquatic Resources: Final Rule.

7. **Activities Potentially Obstructing Fish Passage:** Any activity which could potentially obstruct the passage of diadromous fish, including but not limited to, the placement of dams, weirs, or permanent fill, stream channelization, stream relocation, or the placement of pilings or structural supports, which have the same effect of a discharge of fill material, in the Juniata River main stem, including the Raystown Branch to Raystown Lake and Frankstown Branch to Hollidaysburg; the Susquehanna River main stem, to the New York State line; the West Branch Susquehanna River to Lock Haven; the Delaware River; the Schuylkill River; or the Lehigh River, must be coordinated with the USFWS and/or NMFS, and the PFBC to ensure minimization of impacts upon passage and migration of diadromous fish.

8. **Threatened and Endangered Species:** A PNDI review is required for all activities authorized under PASPGP-4.

No activity is authorized under the PASPGP-4 which is likely to, adversely affect a Federally-listed threatened or endangered species or a species proposed for such designation, as identified under the ESA, or which will destroy or adversely modify the critical habitat of such species, unless adverse effects on Federally-listed species and the “take” of such species has been evaluated and authorized via formal Section 7 consultation between the USFWS (or NMFS) and another Federal action agency.

If a proposed activity may affect a Federally-listed threatened, endangered, or proposed species, or its critical habitat, the Corps must initiate consultation with USFWS and/or NMFS in accordance with the ESA prior to verification of the activity under the PASPGP-4. If through the informal consultation process (50 CFR part 402.13), it is determined that adverse effects to Federally-listed threatened or endangered species and its critical habitat will be avoided, the activity is eligible for Federal authorization under the PASPGP-4. If, however, adverse effects cannot be avoided, the activity is not eligible for Federal authorization under the PASPGP-4, unless adverse effects on Federally-listed species and the “take” of such species has been evaluated and authorized via formal Section 7 consultation between the USFWS (or NMFS) and another lead Federal action agency.

9. Cultural Resources: Any activity authorized by the PASPGP-4 shall comply with Section 106 of the National Historic Preservation Act (NHPA). No activity, which may affect Historic Properties, listed, or eligible for listing, in the National Register of Historic Places is authorized under PASPGP-4, until the Corps has complied with the provisions of 33 CFR Part 325, Appendix C. Historic properties include historic and archaeological sites. The applicant must provide evidence that the Pennsylvania State Historic Preservation Officer (SHPO) at the Pennsylvania Historic and Museum Commission (PHMC) has been notified, using the PADEP Cultural Resources Notification Form for all PADEP Individual Permits. Proof of notification may be in the form of a copy of the response letter from PHMC or a copy of the certified mail receipt resulting from sending the Cultural Resources Notification Form. The Corps may require applicants to perform a survey of historic and archaeological resources in the permit area.

10. Temporary Fill: Temporary fill in waters of the United States, including jurisdictional wetlands, is considered a discharge of fill material and must be included in the quantification of impact area authorized by the PASPGP-4.

11. Federal Liability: In issuing this permit, the Federal government does not assume any liability for the following:

- a. Damages to the permitted project or uses, thereof, as a result of other permitted or unpermitted activities or from natural causes;
- b. Damages to the permitted project or uses, thereof, as a result of current or future activities undertaken by or on behalf of the United States in the public interest;
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit;
- d. Design or construction deficiencies associated with the permitted work; and

e. Damage claims associated with any future modification, suspension, or revocation of the PASPGP-4.

12. False and Incomplete Information: If any of the information and/or plans is found to be in error, falsified, and/or incomplete, the PASPGP-4 verification may be subject to modification, suspension, or revocation in accordance with 33 CFR 325.7.

13. Permit Transfer: Any modification that only involves a transfer of ownership for any PASPGP-4 will be forwarded to the appropriate Corps District, using the PADEP Application “For Transfer Of Permit and Submerged Lands License Agreement” (form No. 3930-PM-WM0016).

14. Commencement of Regulated Work: The applicant may not begin work until:

a. PADEP or the Corps provides written verification to the applicant that the activity is authorized by PASPGP-4;

b. The Corps issues another form of Section 10 and/or 404 authorization for the work; or

c. The applicant is advised by the Corps that authorization under Section 10 and/or 404 is not required for the proposed work.

Part VII – Enforcement and Compliance

Any activity performed in any Federally regulated waters of the United States, including jurisdictional wetlands, that is not in full compliance with all the terms and conditions of the PASPGP-4 constitutes a violation of the terms and conditions of the permit and is subject to an enforcement action by the Corps and/or the EPA. Violations of a PADEP authorization, including permit conditions, are violations of the PASPGP-4. PASPGP-4 does not delegate Federal Section 10/404 enforcement authority. When a violation of the terms and conditions of the permit occurs in a Federally regulated wetland or other waters, it is subject to one or more of the following responses by the Corps and/or EPA:

A. A Cease and Desist Order and/or an administrative compliance order requiring remedial action.

B. Initiation and assessment of Class I administrative penalty orders pursuant to Section 309(g) of the CWA up to \$11, 000 per violation.

C. Initiation and assessment of a Class II administrative penalty for a continuing violation of \$11, 000 per day, up to a maximum of \$137,500.

D. Referral of the case to the U.S. Attorney, or Department of Justice with a recommendation for civil or criminal action.

E. If the Corps District determines that an after-the-fact permit application is appropriate, it will be evaluated following the appropriate permit processing procedures. The PASPGP-4 may not be issued or modified for authorization of after-the-fact work nor does it apply to any existing or proposed activity in Corps jurisdiction associated with an on-going Corps enforcement action, until such time as the action is coordinated between the Corps and PADEP; and the enforcement action is resolved or the Corps determines that the activity may proceed.

Part VIII – PASPGP-4 Duration, Program Changes, Monitoring, Reissuance, Modifications, Suspension, and Revocation:

A. Duration of Authorization:

1. The PASPGP-4 is authorized for a period of five years. The PASPGP-4 expires and becomes null and void on June 30, 2016, unless suspended and/or revoked earlier by the Corps; or
2. Activities authorized under the PASPGP-4 that have commenced construction or are under contract to commence construction, will remain authorized provided the activity is completed within 12 months of the date of the PASPGP-4's expiration, suspension, or revocation; whichever is sooner.

B. Changes to State Statutes, Regulations or PADEP Permits:

Proposed changes to all pertinent State programs, regulations or State laws, affecting the implementation of the PASPGP-4, will be reviewed by the Corps of Engineers. In the event that the PADEP regulations are revised in such a manner as to substantively modify the current review mechanisms and/or coordination procedures as defined in this document, including the elimination of the current PADEP equivalent 404(b)(1) review, the PASPGP-4 will be reassessed to determine its legality. A determination will be made through a public interest review, including consultation with appropriate resource agencies, to determine whether or not to continue use of the PASPGP-4 in light of the modified State regulation, State law, or programmatic changes.

C. Changes to the Federal Program:

A Corps Public Notice will be issued to solicit comments before making any substantive changes to the PASPGP-4. A determination will be made through a public interest review, including consultation with appropriate resource agencies, to determine whether or not to continue use of the PASPGP-4 in light of the modified Federal regulation, guidance or programmatic changes.

D. Reporting and Evaluation:

1. The Baltimore District, in consultation with the other Corps Districts in Pennsylvania and the PASPGP-4 Interagency Monitoring Committee, shall review operational issues related to successful implementation of the PASPGP-4 and shall coordinate and provide modifications to the operational procedures, and/or the PASPGP-4 as appropriate.

2. PADEP will provide the following data and statistics on an annual basis to the Corps:
 - a. The number of Individual Chapter 105 Water Obstruction and Encroachment Permits, Dam Safety Permits, Environmental Assessment Approvals for Waived Activities (11 and 16) and Water Quality Certifications issued by each PADEP Office and/or the Delegated County Conservation Districts;
 - b. The processing time associated with each permit type;
 - c. The number, type, and scope of permitted wetland and stream impacts, including both temporary and permanent impacts;
 - d. The number, type, scope, acreage and/or linear footage of, and location of wetland replacement or other mitigation areas;
 - e. Pertinent data concerning operation of the Pennsylvania Wetlands Replacement Project (PWRP) or other in-lieu fee programs, if appropriate; and.
 - f. Total number of Chapter 105 General Permit types processed by county.
3. Prior to the expiration of the PASPGP-4 the Corps, with recommendations from the resource agencies will evaluate the PASPGP-4, including its terms and conditions, and will determine if:
 - a. The PASPGP-4 has met its intended goal of reducing duplication;
 - b. Authorizations/verifications comply with applicable laws and regulations; and
 - c. Only projects with minimal adverse environmental effects were verified.

Based on this review and evaluation, the Corps will further determine whether reissuance, modification, suspension, or revocation of the PASPGP is appropriate. These determinations will be in writing, will include the basis for each determination, and will be available to the public.

E. Modification, Suspension, or Revocation:

1. The Corps may decide to suspend, modify, or revoke the PASPGP-4 authorization in its entirety or for any specific geographic area, class of activities, or class of waters within the affected District, by notifying PADEP and issuing a public notice notifying the general public. The notice will state the concerns regarding the environment or other relevant factors of the public interest. Before the Corps modifies or revokes such PASPGP-4 authorizations, the Corps will provide, if appropriate, a grandfathering period for those who have commenced work or are under contract to commence work in reliance on the PASPGP-4 authorization. Affected parties will be notified of the modification, suspension, or revocation, including the effective date. The Corps may also suspend, modify, or revoke a project specific activity's authorization under the PASPGP-4 at any time, if necessary. If the Corps determines, based upon complaint or investigation, that a project specific activity which is eligible for a PADEP Waiver (no project specific review) has a significant adverse impact on life, property or important aquatic resources,

the Corps may require the owner to modify the activity to eliminate the adverse condition or to obtain an Individual Permit.

2. Substantive changes to the Pennsylvania Chapter 105 program may require immediate suspension and revocation of the PASPGP-4 in accordance with 33 CFR 325.7, or formal modification subject to public review and input.

US Army Corps of Engineers District Regulatory Branch Contact Information

Pittsburgh District

<http://www.lrp.usace.army.mil/or/or-f/permits.htm>

Federal Building
1000 Liberty Avenue
Regulatory Branch
Pittsburgh, PA 15222-4186
412-395-7155

Baltimore District

<http://www.nab.usace.army.mil/Regulatory/>

U.S. Army Corps of Engineers
State College Field Office
1631 South Atherton Street
State College, PA 16801
814-235-0570

Philadelphia District

<http://www.nap.usace.army.mil/cenap-op/regulatory/regulatory.htm>

Wanamaker Building
100 Penn Square East
Regulatory Branch
Philadelphia, PA 19107-3390
215-656-6728

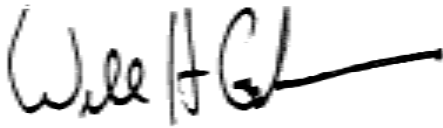
By Authority of the Secretary of the Army:

A handwritten signature in black ink, appearing to read 'D. Anderson', with a long horizontal stroke extending to the right.

David E. Anderson
Colonel, Corps of Engineers
District Engineer, Baltimore

A handwritten signature in black ink, appearing to read 'P. Secrist III', with a long horizontal stroke extending to the right.

Philip M. Secrist, III
Lieutenant Colonel, Corps of Engineers
District Engineer, Philadelphia

A handwritten signature in black ink, appearing to read 'W. H. Graham', with a long horizontal stroke extending to the right.

William H. Graham
Colonel, Corps of Engineers
District Engineer, Pittsburgh

APPENDIX G

USACE LETTER

EXEMPTIONS FOR MAINTENANCE ACTIVITIES FOR CULVERT/PIPE REPLACEMENT

OS-600

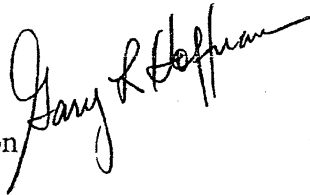
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

DATE: August 12, 2002

SUBJECT: U.S. Army Corps of Engineers Exemptions

TO: District Engineers
District Administrator

FROM: Gary L. Hoffman, P.E.
Chief Engineer for
Highway Administration



Attached is the U.S. Army Corps of Engineers (ACOE) letter exempting certain maintenance activities from their review under Section 404 of the Clean Water Act. The agreement was reached between Barry Newman, BOD and Mike Dombroskie, ACOE, Baltimore District and can be applied statewide. The exemptions are for activities currently described under Chapter 105.12, known as Waiver 2. These activities are for obstructions in a stream or floodway with a drainage area of 100 acres or less, and do not include wetlands located in the floodway. The ACOE limits exempted maintenance activities based on pipe or culvert size and replacement location. Please pass this information on to all your permitting, environmental, and maintenance staff.

Feel free to contact Kathy McKenna at 717-787-0457 should you have questions concerning the ACOE exemption letter.

Attachment

4380/KAM/kam

cc: M. M. Ryan, P.E., KB 8
G.L. Hoffman, P.E., KB7
R.M. Peda, P.E., BOMO, KB6
D.A. Schreiber, P.E., BOD, KB7
S.L. McDonald, EQAD, BOD, KB7
M.D. Lombard, EQAD, KB7
B. Newman, BOD, KB7
M. Dombroskie, ACOE
District ADE-Design
District ADE-Maintenance
District Environmental Managers
A.C. Zawisa, EQAD, c/o District 2-0
K.A. McKenna, EQAD, KB7



DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715

REPLY TO
ATTENTION OF

Operations Division

MAR 27 2002

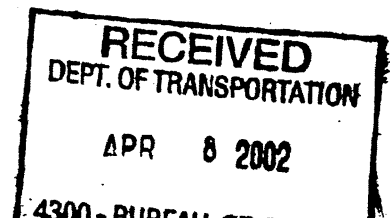
Mr. Michael M. Ryan, P.E.
Deputy Secretary for Highway Administration
Pennsylvania Department of Transportation
P.O. Box 3541
Harrisburg, Pennsylvania 17101

Dear Mr. Ryan:

I am writing in reference to a recent request from Mr. Barry Newman, from your Bureau of Design, concerning permitting requirements for culvert replacements that are currently state waived activities, in accordance with Pennsylvania Department of Environmental Protection Chapter 105.12 (2). Currently, the Pennsylvania State Programmatic General Permit -2 (PASPGP-2) can be used for Federal authorization for applicable Waiver 2 activities, provided they are forwarded for review by the Corps as Category III activities. Mr. Newman's request specifically concerned whether these culvert replacement activities were subject to Federal permitting requirements.

We have reviewed Pennsylvania Department of Transportation's specifications for culvert replacement activities currently performed pursuant to Waiver 2. These maintenance activities are limited to the following:

Replacement of existing pipes or culverts forty-eight inches or less in diameter (in drainage areas one hundred acres or less) that are no more than 250 linear feet in length; replaced at the same location with the same size or equivalent size pipe or culvert as routine maintenance as directed by county management. Additionally, if through field observation an existing pipe of less than forty-eight inches in diameter does not appear to be adequate to accommodate the existing flow of water, a maximum six inch diameter increase, may be installed at the same location as directed by county management. Any pipe replacement over 54 inches in diameter and any pipe or culvert replaced by pipes larger than six inches would not be covered under Waiver 2. This work does not include any increase in length of the pipe.



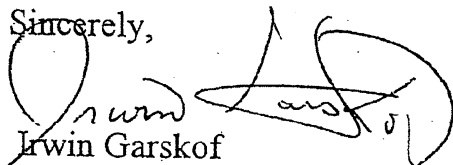
The above described culvert replacement activity would be exempt from Federal 404 permit requirements pursuant to the exemptions provided for in the Clean Water Act, Section 404(f)(1)(B) (also under regulation - 33 CFR Part 323.4(a)(3)), provided the following conditions are met:

1. The maintenance activity does not include any modification that changes the character, scope or size of the original fill design.
2. Emergency reconstruction, where applicable, must occur within a reasonable period of time after damage occurs in order to qualify for this exemption.
3. There are no impacts to wetlands resulting from the discharge of dredge or fill material.

It is recommended that when performing this work, the bottom elevation of the replacement pipe be set 6 inches below the stream bottom elevation (preferred); or if this is not possible, no higher than the existing (upstream and downstream) stream bottom elevation. Additionally, appropriate erosion and sedimentation control devices should be employed during construction.

If you have any questions concerning this matter please call Mr. Michael Dombroskie, of this office at (814)235-0571.

Sincerely,


Irwin Garskof

Chief, Pennsylvania Permit Section

cc: Barry Newman – PADOT Bureau of Design
Gary L. Hoffman – Chief Engineer – PADOT Highway Administration
Richard Hassel – USACE – Philadelphia District
Paul R. Wettlaufer – USACE – Baltimore District
Albert Rogalla – Pittsburgh District

APPENDIX H

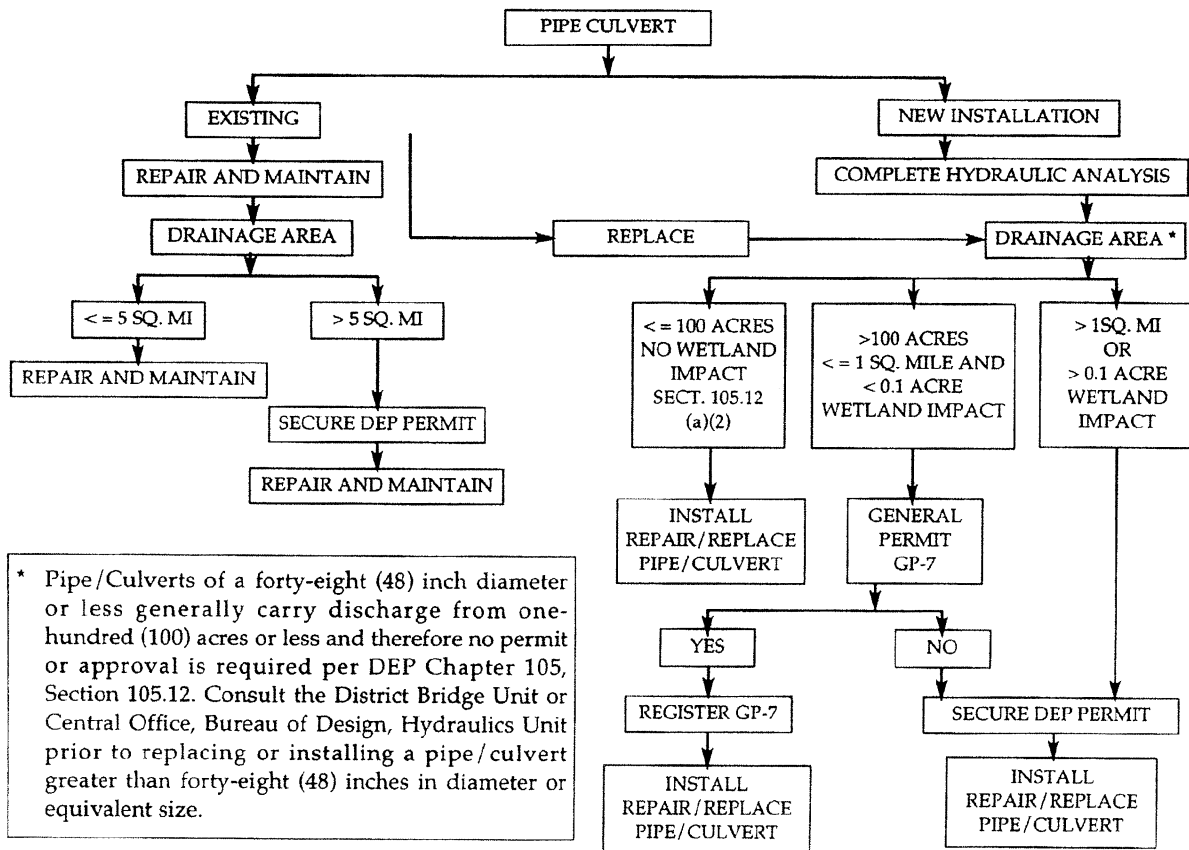
PUBLICATION NO 23. FLOWCHART WAIVERS FOR MAINTENANCE OPERATIONS

authorization for normal repairs and maintenance within the original specifications. Therefore, to ensure compliance with DEP regulations regarding existing pipes or culverts, the following shall be the Department of Transportation policy:

- 1) Existing pipes or culverts forty-eight (48) inches or less in diameter [i.e. drainage area one hundred (100) acres] may be replaced at the same location with the same size or equivalent size pipe or culvert as routine maintenance as directed by county management.
- 2) If by field observation an existing pipe or culvert does not appear to be adequate to accommodate the existing flow of water, a maximum six (6) inch diameter increased size pipe or culvert, up to and including a maximum size of forty-eight (48) inches, may be installed at the same location as routine maintenance as directed by county management.

- 3) In accordance with the Design Manual, the minimum diameter pipe should be eighteen (18) inches.
- 4) All existing pipes or culverts, greater than forty-eight (48) inches in diameter, shall have a hydraulic analysis completed in accordance with the Design Manual, Part 2, Chapter 10 prior to replacement. Likewise, pipes or culverts replaced by pipes greater than one pipe size [six (6) inches] larger shall have a hydraulic analysis completed. A file should be maintained in the District Office on all pipes or culverts with diameters greater than forty-eight (48) inches (or equivalent). Changes to this list should be forwarded on a quarterly basis to the Bureau of Design, Hydraulics Unit.
- 5) If the hydraulic analysis determines that the drainage area of an existing pipe or culvert to be replaced is greater than one hundred (100) acres, a permit in accordance with the applicable DEP, Chapter 105

FIGURE 8.1



* Pipe/Culverts of a forty-eight (48) inch diameter or less generally carry discharge from one-hundred (100) acres or less and therefore no permit or approval is required per DEP Chapter 105, Section 105.12. Consult the District Bridge Unit or Central Office, Bureau of Design, Hydraulics Unit prior to replacing or installing a pipe/culvert greater than forty-eight (48) inches in diameter or equivalent size.

APPENDIX I

USACE REGULATORY GUIDANCE LETTER 08-03



US Army Corps
of Engineers®

REGULATORY GUIDANCE LETTER

No. 08-03

Date: 10 October 2008

SUBJECT: Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Restoration, Establishment, and/or Enhancement of Aquatic Resources.

1. Purpose and Applicability

a. Purpose. This Regulatory Guidance Letter (RGL) provides the Districts and regulated public guidance on minimum monitoring requirements for compensatory mitigation projects, including the required minimum content for monitoring reports. This RGL replaces RGL 06-03.

b. Applicability. The final Mitigation Rule published on April 10, 2008, states that the submission of monitoring reports to assess the development and condition of compensatory mitigation projects is required, but the content and level of detail for those reports must be commensurate with the scale and scope of the compensatory mitigation projects as well as the compensatory mitigation project type (see 33 CFR 332.6(a)(1)).

This RGL applies to all Department of the Army (DA) permit authorizations under Section 404 of the Clean Water Act and Sections 9 and 10 of the Rivers and Harbors Act that contain special conditions requiring compensatory mitigation provided through aquatic resource restoration, establishment and/or enhancement. This guidance also applies to monitoring reports that are prepared for mitigation bank sites and in-lieu-fee project sites.

This RGL supports the Program Analysis and Review Tool (PART) program goals for the Regulatory Program. Specifically, this RGL supports the PART performance measures for mitigation site compliance and mitigation bank/ in-lieu-fee compliance. These measures apply to active mitigation sites, mitigation banks, and in-lieu-fee project sites that still require monitoring.

2. Background

Recent studies by the Government Accountability Office (GAO) and National Research Council (NRC) indicated that the U.S. Army Corps of Engineers (Corps) was not providing adequate oversight to ensure that compensatory mitigation projects were successfully replacing the aquatic resource functions lost as a result of permitted activities. For example, the GAO study determined that many project files requiring

mitigation lacked monitoring reports despite the fact that such reports were required as a condition of the permit. Similarly, the NRC study documented that a lack of clearly stated objectives and performance standards in the approved compensatory mitigation proposals made it difficult to ascertain whether the goal of no net loss of wetland resources was achieved.

On April 10, 2008, the Corps and Environmental Protection Agency published the “Compensatory Mitigation for Losses of Aquatic Resources: Final Rule” (Mitigation Rule) which governs compensatory mitigation for activities authorized by permits issued by the Department of the Army (33 CFR Parts 325 and 332). This RGL complements and is consistent with the final Mitigation Rule.

3. Discussion

Inconsistent approaches to monitoring compensatory mitigation projects are one of several factors that have affected the ability of Corps project managers (PMs) to adequately assess achievement of the performance standards of Corps-approved mitigation plans. Standardized monitoring requirements will aid PMs when reviewing compensatory mitigation sites, thereby allowing the Corps to effectively assess the status and success of compensatory mitigation projects.

This RGL addresses the minimum information needed for monitoring reports that are used to evaluate compensatory mitigation sites. Monitoring requirements are typically based on the performance standards for a particular compensatory mitigation project and may vary from one project to another.

Monitoring reports are documents intended to provide the Corps with information to determine if a compensatory mitigation project site is successfully meeting its performance standards. Remediation and/or adaptive management used to correct deficiencies in compensatory mitigation project outcomes should be based on information provided in the monitoring reports and site inspections.

4. Guidance

a. Monitoring guidelines for compensatory mitigation.

i. Performance Standards. Performance standards, as defined in 33 CFR 332.2, and discussed in more detail at 33 CFR 332.5, will be consistent with the objectives of the compensatory mitigation project. These standards ensure that the compensatory mitigation project is objectively evaluated to determine if it is developing into the desired resource type and providing the expected functions. The objectives, performance standards, and monitoring requirements for compensatory mitigation projects required to offset unavoidable impacts to waters of the United States must be provided as special conditions of the DA permit or specified in the approved final mitigation plan (see 33 CFR 332.3(k)(2)). Performance standards may be based on functional, conditional, or other suitable assessment methods and/or criteria and may be incorporated into the

special conditions to determine if the site is achieving the desired functional capacity. Compensatory mitigation projects offset the impacts to diverse types of aquatic resources, including riverine and estuarine habitats. Special conditions of the DA permits will clearly state performance standards specific to the type and function of the ecosystem in relation to the objectives of the compensatory mitigation project.

ii. Monitoring Timeframe. The special conditions of the DA permit (or the mitigation plan as referenced in the special conditions) must specify the length of the monitoring period (see 33 CFR 332.6(a)(1)). For mitigation banks, the length of the monitoring period will be specified in either the DA permit, mitigation banking instrument, or approved mitigation plan. For in-lieu fee projects, the length of the monitoring period will be specified in either the DA permit or the approved in-lieu fee project plan.

The monitoring period must be sufficient to demonstrate that the compensatory mitigation project has met performance standards, but not less than five years (see 33 CFR 332.6(b)). The District determines how frequently monitoring reports are submitted, the monitoring period length, and report content. If a compensatory mitigation project has met its performance standards in less than five years, the monitoring period length can be reduced, if there are at least two consecutive monitoring reports that demonstrate that success. Permit conditions will support the specified monitoring requirement and include deadlines for monitoring report submittal. Longer monitoring timeframes are necessary for compensatory mitigation projects that take longer to develop (see 33 CFR 332.6(b)). For example, forested wetland restoration may take longer than five years to meet performance standards.

Annual monitoring and reporting to the Corps is appropriate for most types of compensatory mitigation projects, though the project sponsor may have to monitor progress more often during the project's early stages. Certain compensatory mitigation projects may require more frequent monitoring and reporting during the early stages of development to allow project managers to quickly address problems and/or concerns. Annual monitoring can resume once the project develops in accordance with the approved performance standards. In cases where monitoring is required for longer than five years, monitoring may be conducted on a less than annual timeframe (such as every other year), though yearly monitoring is recommended until the project becomes established as a successful mitigation project. In this case, off-year monitoring should include some form of screening assessment such as driving by the mitigation site, telephone conversations regarding condition of the mitigation site, etc. On-site conditions, the complexity of the approved mitigation plan, and unforeseen circumstances will ultimately determine whether the monitoring period should be extended beyond the specified monitoring time frame for a particular project. Complex and/or ecologically significant compensatory mitigation projects should have higher priority for site visits.

As discussed above, the remaining monitoring requirements may be waived upon a determination that the compensatory mitigation project has achieved its performance standards. The original monitoring period may be extended upon a determination that

performance standards have not been met or the compensatory mitigation project is not on track to meet them (e.g., high mortality rate of vegetation). Monitoring requirements may also be revised in cases where adaptive management or remediation is required.

iii. Monitoring Reports. Monitoring requirements, including the frequency for providing monitoring reports to the District Commander and the Interagency Review Team (IRT), will be determined on a case-by-case basis and specified in either the DA permit, mitigation banking instrument, or approved mitigation plan. The content of the monitoring reports will be specified in the special conditions of the DA permit so that the requirements are clearly identified for the permittee or third-party mitigation sponsor. In addition, the monitoring reports should comply with the timeframes specified in the special conditions of the DA permit. Monitoring reports will not be used as a substitute for on site compliance inspections. The monitoring report will provide the PM with sufficient information on the compensatory mitigation project to assess whether it is meeting performance standards, and to determine whether a compliance visit is warranted. The party responsible for monitoring can electronically submit the monitoring reports and photos for review.

Visits to mitigation sites will be documented in the administrative record and will count toward District performance goals. An enforcement action may be taken if the responsible party fails to submit complete and timely monitoring reports.

b. Contents of Monitoring Reports. Monitoring reports provide the PM with a convenient mechanism for assessing the status of required compensatory mitigation projects. The PM should schedule a site visit and determine potential remedial actions if problems with the compensatory mitigation project are identified in a monitoring report.

The submittal of large bulky reports that provide mostly general information should be discouraged. While often helpful as background, reiteration of the mitigation and monitoring plan content, lengthy discussions of site progress, and extensive paraphrasing of quantified data are unnecessary. Monitoring reports should be concise and effectively provide the information necessary to assess the status of the compensatory mitigation project. Reports should provide information necessary to describe the site conditions and whether the compensatory mitigation project is meeting its performance standards.

Monitoring reports will include a Monitoring Report Narrative that provides an overview of site conditions and functions. This Monitoring Report Narrative should be concise and generally less than 10 pages, but may be longer for compensatory mitigation projects with complex monitoring requirements. Monitoring Report Narratives may be posted on each District's Regulatory web site.

Monitoring reports will also include appropriate supporting data to assist District Commanders and other reviewers in determining how the compensatory mitigation project is progressing towards meeting its performance standards. Such supporting data may include plans (such as as-built plans), maps, and photographs to illustrate site

conditions, as well as the results of functional, condition, or other assessments used to provide quantitative or qualitative measures of the functions provided by the compensatory mitigation project site.

c. Monitoring Report Narrative:

i. Project Overview (1 page)

(1) Corps Permit Number or Name of the Mitigation Bank or In-Lieu Fee Project
(2) Name of party responsible for conducting the monitoring and the date(s) the inspection was conducted.

(3) A brief paragraph describing the purpose of the approved project, acreage and type of aquatic resources impacted, and mitigation acreage and type of aquatic resources authorized to compensate for the aquatic impacts.

(4) Written description of the location, any identifiable landmarks of the compensatory mitigation project including information to locate the site perimeter(s), and coordinates of the mitigation site (expressed as latitude, longitudes, UTM's, state plane coordinate system, etc.).

(5) Dates the compensatory mitigation project commenced and/or was completed.

(6) Short statement on whether the performance standards are being met.

(7) Dates of any recent corrective or maintenance activities conducted since the previous report submission.

(8) Specific recommendations for any additional corrective or remedial actions.

ii. Requirements (1 page)

List the monitoring requirements and performance standards, as specified in the approved mitigation plan, mitigation banking instrument, or special conditions of the DA permit, and evaluate whether the compensatory mitigation project site is successfully achieving the approved performance standards or trending towards success. A table is a recommended option for comparing the performance standards to the conditions and status of the developing mitigation site.

iii. Summary Data (maximum of 4 pages)

Summary data should be provided to substantiate the success and/or potential challenges associated with the compensatory mitigation project. Photo documentation may be provided to support the findings and recommendations referenced in the monitoring report and to assist the PM in assessing whether the compensatory mitigation project is meeting applicable performance standards for that monitoring period. Submitted photos should be formatted to print on a standard 8 ½" x 11" piece of paper, dated, and clearly labeled with the direction from which the photo was taken. The photo location points should also be identified on the appropriate maps.

iv. Maps and Plans (maximum of 3 pages)

Maps should be provided to show the location of the compensatory mitigation site relative to other landscape features, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation plan. In addition, the submitted maps and plans should clearly delineate the mitigation site perimeter(s), which will assist PMs in locating the mitigation area(s) during subsequent site inspections. Each map or diagram should be formatted to print on a standard 8 1/2" x 11" piece of paper and include a legend and the location of any photos submitted for review. As-built plans may be included.

v. Conclusions (1 page)

A general statement should be included that describes the conditions of the compensatory mitigation project. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed by the permittee or sponsor, including a timetable, should be provided. The District Commander will ultimately determine if the mitigation site is successful for a given monitoring period.

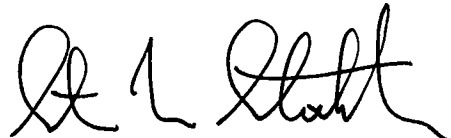
d. Completion of Compensatory Mitigation Requirements. For permittee-responsible mitigation projects, compensatory mitigation requirements will not be considered fulfilled until the permittee has received written concurrence from the District Commander that the compensatory mitigation project has met its objectives and no additional monitoring reports are required. PMs will review the final monitoring reports to make this determination. A final field visit should be conducted to verify that on-site conditions are consistent with information documented in the monitoring reports.

e. Special Condition. The following condition should be added to all DA permits that require permittee-responsible mitigation. This condition does not apply to mitigation banks or in-lieu-fee programs:

Your responsibility to complete the required compensatory mitigation as set forth in Special Condition X will not be considered fulfilled until you have demonstrated compensatory mitigation project success and have received written verification of that success from the U.S. Army Corps of Engineers.

5. Duration

This guidance remains in effect unless revised or rescinded.



STEVEN L. STOCKTON, P.E.
Director of Civil Works

APPENDIX J

2008 FINAL COMPENSATORY MITIGATION RULE

33 CFR PART 332

COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES

Authority: 33 U.S.C. 401 et seq. ; 33 U.S.C. 1344; and Pub. L. 108–136.

Source: 73 FR 19670, Apr. 10, 2008, unless otherwise noted.

§ 332.1 Purpose and general considerations.

§ 332.2 Definitions.

§ 332.3 General compensatory mitigation requirements.

§ 332.4 Planning and documentation.

§ 332.5 Ecological performance standards.

§ 332.6 Monitoring.

§ 332.7 Management.

§ 332.8 Mitigation banks and in-lieu fee programs.

§ 332.1 Purpose and general considerations.

(a) *Purpose.*

(1) The purpose of this part is to establish standards and criteria for the use of all types of compensatory mitigation, including on-site and off-site permittee-responsible mitigation, mitigation banks, and in-lieu fee mitigation to offset unavoidable impacts to waters of the United States authorized through the issuance of Department of the Army (DA) permits pursuant to section 404 of the Clean Water Act (33 U.S.C. 1344) and/or sections 9 or 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 401, 403). This part implements section 314(b) of the 2004 National Defense Authorization Act (Pub. L. 108–136), which directs that the standards and criteria shall, to the maximum extent practicable, maximize available credits and opportunities for mitigation, provide for regional variations in wetland conditions, functions, and values, and apply equivalent standards and criteria to each type of compensatory mitigation. This part is intended to further clarify mitigation requirements established under U.S. Army Corps of

Engineers (Corps) and U.S. Environmental Protection Agency (U.S. EPA) regulations at 33 CFR part 320 and 40 CFR part 230, respectively.

(2) This part has been jointly developed by the Secretary of the Army, acting through the Chief of Engineers, and the Administrator of the Environmental Protection Agency. From time to time guidance on interpreting and implementing this part may be prepared jointly by U.S. EPA and the Corps at the national or regional level. No modifications to the basic application, meaning, or intent of this part will be made without further joint rulemaking by the Secretary of the Army, acting through the Chief of Engineers and the Administrator of the Environmental Protection Agency, pursuant to the Administrative Procedure Act (5 U.S.C. 551 *et seq.*).

(b) **Applicability.** This part does not alter the regulations at §320.4(r) of this title, which address the general mitigation requirements for DA permits. In particular, it does not alter the circumstances under which compensatory mitigation is required or the definitions of “waters of the United States” or “navigable waters of the United States,” which are provided at parts 328 and 329 of this chapter, respectively. Use of resources as compensatory mitigation that are not otherwise subject to regulation under section 404 of the Clean Water Act and/or sections 9 or 10 of the Rivers and Harbors Act of 1899 does not in and of itself make them subject to such regulation.

(c) **Sequencing.**

(1) Nothing in this section affects the requirement that all DA permits subject to section 404 of the Clean Water Act comply with applicable provisions of the Section 404(b)(1) Guidelines at 40 CFR part 230.

(2) Pursuant to these requirements, the district engineer will issue an individual section 404 permit only upon a determination that the proposed discharge complies with applicable provisions of 40 CFR part 230, including those which require the permit applicant to take all appropriate and practicable steps to avoid and minimize adverse impacts to waters of the United States. Practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines.

(3) Compensatory mitigation for unavoidable impacts may be required to ensure that an activity requiring a section 404 permit complies with the Section 404(b)(1) Guidelines. During the 404(b)(1) Guidelines compliance analysis, the district engineer may determine that a DA permit for the proposed activity cannot be issued because of the lack of appropriate and practicable compensatory mitigation options.

(d) **Public interest.** Compensatory mitigation may also be required to ensure that an activity requiring authorization under section 404 of the Clean Water Act and/or sections 9 or 10 of the Rivers and Harbors Act of 1899 is not contrary to the public interest.

(e) **Accounting for regional variations.** Where appropriate, district engineers shall account for regional characteristics of aquatic resource types, functions and services when determining performance standards and monitoring requirements for compensatory mitigation projects.

(f) **Relationship to other guidance documents.**

(1) This part applies instead of the “Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks,” which was issued on November 28, 1995, the “Federal Guidance on the Use of In-Lieu Fee Arrangements for Compensatory Mitigation Under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act,” which was issued on November 7, 2000, and Regulatory Guidance Letter 02–02, “Guidance on Compensatory Mitigation Projects for Aquatic Resource Impacts Under the Corps Regulatory Program Pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899” which was issued on December 24, 2002. These guidance documents are no longer to be used as compensatory mitigation policy in the Corps Regulatory Program.

(2) In addition, this part also applies instead of the provisions relating to the amount, type, and location of compensatory mitigation projects, including the use of preservation, in the February 6, 1990, Memorandum of Agreement (MOA) between the Department of the Army and the Environmental Protection Agency on the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines. All other provisions of this MOA remain in effect.

§ 332.2 Definitions.

For the purposes of this part, the following terms are defined:

Adaptive management means the development of a management strategy that anticipates likely challenges associated with compensatory mitigation projects and provides for the implementation of actions to address those challenges, as well as unforeseen changes to those projects. It requires consideration of the risk, uncertainty, and dynamic nature of compensatory mitigation projects and guides modification of those projects to optimize performance. It includes the selection of appropriate measures that will ensure that the aquatic resource functions are provided and involves analysis of monitoring results to identify potential problems of a compensatory mitigation project and the identification and implementation of measures to rectify those problems.

Advance credits means any credits of an approved in-lieu fee program that are available for sale prior to being fulfilled in accordance with an approved mitigation project plan. Advance credit sales require an approved in-lieu fee program instrument that meets all applicable requirements including a specific allocation of advance credits, by service area where applicable. The instrument must also contain a schedule for fulfillment of advance credit sales.

Buffer means an upland, wetland, and/or riparian area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, streams, lakes, marine, and estuarine systems from disturbances associated with adjacent land uses.

Compensatory mitigation means the restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Compensatory mitigation project means compensatory mitigation implemented by the permittee as a requirement of a DA permit (i.e., permittee-responsible mitigation), or by a mitigation bank or an in-lieu fee program.

Condition means the relative ability of an aquatic resource to support and maintain a community of organisms having a species composition, diversity, and functional organization comparable to reference aquatic resources in the region.

Credit means a unit of measure (e.g., a functional or areal measure or other suitable metric) representing the accrual or attainment of aquatic functions at a compensatory mitigation site. The measure of aquatic functions is based on the resources restored, established, enhanced, or preserved.

DA means Department of the Army.

Days means calendar days.

Debit means a unit of measure (e.g., a functional or areal measure or other suitable metric) representing the loss of aquatic functions at an impact or project site. The measure of aquatic functions is based on the resources impacted by the authorized activity.

Enhancement means the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation) means the manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area and functions.

Fulfillment of advance credit sales of an in-lieu fee program means application of credits released in accordance with a credit release schedule in an approved mitigation project plan to satisfy the mitigation requirements represented by the advance credits. Only after any advance credit sales within a service area have been fulfilled through the application of released credits from an in-lieu fee project (in accordance with the credit release schedule for an approved mitigation project plan), may additional released credits from that project be sold or transferred

to permittees. When advance credits are fulfilled, an equal number of new advance credits is restored to the program sponsor for sale or transfer to permit applicants.

Functional capacity means the degree to which an area of aquatic resource performs a specific function.

Functions means the physical, chemical, and biological processes that occur in ecosystems.

Impact means adverse effect.

In-kind means a resource of a similar structural and functional type to the impacted resource.

In-lieu fee program means a program involving the restoration, establishment, enhancement, and/or preservation of aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements for DA permits. Similar to a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor. However, the rules governing the operation and use of in-lieu fee programs are somewhat different from the rules governing operation and use of mitigation banks. The operation and use of an in-lieu fee program are governed by an in-lieu fee program instrument.

In-lieu fee program instrument means the legal document for the establishment, operation, and use of an in-lieu fee program.

Instrument means mitigation banking instrument or in-lieu fee program instrument.

Interagency Review Team (IRT) means an interagency group of federal, tribal, state, and/or local regulatory and resource agency representatives that reviews documentation for, and advises the district engineer on, the establishment and management of a mitigation bank or an in-lieu fee program.

Mitigation bank means a site, or suite of sites, where resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved for the purpose of providing compensatory mitigation for impacts authorized by DA permits. In general, a mitigation bank sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the mitigation bank sponsor. The operation and use of a mitigation bank are governed by a mitigation banking instrument.

Mitigation banking instrument means the legal document for the establishment, operation, and use of a mitigation bank.

Off-site means an area that is neither located on the same parcel of land as the impact site, nor on a parcel of land contiguous to the parcel containing the impact site.

On-site means an area located on the same parcel of land as the impact site, or on a parcel of land contiguous to the impact site.

Out-of-kind means a resource of a different structural and functional type from the impacted resource.

Performance standards are observable or measurable physical (including hydrological), chemical and/or biological attributes that are used to determine if a compensatory mitigation project meets its objectives.

Permittee-responsible mitigation means an aquatic resource restoration, establishment, enhancement, and/or preservation activity undertaken by the permittee (or an authorized agent or contractor) to provide compensatory mitigation for which the permittee retains full responsibility.

Preservation means the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Reference aquatic resources are a set of aquatic resources that represent the full range of variability exhibited by a regional class of aquatic resources as a result of natural processes and anthropogenic disturbances.

Rehabilitation means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Release of credits means a determination by the district engineer, in consultation with the IRT, that credits associated with an approved mitigation plan are available for sale or transfer, or in the case of an in-lieu fee program, for fulfillment of advance credit sales. A proportion of projected credits for a specific mitigation bank or in-lieu fee project may be released upon approval of the mitigation plan, with additional credits released as milestones specified in the credit release schedule are achieved.

Restoration means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riparian areas are lands adjacent to streams, rivers, lakes, and estuarine-marine shorelines. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality.

Service area means the geographic area within which impacts can be mitigated at a specific mitigation bank or an in-lieu fee program, as designated in its instrument.

Services mean the benefits that human populations receive from functions that occur in ecosystems.

Sponsor means any public or private entity responsible for establishing, and in most circumstances, operating a mitigation bank or in-lieu fee program.

Standard permit means a standard, individual permit issued under the authority of section 404 of the Clean Water Act and/or sections 9 or 10 of the Rivers and Harbors Act of 1899.

Temporal loss is the time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site. Higher compensation ratios may be required to compensate for temporal loss. When the compensatory mitigation project is initiated prior to, or concurrent with, the permitted impacts, the district engineer may determine that compensation for temporal loss is not necessary, unless the resource has a long development time.

Watershed means a land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

Watershed approach means an analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in a watershed. It involves consideration of watershed needs, and how locations and types of compensatory mitigation projects address those needs. A landscape perspective is used to identify the types and locations of compensatory mitigation projects that will benefit the watershed and offset losses of aquatic resource functions and services caused by activities authorized by DA permits. The watershed approach may involve consideration of landscape scale, historic and potential aquatic resource conditions, past and projected aquatic resource impacts in the watershed, and terrestrial connections between aquatic resources when determining compensatory mitigation requirements for DA permits.

Watershed plan means a plan developed by federal, tribal, state, and/or local government agencies or appropriate non-governmental organizations, in consultation with relevant stakeholders, for the specific goal of aquatic resource restoration, establishment, enhancement, and preservation. A watershed plan addresses aquatic resource conditions in the watershed, multiple stakeholder interests, and land uses. Watershed plans may also identify priority sites for aquatic resource restoration and protection. Examples of watershed plans include special area management plans, advance identification programs, and wetland management plans.

§ 332.3 General compensatory mitigation requirements.

(a) *General considerations.*

(1) The fundamental objective of compensatory mitigation is to offset environmental losses resulting from unavoidable impacts to waters of the United States authorized by DA permits. The district engineer must determine the compensatory mitigation to be required in a DA permit, based on what is practicable and capable of compensating for the aquatic resource functions that will be lost as a result of the permitted activity. When evaluating compensatory mitigation options, the district engineer will consider what would be environmentally preferable. In making this determination, the district engineer must assess the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project. In many cases, the environmentally preferable compensatory mitigation may be provided through mitigation banks or in-lieu fee programs because they usually involve consolidating compensatory mitigation projects where ecologically appropriate, consolidating resources, providing financial planning and scientific expertise (which often is not practical for permittee-responsible compensatory mitigation projects), reducing temporal losses of functions, and reducing uncertainty over project success. Compensatory mitigation requirements must be commensurate with the amount and type of impact that is associated with a particular DA permit. Permit applicants are responsible for proposing an appropriate compensatory mitigation option to offset unavoidable impacts.

(2) Compensatory mitigation may be performed using the methods of restoration, enhancement, establishment, and in certain circumstances preservation. Restoration should generally be the first option considered because the likelihood of success is greater and the impacts to potentially ecologically important uplands are reduced compared to establishment, and the potential gains in terms of aquatic resource functions are greater, compared to enhancement and preservation.

(3) Compensatory mitigation projects may be sited on public or private lands. Credits for compensatory mitigation projects on public land must be based solely on aquatic resource functions provided by the compensatory mitigation project, over and above those provided by public programs already planned or in place. All compensatory mitigation projects must comply with the standards in this part, if they are to be used to provide compensatory mitigation for activities authorized by DA permits, regardless of whether they are sited on public or private lands and whether the sponsor is a governmental or private entity.

(b) *Type and location of compensatory mitigation.*

(1) When considering options for successfully providing the required compensatory mitigation, the district engineer shall consider the type and location options in the order presented in paragraphs (b)(2) through (b)(6) of this section. In general, the required compensatory mitigation should be located within the same watershed as the impact site, and should be located where it is most likely to successfully replace lost functions and services, taking into account such watershed scale features as aquatic habitat diversity, habitat

connectivity, relationships to hydrologic sources (including the availability of water rights), trends in land use, ecological benefits, and compatibility with adjacent land uses. When compensating for impacts to marine resources, the location of the compensatory mitigation site should be chosen to replace lost functions and services within the same marine ecological system (e.g., reef complex, littoral drift cell). Compensation for impacts to aquatic resources in coastal watersheds (watersheds that include a tidal water body) should also be located in a coastal watershed where practicable. Compensatory mitigation projects should not be located where they will increase risks to aviation by attracting wildlife to areas where aircraft-wildlife strikes may occur (e.g., near airports).

(2) **Mitigation bank credits.** When permitted impacts are located within the service area of an approved mitigation bank, and the bank has the appropriate number and resource type of credits available, the permittee's compensatory mitigation requirements may be met by securing those credits from the sponsor. Since an approved instrument (including an approved mitigation plan and appropriate real estate and financial assurances) for a mitigation bank is required to be in place before its credits can begin to be used to compensate for authorized impacts, use of a mitigation bank can help reduce risk and uncertainty, as well as temporal loss of resource functions and services. Mitigation bank credits are not released for debiting until specific milestones associated with the mitigation bank site's protection and development are achieved, thus use of mitigation bank credits can also help reduce risk that mitigation will not be fully successful. Mitigation banks typically involve larger, more ecologically valuable parcels, and more rigorous scientific and technical analysis, planning and implementation than permittee-responsible mitigation. Also, development of a mitigation bank requires site identification in advance, project-specific planning, and significant investment of financial resources that is often not practicable for many in-lieu fee programs. For these reasons, the district engineer should give preference to the use of mitigation bank credits when these considerations are applicable. However, these same considerations may also be used to override this preference, where appropriate, as, for example, where an in-lieu fee program has released credits available from a specific approved in-lieu fee project, or a permittee-responsible project will restore an outstanding resource based on rigorous scientific and technical analysis.

(3) **In-lieu fee program credits.** Where permitted impacts are located within the service area of an approved in-lieu fee program, and the sponsor has the appropriate number and resource type of credits available, the permittee's compensatory mitigation requirements may be met by securing those credits from the sponsor. Where permitted impacts are not located in the service area of an approved mitigation bank, or the approved mitigation bank does not have the appropriate number and resource type of credits available to offset those impacts, in-lieu fee mitigation, if available, is generally preferable to permittee-responsible mitigation. In-lieu fee projects typically involve larger, more ecologically valuable parcels, and more rigorous scientific and technical analysis, planning and implementation than permittee-responsible mitigation. They also devote significant resources to identifying and addressing high-priority resource needs on a watershed scale, as reflected in their compensation planning framework. For these reasons, the district engineer should give preference to in-lieu fee program credits over permittee-responsible mitigation, where these considerations are applicable. However, as with the preference for mitigation bank credits, these same considerations may be used to override this preference where appropriate. Additionally, in cases where permittee-responsible mitigation is likely to

successfully meet performance standards before advance credits secured from an in-lieu fee program are fulfilled, the district engineer should also give consideration to this factor in deciding between in-lieu fee mitigation and permittee-responsible mitigation.

(4) ***Permittee-responsible mitigation under a watershed approach.*** Where permitted impacts are not in the service area of an approved mitigation bank or in-lieu fee program that has the appropriate number and resource type of credits available, permittee-responsible mitigation is the only option. Where practicable and likely to be successful and sustainable, the resource type and location for the required permittee-responsible compensatory mitigation should be determined using the principles of a watershed approach as outlined in paragraph (c) of this section.

(5) ***Permittee-responsible mitigation through on-site and in-kind mitigation.*** In cases where a watershed approach is not practicable, the district engineer should consider opportunities to offset anticipated aquatic resource impacts by requiring on-site and in-kind compensatory mitigation. The district engineer must also consider the practicability of on-site compensatory mitigation and its compatibility with the proposed project.

(6) ***Permittee-responsible mitigation through off-site and/or out-of-kind mitigation.*** If, after considering opportunities for on-site, in-kind compensatory mitigation as provided in paragraph (b)(5) of this section, the district engineer determines that these compensatory mitigation opportunities are not practicable, are unlikely to compensate for the permitted impacts, or will be incompatible with the proposed project, and an alternative, practicable off-site and/or out-of-kind mitigation opportunity is identified that has a greater likelihood of offsetting the permitted impacts or is environmentally preferable to on-site or in-kind mitigation, the district engineer should require that this alternative compensatory mitigation be provided.

(c) Watershed approach to compensatory mitigation.

(1) The district engineer must use a watershed approach to establish compensatory mitigation requirements in DA permits to the extent appropriate and practicable. Where a watershed plan is available, the district engineer will determine whether the plan is appropriate for use in the watershed approach for compensatory mitigation. In cases where the district engineer determines that an appropriate watershed plan is available, the watershed approach should be based on that plan. Where no such plan is available, the watershed approach should be based on information provided by the project sponsor or available from other sources. The ultimate goal of a watershed approach is to maintain and improve the quality and quantity of aquatic resources within watersheds through strategic selection of compensatory mitigation sites.

(2) Considerations.

(i) A watershed approach to compensatory mitigation considers the importance of landscape position and resource type of compensatory mitigation projects for the sustainability of aquatic resource functions within the watershed. Such an approach considers how the types and locations of compensatory mitigation projects will provide the desired aquatic resource functions, and will continue to function over time in a changing landscape. It also considers the

habitat requirements of important species, habitat loss or conversion trends, sources of watershed impairment, and current development trends, as well as the requirements of other regulatory and non-regulatory programs that affect the watershed, such as storm water management or habitat conservation programs. It includes the protection and maintenance of terrestrial resources, such as non-wetland riparian areas and uplands, when those resources contribute to or improve the overall ecological functioning of aquatic resources in the watershed. Compensatory mitigation requirements determined through the watershed approach should not focus exclusively on specific functions (e.g., water quality or habitat for certain species), but should provide, where practicable, the suite of functions typically provided by the affected aquatic resource.

(ii) Locational factors (e.g., hydrology, surrounding land use) are important to the success of compensatory mitigation for impacted habitat functions and may lead to siting of such mitigation away from the project area. However, consideration should also be given to functions and services (e.g., water quality, flood control, shoreline protection) that will likely need to be addressed at or near the areas impacted by the permitted impacts.

(iii) A watershed approach may include on-site compensatory mitigation, off-site compensatory mitigation (including mitigation banks or in-lieu fee programs), or a combination of on-site and off-site compensatory mitigation.

(iv) A watershed approach to compensatory mitigation should include, to the extent practicable, inventories of historic and existing aquatic resources, including identification of degraded aquatic resources, and identification of immediate and long-term aquatic resource needs within watersheds that can be met through permittee-responsible mitigation projects, mitigation banks, or in-lieu fee programs. Planning efforts should identify and prioritize aquatic resource restoration, establishment, and enhancement activities, and preservation of existing aquatic resources that are important for maintaining or improving ecological functions of the watershed. The identification and prioritization of resource needs should be as specific as possible, to enhance the usefulness of the approach in determining compensatory mitigation requirements.

(v) A watershed approach is not appropriate in areas where watershed boundaries do not exist, such as marine areas. In such cases, an appropriate spatial scale should be used to replace lost functions and services within the same ecological system (e.g., reef complex, littoral drift cell).

(3) *Information Needs.*

(i) In the absence of a watershed plan determined by the district engineer under paragraph (c)(1) of this section to be appropriate for use in the watershed approach, the district engineer will use a watershed approach based on analysis of information regarding watershed conditions and needs, including potential sites for aquatic resource restoration activities and priorities for aquatic resource restoration and preservation. Such information includes: current trends in habitat loss or conversion; cumulative impacts of past development activities, current development trends, the presence and needs of sensitive species; site conditions that favor or

hinder the success of compensatory mitigation projects; and chronic environmental problems such as flooding or poor water quality.

(ii) This information may be available from sources such as wetland maps; soil surveys; U.S. Geological Survey topographic and hydrologic maps; aerial photographs; information on rare, endangered and threatened species and critical habitat; local ecological reports or studies; and other information sources that could be used to identify locations for suitable compensatory mitigation projects in the watershed.

(iii) The level of information and analysis needed to support a watershed approach must be commensurate with the scope and scale of the proposed impacts requiring a DA permit, as well as the functions lost as a result of those impacts.

(4) ***Watershed scale*** . The size of watershed addressed using a watershed approach should not be larger than is appropriate to ensure that the aquatic resources provided through compensation activities will effectively compensate for adverse environmental impacts resulting from activities authorized by DA permits. The district engineer should consider relevant environmental factors and appropriate locally developed standards and criteria when determining the appropriate watershed scale in guiding compensation activities.

(d) ***Site selection***.

(1) The compensatory mitigation project site must be ecologically suitable for providing the desired aquatic resource functions. In determining the ecological suitability of the compensatory mitigation project site, the district engineer must consider, to the extent practicable, the following factors:

(i) Hydrological conditions, soil characteristics, and other physical and chemical characteristics;

(ii) Watershed-scale features, such as aquatic habitat diversity, habitat connectivity, and other landscape scale functions;

(iii) The size and location of the compensatory mitigation site relative to hydrologic sources (including the availability of water rights) and other ecological features;

(iv) Compatibility with adjacent land uses and watershed management plans;

(v) Reasonably foreseeable effects the compensatory mitigation project will have on ecologically important aquatic or terrestrial resources (e.g., shallow sub-tidal habitat, mature forests), cultural sites, or habitat for federally- or state-listed threatened and endangered species; and

(vi) Other relevant factors including, but not limited to, development trends, anticipated land use changes, habitat status and trends, the relative locations of the impact and mitigation sites in the stream network, local or regional goals for the restoration or protection of particular

habitat types or functions (e.g., re-establishment of habitat corridors or habitat for species of concern), water quality goals, floodplain management goals, and the relative potential for chemical contamination of the aquatic resources.

(2) District engineers may require on-site, off-site, or a combination of on-site and off-site compensatory mitigation to replace permitted losses of aquatic resource functions and services.

(3) Applicants should propose compensation sites adjacent to existing aquatic resources or where aquatic resources previously existed.

(e) *Mitigation type.*

(1) In general, in-kind mitigation is preferable to out-of-kind mitigation because it is most likely to compensate for the functions and services lost at the impact site. For example, tidal wetland compensatory mitigation projects are most likely to compensate for unavoidable impacts to tidal wetlands, while perennial stream compensatory mitigation projects are most likely to compensate for unavoidable impacts to perennial streams. Thus, except as provided in paragraph (e)(2) of this section, the required compensatory mitigation shall be of a similar type to the affected aquatic resource.

(2) If the district engineer determines, using the watershed approach in accordance with paragraph (c) of this section that out-of-kind compensatory mitigation will serve the aquatic resource needs of the watershed, the district engineer may authorize the use of such out-of-kind compensatory mitigation. The basis for authorization of out-of-kind compensatory mitigation must be documented in the administrative record for the permit action.

(3) For difficult-to-replace resources (e.g., bogs, fens, springs, streams, Atlantic white cedar swamps) if further avoidance and minimization is not practicable, the required compensation should be provided, if practicable, through in-kind rehabilitation, enhancement, or preservation since there is greater certainty that these methods of compensation will successfully offset permitted impacts.

(f) *Amount of compensatory mitigation.*

(1) If the district engineer determines that compensatory mitigation is necessary to offset unavoidable impacts to aquatic resources, the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases where appropriate functional or condition assessment methods or other suitable metrics are available, these methods should be used where practicable to determine how much compensatory mitigation is required. If a functional or condition assessment or other suitable metric is not used, a minimum one-to-one acreage or linear foot compensation ratio must be used.

(2) The district engineer must require a mitigation ratio greater than one-to-one where necessary to account for the method of compensatory mitigation (e.g., preservation), the likelihood of success, differences between the functions lost at the impact site and the functions

expected to be produced by the compensatory mitigation project, temporal losses of aquatic resource functions, the difficulty of restoring or establishing the desired aquatic resource type and functions, and/or the distance between the affected aquatic resource and the compensation site. The rationale for the required replacement ratio must be documented in the administrative record for the permit action.

(3) If an in-lieu fee program will be used to provide the required compensatory mitigation, and the appropriate number and resource type of released credits are not available, the district engineer must require sufficient compensation to account for the risk and uncertainty associated with in-lieu fee projects that have not been implemented before the permitted impacts have occurred.

(g) ***Use of mitigation banks and in-lieu fee programs*** . Mitigation banks and in-lieu fee programs may be used to compensate for impacts to aquatic resources authorized by general permits and individual permits, including after-the-fact permits, in accordance with the preference hierarchy in paragraph (b) of this section.

(h) ***Preservation.***

(1) Preservation may be used to provide compensatory mitigation for activities authorized by DA permits when all the following criteria are met:

(i) The resources to be preserved provide important physical, chemical, or biological functions for the watershed;

(ii) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where available;

(iii) Preservation is determined by the district engineer to be appropriate and practicable;

(iv) The resources are under threat of destruction or adverse modifications; and

(v) The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to state resource agency or land trust).

(2) Where preservation is used to provide compensatory mitigation, to the extent appropriate and practicable the preservation shall be done in conjunction with aquatic resource restoration, establishment, and/or enhancement activities. This requirement may be waived by the district engineer where preservation has been identified as a high priority using a watershed approach described in paragraph (c) of this section, but compensation ratios shall be higher.

(i) ***Buffers.*** District engineers may require the restoration, establishment, enhancement, and preservation, as well as the maintenance, of riparian areas and/or buffers around aquatic resources where necessary to ensure the long-term viability of those resources. Buffers may also

provide habitat or corridors necessary for the ecological functioning of aquatic resources. If buffers are required by the district engineer as part of the compensatory mitigation project, compensatory mitigation credit will be provided for those buffers.

(j) *Relationship to other federal, tribal, state, and local programs.*

(1) Compensatory mitigation projects for DA permits may also be used to satisfy the environmental requirements of other programs, such as tribal, state, or local wetlands regulatory programs, other federal programs such as the Surface Mining Control and Reclamation Act, Corps civil works projects, and Department of Defense military construction projects, consistent with the terms and requirements of these programs and subject to the following considerations:

(i) The compensatory mitigation project must include appropriate compensation required by the DA permit for unavoidable impacts to aquatic resources authorized by that permit.

(ii) Under no circumstances may the same credits be used to provide mitigation for more than one permitted activity. However, where appropriate, compensatory mitigation projects, including mitigation banks and in-lieu fee projects, may be designed to holistically address requirements under multiple programs and authorities for the same activity.

(2) Except for projects undertaken by federal agencies, or where federal funding is specifically authorized to provide compensatory mitigation, federally-funded aquatic resource restoration or conservation projects undertaken for purposes other than compensatory mitigation, such as the Wetlands Reserve Program, Conservation Reserve Program, and Partners for Wildlife Program activities, cannot be used for the purpose of generating compensatory mitigation credits for activities authorized by DA permits. However, compensatory mitigation credits may be generated by activities undertaken in conjunction with, but supplemental to, such programs in order to maximize the overall ecological benefits of the restoration or conservation project.

(3) Compensatory mitigation projects may also be used to provide compensatory mitigation under the Endangered Species Act or for Habitat Conservation Plans, as long as they comply with the requirements of paragraph (j)(1) of this section.

(k) *Permit conditions.*

(1) The compensatory mitigation requirements for a DA permit, including the amount and type of compensatory mitigation, must be clearly stated in the special conditions of the individual permit or general permit verification (see 33 CFR 325.4 and 330.6(a)). The special conditions must be enforceable.

(2) For an individual permit that requires permittee-responsible mitigation, the special conditions must:

(i) Identify the party responsible for providing the compensatory mitigation;

(ii) Incorporate, by reference, the final mitigation plan approved by the district engineer;

(iii) State the objectives, performance standards, and monitoring required for the compensatory mitigation project, unless they are provided in the approved final mitigation plan; and

(iv) Describe any required financial assurances or long-term management provisions for the compensatory mitigation project, unless they are specified in the approved final mitigation plan.

(3) For a general permit activity that requires permittee-responsible compensatory mitigation, the special conditions must describe the compensatory mitigation proposal, which may be either conceptual or detailed. The general permit verification must also include a special condition that states that the permittee cannot commence work in waters of the United States until the district engineer approves the final mitigation plan, unless the district engineer determines that such a special condition is not practicable and not necessary to ensure timely completion of the required compensatory mitigation. To the extent appropriate and practicable, special conditions of the general permit verification should also address the requirements of paragraph (k)(2) of this section.

(4) If a mitigation bank or in-lieu fee program is used to provide the required compensatory mitigation, the special conditions must indicate whether a mitigation bank or in-lieu fee program will be used, and specify the number and resource type of credits the permittee is required to secure. In the case of an individual permit, the special condition must also identify the specific mitigation bank or in-lieu fee program that will be used. For general permit verifications, the special conditions may either identify the specific mitigation bank or in-lieu fee program, or state that the specific mitigation bank or in-lieu fee program used to provide the required compensatory mitigation must be approved by the district engineer before the credits are secured.

(1) *Party responsible for compensatory mitigation.*

(1) For permittee-responsible mitigation, the special conditions of the DA permit must clearly indicate the party or parties responsible for the implementation, performance, and long-term management of the compensatory mitigation project.

(2) For mitigation banks and in-lieu fee programs, the instrument must clearly indicate the party or parties responsible for the implementation, performance, and long-term management of the compensatory mitigation project(s). The instrument must also contain a provision expressing the sponsor's agreement to assume responsibility for a permittee's compensatory mitigation requirements, once that permittee has secured the appropriate number and resource type of credits from the sponsor and the district engineer has received the documentation described in paragraph (1)(3) of this section.

(3) If use of a mitigation bank or in-lieu fee program is approved by the district engineer to provide part or all of the required compensatory mitigation for a DA permit, the permittee

retains responsibility for providing the compensatory mitigation until the appropriate number and resource type of credits have been secured from a sponsor and the district engineer has received documentation that confirms that the sponsor has accepted the responsibility for providing the required compensatory mitigation. This documentation may consist of a letter or form signed by the sponsor, with the permit number and a statement indicating the number and resource type of credits that have been secured from the sponsor. Copies of this documentation will be retained in the administrative records for both the permit and the instrument. If the sponsor fails to provide the required compensatory mitigation, the district engineer may pursue measures against the sponsor to ensure compliance.

(m) ***Timing.*** Implementation of the compensatory mitigation project shall be, to the maximum extent practicable, in advance of or concurrent with the activity causing the authorized impacts. The district engineer shall require, to the extent appropriate and practicable, additional compensatory mitigation to offset temporal losses of aquatic functions that will result from the permitted activity.

(n) ***Financial assurances.***

(1) The district engineer shall require sufficient financial assurances to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards. In cases where an alternate mechanism is available to ensure a high level of confidence that the compensatory mitigation will be provided and maintained (e.g., a formal, documented commitment from a government agency or public authority) the district engineer may determine that financial assurances are not necessary for that compensatory mitigation project.

(2) The amount of the required financial assurances must be determined by the district engineer, in consultation with the project sponsor, and must be based on the size and complexity of the compensatory mitigation project, the degree of completion of the project at the time of project approval, the likelihood of success, the past performance of the project sponsor, and any other factors the district engineer deems appropriate. Financial assurances may be in the form of performance bonds, escrow accounts, casualty insurance, letters of credit, legislative appropriations for government sponsored projects, or other appropriate instruments, subject to the approval of the district engineer. The rationale for determining the amount of the required financial assurances must be documented in the administrative record for either the DA permit or the instrument. In determining the assurance amount, the district engineer shall consider the cost of providing replacement mitigation, including costs for land acquisition, planning and engineering, legal fees, mobilization, construction, and monitoring.

(3) If financial assurances are required, the DA permit must include a special condition requiring the financial assurances to be in place prior to commencing the permitted activity.

(4) Financial assurances shall be phased out once the compensatory mitigation project has been determined by the district engineer to be successful in accordance with its performance standards. The DA permit or instrument must clearly specify the conditions under which the financial assurances are to be released to the permittee, sponsor, and/or other financial assurance

provider, including, as appropriate, linkage to achievement of performance standards, adaptive management, or compliance with special conditions.

(5) A financial assurance must be in a form that ensures that the district engineer will receive notification at least 120 days in advance of any termination or revocation. For third-party assurance providers, this may take the form of a contractual requirement for the assurance provider to notify the district engineer at least 120 days before the assurance is revoked or terminated.

(6) Financial assurances shall be payable at the direction of the district engineer to his designee or to a standby trust agreement. When a standby trust is used (e.g., with performance bonds or letters of credit) all amounts paid by the financial assurance provider shall be deposited directly into the standby trust fund for distribution by the trustee in accordance with the district engineer's instructions.

(o) ***Compliance with applicable law.*** The compensatory mitigation project must comply with all applicable federal, state, and local laws. The DA permit, mitigation banking instrument, or in-lieu fee program instrument must not require participation by the Corps or any other federal agency in project management, including receipt or management of financial assurances or long-term financing mechanisms, except as determined by the Corps or other agency to be consistent with its statutory authority, mission, and priorities.

§ 332.4 Planning and documentation.

(a) ***Pre-application consultations.*** Potential applicants for standard permits are encouraged to participate in pre-application meetings with the Corps and appropriate agencies to discuss potential mitigation requirements and information needs.

(b) ***Public review and comment.***

(1) For an activity that requires a standard DA permit pursuant to section 404 of the Clean Water Act, the public notice for the proposed activity must contain a statement explaining how impacts associated with the proposed activity are to be avoided, minimized, and compensated for. This explanation shall address, to the extent that such information is provided in the mitigation statement required by §325.1(d)(7) of this chapter, the proposed avoidance and minimization and the amount, type, and location of any proposed compensatory mitigation, including any out-of-kind compensation, or indicate an intention to use an approved mitigation bank or in-lieu fee program. The level of detail provided in the public notice must be commensurate with the scope and scale of the impacts. The notice shall not include information that the district engineer and the permittee believe should be kept confidential for business purposes, such as the exact location of a proposed mitigation site that has not yet been secured. The permittee must clearly identify any information being claimed as confidential in the mitigation statement when submitted. In such cases, the notice must still provide enough information to enable the public to provide meaningful comment on the proposed mitigation.

(2) For individual permits, district engineers must consider any timely comments and recommendations from other federal agencies; tribal, state, or local governments; and the public.

(3) For activities authorized by letters of permission or general permits, the review and approval process for compensatory mitigation proposals and plans must be conducted in accordance with the terms and conditions of those permits and applicable regulations including the applicable provisions of this part.

(c) *Mitigation plan.*

(1) *Preparation and Approval.*

(i) For individual permits, the permittee must prepare a draft mitigation plan and submit it to the district engineer for review. After addressing any comments provided by the district engineer, the permittee must prepare a final mitigation plan, which must be approved by the district engineer prior to issuing the individual permit. The approved final mitigation plan must be incorporated into the individual permit by reference. The final mitigation plan must include the items described in paragraphs (c)(2) through (c)(14) of this section, but the level of detail of the mitigation plan should be commensurate with the scale and scope of the impacts. As an alternative, the district engineer may determine that it would be more appropriate to address any of the items described in paragraphs (c)(2) through (c)(14) of this section as permit conditions, instead of components of a compensatory mitigation plan. For permittees who intend to fulfill their compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs, their mitigation plans need include only the items described in paragraphs (c)(5) and (c)(6) of this section, and the name of the specific mitigation bank or in-lieu fee program to be used.

(ii) For general permits, if compensatory mitigation is required, the district engineer may approve a conceptual or detailed compensatory mitigation plan to meet required time frames for general permit verifications, but a final mitigation plan incorporating the elements in paragraphs (c)(2) through (c)(14) of this section, at a level of detail commensurate with the scale and scope of the impacts, must be approved by the district engineer before the permittee commences work in waters of the United States. As an alternative, the district engineer may determine that it would be more appropriate to address any of the items described in paragraphs (c)(2) through (c)(14) of this section as permit conditions, instead of components of a compensatory mitigation plan. For permittees who intend to fulfill their compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs, their mitigation plans need include only the items described in paragraphs (c)(5) and (c)(6) of this section, and either the name of the specific mitigation bank or in-lieu fee program to be used or a statement indicating that a mitigation bank or in-lieu fee program will be used (contingent upon approval by the district engineer).

(iii) Mitigation banks and in-lieu fee programs must prepare a mitigation plan including the items in paragraphs (c)(2) through (c)(14) of this section for each separate compensatory mitigation project site. For mitigation banks and in-lieu fee programs, the preparation and approval process for mitigation plans is described in §332.8.

(2) **Objectives.** A description of the resource type(s) and amount(s) that will be provided, the method of compensation (i.e., restoration, establishment, enhancement, and/or preservation), and the manner in which the resource functions of the compensatory mitigation project will address the needs of the watershed, ecoregion, physiographic province, or other geographic area of interest.

(3) **Site selection.** A description of the factors considered during the site selection process. This should include consideration of watershed needs, on-site alternatives where applicable, and the practicability of accomplishing ecologically self-sustaining aquatic resource restoration, establishment, enhancement, and/or preservation at the compensatory mitigation project site. (See §332.3(d).)

(4) **Site protection instrument.** A description of the legal arrangements and instrument, including site ownership, that will be used to ensure the long-term protection of the compensatory mitigation project site (see §332.7(a)).

(5) **Baseline information.** A description of the ecological characteristics of the proposed compensatory mitigation project site and, in the case of an application for a DA permit, the impact site. This may include descriptions of historic and existing plant communities, historic and existing hydrology, soil conditions, a map showing the locations of the impact and mitigation site(s) or the geographic coordinates for those site(s), and other site characteristics appropriate to the type of resource proposed as compensation. The baseline information should also include a delineation of waters of the United States on the proposed compensatory mitigation project site. A prospective permittee planning to secure credits from an approved mitigation bank or in-lieu fee program only needs to provide baseline information about the impact site, not the mitigation bank or in-lieu fee project site.

(6) **Determination of credits.** A description of the number of credits to be provided, including a brief explanation of the rationale for this determination. (See §332.3(f).)

(i) For permittee-responsible mitigation, this should include an explanation of how the compensatory mitigation project will provide the required compensation for unavoidable impacts to aquatic resources resulting from the permitted activity.

(ii) For permittees intending to secure credits from an approved mitigation bank or in-lieu fee program, it should include the number and resource type of credits to be secured and how these were determined.

(7) **Mitigation work plan.** Detailed written specifications and work descriptions for the compensatory mitigation project, including, but not limited to, the geographic boundaries of the project; construction methods, timing, and sequence; source(s) of water, including connections to existing waters and uplands; methods for establishing the desired plant community; plans to control invasive plant species; the proposed grading plan, including elevations and slopes of the substrate; soil management; and erosion control measures. For stream compensatory mitigation projects, the mitigation work plan may also include other relevant information, such as planform

geometry, channel form (e.g., typical channel cross-sections), watershed size, design discharge, and riparian area plantings.

(8) **Maintenance plan.** A description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed.

(9) **Performance standards.** Ecologically-based standards that will be used to determine whether the compensatory mitigation project is achieving its objectives. (See §332.5.)

(10) **Monitoring requirements.** A description of parameters to be monitored in order to determine if the compensatory mitigation project is on track to meet performance standards and if adaptive management is needed. A schedule for monitoring and reporting on monitoring results to the district engineer must be included. (See §332.6.)

(11) **Long-term management plan.** A description of how the compensatory mitigation project will be managed after performance standards have been achieved to ensure the long-term sustainability of the resource, including long-term financing mechanisms and the party responsible for long-term management. (See §332.7(d).)

(12) **Adaptive management plan.** A management strategy to address unforeseen changes in site conditions or other components of the compensatory mitigation project, including the party or parties responsible for implementing adaptive management measures. The adaptive management plan will guide decisions for revising compensatory mitigation plans and implementing measures to address both foreseeable and unforeseen circumstances that adversely affect compensatory mitigation success. (See §332.7(c).)

(13) **Financial assurances.** A description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with its performance standards (see §332.3(n)).

(14) **Other information.** The district engineer may require additional information as necessary to determine the appropriateness, feasibility, and practicability of the compensatory mitigation project.

§ 332.5 Ecological performance standards.

(a) The approved mitigation plan must contain performance standards that will be used to assess whether the project is achieving its objectives. Performance standards should relate to the objectives of the compensatory mitigation project, so that the project can be objectively evaluated to determine if it is developing into the desired resource type, providing the expected functions, and attaining any other applicable metrics (e.g., acres).

(b) Performance standards must be based on attributes that are objective and verifiable. Ecological performance standards must be based on the best available science that can be measured or assessed in a practicable manner. Performance standards may be based on variables or measures of functional capacity described in functional assessment methodologies, measurements of hydrology or other aquatic resource characteristics, and/or comparisons to reference aquatic resources of similar type and landscape position. The use of reference aquatic resources to establish performance standards will help ensure that those performance standards are reasonably achievable, by reflecting the range of variability exhibited by the regional class of aquatic resources as a result of natural processes and anthropogenic disturbances. Performance standards based on measurements of hydrology should take into consideration the hydrologic variability exhibited by reference aquatic resources, especially wetlands. Where practicable, performance standards should take into account the expected stages of the aquatic resource development process, in order to allow early identification of potential problems and appropriate adaptive management.

§ 332.6 Monitoring.

(a) *General.*

(1) Monitoring the compensatory mitigation project site is necessary to determine if the project is meeting its performance standards, and to determine if measures are necessary to ensure that the compensatory mitigation project is accomplishing its objectives. The submission of monitoring reports to assess the development and condition of the compensatory mitigation project is required, but the content and level of detail for those monitoring reports must be commensurate with the scale and scope of the compensatory mitigation project, as well as the compensatory mitigation project type. The mitigation plan must address the monitoring requirements for the compensatory mitigation project, including the parameters to be monitored, the length of the monitoring period, the party responsible for conducting the monitoring, the frequency for submitting monitoring reports to the district engineer, and the party responsible for submitting those monitoring reports to the district engineer.

(2) The district engineer may conduct site inspections on a regular basis (e.g., annually) during the monitoring period to evaluate mitigation site performance.

(b) *Monitoring period.* The mitigation plan must provide for a monitoring period that is sufficient to demonstrate that the compensatory mitigation project has met performance standards, but not less than five years. A longer monitoring period must be required for aquatic resources with slow development rates (e.g., forested wetlands, bogs). Following project implementation, the district engineer may reduce or waive the remaining monitoring requirements upon a determination that the compensatory mitigation project has achieved its performance standards. Conversely the district engineer may extend the original monitoring period upon a determination that performance standards have not been met or the compensatory mitigation project is not on track to meet them. The district engineer may also revise monitoring requirements when remediation and/or adaptive management is required.

(c) *Monitoring reports.*

(1) The district engineer must determine the information to be included in monitoring reports. This information must be sufficient for the district engineer to determine how the compensatory mitigation project is progressing towards meeting its performance standards, and may include plans (such as as-built plans), maps, and photographs to illustrate site conditions. Monitoring reports may also include the results of functional, condition, or other assessments used to provide quantitative or qualitative measures of the functions provided by the compensatory mitigation project site.

(2) The permittee or sponsor is responsible for submitting monitoring reports in accordance with the special conditions of the DA permit or the terms of the instrument. Failure to submit monitoring reports in a timely manner may result in compliance action by the district engineer.

(3) Monitoring reports must be provided by the district engineer to interested federal, tribal, state, and local resource agencies, and the public, upon request.

§ 332.7 Management.

(a) *Site protection.*

(1) The aquatic habitats, riparian areas, buffers, and uplands that comprise the overall compensatory mitigation project must be provided long-term protection through real estate instruments or other available mechanisms, as appropriate. Long-term protection may be provided through real estate instruments such as conservation easements held by entities such as federal, tribal, state, or local resource agencies, non-profit conservation organizations, or private land managers; the transfer of title to such entities; or by restrictive covenants. For government property, long-term protection may be provided through federal facility management plans or integrated natural resources management plans. When approving a method for long-term protection of non-government property other than transfer of title, the district engineer shall consider relevant legal constraints on the use of conservation easements and/or restrictive covenants in determining whether such mechanisms provide sufficient site protection. To provide sufficient site protection, a conservation easement or restrictive covenant should, where practicable, establish in an appropriate third party (e.g., governmental or non-profit resource management agency) the right to enforce site protections and provide the third party the resources necessary to monitor and enforce these site protections.

(2) The real estate instrument, management plan, or other mechanism providing long-term protection of the compensatory mitigation site must, to the extent appropriate and practicable, prohibit incompatible uses (e.g., clear cutting or mineral extraction) that might otherwise jeopardize the objectives of the compensatory mitigation project. Where appropriate, multiple instruments recognizing compatible uses (e.g., fishing or grazing rights) may be used.

(3) The real estate instrument, management plan, or other long-term protection mechanism must contain a provision requiring 60-day advance notification to the district engineer before any action is taken to void or modify the instrument, management plan, or long-term protection mechanism, including transfer of title to, or establishment of any other legal claims over, the compensatory mitigation site.

(4) For compensatory mitigation projects on public lands, where federal facility management plans or integrated natural resources management plans are used to provide long-term protection, and changes in statute, regulation, or agency needs or mission results in an incompatible use on public lands originally set aside for compensatory mitigation, the public agency authorizing the incompatible use is responsible for providing alternative compensatory mitigation that is acceptable to the district engineer for any loss in functions resulting from the incompatible use.

(5) A real estate instrument, management plan, or other long-term protection mechanism used for site protection of permittee-responsible mitigation must be approved by the district engineer in advance of, or concurrent with, the activity causing the authorized impacts.

(b) ***Sustainability***. Compensatory mitigation projects shall be designed, to the maximum extent practicable, to be self-sustaining once performance standards have been achieved. This includes minimization of active engineering features (e.g., pumps) and appropriate siting to ensure that natural hydrology and landscape context will support long-term sustainability. Where active long-term management and maintenance are necessary to ensure long-term sustainability (e.g., prescribed burning, invasive species control, maintenance of water control structures, easement enforcement), the responsible party must provide for such management and maintenance. This includes the provision of long-term financing mechanisms where necessary. Where needed, the acquisition and protection of water rights must be secured and documented in the permit conditions or instrument.

(c) ***Adaptive management***.

(1) If the compensatory mitigation project cannot be constructed in accordance with the approved mitigation plans, the permittee or sponsor must notify the district engineer. A significant modification of the compensatory mitigation project requires approval from the district engineer.

(2) If monitoring or other information indicates that the compensatory mitigation project is not progressing towards meeting its performance standards as anticipated, the responsible party must notify the district engineer as soon as possible. The district engineer will evaluate and pursue measures to address deficiencies in the compensatory mitigation project. The district engineer will consider whether the compensatory mitigation project is providing ecological benefits comparable to the original objectives of the compensatory mitigation project.

(3) The district engineer, in consultation with the responsible party (and other federal, tribal, state, and local agencies, as appropriate), will determine the appropriate measures. The measures may include site modifications, design changes, revisions to maintenance

requirements, and revised monitoring requirements. The measures must be designed to ensure that the modified compensatory mitigation project provides aquatic resource functions comparable to those described in the mitigation plan objectives.

(4) Performance standards may be revised in accordance with adaptive management to account for measures taken to address deficiencies in the compensatory mitigation project. Performance standards may also be revised to reflect changes in management strategies and objectives if the new standards provide for ecological benefits that are comparable or superior to the approved compensatory mitigation project. No other revisions to performance standards will be allowed except in the case of natural disasters.

(d) ***Long-term management.***

(1) The permit conditions or instrument must identify the party responsible for ownership and all long-term management of the compensatory mitigation project. The permit conditions or instrument may contain provisions allowing the permittee or sponsor to transfer the long-term management responsibilities of the compensatory mitigation project site to a land stewardship entity, such as a public agency, non-governmental organization, or private land manager, after review and approval by the district engineer. The land stewardship entity need not be identified in the original permit or instrument, as long as the future transfer of long-term management responsibility is approved by the district engineer.

(2) A long-term management plan should include a description of long-term management needs, annual cost estimates for these needs, and identify the funding mechanism that will be used to meet those needs.

(3) Any provisions necessary for long-term financing must be addressed in the original permit or instrument. The district engineer may require provisions to address inflationary adjustments and other contingencies, as appropriate. Appropriate long-term financing mechanisms include non-wasting endowments, trusts, contractual arrangements with future responsible parties, and other appropriate financial instruments. In cases where the long-term management entity is a public authority or government agency, that entity must provide a plan for the long-term financing of the site.

(4) For permittee-responsible mitigation, any long-term financing mechanisms must be approved in advance of the activity causing the authorized impacts.

§ 332.8 Mitigation banks and in-lieu fee programs.

(a) ***General considerations.***

(1) All mitigation banks and in-lieu fee programs must have an approved instrument signed by the sponsor and the district engineer prior to being used to provide compensatory mitigation for DA permits.

(2) To the maximum extent practicable, mitigation banks and in-lieu fee project sites must be planned and designed to be self-sustaining over time, but some active management and maintenance may be required to ensure their long-term viability and sustainability. Examples of acceptable management activities include maintaining fire-dependent habitat communities in the absence of natural fire and controlling invasive exotic plant species.

(3) All mitigation banks and in-lieu fee programs must comply with the standards in this part, if they are to be used to provide compensatory mitigation for activities authorized by DA permits, regardless of whether they are sited on public or private lands and whether the sponsor is a governmental or private entity.

(b) *Interagency Review Team.*

(1) The district engineer will establish an Interagency Review Team (IRT) to review documentation for the establishment and management of mitigation banks and in-lieu fee programs. The district engineer or his designated representative serves as Chair of the IRT. In cases where a mitigation bank or in-lieu fee program is proposed to satisfy the requirements of another federal, tribal, state, or local program, in addition to compensatory mitigation requirements of DA permits, it may be appropriate for the administering agency to serve as co-Chair of the IRT.

(2) In addition to the Corps, representatives from the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, NOAA Fisheries, the Natural Resources Conservation Service, and other federal agencies, as appropriate, may participate in the IRT. The IRT may also include representatives from tribal, state, and local regulatory and resource agencies, where such agencies have authorities and/or mandates directly affecting, or affected by, the establishment, operation, or use of the mitigation bank or in-lieu fee program. The district engineer will seek to include all public agencies with a substantive interest in the establishment of the mitigation bank or in-lieu fee program on the IRT, but retains final authority over its composition.

(3) The primary role of the IRT is to facilitate the establishment of mitigation banks or in-lieu fee programs through the development of mitigation banking or in-lieu fee program instruments. The IRT will review the prospectus, instrument, and other appropriate documents and provide comments to the district engineer. The district engineer and the IRT should use a watershed approach to the extent practicable in reviewing proposed mitigation banks and in-lieu fee programs. Members of the IRT may also sign the instrument, if they so choose. By signing the instrument, the IRT members indicate their agreement with the terms of the instrument. As an alternative, a member of the IRT may submit a letter expressing concurrence with the instrument. The IRT will also advise the district engineer in assessing monitoring reports, recommending remedial or adaptive management measures, approving credit releases, and approving modifications to an instrument. In order to ensure timely processing of instruments and other documentation, comments from IRT members must be received by the district engineer within the time limits specified in this section. Comments received after these deadlines will only be considered at the discretion of the district engineer to the extent that doing so does not jeopardize the deadlines for district engineer action.

(4) The district engineer will give full consideration to any timely comments and advice of the IRT. The district engineer alone retains final authority for approval of the instrument in cases where the mitigation bank or in-lieu fee program is used to satisfy compensatory mitigation requirements of DA permits.

(5) ***MOAs with other agencies.*** The district engineer and members of the IRT may enter into a memorandum of agreement (MOA) with any other federal, state or local government agency to perform all or some of the IRT review functions described in this section. Such MOAs must include provisions for appropriate federal oversight of the review process. The district engineer retains sole authority for final approval of instruments and other documentation required under this section.

(c) Compensation planning framework for in-lieu fee programs.

(1) The approved instrument for an in-lieu fee program must include a compensation planning framework that will be used to select, secure, and implement aquatic resource restoration, establishment, enhancement, and/or preservation activities. The compensation planning framework must support a watershed approach to compensatory mitigation. All specific projects used to provide compensation for DA permits must be consistent with the approved compensation planning framework. Modifications to the framework must be approved as a significant modification to the instrument by the district engineer, after consultation with the IRT.

(2) The compensation planning framework must contain the following elements:

(i) The geographic service area(s), including a watershed-based rationale for the delineation of each service area;

(ii) A description of the threats to aquatic resources in the service area(s), including how the in-lieu fee program will help offset impacts resulting from those threats;

(iii) An analysis of historic aquatic resource loss in the service area(s);

(iv) An analysis of current aquatic resource conditions in the service area(s), supported by an appropriate level of field documentation;

(v) A statement of aquatic resource goals and objectives for each service area, including a description of the general amounts, types and locations of aquatic resources the program will seek to provide;

(vi) A prioritization strategy for selecting and implementing compensatory mitigation activities;

(vii) An explanation of how any preservation objectives identified in paragraph (c)(2)(v) of this section and addressed in the prioritization strategy in paragraph (c)(2)(vi) satisfy the criteria for use of preservation in §332.3(h);

(viii) A description of any public and private stakeholder involvement in plan development and implementation, including, where appropriate, coordination with federal, state, tribal and local aquatic resource management and regulatory authorities;

(ix) A description of the long-term protection and management strategies for activities conducted by the in-lieu fee program sponsor;

(x) A strategy for periodic evaluation and reporting on the progress of the program in achieving the goals and objectives in paragraph (c)(2)(v) of this section, including a process for revising the planning framework as necessary; and

(xi) Any other information deemed necessary for effective compensation planning by the district engineer.

(3) The level of detail necessary for the compensation planning framework is at the discretion of the district engineer, and will take into account the characteristics of the service area(s) and the scope of the program. As part of the in-lieu fee program instrument, the compensation planning framework will be reviewed by the IRT, and will be a major factor in the district engineer's decision on whether to approve the instrument.

(d) ***Review process.***

(1) The sponsor is responsible for preparing all documentation associated with establishment of the mitigation bank or in-lieu fee program, including the prospectus, instrument, and other appropriate documents, such as mitigation plans for a mitigation bank. The prospectus provides an overview of the proposed mitigation bank or in-lieu fee program and serves as the basis for public and initial IRT comment. For a mitigation bank, the mitigation plan, as described in §332.4(c), provides detailed plans and specifications for the mitigation bank site. For in-lieu fee programs, mitigation plans will be prepared as in-lieu fee project sites are identified after the instrument has been approved and the in-lieu fee program becomes operational. The instrument provides the authorization for the mitigation bank or in-lieu fee program to provide credits to be used as compensatory mitigation for DA permits.

(2) ***Prospectus.*** The prospectus must provide a summary of the information regarding the proposed mitigation bank or in-lieu fee program, at a sufficient level of detail to support informed public and IRT comment. The review process begins when the sponsor submits a complete prospectus to the district engineer. For modifications of approved instruments, submittal of a new prospectus is not required; instead, the sponsor must submit a written request for an instrument modification accompanied by appropriate documentation. The district engineer must notify the sponsor within 30 days whether or not a submitted prospectus is complete. A complete prospectus includes the following information:

(i) The objectives of the proposed mitigation bank or in-lieu fee program.

(ii) How the mitigation bank or in-lieu fee program will be established and operated.

(iii) The proposed service area.

(iv) The general need for and technical feasibility of the proposed mitigation bank or in-lieu fee program.

(v) The proposed ownership arrangements and long-term management strategy for the mitigation bank or in-lieu fee project sites.

(vi) The qualifications of the sponsor to successfully complete the type(s) of mitigation project(s) proposed, including information describing any past such activities by the sponsor.

(vii) For a proposed mitigation bank, the prospectus must also address:

(A) The ecological suitability of the site to achieve the objectives of the proposed mitigation bank, including the physical, chemical, and biological characteristics of the bank site and how that site will support the planned types of aquatic resources and functions; and

(B) Assurance of sufficient water rights to support the long-term sustainability of the mitigation bank.

(viii) For a proposed in-lieu fee program, the prospectus must also include:

(A) The compensation planning framework (see paragraph (c) of this section); and

(B) A description of the in-lieu fee program account required by paragraph (i) of this section.

(3) ***Preliminary review of prospectus.*** Prior to submitting a prospectus, the sponsor may elect to submit a draft prospectus to the district engineer for comment and consultation. The district engineer will provide copies of the draft prospectus to the IRT and will provide comments back to the sponsor within 30 days. Any comments from IRT members will also be forwarded to the sponsor. This preliminary review is optional but is strongly recommended. It is intended to identify potential issues early so that the sponsor may attempt to address those issues prior to the start of the formal review process.

(4) ***Public review and comment.*** Within 30 days of receipt of a complete prospectus or an instrument modification request that will be processed in accordance with paragraph (g)(1) of this section, the district engineer will provide public notice of the proposed mitigation bank or in-lieu fee program, in accordance with the public notice procedures at 33 CFR 325.3. The public notice must, at a minimum, include a summary of the prospectus and indicate that the full prospectus is available to the public for review upon request. For modifications of approved instruments, the public notice must instead summarize, and make available to the public upon request, whatever documentation is appropriate for the modification (e.g., a new or revised mitigation plan). The comment period for public notice will be 30 days, unless the district engineer determines that a longer comment period is appropriate. The district engineer will notify the sponsor if the comment period is extended beyond 30 days, including an explanation

of why the longer comment period is necessary. Copies of all comments received in response to the public notice must be distributed to the other IRT members and to the sponsor within 15 days of the close of the public comment period. The district engineer and IRT members may also provide comments to the sponsor at this time, and copies of any such comments will also be distributed to all IRT members. If the construction of a mitigation bank or an in-lieu fee program project requires a DA permit, the public notice requirement may be satisfied through the public notice provisions of the permit processing procedures, provided all of the relevant information is provided.

(5) *Initial evaluation.*

(i) After the end of the comment period, the district engineer will review the comments received in response to the public notice, and make a written initial evaluation as to the potential of the proposed mitigation bank or in-lieu fee program to provide compensatory mitigation for activities authorized by DA permits. This initial evaluation letter must be provided to the sponsor within 30 days of the end of the public notice comment period.

(ii) If the district engineer determines that the proposed mitigation bank or in-lieu fee program has potential for providing appropriate compensatory mitigation for activities authorized by DA permits, the initial evaluation letter will inform the sponsor that he/she may proceed with preparation of the draft instrument (see paragraph (d)(6) of this section).

(iii) If the district engineer determines that the proposed mitigation bank or in-lieu fee program does not have potential for providing appropriate compensatory mitigation for DA permits, the initial evaluation letter must discuss the reasons for that determination. The sponsor may revise the prospectus to address the district engineer's concerns, and submit the revised prospectus to the district engineer. If the sponsor submits a revised prospectus, a revised public notice will be issued in accordance with paragraph (d)(4) of this section.

(iv) This initial evaluation procedure does not apply to proposed modifications of approved instruments.

(6) *Draft instrument.*

(i) After considering comments from the district engineer, the IRT, and the public, if the sponsor chooses to proceed with establishment of the mitigation bank or in-lieu fee program, he must prepare a draft instrument and submit it to the district engineer. In the case of an instrument modification, the sponsor must prepare a draft amendment (e.g., a specific instrument provision, a new or modified mitigation plan), and submit it to the district engineer. The district engineer must notify the sponsor within 30 days of receipt, whether the draft instrument or amendment is complete. If the draft instrument or amendment is incomplete, the district engineer will request from the sponsor the information necessary to make the draft instrument or amendment complete. Once any additional information is submitted, the district engineer must notify the sponsor as soon as he determines that the draft instrument or amendment is complete. The draft instrument must be based on the prospectus and must describe in detail the physical and legal

characteristics of the mitigation bank or in-lieu fee program and how it will be established and operated.

(ii) For mitigation banks and in-lieu fee programs, the draft instrument must include the following information:

(A) A description of the proposed geographic service area of the mitigation bank or in-lieu fee program. The service area is the watershed, ecoregion, physiographic province, and/or other geographic area within which the mitigation bank or in-lieu fee program is authorized to provide compensatory mitigation required by DA permits. The service area must be appropriately sized to ensure that the aquatic resources provided will effectively compensate for adverse environmental impacts across the entire service area. For example, in urban areas, a U.S. Geological Survey 8-digit hydrologic unit code (HUC) watershed or a smaller watershed may be an appropriate service area. In rural areas, several contiguous 8-digit HUCs or a 6-digit HUC watershed may be an appropriate service area. Delineation of the service area must also consider any locally-developed standards and criteria that may be applicable. The economic viability of the mitigation bank or in-lieu fee program may also be considered in determining the size of the service area. The basis for the proposed service area must be documented in the instrument. An in-lieu fee program or umbrella mitigation banking instrument may have multiple service areas governed by its instrument (e.g., each watershed within a state or Corps district may be a separate service area under the instrument); however, all impacts and compensatory mitigation must be accounted for by service area;

(B) Accounting procedures;

(C) A provision stating that legal responsibility for providing the compensatory mitigation lies with the sponsor once a permittee secures credits from the sponsor;

(D) Default and closure provisions;

(E) Reporting protocols; and

(F) Any other information deemed necessary by the district engineer.

(iii) For a mitigation bank, a complete draft instrument must include the following additional information:

(A) Mitigation plans that include all applicable items listed in §332.4(c)(2) through (14); and

(B) A credit release schedule, which is tied to achievement of specific milestones. All credit releases must be approved by the district engineer, in consultation with the IRT, based on a determination that required milestones have been achieved. The district engineer, in consultation with the IRT, may modify the credit release schedule, including reducing the number of available credits or suspending credit sales or transfers altogether, where necessary to ensure that all credit

sales or transfers remain tied to compensatory mitigation projects with a high likelihood of meeting performance standards;

(iv) For an in-lieu fee program, a complete draft instrument must include the following additional information:

(A) The compensation planning framework (see paragraph (c) of this section);

(B) Specification of the initial allocation of advance credits (see paragraph (n) of this section) and a draft fee schedule for these credits, by service area, including an explanation of the basis for the allocation and draft fee schedule;

(C) A methodology for determining future project-specific credits and fees; and

(D) A description of the in-lieu fee program account required by paragraph (i) of this section.

(7) ***IRT review.*** Upon receipt of notification by the district engineer that the draft instrument or amendment is complete, the sponsor must provide the district engineer with a sufficient number of copies of the draft instrument or amendment to distribute to the IRT members. The district engineer will promptly distribute copies of the draft instrument or amendment to the IRT members for a 30-day comment period. The 30-day comment period begins 5 days after the district engineer distributes the copies of the draft instrument or amendment to the IRT. Following the comment period, the district engineer will discuss any comments with the appropriate agencies and with the sponsor. The district engineer will seek to resolve issues using a consensus based approach, to the extent practicable, while still meeting the decision-making time frames specified in this section. Within 90 days of receipt of the complete draft instrument or amendment by the IRT members, the district engineer must notify the sponsor of the status of the IRT review. Specifically, the district engineer must indicate to the sponsor if the draft instrument or amendment is generally acceptable and what changes, if any, are needed. If there are significant unresolved concerns that may lead to a formal objection from one or more IRT members to the final instrument or amendment, the district engineer will indicate the nature of those concerns.

(8) ***Final instrument.*** The sponsor must submit a final instrument to the district engineer for approval, with supporting documentation that explains how the final instrument addresses the comments provided by the IRT. For modifications of approved instruments, the sponsor must submit a final amendment to the district engineer for approval, with supporting documentation that explains how the final amendment addresses the comments provided by the IRT. The final instrument or amendment must be provided directly by the sponsor to all members of the IRT. Within 30 days of receipt of the final instrument or amendment, the district engineer will notify the IRT members whether or not he intends to approve the instrument or amendment. If no IRT member objects, by initiating the dispute resolution process in paragraph (e) of this section within 45 days of receipt of the final instrument or amendment, the district engineer will notify the sponsor of his final decision and, if the instrument or amendment is approved, arrange for it to be signed by the appropriate parties. If any IRT member initiates the dispute resolution

process, the district engineer will notify the sponsor. Following conclusion of the dispute resolution process, the district engineer will notify the sponsor of his final decision, and if the instrument or amendment is approved, arrange for it to be signed by the appropriate parties. For mitigation banks, the final instrument must contain the information items listed in paragraphs (d)(6)(ii), and (iii) of this section. For in-lieu fee programs, the final instrument must contain the information items listed in paragraphs (d)(6)(ii) and (iv) of this section. For the modification of an approved instrument, the amendment must contain appropriate information, as determined by the district engineer. The final instrument or amendment must be made available to the public upon request.

(e) *Dispute resolution process.*

(1) Within 15 days of receipt of the district engineer's notification of intent to approve an instrument or amendment, the Regional Administrator of the U.S. EPA, the Regional Director of the U.S. Fish and Wildlife Service, the Regional Director of the National Marine Fisheries Service, and/or other senior officials of agencies represented on the IRT may notify the district engineer and other IRT members by letter if they object to the approval of the proposed final instrument or amendment. This letter must include an explanation of the basis for the objection and, where feasible, offer recommendations for resolving the objections. If the district engineer does not receive any objections within this time period, he may proceed to final action on the instrument or amendment.

(2) The district engineer must respond to the objection within 30 days of receipt of the letter. The district engineer's response may indicate an intent to disapprove the instrument or amendment as a result of the objection, an intent to approve the instrument or amendment despite the objection, or may provide a modified instrument or amendment that attempts to address the objection. The district engineer's response must be provided to all IRT members.

(3) Within 15 days of receipt of the district engineer's response, if the Regional Administrator or Regional Director is not satisfied with the response he may forward the issue to the Assistant Administrator for Water of the U.S. EPA, the Assistant Secretary for Fish and Wildlife and Parks of the U.S. FWS, or the Undersecretary for Oceans and Atmosphere of NOAA, as appropriate, for review and must notify the district engineer by letter via electronic mail or facsimile machine (with copies to all IRT members) that the issue has been forwarded for Headquarters review. This step is available only to the IRT members representing these three federal agencies, however other IRT members who do not agree with the district engineer's final decision do not have to sign the instrument or amendment or recognize the mitigation bank or in-lieu fee program for purposes of their own programs and authorities. If an IRT member other than the one filing the original objection has a new objection based on the district engineer's response, he may use the first step in this procedure (paragraph (e)(1) of this section) to provide that objection to the district engineer.

(4) If the issue has not been forwarded to the objecting agency's Headquarters, then the district engineer may proceed with final action on the instrument or amendment. If the issue has been forwarded to the objecting agency's Headquarters, the district engineer must hold in

abeyance the final action on the instrument or amendment, pending Headquarters level review described below.

(5) Within 20 days from the date of the letter requesting Headquarters level review, the Assistant Administrator for Water, the Assistant Secretary for Fish and Wildlife and Parks, or the Undersecretary for Oceans and Atmosphere must either notify the Assistant Secretary of the Army (Civil Works) (ASA(CW)) that further review will not be requested, or request that the ASA(CW) review the final instrument or amendment.

(6) Within 30 days of receipt of the letter from the objecting agency's Headquarters request for ASA(CW)'s review of the final instrument, the ASA(CW), through the Director of Civil Works, must review the draft instrument or amendment and advise the district engineer on how to proceed with final action on that instrument or amendment. The ASA(CW) must immediately notify the Assistant Administrator for Water, the Assistant Secretary for Fish and Wildlife and Parks, and/or the Undersecretary for Oceans and Atmosphere of the final decision.

(7) In cases where the dispute resolution procedure is used, the district engineer must notify the sponsor of his final decision within 150 days of receipt of the final instrument or amendment.

(f) *Extension of deadlines.*

(1) The deadlines in paragraphs (d) and (e) of this section may be extended by the district engineer at his sole discretion in cases where:

(i) Compliance with other applicable laws, such as consultation under section 7 of the Endangered Species Act or section 106 of the National Historic Preservation Act, is required;

(ii) It is necessary to conduct government-to-government consultation with Indian tribes;

(iii) Timely submittal of information necessary for the review of the proposed mitigation bank or in-lieu fee program or the proposed modification of an approved instrument is not accomplished by the sponsor; or

(iv) Information that is essential to the district engineer's decision cannot be reasonably obtained within the specified time frame.

(2) In such cases, the district engineer must promptly notify the sponsor in writing of the extension and the reason for it. Such extensions shall be for the minimum time necessary to resolve the issue necessitating the extension.

(g) *Modification of instruments.*

(1) ***Approval of an amendment to an approved instrument.*** Modification of an approved instrument, including the addition and approval of umbrella mitigation bank sites or in-lieu fee project sites or expansions of previously approved mitigation bank or in-lieu fee project sites,

must follow the appropriate procedures in paragraph (d) of this section, unless the district engineer determines that the streamlined review process described in paragraph (g)(2) of this section is warranted.

(2) ***Streamlined review process.*** The streamlined modification review process may be used for the following modifications of instruments: changes reflecting adaptive management of the mitigation bank or in-lieu fee program, credit releases, changes in credit releases and credit release schedules, and changes that the district engineer determines are not significant. If the district engineer determines that the streamlined review process is warranted, he must notify the IRT members and the sponsor of this determination and provide them with copies of the proposed modification. IRT members and the sponsor have 30 days to notify the district engineer if they have concerns with the proposed modification. If IRT members or the sponsor notify the district engineer of such concerns, the district engineer shall attempt to resolve those concerns. Within 60 days of providing the proposed modification to the IRT, the district engineer must notify the IRT members of his intent to approve or disapprove the proposed modification. If no IRT member objects, by initiating the dispute resolution process in paragraph (e) of this section, within 15 days of receipt of this notification, the district engineer will notify the sponsor of his final decision and, if the modification is approved, arrange for it to be signed by the appropriate parties. If any IRT member initiates the dispute resolution process, the district engineer will so notify the sponsor. Following conclusion of the dispute resolution process, the district engineer will notify the sponsor of his final decision, and if the modification is approved, arrange for it to be signed by the appropriate parties.

(h) ***Umbrella mitigation banking instruments.*** A single mitigation banking instrument may provide for future authorization of additional mitigation bank sites. As additional sites are selected, they must be included in the mitigation banking instrument as modifications, using the procedures in paragraph (g)(1) of this section. Credit withdrawal from the additional bank sites shall be consistent with paragraph (m) of this section.

(i) ***In-lieu fee program account.***

(1) The in-lieu fee program sponsor must establish a program account after the instrument is approved by the district engineer, prior to accepting any fees from permittees. If the sponsor accepts funds from entities other than permittees, those funds must be kept in separate accounts. The program account must be established at a financial institution that is a member of the Federal Deposit Insurance Corporation. All interests and earnings accruing to the program account must remain in that account for use by the in-lieu fee program for the purposes of providing compensatory mitigation for DA permits. The program account may only be used for the selection, design, acquisition, implementation, and management of in-lieu fee compensatory mitigation projects, except for a small percentage (as determined by the district engineer in consultation with the IRT and specified in the instrument) that can be used for administrative costs.

(2) The sponsor must submit proposed in-lieu fee projects to the district engineer for funding approval. Disbursements from the program account may only be made upon receipt of written authorization from the district engineer, after the district engineer has consulted with the

IRT. The terms of the program account must specify that the district engineer has the authority to direct those funds to alternative compensatory mitigation projects in cases where the sponsor does not provide compensatory mitigation in accordance with the time frame specified in paragraph (n)(4) of this section.

(3) The sponsor must provide annual reports to the district engineer and the IRT. The annual reports must include the following information:

(i) All income received, disbursements, and interest earned by the program account;

(ii) A list of all permits for which in-lieu fee program funds were accepted. This list shall include: The Corps permit number (or the state permit number if there is no corresponding Corps permit number, in cases of state programmatic general permits or other regional general permits), the service area in which the authorized impacts are located, the amount of authorized impacts, the amount of required compensatory mitigation, the amount paid to the in-lieu fee program, and the date the funds were received from the permittee;

(iii) A description of in-lieu fee program expenditures from the account, such as the costs of land acquisition, planning, construction, monitoring, maintenance, contingencies, adaptive management, and administration;

(iv) The balance of advance credits and released credits at the end of the report period for each service area; and

(v) Any other information required by the district engineer.

(4) The district engineer may audit the records pertaining to the program account. All books, accounts, reports, files, and other records relating to the in-lieu fee program account shall be available at reasonable times for inspection and audit by the district engineer.

(j) ***In-lieu fee project approval.***

(1) As in-lieu fee project sites are identified and secured, the sponsor must submit mitigation plans to the district engineer that include all applicable items listed in §332.4(c)(2) through (14). The mitigation plan must also include a credit release schedule consistent with paragraph (o)(8) of this section that is tied to achievement of specific performance standards. The review and approval of in-lieu fee projects will be conducted in accordance with the procedures in paragraph (g)(1) of this section, as modifications of the in-lieu fee program instrument. This includes compensatory mitigation projects conducted by another party on behalf of the sponsor through requests for proposals and awarding of contracts.

(2) If a DA permit is required for an in-lieu fee project, the permit should not be issued until all relevant provisions of the mitigation plan have been substantively determined, to ensure that the DA permit accurately reflects all relevant provisions of the approved mitigation plan, such as performance standards.

(k) ***Coordination of mitigation banking instruments and DA permit issuance.*** In cases where initial establishment of the mitigation bank, or the development of a new project site under an umbrella banking instrument, involves activities requiring DA authorization, the permit should not be issued until all relevant provisions of the mitigation plan have been substantively determined. This is to ensure that the DA permit accurately reflects all relevant provisions of the final instrument, such as performance standards.

(l) ***Project implementation.***

(1) The sponsor must have an approved instrument prior to collecting funds from permittees to satisfy compensatory mitigation requirements for DA permits.

(2) Authorization to sell credits to satisfy compensatory mitigation requirements in DA permits is contingent on compliance with all of the terms of the instrument. This includes constructing a mitigation bank or in-lieu fee project in accordance with the mitigation plan approved by the district engineer and incorporated by reference in the instrument. If the aquatic resource restoration, establishment, enhancement, and/or preservation activities cannot be implemented in accordance with the approved mitigation plan, the district engineer must consult with the sponsor and the IRT to consider modifications to the instrument, including adaptive management, revisions to the credit release schedule, and alternatives for providing compensatory mitigation to satisfy any credits that have already been sold.

(3) An in-lieu fee program sponsor is responsible for the implementation, long-term management, and any required remediation of the restoration, establishment, enhancement, and/or preservation activities, even though those activities may be conducted by other parties through requests for proposals or other contracting mechanisms.

(m) ***Credit withdrawal from mitigation banks.*** The mitigation banking instrument may allow for an initial debiting of a percentage of the total credits projected at mitigation bank maturity, provided the following conditions are satisfied: the mitigation banking instrument and mitigation plan have been approved, the mitigation bank site has been secured, appropriate financial assurances have been established, and any other requirements determined to be necessary by the district engineer have been fulfilled. The mitigation banking instrument must provide a schedule for additional credit releases as appropriate milestones are achieved (see paragraph (o)(8) of this section). Implementation of the approved mitigation plan shall be initiated no later than the first full growing season after the date of the first credit transaction.

(n) ***Advance credits for in-lieu fee programs.***

(1) The in-lieu fee program instrument may make a limited number of advance credits available to permittees when the instrument is approved. The number of advance credits will be determined by the district engineer, in consultation with the IRT, and will be specified for each service area in the instrument. The number of advance credits will be based on the following considerations:

(i) The compensation planning framework;

(ii) The sponsor's past performance for implementing aquatic resource restoration, establishment, enhancement, and/or preservation activities in the proposed service area or other areas; and

(iii) The projected financing necessary to begin planning and implementation of in-lieu fee projects.

(2) To determine the appropriate number of advance credits for a particular service area, the district engineer may require the sponsor to provide confidential supporting information that will not be made available to the general public. Examples of confidential supporting information may include prospective in-lieu fee project sites.

(3) As released credits are produced by in-lieu fee projects, they must be used to fulfill any advance credits that have already been provided within the project service area before any remaining released credits can be sold or transferred to permittees. Once previously provided advance credits have been fulfilled, an equal number of advance credits is re-allocated to the sponsor for sale or transfer to fulfill new mitigation requirements, consistent with the terms of the instrument. The number of advance credits available to the sponsor at any given time to sell or transfer to permittees in a given service area is equal to the number of advance credits specified in the instrument, minus any that have already been provided but not yet fulfilled.

(4) Land acquisition and initial physical and biological improvements must be completed by the third full growing season after the first advance credit in that service area is secured by a permittee, unless the district engineer determines that more or less time is needed to plan and implement an in-lieu fee project. If the district engineer determines that there is a compensatory mitigation deficit in a specific service area by the third growing season after the first advance credit in that service area is sold, and determines that it would not be in the public interest to allow the sponsor additional time to plan and implement an in-lieu fee project, the district engineer must direct the sponsor to disburse funds from the in-lieu fee program account to provide alternative compensatory mitigation to fulfill those compensation obligations.

(5) The sponsor is responsible for complying with the terms of the in-lieu fee program instrument. If the district engineer determines, as a result of review of annual reports on the operation of the in-lieu fee program (see paragraphs (p)(2) and (q)(1) of this section), that it is not performing in compliance with its instrument, the district engineer will take appropriate action, which may include suspension of credit sales, to ensure compliance with the in-lieu fee program instrument (see paragraph (o)(10) of this section). Permittees that secured credits from the in-lieu fee program are not responsible for in-lieu fee program compliance.

(o) ***Determining credits.***

(1) ***Units of measure.*** The principal units for credits and debits are acres, linear feet, functional assessment units, or other suitable metrics of particular resource types. Functional assessment units or other suitable metrics may be linked to acres or linear feet.

(2) **Assessment.** Where practicable, an appropriate assessment method (e.g., hydrogeomorphic approach to wetlands functional assessment, index of biological integrity) or other suitable metric must be used to assess and describe the aquatic resource types that will be restored, established, enhanced and/or preserved by the mitigation bank or in-lieu fee project.

(3) **Credit production.** The number of credits must reflect the difference between pre- and post-compensatory mitigation project site conditions, as determined by a functional or condition assessment or other suitable metric.

(4) **Credit value.** Once a credit is debited (sold or transferred to a permittee), its value cannot change.

(5) **Credit costs.**

(i) The cost of compensatory mitigation credits provided by a mitigation bank or in-lieu fee program is determined by the sponsor.

(ii) For in-lieu fee programs, the cost per unit of credit must include the expected costs associated with the restoration, establishment, enhancement, and/or preservation of aquatic resources in that service area. These costs must be based on full cost accounting, and include, as appropriate, expenses such as land acquisition, project planning and design, construction, plant materials, labor, legal fees, monitoring, and remediation or adaptive management activities, as well as administration of the in-lieu fee program. The cost per unit credit must also take into account contingency costs appropriate to the stage of project planning, including uncertainties in construction and real estate expenses. The cost per unit of credit must also take into account the resources necessary for the long-term management and protection of the in-lieu fee project. In addition, the cost per unit credit must include financial assurances that are necessary to ensure successful completion of in-lieu fee projects.

(6) **Credits provided by preservation.** These credits should be specified as acres, linear feet, or other suitable metrics of preservation of a particular resource type. In determining the compensatory mitigation requirements for DA permits using mitigation banks or in-lieu fee programs, the district engineer should apply a higher mitigation ratio if the requirements are to be met through the use of preservation credits. In determining this higher ratio, the district engineer must consider the relative importance of both the impacted and the preserved aquatic resources in sustaining watershed functions.

(7) **Credits provided by riparian areas, buffers, and uplands.** These credits should be specified as acres, linear feet, or other suitable metrics of riparian area, buffer, and uplands, respectively. Non-aquatic resources can only be used as compensatory mitigation for impacts to aquatic resources authorized by DA permits when those resources are essential to maintaining the ecological viability of adjoining aquatic resources. In determining the compensatory mitigation requirements for DA permits using mitigation banks and in-lieu fee programs, the district engineer may authorize the use of riparian area, buffer, and/or upland credits if he determines that these areas are essential to sustaining aquatic resource functions in the watershed and are the most appropriate compensation for the authorized impacts.

(8) ***Credit release schedule.***

(i) ***General considerations.*** Release of credits must be tied to performance-based milestones (e.g., construction, planting, establishment of specified plant and animal communities). The credit release schedule should reserve a significant share of the total credits for release only after full achievement of ecological performance standards. When determining the credit release schedule, factors to be considered may include, but are not limited to: The method of providing compensatory mitigation credits (e.g., restoration), the likelihood of success, the nature and amount of work needed to generate the credits, and the aquatic resource type(s) and function(s) to be provided by the mitigation bank or in-lieu fee project. The district engineer will determine the credit release schedule, including the share to be released only after full achievement of performance standards, after consulting with the IRT. Once released, credits may only be used to satisfy compensatory mitigation requirements of a DA permit if the use of credits for a specific permit has been approved by the district engineer.

(ii) For single-site mitigation banks, the terms of the credit release schedule must be specified in the mitigation banking instrument. The credit release schedule may provide for an initial debiting of a limited number of credits once the instrument is approved and other appropriate milestones are achieved (see paragraph (m) of this section).

(iii) For in-lieu fee projects and umbrella mitigation bank sites, the terms of the credit release schedule must be specified in the approved mitigation plan. When an in-lieu fee project or umbrella mitigation bank site is implemented and is achieving the performance-based milestones specified in the credit release schedule, credits are generated in accordance with the credit release schedule for the approved mitigation plan. If the in-lieu fee project or umbrella mitigation bank site does not achieve those performance-based milestones, the district engineer may modify the credit release schedule, including reducing the number of credits.

(9) ***Credit release approval.*** Credit releases for mitigation banks and in-lieu fee projects must be approved by the district engineer. In order for credits to be released, the sponsor must submit documentation to the district engineer demonstrating that the appropriate milestones for credit release have been achieved and requesting the release. The district engineer will provide copies of this documentation to the IRT members for review. IRT members must provide any comments to the district engineer within 15 days of receiving this documentation. However, if the district engineer determines that a site visit is necessary, IRT members must provide any comments to the district engineer within 15 days of the site visit. The district engineer must schedule the site visit so that it occurs as soon as it is practicable, but the site visit may be delayed by seasonal considerations that affect the ability of the district engineer and the IRT to assess whether the applicable credit release milestones have been achieved. After full consideration of any comments received, the district engineer will determine whether the milestones have been achieved and the credits can be released. The district engineer shall make a decision within 30 days of the end of that comment period, and notify the sponsor and the IRT.

(10) ***Suspension and termination.*** If the district engineer determines that the mitigation bank or in-lieu fee program is not meeting performance standards or complying with the terms of the instrument, appropriate action will be taken. Such actions may include, but are not limited to,

suspending credit sales, adaptive management, decreasing available credits, utilizing financial assurances, and terminating the instrument.

(p) ***Accounting procedures.***

(1) For mitigation banks, the instrument must contain a provision requiring the sponsor to establish and maintain a ledger to account for all credit transactions. Each time an approved credit transaction occurs, the sponsor must notify the district engineer.

(2) For in-lieu fee programs, the instrument must contain a provision requiring the sponsor to establish and maintain an annual report ledger in accordance with paragraph (i)(3) of this section, as well as individual ledgers that track the production of released credits for each in-lieu fee project.

(q) ***Reporting.***

(1) ***Ledger account.*** The sponsor must compile an annual ledger report showing the beginning and ending balance of available credits and permitted impacts for each resource type, all additions and subtractions of credits, and any other changes in credit availability (e.g., additional credits released, credit sales suspended). The ledger report must be submitted to the district engineer, who will distribute copies to the IRT members. The ledger report is part of the administrative record for the mitigation bank or in-lieu fee program. The district engineer will make the ledger report available to the public upon request.

(2) ***Monitoring reports.*** The sponsor is responsible for monitoring the mitigation bank site or the in-lieu fee project site in accordance with the approved monitoring requirements to determine the level of success and identify problems requiring remedial action or adaptive management measures. Monitoring must be conducted in accordance with the requirements in §332.6, and at time intervals appropriate for the particular project type and until such time that the district engineer, in consultation with the IRT, has determined that the performance standards have been attained. The instrument must include requirements for periodic monitoring reports to be submitted to the district engineer, who will provide copies to other IRT members.

(3) ***Financial assurance and long-term management funding report.*** The district engineer may require the sponsor to provide an annual report showing beginning and ending balances, including deposits into and any withdrawals from, the accounts providing funds for financial assurances and long-term management activities. The report should also include information on the amount of required financial assurances and the status of those assurances, including their potential expiration.

(r) ***Use of credits.*** Except as provided below, all activities authorized by DA permits are eligible, at the discretion of the district engineer, to use mitigation banks or in-lieu fee programs to fulfill compensatory mitigation requirements for DA permits. The district engineer will determine the number and type(s) of credits required to compensate for the authorized impacts. Permit applicants may propose to use a particular mitigation bank or in-lieu fee program to provide the required compensatory mitigation. In such cases, the sponsor must provide the permit applicant

with a statement of credit availability. The district engineer must review the permit applicant's compensatory mitigation proposal, and notify the applicant of his determination regarding the acceptability of using that mitigation bank or in-lieu fee program.

(s) ***IRT concerns with use of credits.*** If, in the view of a member of the IRT, an issued permit or series of issued permits raises concerns about how credits from a particular mitigation bank or in-lieu fee program are being used to satisfy compensatory mitigation requirements (including concerns about whether credit use is consistent with the terms of the instrument), the IRT member may notify the district engineer in writing of the concern. The district engineer shall promptly consult with the IRT to address the concern. Resolution of the concern is at the discretion of the district engineer, consistent with applicable statutes, regulations, and policies regarding compensatory mitigation requirements for DA permits. Nothing in this section limits the authorities designated to IRT agencies under existing statutes or regulations.

(t) ***Site protection.***

(1) For mitigation bank sites, real estate instruments, management plans, or other long-term mechanisms used for site protection must be finalized before any credits can be released.

(2) For in-lieu fee project sites, real estate instruments, management plans, or other long-term protection mechanisms used for site protection must be finalized before advance credits can become released credits.

(u) ***Long-term management.***

(1) The legal mechanisms and the party responsible for the long-term management and the protection of the mitigation bank site must be documented in the instrument or, in the case of umbrella mitigation banking instruments and in-lieu fee programs, the approved mitigation plans. The responsible party should make adequate provisions for the operation, maintenance, and long-term management of the compensatory mitigation project site. The long-term management plan should include a description of long-term management needs and identify the funding mechanism that will be used to meet those needs.

(2) The instrument may contain provisions for the sponsor to transfer long-term management responsibilities to a land stewardship entity, such as a public agency, non-governmental organization, or private land manager.

(3) The instrument or approved mitigation plan must address the financial arrangements and timing of any necessary transfer of long-term management funds to the steward.

(4) Where needed, the acquisition and protection of water rights should be secured and documented in the instrument or, in the case of umbrella mitigation banking instruments and in-lieu fee programs, the approved mitigation site plan.

(v) ***Grandfathering of existing instruments.***

(1) ***Mitigation banking instruments.*** All mitigation banking instruments approved on or after July 9, 2008 must meet the requirements of this part. Mitigation banks approved prior to July 9, 2008 may continue to operate under the terms of their existing instruments. However, any modification to such a mitigation banking instrument on or after July 9, 2008, including authorization of additional sites under an umbrella mitigation banking instrument, expansion of an existing site, or addition of a different type of resource credits (e.g., stream credits to a wetland bank) must be consistent with the terms of this part.

(2) ***In-lieu fee program instruments.*** All in-lieu fee program instruments approved on or after July 9, 2008 must meet the requirements of this part. In-lieu fee programs operating under instruments approved prior to July 9, 2008 may continue to operate under those instruments for two years after the effective date of this rule, after which time they must meet the requirements of this part, unless the district engineer determines that circumstances warrant an extension of up to three additional years. The district engineer must consult with the IRT before approving such extensions. Any revisions made to the in-lieu fee program instrument on or after July 9, 2008 must be consistent with the terms of this part. Any approved project for which construction was completed under the terms of a previously approved instrument may continue to operate indefinitely under those terms if the district engineer determines that the project is providing appropriate mitigation substantially consistent with the terms of this part.

APPENDIX K

PENNDOT UMBRELLA MITIGATION BANKING INSTRUMENT

**TIMELINES FOR BANK OR ILF INSTRUMENT APPROVAL
& DISPUTE RESOLUTIONS**

Umbrella Mitigation Banking Instrument

For

Pennsylvania Department of Transportation



May 2013

Table of Contents

Section I: Introduction	1
A. History	2
B. Content Summary	3
Section II: Definitions	7
Section III: Mitigation Bank Purpose and Authorities	10
A. Authorities	10
B. Mitigation Bank Objectives	11
Section IV: Establishment and Operations	14
A. Site Selection Factors Considered.....	14
B. Service Areas	15
C. Determination of Number and Types of Credits.....	18
D. Accounting Procedures	23
E. Site Ownership and Protection	25
F. Maintenance Plan.....	31
G. Performance Standards	32
H. Monitoring Plan	36
I. Long-Term Management Plan.....	37
J. Adaptive Management Plan.....	38
K. Reporting Protocol	39

Table of Contents

(Continued)

Section V: Mitigation Bank Development	40
Kettle Creek Wetland Bank	42
Aughwick / Whitsel Wetland Bank.....	51
Cambria AWC Wetland Bank.....	57
Fulton AWC Wetland Bank.....	62
Huntingdon/Old Crow AWC Wetland Bank	67
Mowry AWC Wetland Bank.....	73
Polk Wetland Bank	78
Schall Wetland Bank.....	83
Dubois Airport Wetland Bank	88
Wingard Wetland Bank	93

List of Tables

Table 1: PennDOT Wetland Mitigation Banks Contact and Location Information..... 6

Table 2: Summary of Approved Credits 21

Table 3: Credit Release Schedule 21

Table 4: Summary of Property Ownership and Site Protection for PennDOT Wetland Mitigation
Banks Proposed for Enrollment..... 30

Table 5: Forested Wetland Requirements 34

Table 6: Shrub Scrub Wetland Requirements 34

Table 7: Emergent Wetland Requirements..... 35

Table 8: Summary of Wetland Banks Proposed for Enrollment..... 41

List of Figures

Figure 1 Wetland Mitigation Service Areas 17

Figure 2: PennDOT Wetland Bank Accounting Ledger 24

Appendices (On Enclosed CD)

Appendix A: Executed Interagency Agreements for Advanced Wetland Compensation
And 2002 Statewide Wetland Banking Agreement

Appendix B: Final Memorandum of Agreement for the purpose of Establishing a Statewide
Umbrella Mitigation Banking Instrument to compensate losses to Wetlands

Appendix C: Individual Wetland Bank Service Area Maps

Appendix D: Memorandum of Understanding No. 440131 for Wetland Banking Interagency
Cooperative Land Use (PennDOT and DCNR)

Appendix E: Memorandum of Understanding No. 430641 (PennDOT and PGC)

Appendix F: Declarations of Restrictions, Conservation Easements and Third Party Rights

Appendix G: Sample Monitoring Report

Appendix H: Kettle Creek Wetland Bank

Appendix I: Aughwick Whitsel Wetland Bank

Appendix J: Cambria AWC Wetland Bank

Appendix K: Fulton AWC Wetland Bank

Appendix L: Huntingdon Old Crow AWC Wetland Bank

Appendix M: Mowry AWC Wetland Bank

Appendix N: Polk Wetland Bank

Appendix O: Schall Wetland Bank

Appendix P: Dubois Airport Wetland Bank

Appendix Q: Wingard Wetland Bank

I. Introduction

With 40,000 miles of roadway network and 25,000 bridges that are state maintained, PennDOT is the caretaker of the nation's fifth largest highway network. It is PennDOT's goal to provide the 8.5 million registered drivers in Pennsylvania and the millions of people who visit the Commonwealth annually with a safe and well maintained transportation system. The design, maintenance and operation of the Commonwealth's transportation network sometimes results in unavoidable impacts to aquatic resources. PennDOT mitigates these unavoidable impacts through the creation and/or restoration of aquatic habitats.

Larger wetland mitigation sites positioned in the landscape within a mosaic of upland, wetland and riverine habitats provide the best wetland functions and values. PennDOT is able to reduce project delivery time and costs through the establishment of these larger sites, wetland banks, developed in advance of application for the permitting of unavoidable impacts. The need and value for established mitigation banks to provide mitigation of future transportation projects has increased.

Since the mid-1990s, PennDOT has pursued consolidated mitigation for numerous small impacts into larger advanced wetland compensation or wetland mitigation bank sites. These sites have been planned, designed, created or restored, and monitored in a manner consistent with 33 CFR 332.8. It is PennDOT's intent to have these sites continue to operate as wetland mitigation banks, therefore, in accordance with 33 CFR 332.8(d)(2), The Pennsylvania Department of Transportation (PennDOT) has prepared this Umbrella Wetland Mitigation Banking Instrument for submission to the U. S. Army Corps of Engineers (USACE) and the Pennsylvania Department of Environmental Protection (PADEP). PennDOT intends to enroll twenty two (22) existing, approved wetland banks/advanced compensation sites and additional new or proposed banks under an umbrella banking instrument to consistently address establishment and management of its wetland bank sites. Ten existing advanced wetland compensation sites are included in the initial Umbrella Instrument. A summary of these wetland bank sites is provided in Table 1. It is the intent of PennDOT to modify the instrument in the future to incorporate additional existing and proposed mitigation banks utilizing the modification procedures as described at 33 CFR 332.8 (g)(1).

PennDOT has been engaged in the development of advanced compensation and mitigation banking for wetland habitat since the mid 1990s. To date twenty two (22) wetland mitigation bank sites have been developed by PennDOT. Two USACE Districts (Baltimore and Pittsburgh) have jurisdictional authority over these existing banks, with eleven existing mitigation banks each. All of the sites developed to date have been constructed and monitored in compliance with associated permits and the debiting of credits from many of the sites has been approved as mitigation for unavoidable wetland impacts resulting from transportation improvements. In addition to successful completion and management of these wetland mitigation banks, PennDOT has developed numerous project specific wetland mitigation sites over the course of the past 25 – 30 years. This long term experience qualifies PennDOT as a sponsor for the continued development and management of wetland mitigation banks.

A. History

PennDOT's initial efforts were pursued under Engineering District specific agreements for the development of wetland banks, referred to at the time as "advanced wetland compensation". PennDOT Engineering Districts 2-0, 3-0, 9-0 and 12-0 developed thirteen (13) wetland bank sites within the terms and conditions of these initial agreements. Six of the sites included in the submission of this initial Umbrella Instrument were developed under these agreements. Of these six sites, five of the sites were developed under the PennDOT Engineering 9-0 Agreement and one site was developed under the PennDOT Engineering District 2-0 Agreement. Copies of these two agreements can be found in Appendix A.

In 2002, PennDOT entered into a statewide wetland mitigation banking instrument that outlined the framework for the development of wetland mitigation banks for mitigation of unavoidable impacts occurring as a result of transportation projects throughout the Commonwealth. This agreement grandfathered the pre-existing agreements resulting in five (5) active agreements for mitigation banking for PennDOT use. Under this new agreement Engineering Districts 1-0 and 10-0 have developed nine (9) wetland mitigation banks. Four (4) of these existing wetland mitigation banks, developed under this previous statewide wetland mitigation banking instrument, are included in the submission of this initial Umbrella Instrument for enrollment in accordance with the Compensatory Mitigation for Losses of Aquatic

Resources: Final Rule (April 10, 2008). A copy of the statewide mitigation banking instrument under which these sites were developed is contained in Appendix A.

The USACE and the Environmental Protection Agency (EPA) published the *Compensatory Mitigation for Losses of Aquatic Resources: Final Rule* on April 10, 2008. Early in 2007, PennDOT's Environmental Quality Assurance Division conducted a review of the current wetland mitigation banking and advanced wetland compensation program with representatives from the eleven PennDOT Engineering Districts. This evaluation concluded that many of the same issues that were identified in the Proposed Rule as hindrances to the success of mitigation banking nationally were true in the Commonwealth of Pennsylvania. In particular, PennDOT Engineering Districts had found that service area sizes as identified in the operating agreements were inadequate to support marketable, usable mitigation banks. Further, the operating agreements did not include a hierarchy that recognized mitigation banking as a preference over on-site mitigation. These factors had resulted in some of the developed mitigation banks and advanced wetland compensation sites either not being utilized or minimally utilized. PennDOT initiated the development of a new wetland mitigation banking agreement beginning in 2007 in an attempt to improve on the effectiveness of wetland mitigation banking as compensatory mitigation for unavoidable impacts resulting from transportation projects. This agreement, included in Appendix B herein, included revised procedures for the establishment and operation of PennDOT wetland mitigation banks, including revised wetland banking service areas that address the marketability of mitigation banking for PennDOT and a mitigation hierarchy that recognizes a preference for wetland banks and in-lieu fee program sites as compensation for unavoidable impacts.

B. Content Summary

This initial Umbrella Banking Instrument being submitted in accordance with 33 CFR 332.8 incorporates the following information in respect to existing and proposed PennDOT mitigation banks:

- The *FINAL Memorandum of Agreement For the purpose of Establishing a Statewide Umbrella Mitigation Banking Instrument To compensate for losses to Wetlands Between*

Commonwealth of Pennsylvania, Department of Transportation (PennDOT) And Commonwealth of Pennsylvania, Department of Environmental Protection (PADEP) And U.S. Army Corps of Engineers, Philadelphia District (USACE) And U.S. Army Corps of Engineers, Baltimore District (USACE) And U.S. Army Corps of Engineers, Pittsburgh District (USACE) And Federal Highway Administration, Pennsylvania Division (FHWA) (2010), which provides the background information for the following required mitigation banking instrument components and was utilized as the primary guide in development of this Instrument: (See Appendix B for a copy of this agreement)

- Sponsor's legal responsibility for providing mitigation
- Definitions
- General Mitigation Bank Objectives
- Proposed Service Areas (Commonwealth-wide)
- Site Selection factors and site establishment process
- Determination of types of credits
- Credit release schedule and criteria tied to specific milestones
- Accounting procedures
- Site operation procedures
- Long term management
- Adaptive Management
- Reporting Protocol
- General Site Protection Procedures
 - Model Deed Restriction: Declaration of restrictive Covenants for Conservation
 - Acceptance of Rights under Conservation Easement
- In addition to these general provisions applicable to all sites, the following required site specific mitigation banking instrument components are incorporated for each of the ten sites included in this initial banking instrument:
 - Mitigation Bank Name
 - Mitigation Bank Sponsor and Contact Information
 - Mitigation Bank Location and Specific Service Area
 - Site Specific Bank Objectives
 - Performance Standards
 - Baseline information including:

- Ownership
- Soils
- Hydrology
- Existing Vegetation
- Unique Features
- Hazardous Substances
- Adjacent Land Use
- Relevant Watershed Plan Information
- Mitigation Plan
- Monitoring Plan
- Accounting Ledger

Table 1: PennDOT Wetland Mitigation Banks Contact and Location Information

Site Name	Bank Sponsor	USACE District	County	Service Area	Location (decimal degrees)
Kettle Creek	PennDOT Engineering District 2-0 1924 Daisy Street – PO Box 342 Clearfield, PA 16830	Baltimore	Potter	Central West Branch Susquehanna	41.49582651, -77.79484754
Aughwick Whitsel	PennDOT Engineering District 9-0 1620 North Juniata Street Hollidaysburg, PA 16648	Baltimore	Huntingdon	Lower Juniata	40.2734114, -77.82611759
Cambria AWC	PennDOT Engineering District 9-0 1620 North Juniata Street Hollidaysburg, PA 16648	Baltimore	Cambria	Upper West Branch Susquehanna	40.6480161, -78.55682183
Fulton AWC	PennDOT Engineering District 9-0 1620 North Juniata Street Hollidaysburg, PA 16648	Baltimore	Fulton	Potomac	39.97234881, -78.06803966
Huntingdon Old Crow AWC	PennDOT Engineering District 9-0 1620 North Juniata Street Hollidaysburg, PA 16648	Baltimore	Huntingdon	Upper Juniata	40.48827036, -78.03770539
Mowry AWC	PennDOT Engineering District 9-0 1620 North Juniata Street Hollidaysburg, PA 16648	Baltimore	Blair	Upper Juniata	40.45983523, - 78.334052437
Polk	PENNDOT Engineering District 1-0 255 Elm St., P.O. Box 398 Oil City, PA 16301	Pittsburgh	Venango	Upper Allegheny	41.36057159 -79.89993986
Schall	PennDOT Engineering District 10-0 2550 Oakland Ave. – PO Box 429 Indiana, PA 15701	Pittsburgh	Armstrong	Central Allegheny	40.69272663 -79.41205169
Dubois Airport	PennDOT Engineering District 10-0 2550 Oakland Ave. – PO Box 429 Indiana, PA 15701	Pittsburgh	Jefferson	Central Allegheny	41.147222 -78.852778
Wingard	PennDOT Engineering District 10-0 2550 Oakland Ave. – PO Box 429 Indiana, PA 15701	Pittsburgh	Jefferson	Central Allegheny	41.24065919 -78.86922849

II. Definitions

The definitions for this instrument shall be those definitions found in 33 CFR 332.2 and as follows.

Bank Service Area means the geographic area within which impacts can be mitigated at a specific bank or in-lieu program, as designated in its instrument.

Bank Sponsor An organization within the Pennsylvania Department of Transportation (such as an Engineering District) assigned the responsibility for the establishment and operation of a mitigation bank in a given service area.

Compensatory mitigation project means a restoration, establishment, activity implemented by the permittee as a requirement of a DA permit and PADEP authorization (i.e., permittee-responsible mitigation), or the same work implemented by a mitigation bank sponsor or an in-lieu fee program.

Credit Release Schedule (CRS) The schedule defining when credits will be released and available for use in a mitigation bank.

Healthy Plant means a woody plant that meets the following:

1. Is free of visible evidence of disease,
2. Shows signs of new growth commensurate with the time of the year that the monitoring is taking place, and
3. Is free of damage that would impair future growth of the plant.

Mitigation bank means a site, or suite of sites, where wetland resources (e.g. wetlands) are restored, established, and/or enhanced. For the purpose of providing compensatory mitigation for impacts authorized by DA permits. In general, a mitigation bank, as defined in the agreement, provides compensatory mitigation credits for PennDOT districts and approved

transportation partners, whose obligation to provide compensatory mitigation credits is then transferred to the mitigation bank sponsor (PennDOT District that constructed the bank and/or PennDOT Central Office). The operation and use of a mitigation bank are governed by a mitigation banking instrument.

Mitigation Plan means the plan, as defined in 33 CFR § 332.4 (c) paragraphs 2 through 14 and Appendix B submitted by the bank sponsor to the PADEP Transportation Program Manager and the respective USACE District Engineer.

Participant An entity obtaining credits from a wetland bank to compensate for authorized impacts resulting from that entity's activities. Specifically in this agreement, approved Participants are limited to the Pennsylvania Department of Transportation and the Pennsylvania Turnpike Commission. Other public entities carrying out transportation construction and maintenance activities, such as state and federal agencies, county and municipal governments, transit authorities, ports, and airports, may be deemed appropriate participants by decision of both the Bank Sponsor and the permitting agencies on a case by case basis when such entities impact wetland resources directly as a result of delivering transportation infrastructure or services.

Reference wetlands are a set of wetlands that represent the full range of variability exhibited by a regional class of wetland resources as a result of natural processes and anthropogenic disturbances.

Watershed approach means an analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in a watershed. It involves consideration of watershed needs, and how locations and types of compensatory mitigation projects address those needs. A landscape perspective is used to identify the types and locations of compensatory mitigation projects that will benefit the watershed and offset losses of aquatic resource functions and services caused by activities authorized by DA permits and PADEP authorizations. The watershed approach may involve consideration of landscape scale, historic and potential aquatic resource conditions, past and projected aquatic resource

impacts in the watershed, and terrestrial connections between aquatic resources when determining the compensatory mitigation requirements for DA permits and PADEP authorizations.

III. Mitigation Bank Purpose and Authorities

A. Authorities

The Pennsylvania Department of Transportation (PennDOT) is charged with construction, operation and maintenance of state roads and highways. These activities can impact aquatic resources and are thus regulated under state and federal environmental laws including the federal Clean Water Act (33 U.S.C. §1251 *et. seq.*), the Rivers and Harbors Appropriations Act of 1899 (33 U.S.C. § 401 *et. seq.*), the Pennsylvania Clean Streams Law (35 P.S. §§ 691.1 *et seq.*) and the Dam Safety and Encroachments Act (32 P.S. §§ 693.1 *et. seq.*) and the rules and regulations promulgated there under at Title 25, Pa. Code Chapter 105. PennDOT, is required to consider the impacts of its projects on aquatic resources pursuant to the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 *et. seq.* (hereinafter, "CWA"), Pennsylvania Clean Streams Law (35 P.S. §§ 691.1 *et seq.*), the Dam Safety and Encroachments Act (32 P.S. §§ 693.1 *et seq.*), and their supporting regulations.

PennDOT is obligated under these laws to avoid and minimize impacts to aquatic resources to the maximum extent possible. When impacts cannot be avoided, federal and state regulations may require PennDOT to mitigate the aquatic resource that is impacted. Federal regulations at 33 CFR Parts 325 and 332, 40 CFR Part 230, allow for replacement of aquatic resources through the development of "mitigation banks." to implement the mitigation of unavoidable impacts. State and federal processes for the establishment of wetland mitigation banks are also detailed in the agreement, *FINAL Memorandum of Agreement For the purpose of Establishing a Statewide Umbrella Mitigation Banking Instrument To compensate for losses to Wetlands Between Commonwealth of Pennsylvania, Department of Transportation (PennDOT) And Commonwealth of Pennsylvania, Department of Environmental Protection (PADEP) And U.S. Army Corps of Engineers, Philadelphia District (USACE) And U.S. Army Corps of Engineers, Baltimore District (USACE) And U.S. Army Corps of Engineers, Pittsburgh District (USACE) And Federal Highway Administration, Pennsylvania Division (FHWA) (2009).*

Section 2002(a) (7) of the Pennsylvania Administrative Code of 1929, as amended, 71 P.S. §512(a) (7), requires the Pennsylvania Department of Transportation to cooperate with

appropriate Federal agencies in the coordination of plans and policies in the development of transportation facilities. Sections 501 and 502 of the Pennsylvania Administrative Code of 1929, as amended, 71 P.S. §§181-182 require the Commonwealth Departments and agencies to cooperate with one another and coordinate their work.

B. Mitigation Bank Objectives

The objective of PennDOT's Statewide Umbrella Mitigation Banking Instrument is to establish guidelines and responsibilities for the use, operation, maintenance, and closing of wetland mitigation banking within PennDOT¹. To achieve this objective PennDOT has established the following goals.

1. To restore or create wetlands and the functional values to compensate for unavoidable impacts to wetlands resulting from PennDOT projects authorized by Section 404 of the Clean Waters Act, Section 10 of the Rivers and Harbors Act, and PADEP Chapter 105.

2. Develop a comprehensive Statewide Umbrella Wetland Banking Instrument that complies with 33 CFR Part 332 and 40 CFR Part 230, and that provides a consistent approach for the establishment and operation of all PennDOT wetland banks, including periodic review of available mitigation banking credits by service area such that PennDOT can plan accordingly to maintain a surplus of banking credits in each service area.

3. Identify within the Umbrella Wetland Banking Instrument, Service Areas, that are watershed based areas of adequate size for wetland banking to be economically feasible, and that best provide for the application of watershed based mitigation approaches.

¹ Currently four PennDOT Engineering Districts are developing advanced wetland compensation site/wetland banks under four PennDOT District specific Interagency Agreements and the remaining seven PennDOT Engineering Districts are developing wetland banks under a Statewide Wetland Banking Instrument (2002).

4. Identify within the Umbrella Wetland Banking Instrument that acre based banked credits established under the instrument be deemed appropriate as mitigation for authorized unavoidable impacts resulting from PennDOT and the Pennsylvania Turnpike Commission transportation projects, and when approved by the Bank Sponsor, PennDOT, on a case by case basis, other public entities such as state and federal agencies, county and municipal governments, transit authorities, ports, and airports, when such entities impact wetland resources directly as a result of delivering transportation infrastructure or services within the Commonwealth of Pennsylvania.

5. Identify within the Umbrella Wetland Banking Instrument that mitigation banks may include any or all of the following related to wetland habitats: creation and/or restoration. Additionally, identifying that PennDOT may request credits for riparian areas, buffers, and upland habitats that are important to supporting the aquatic habitats within either the mitigation bank or watershed but noting that the decision to approve these credit requests lies with the respective USACE District Engineer and the PADEP Director of the Bureau of Watershed Management (or designee).

6. Enroll six (6) existing Wetland Mitigation Banks developed under individual agreements and formerly referred to as Advanced Wetland Compensations Sites (AWC) under the Umbrella Wetland Banking Instrument. These six sites, described in Tables 1 and 2 and identified on Figures 3 and 4, are individually referred to as: Aughwick/Whitsel, Cambria AWC, Fulton AWC, Huntingdon/Old Crow AWC, Kettle Creek, and Mowry AWC.

7. Enroll four (4) existing Wetland Mitigation Banks developed under the 2002 PennDOT Statewide Mitigation Banking Agreement under Umbrella Wetland Banking Instrument. These sites, described in Tables 1 and 2 and identified on Figures 3 and 4, are individually referred to as: Schall, Dubois Airport, Wingard, and Polk.

8. Provide that the Umbrella Wetland Banking Instrument be established in a manner such that additional wetland mitigation banks may be added as modifications by amendment thereto in accordance with the process identified in 33 CFR 332.8(g)(1) including review by the Interagency Review Team (IRT) and publication of a Public Notice allowing for public comment.

In the absence of an established wetland mitigation bank in any given wetland banking service area, in accordance with 33 CFR Part 332 and 40 CFR Part 230, mitigation through use of the Commonwealth In-Lieu-Fee Program, will be considered as the next hierarchical alternative to mitigate unavoidable wetland impacts resulting from transportation improvements.

IV. Establishment and Operations

A. Site Selection Factors Considered²

PennDOT will identify sites within a service area with the potential for the development of a mitigation bank in accordance with 33 CFR §332.3(d) and 105.20a (a) (3) and 105.20a (b) and further described within Chapter 10 of PennDOT Publication 325, Wetland Resources Handbook (<ftp://ftp.dot.state.pa.us/public/PubsForms/Publications/PUB%20325.pdf>). The service areas incorporated in this agreement are identified in Figure 1; maps of the individual bank service areas are included in Appendix C. Suitability of the site for compensatory mitigation of wetlands as well as location of anticipated transportation program projects will be considered in locating such sites. PennDOT will consider watershed-scale features such as aquatic resource diversity, habitat connectivity and other landscape scale functions; watershed, species recovery and comprehensive plans, municipal coordination, soils data, hydrologic data, natural communities, local or regional goals for the restoration or protection of particular habitat types or functions; land use and land cover.

In the future wetland Mitigation banks may include any or all of the following related to wetland habitats: creation, restoration, enhancement, and preservation. It is the intention of PennDOT to ask for credit for all of these types of habitats and mitigation techniques. Additionally, the sizes of upland buffers that have been preserved on individual bank sites are reported throughout this document. These buffer areas will be used as part of the site assessment when the banking accounting system changes from an area based system to the PADEP functional based system. Additional details related to this conversion are supplied in Section IV – D.

² Adapted from *FINAL Memorandum of Agreement For the purpose of Establishing a Statewide Umbrella Mitigation Banking Instrument To compensate for losses to Wetlands Between Commonwealth of Pennsylvania, Department of Transportation (PennDOT) And Commonwealth of Pennsylvania, Department of Environmental Protection (PADEP) And U.S. Army Corps of Engineers, Philadelphia District (USACE) And U.S. Army Corps of Engineers, Baltimore District (USACE) And U.S. Army Corps of Engineers, Pittsburgh District (USACE) And Federal Highway Administration, Pennsylvania Division (FHWA) (2009), Sections IIIA and B (Appendix B).*

In accordance with 33 CFR §332.4 and PADEP policy, pre-application and/or field view meetings are highly recommended. PennDOT will conduct an agency/IRT field view to review each of the potential mitigation bank sites.

B. Service Areas³

The Service Areas identified for PennDOT's Statewide Umbrella Mitigation Banking Instrument is presented in Figure 1. Maps of the individual service areas are provided in Appendix C. The service areas are consistent with current watershed service areas designated in the PaDEP state water plan, and are areas of adequate size for wetland banking to be economically feasible, and that also best provide for the application of watershed based mitigation approaches.

PennDOT Engineering Districts had found that service area sizes as identified in past advanced wetland compensation and wetland banking agreements, resulting in thirty four service areas within the Commonwealth, were too small to support usable mitigation banks to address unavoidable impacts from transportation actions. These factors had resulted in some of the previously developed mitigation banks and advanced wetland compensation sites not being utilized or minimally utilized. As the objective of the Statewide Banking Instrument is to provide an established bank of wetland credits, within a given service area, that may be debited to mitigate for future unavoidable wetland impacts resulting from transportation actions, the usability or marketability of service areas relates to planned transportation projects within the service area. In identifying wetland banking service areas that would provide for more effective wetland banking, PennDOT considered projects identified or anticipated for inclusion in the Transportation Improvement Program (TIP). Based on this re-evaluation of service area sizes and in discussion with the USACE and PADEP, PennDOT now believes that the service areas

³ Figure 1 has been excerpted from *FINAL Memorandum of Agreement For the purpose of Establishing a Statewide Umbrella Mitigation Banking Instrument To compensate for losses to Wetlands Between Commonwealth of Pennsylvania, Department of Transportation (PennDOT) And Commonwealth of Pennsylvania, Department of Environmental Protection (PADEP) And U.S. Army Corps of Engineers, Philadelphia District (USACE) And U.S. Army Corps of Engineers, Baltimore District (USACE) And U.S. Army Corps of Engineers, Pittsburgh District (USACE) And Federal Highway Administration, Pennsylvania Division (FHWA) (2009), Appendix B.*

identified on Figure 1 will be of a functional size to utilize wetland mitigation banking as compensatory mitigation for unavoidable impacts resulting from transportation projects.

The ecological benefits to the watershed were taken into account when the service areas were developed. Wetland Mitigation Banks provide significant benefits to local watersheds by assuring no net loss of wetlands, both functionally and temporally. These functional benefits can include increased wildlife habitat, floodflow attenuation, groundwater interaction, nutrient transport, and sediment-toxicant retention. Wetland Mitigation Banks generally represent aggregated mitigation that allows numerous small impacts to be replaced at a single site. The aggregation of mitigation provides biotic and abiotic functional advantages that are naturally inherent to larger wetland areas. Wetland Mitigation Banks are generally several acres in size and are composed of multiple hydrologic-vegetative zones. These habitat zones add beta diversity to the general area, and in many cases are sufficiently large enough to possess independent alpha diversity. Larger wetland systems are typically more robust at providing abiotic functions than are smaller isolated wetland pockets because of increased hydrologic storage volume and longer retention time. Increased flood storage volume results in increased floodflow attenuation and promotes greater potential for groundwater interaction. A longer retention time improves the capacity for sediment and toxicant removal and increases groundwater interaction. Large wetland systems with multiple vegetative communities and inundated habitat components transfer primary productivity (plant material) into the foodchain in the form of detritus processed by the littoral epifaunal community.

Wetland Mitigation Banks provide significant benefits to a local watershed by assuring no temporal loss of wetland functions. Wetland Mitigation Banks are constructed, monitored, and functioning before wetland impacts are authorized. This insures there is no net loss of wetland functions in the watershed, and in some cases there is a short term gain in function as the bank is withdrawn.

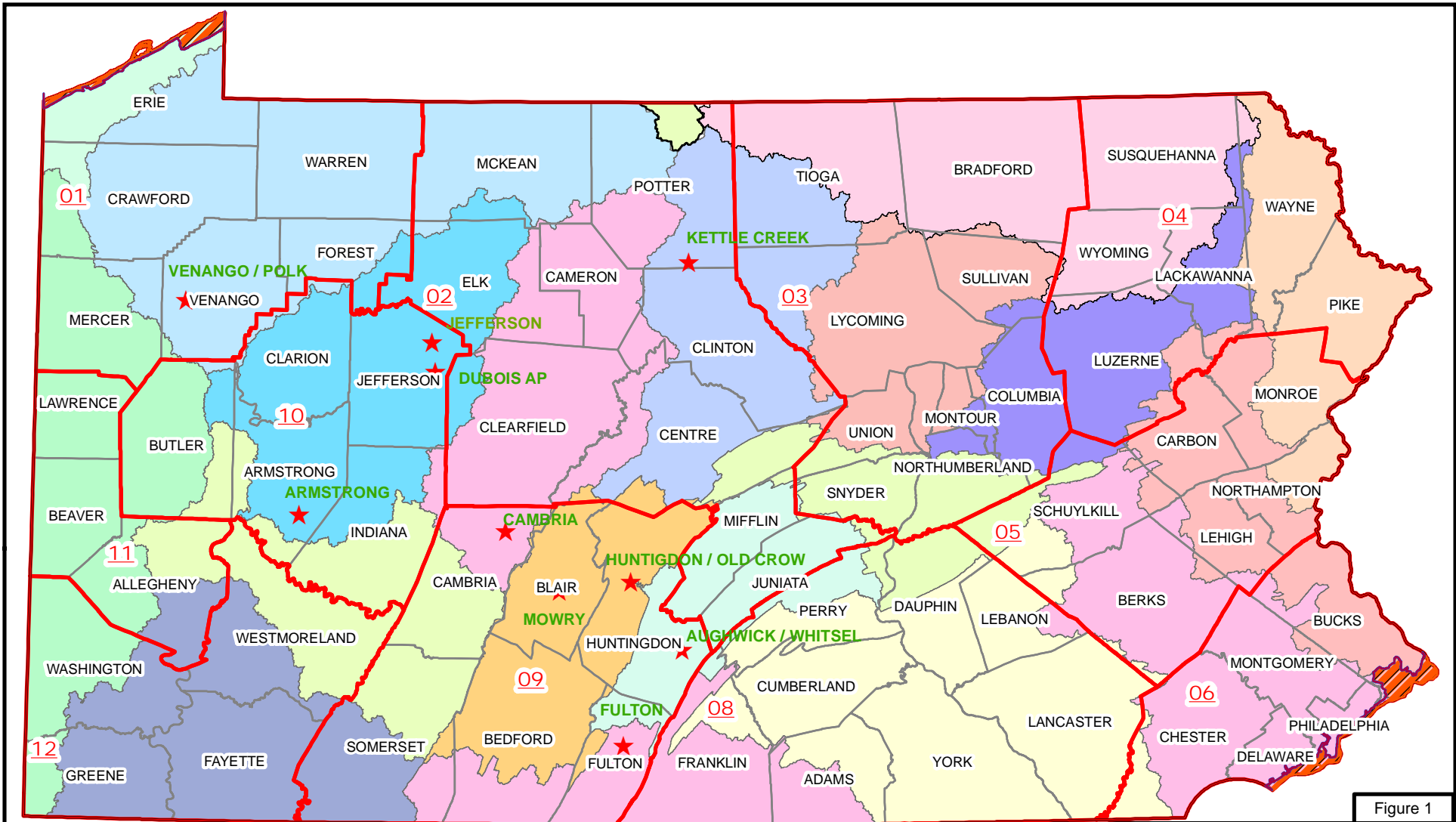


Figure 1

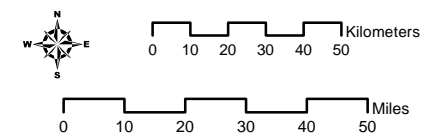
Pennsylvania
Department of Transportation

May 2012

LEGEND

- | | | | |
|---------------------------------|---------------------------------|-------------------------------|-------------------------------|
| ★ Existing Wetland Bank | Central West Branch Susquehanna | Lower Central Susquehanna | Monongahela |
| ▭ PennDOT Engineering Districts | Genesee | Lower Delaware | Ohio |
| ▭ PA County | Lake Erie | Lower Juniata | Potomac |
| ▨ Coastal Zones | Lower Allegheny | Lower Susquehanna | Upper Allegheny |
| ▭ Central Allegheny | Upper Delaware | Lower West Branch Susquehanna | Upper Central Susquehanna |
| ▭ Central Delaware | Upper Juniata | Upper Susquehanna | Upper West Branch Susquehanna |

Umbrella Mitigation
Banking Instrument
**EXISTING PENNDOT WETLAND BANKS
PENNDOT ENGINEERING DISTRICTS
AND BANK SERVICE AREAS**



C. Determination of Number and Types of Credits⁴

a. Guidelines for Mitigation Bank Usage to Offset Project Specific Impacts

This section does not alter the regulations at CFR 33 § 320.4(r), which addresses the general mitigation requirements for Department of the Army (DA) permits. It does not change the circumstances under which mitigation is required or the need to avoid and minimize adverse impacts as outlined in the provisions of: 33 CFR §332.1; 40 CFR part 230; and 25 Pa. Code §105.18a.

Generally, in accordance with 33 CFR Part 332, PennDOT has the option to propose as mitigation for unavoidable impacts resulting from the implementation of transportation projects:

- i. Debit from an approved mitigation bank located within the project service area.
- ii. Contribute to an in-lieu fee program as an option if item (a) above is determined not to be practicable and where no mitigation bank currently exists with available credits within the service area.
- iii. Replace on-site if and only if: replacement on-site meets suitable criteria for the establishment or restoration of a wetland resource, and is practicable, and a wetland replacement plan and monitoring plan can be approved.

⁴ Adapted from *FINAL Memorandum of Agreement For the purpose of Establishing a Statewide Umbrella Mitigation Banking Instrument To compensate for losses to Wetlands Between Commonwealth of Pennsylvania, Department of Transportation (PennDOT) And Commonwealth of Pennsylvania, Department of Environmental Protection (PADEP) And U.S. Army Corps of Engineers, Philadelphia District (USACE) And U.S. Army Corps of Engineers, Baltimore District (USACE) And U.S. Army Corps of Engineers, Pittsburgh District (USACE) And Federal Highway Administration, Pennsylvania Division (FHWA) (2009), Sections IVA and B (Appendix B).*

Based upon past experience with the performance/success or lack thereof of on-site mitigation replacement projects, the history of success with in-lieu fee programs and the recommendations contained within the “Federal Rule” relating to compensatory mitigation for losses of aquatic resources published April 10, 2008; the use of wetland mitigation banking as mitigation to offset unavoidable impacts to Waters of the Commonwealth and Waters of the United States is the preferred strategy for mitigating wetland impacts. It is solely the decision of the USACE and PADEP in reviewing a permit application to determine if use of a bank is appropriate; and such determinations are case-specific.

The ability to use in-lieu fee programs is in no way meant to diminish the need for or the expectation of the establishment of mitigation banks by the PennDOT in each of the designated service areas. In-lieu fee programs should only be used in the event that, despite considerable bank sponsor effort or due to insufficient service area size to justify and support a mitigation bank, a mitigation bank is not available.

Approved wetland banking credits should be used to satisfy compensatory mitigation requirements associated with authorized impacts if credits are available in the service area. Approved credits may be used to offset impacts for USACE Nationwide permit authorization, PASPGP-4 and subsequent programmatic permit authorizations; and individual permits. Credits banked by PennDOT under this agreement may be debited, with PennDOT approval, and as authorized by the USACE and PADEP on a case by case basis, by any of the parties listed as participants in Section I with the approval of the USACE District Engineer and PADEP project managers.

Within a service area having an approved wetland mitigation bank, mitigation requirements will be based upon current regulations, policies, and guidance at the time of project specific permit submission, as well as the requirements determined by the USACE and PADEP permits or permit authorizations and in coordination with commenting state and Federal agencies.

b. Establishment of Credit Release Schedule (CRS)

Credits will be enumerated by acres or hundredths of acres. At the request of either PennDOT or the recommendation of the IRT, a re-evaluation of the credits available at a mitigation bank may be conducted at any time during the life of the mitigation bank. Major credit revisions, such as the implementation of a remediation plan or the adding or removal of entire basins from a site, by PennDOT will be through the submission of a modification to this Umbrella Instrument utilizing the *Streamlined Review Process* as described at 33 CFR 332.8(g)(2) and approved by the USACE District Engineer and PADEP Director of the Bureau of Watershed Management (or designee) in consultation with the IRT.

For the ten wetland bank sites to be enrolled under this agreement, 50% of the unencumbered credits outlined in this agreement will be released upon approval of this instrument. The balance of the unencumbered credits will be released upon the approval of a monitoring report for the site that evaluates the site based on the performance standards incorporated in this instrument. Until the approval of the monitoring report, all unencumbered credits will be classified as PEM credits. Table 2 summarized the credits to be released upon approval of this instrument.

Table 2 - Summary of Approved Credits

Site	Total (Acres)			Approved Credits
	Created	Debited	Balance	
Kettle Creek	0.79	0.00	0.79	0.40
Aughwick Whitsel	1.32	0.35	0.97	0.49
Cambria AWC	5.38	0.40	4.98	2.49
Fulton AWC	12.86	0.36	12.50	6.25
Huntingdon Old Crow AWC	7.62	1.60	6.02	3.01
Mowry AWC	9.90	0.48	9.42	4.71
Polk	4.38	2.98	1.40	0.70
Schall	2.78	0.18	2.60	1.30
Dubois Airport	6.73	0.77	5.96	2.98
Wingard	6.47	0.68	5.79	2.90
Total	58.23	7.80	50.43	25.23

For wetland banks established prior to December 31, 2008 that are to be amended to this instrument 100% of credits will be immediately available upon approval of a submitted amendment.

For new or developing banks, or bank sites with development challenges identified, a site specific credit release schedule may be included in the amendment submittal. A standardized credit release schedule is complicated by the variety of goals and construction challenges presented by each individual site, however, unless otherwise approved as part of a Final Mitigation Plan (FMP), the guideline credit release schedule for all mitigation banks established under this Statewide Umbrella Instrument will be as follows:

Table 3 –Credit Release Schedule

Mitigation Bank Site Milestone	Credits Released
FMP approval by USACE and PADEP	0 % of planned credit
Successful Post Construction Submittal	10 % of as-built credits
First annual monitoring report deemed successful by USACE and PADEP	20 % of as-built credits

Mitigation Bank Site Milestone	Credits Released
Second annual monitoring report deemed successful by USACE and PADEP	30 % of as-built credits
Third annual monitoring report deemed successful by USACE and PADEP	45 % of as-built credits
Fourth annual monitoring report deemed successful by USACE and PADEP	60 % of as-built credits
The fifth annual monitoring report, or two consecutive years of successful monitoring results and Corps and PADEP approval. ⁵	100 % of the accepted as-built credits

It should be noted that some wetland creation projects may take several years to reach goals outlined in the mitigation plan (e.g. forested wetlands). The mitigation bank may be approved for 100% crediting prior to attainment of such goals; and in such instance, USACE and PADEP authorizations may require credits at a higher rate than 1:1 replacement.

Based on this data all of the sites have a sufficient quantity of wetland habitat to offset the impacts debited from the respective banks. Accordingly, PennDOT proposes that all of the existing wetland banks will use the appropriate performance standards and the appropriate monitoring protocol as outlined in the approved instrument for all future credit calculations.⁶

⁵ The length of monitoring will be dictated by the monitoring requirements submitted in the FMP and permit special conditions.

⁶ For consistency purposes the areas presented in the instrument remain the original 2010 monitored wetland sizes. Once the instrument is approved the habitat sizes will be adjusted based the 2013 monitoring results applying the new performance standards.

D. Accounting Procedures⁷

a. Area based Accounting Procedures

Once established and released in accordance with the FMP, unused credits remain available for debiting. There is no date of expiration for approved credits.

The ledger of credits for each approved bank site will list credits by type (e.g. emergent, scrub shrub, and forested) and category (e.g. created, enhanced, preserved) the debits will be listed similarly along with associated impacts and the USACE and PADEP permit file number. Figure 2 provides an example of the proposed ledger template. The USACE will use RIBITS as the universal ledger system for wetland banking. PennDOT does not intend to maintain ledger information in more than one accounting system for the purpose of tracking wetland mitigation banking credits. USACE will utilize RIBITS to identify when a release of credits is approved.

PennDOT will determine the conditions of credit transfer to other participants as defined in Section I. PennDOT retains the right to deny the transfer of credits to any potential participant outside of the Pennsylvania Department of Transportation. Within PennDOT, one District may utilize the credits created by another District only if such transfer is acceptable to the District that constructed the banked credits. PennDOT will retain its responsibilities as sponsor in respect to management, monitoring, credit accounting, adaptive management and long term management. PennDOT at all times shall retain management responsibility of the entire wetland bank.

PennDOT will document the transfer of credits to other participants and will enter the details of credit transfer (participant, number and type of credits transferred, date, remaining mitigation bank credit balance, and impact to be mitigated) into the accounting record/ledger report.

⁷ Adapted from *FINAL Memorandum of Agreement For the purpose of Establishing a Statewide Umbrella Mitigation Banking Instrument To compensate for losses to Wetlands Between Commonwealth of Pennsylvania, Department of Transportation (PennDOT) And Commonwealth of Pennsylvania, Department of Environmental Protection (PADEP) And U.S. Army Corps of Engineers, Philadelphia District (USACE) And U.S. Army Corps of Engineers, Baltimore District (USACE) And U.S. Army Corps of Engineers, Pittsburgh District (USACE) And Federal Highway Administration, Pennsylvania Division (FHWA) (2009), Sections IV(A)(5) (Appendix B).*

Figure 2 -PennDOT Wetland Bank Ledger

Debit Summary

Beginning Credits	PEM	PSS	PFO	POW	Total
	0.62	0.37	0.05	0.28	9.56

Project Name SR2009-RTB PADEP Permit: E31-184
 Recorded By: USACOE Permit: E31-184
 Date: 11/7/2002

Debit Amount

PEM	PSS	PFO	POW	Total
0.02	0.00	0.00	0.00	0.02

Project Name SR522-5BS PADEP Permit: E31-185
 Recorded By: USACOE Permit: E31-185
 Date: 2/21/2003

Debit Amount

PEM	PSS	PFO	POW	Total
0.00	0.00	0.04	0.00	0.04

Project Name 522-5BN PADEP Permit: E31-202
 Recorded By: USACOE Permit: E31-202
 Date: 10/19/2005

Debit Amount

PEM	PSS	PFO	POW	Total
0.03	0.13	0.00	0.00	0.16

Project Name SR522-08M PADEP Permit: GP-08-31-07-114 & GP-11-07-104
 Recorded By: USACOE Permit: GP-08-31-07-114 & GP-11-07-104
 Date: 10/18/2007

Debit Amount

PEM	PSS	PFO	POW	Total
0.01	0.00	0.00	0.00	0.01

Project Name SR7205-452 PADEP Permit: E29-096
 Recorded By: USACOE Permit: E29-096
 Date: 8/25/2009

Debit Amount

PEM	PSS	PFO	POW	Total
0.00	0.08	0.00	0.00	0.08

	PEM	PSS	PFO	POW	Total
Total Debits	<u>0.06</u>	<u>0.21</u>	<u>0.04</u>	<u>0.00</u>	0.31
Remaining Balance	0.56	0.16	0.01	0.28	9.25

b. Functional Assessment Based Accounting Procedures

It is the intent of PADEP to convert the Chapter 105 Wetland Regulation Programs from an area based system to a functional assessment based system. The new system will be used to evaluate both project impacts as well as compensation proposals.

Once this conversion takes place, all of the bank sites currently enrolled under this instrument, and any sites added in the future, will be converted to the new functional based system. The conversion to the function based system will be conducted based upon the procedures established by the PADEP. After the conversion takes place, new sites will use the established protocols in place at the time of project development. For existing bank sites the beginning balance will be calculated by determining the total functional mitigation credits for the entire bank site based on the approved functional assessment method. Once the total functional mitigation credits for the entire site have been calculated, prior area based debits will be accounted for by reducing the total site functional mitigation credits by the same percentage of the site that had been encumbered under the area based accounting system.

E. Site Ownership and Protection

Ownership of PennDOT wetland banks varies by site; however, consistency is applied to securing site protections dependent upon owner type. The ownership scenarios are: 1) State or Federal Agency owned; 2) County owned; 3) Township owned; or 4) Privately owned. Any modification of a site protection instrument requires a 60 day pre-notification of the USACE. The site protection instrument shall be executed prior to the releasing of any credits from a bank site. In the event of transfer of ownership or maintenance responsibilities, PennDOT shall ensure that the site remains in perpetuity through agreements, restrictive covenants or deed restrictions.

a. Site Protection Federal, State and County Owned PennDOT Wetland Banks

PennDOT may own and manage lands with wetland bank sites. In these instances PennDOT policy and interest in the wetland bank provides site protections in perpetuity for the wetlands. Three of the sites (the Huntingdon/Old Crow AWC, Fulton AWC, and Dubois Airport Sites) included for enrollment as part of this initial Umbrella Banking Instrument are under the jurisdiction and control of PennDOT.

PennDOT typically utilizes a Memorandum of Understanding (MOU) or Interagency Agreement (IA) as the agreement instrument permitting the use of state or county lands under the jurisdiction of other state agencies or county governments. For the use of federal lands the similar Memorandum of Agreement (MOA) would be utilized. MOUs and MOAs may be either site specific or structured as statewide umbrella agreements. In the event of an existing umbrella agreement with a state agency PennDOT Districts will not pursue individual site specific agreements.

PennDOT has executed umbrella MOUs with two state agencies, the Pennsylvania Department of Conservation and Natural Resources (DCNR) and the Pennsylvania Game Commission (PGC) for the purpose of utilizing state lands for the development of wetland banks. These MOUs are amended with the addition of each wetland bank developed on the lands of each respective agency. Full text of these MOUs is contained in Appendix D and E of this Instrument. Future umbrella agreements with federal or state agencies for the use of lands owned and managed are expected to be fashioned similarly to the two existing agreements detailed below.

i. DCNR

The MOU titled *Memorandum of Understanding Wetland Banking Interagency Cooperative Land Use*⁸ between the PennDOT and DCNR is for the expressed purpose of providing for the use of lands under the ownership and management of DCNR, by PennDOT for the design, development and post-construction monitoring of wetland mitigation banks. This

⁸ See Appendix D

MOU was entered into by the parties with the goal of increasing the value and use of the lands of the DCNR while providing use of land to PennDOT at no cost for the purpose of developing wetland banks against which PennDOT may take credits for the purpose of mitigating for impacts of transportation projects.

Within this MOU DCNR grants authority to PennDOT for the use of lands owned or managed by them as described in executed and appended site development plans. The following language in the MOU established the protection for the wetland bank site:

“The DCNR retains all rights to control trespass and retains all responsibilities for taxes, assessments, granting rights-of-way, and other incidences of ownership, excepting the right to alter to a state other than wetland any of the lands described and designated in the executed Site Development Plans.”

One of the sites, Kettle Creek, included for enrollment as part of this initial Umbrella Banking Instrument was established on DCNR State Forest Lands in accordance with this agreement.

ii. PGC

The MOU titled *Memorandum of Understanding between the Commonwealth of Pennsylvania, Department of Transportation (PennDOT) and the Commonwealth of Pennsylvania, Game Commission (PGC)*⁹ is for the expressed purpose of providing for the use of lands under the ownership and management of PGC, by PennDOT for the design, development and post-construction monitoring of wetland mitigation banks. This MOU was entered into by the parties with the goal of increasing the habitat value and recreational uses incident to game and wildlife of the lands of the PGC while providing use of land to PennDOT at no cost to either party for the purpose of developing wetland banks against which PennDOT may take credits for the purpose of mitigating for unavoidable, minimized impacts of transportation projects.

Within this MOU PGC grants authority to PennDOT for the use of lands owned or managed by them as described in executed and appended site development plans. The following language in the MOU established the protection for the wetland bank site:

⁹ See Appendix E

“The PGC retains all rights to control trespass and retains all responsibilities for taxes, assessments, granting rights-of-way, and other incidences of ownership, excepting the right to knowingly and/or purposefully alter to a state other than wetland via direct physical means any of the lands described and designated in the attached Site Development Plans.”

Additionally, in the event of site transfer this MOU specifies that any new deed, lease or other instrument of transfer is subject to the MOU.

Two of the existing sites, known as Polk, included for enrollment as part of this initial Umbrella Banking Instrument were established on State Game Lands in accordance with this agreement. A separate site protection agreement was developed with PGC for the Cambria AWC site, in 1997, prior to the development of the Umbrella MOU with the PGC.

b. Site Protection Township and Privately Owned PennDOT Wetland Banks

PennDOT utilizes a model deed restriction entitled, *DECLARATION OF RESTRICTIVE COVENANTS FOR CONSERVATION*, for the purposes of site protection for sites on lands owned by Townships and Individuals. The same would be utilized for non-governmental entities. In addition, PennDOT has confers third party enforcement rights to the USACE for all sites. The full text of the model deed restriction, similar standard restrictions for stream mitigation sites, the USACE Acceptance of Third party Rights Form and Instructions for completion of these restrictive covenants are appended to this banking instrument in Appendix F. These standards for restrictive covenants for conservation were established after the initial advanced wetland compensation and wetland banking sites were established. PennDOT will utilize these standards for all sites developed after August 17, 2007, the date of agreement with USACE in the same.

The standard model deed restriction is entered into with the property owner for the purposes of: preserving and protecting the native flora, fauna, water table, drainage patterns and other conservation values of the site; permitting the site to be viewed in its scenic and open

condition; and to assure that the site is retained in its natural condition and that the natural resource functions and values are not impaired or interfered with in perpetuity.

c. Summary of Site Protections for Wetland Banks Enrolled under the Initial Umbrella Instrument

PennDOT has secured arrangements for all ten (10) sites being submitted for enrollment under this initial Umbrella Instrument, that assure their protection and conservation as wetlands in perpetuity. The Agreements, Easements, Deed Restrictions, or other that provides these protections are included within the site specific information contained in Section III.

Six (6) of the ten (10) existing wetland banks are located on lands owned by state governmental agencies. Of these, three (3) locations are in PennDOT jurisdiction and control, two (2) locations are on lands under the ownership of the Pennsylvania Game Commission (PGC), and one is located on lands of the Department of Conservation and Natural Resources (DCNR). The remaining four (4) existing sites are located on privately owned lands and are protected through Deeded Declarations of Restrictive Covenants for Conservation or Deeded Conservation Easements. Many of these easements predate the development of the Model Deed: *Declaration of Restrictive Covenants for Conservation*.

PennDOT has placed restrictions on the properties for the purpose of assuring that the sites will be retained in perpetuity in their natural condition and to prevent any use of the sites that will impair or interfere with their natural resource functions and values. Similar restrictions and protections in perpetuity are applied to sites under the ownership of PGC and DCNR by inclusion in executed Agreements and Memoranda of Understanding between PennDOT and these state agencies. PennDOT policies and interest provide protection for the site under PennDOT jurisdiction. A summary of the ownership and site protection instruments for the ten (10) sites is provided in Table 4.

**Table 4: Summary of Property Ownership and Site Protection for PennDOT Wetland
 Mitigation Banks Proposed for Enrollment¹⁰**

Site Name	USACE District	PennDOT District	Service Area	Build Year	County	Ownership	Site Protection
Kettle Creek	Baltimore	2-0	Central West Branch Susquehanna	2002	Potter	DCNR – State Forest	Memorandum of Understanding
Aughwick Whitsel	Baltimore	9-0	Lower Juniata	2001	Huntingdon	Private	Conservation Easement
Cambria AWC	Baltimore	9-0	Upper West Branch Susquehanna	1997	Cambria	PA Game Land	Signed Agreement
Fulton AWC	Baltimore	9-0	Potomac	1998	Fulton	PennDOT	PennDOT Policy
Huntingdon Old Crow AWC	Baltimore	9-0	Upper Juniata	1997	Huntingdon	PennDOT	PennDOT Policy
Mowry AWC	Baltimore	9-0	Upper Juniata	2002	Blair	Private	Conservation Easement
Polk	Pittsburgh	1-0	Upper Allegheny	2003	Venango	PA Game Land	Memorandum of Understanding
Schall	Pittsburgh	10-0	Central Allegheny	2005	Armstrong	Private	Conservation Easement
Dubois Airport	Pittsburgh	10-0	Central Allegheny	2005	Jefferson	PennDOT	PennDOT Policy
Wingard	Pittsburgh	10-0	Central Allegheny	2005	Jefferson	Private	Conservation Easement

¹⁰ Site protection documentation was provided for each site during design and permitting processes and was appended to the Draft Instrument.

F. Maintenance Plan

Monitoring in accordance with wetland bank site specific monitoring plans will be pursued (see monitoring discussion below). Monitoring events will include inspections of the structural integrity of berms, spillways, and water control structures. Water level adjustments will be made as necessary to assure that adequate hydrology is supplied to the wetland bank sites to support hydrophytic vegetation. In addition, other maintenance needs that will be pursued by the sponsoring PennDOT District on an as needed basis, to address agency concerns or to proactively improve site quality may include planting augmentation; invasive species control measures and deployment of deer and rodent browsing controls. Plant species substitution may occur as needed to maintain vegetative cover if a species is not thriving.

Given the fact that PennDOT is a government agency, PennDOT provides that the necessary fiscal resources necessary for site development, construction, monitoring, maintenance, and long-term management of all PennDOT wetland banks and will be supported through federal and state transportation funds. When the need for site maintenance is identified, the sponsoring PennDOT District is committed to establish, from existing transportation funds (e.g. County Maintenance Budgets or the Transportation Improvement Program [TIP]), a fiscal budget and or MPMS project for the necessary expenditures. For all sites, the securing of funding, level of funding and whether the maintenance will be performed by PennDOT maintenance forces or by a contractor will be determined based on the scope and nature of the maintenance need at the time a need is identified.

One specific long term management commitment will be to conduct repairs to structural elements (e.g. water control structures) as necessary to sustain wetland acreage. Debris removal from water control structures will be performed by PennDOT maintenance forces when required.

G. Performance Standards

The IRT will use best professional judgment, visual observations, and monitoring reports to evaluate attainment of performance standards and in determining whether part of or the entire Bank is successful or whether corrective actions are warranted. Success will be determined on a plot, well, field, or cell basis. All of the following standards will be used to assess project success and must be achieved each monitoring year.

Performance standards should be consistent with site specific goals, therefore performance standards will be developed for each wetland bank site on a site specific basis. Performance standards for each site will address one or more of the following: total delineated wetland acreage; acreage of wetland by wetland type; achievement of wetland functions benefiting the watershed; diversity of hydrophytic vegetation; observed wildlife use/wildlife habitat; vegetative cover; hydrology; hydric soils; and invasive species control. Site specific performance measures will identify easily measurable and reasonably attainable ecologically based criteria to be used as a measure of the degree of success or failure of the wetland bank site to create the anticipated credits (such as Cowardin and the 1987 Wetland Delineation Manual Method).

Acreage by wetland type is utilized in the determination of credits available for release or withdrawal. A comparison of acreage of wetland by wetland type is also typically utilized as a performance measure. A standardized method for the identification of vegetative classes/wetland types is warranted to assure consistent and replicable assessment. A rapid assessment method utilizing percent cover will be applied in the determination of acreage by wetland type.

Wetland type will be defined utilizing the commonly accepted wetland classification system developed for the U.S. Fish and Wildlife Service Cowardin et al. (1979)¹¹. To assure an accurate assessment of PFO, PSS and PEM habitats, within each identified wetland community, vegetative strata (Tree, Sapling/Shrub, Herb and Woody

¹¹ Cowardin, L. M., Carter, V., Golet, F. C., and LaRoe, E. T. (1979). "Classification of Wetlands and Deepwater Habitats of the United States," FWS/OBS-79/31, U.S. Fish and Wildlife Service, Office of Biological Services, Washington, DC.

Vine) as defined in the 1987 Corps of Engineers Wetlands Delineation Manual and related Regional Supplements¹² will be identified.

a. Vegetation

Existing Sites

For sites established prior to December 21, 2008 the following performance standards shall be used. All habitat areas shall have a minimum size of 0.10 acres.

Greater than 85% of the mitigation site shall be vegetated with native, non-invasive species (either by planted or naturally revegetated plants). All plant communities must have a FAC or wetter wetland plant indicator status each year monitored.

Forested Wetlands- 100 woody stems per acre, 120 inches height or more; or 65% canopy closure by woody, tree species.

Scrub-shrub Wetlands- 200 or more woody crowns or stems per acre between 24 inches and 120 inches in height; or 65% shrub canopy closure.

Emergent Wetlands- herbaceous vegetation, 65% aerial coverage not including aquatic species.

Open Water- Areas ponded or inundated more than 14 consecutive days of the growing season; whether permanently inundated or ponded or affected to such as to preclude the development of perennial wetland plant species. Development of strictly aquatic vegetation indicates sufficient ponding to indicate an open water habitat.

New Sites

For sites established after to December 21, 2008 the following performance standards shall be used. All habitat areas shall have a minimum size of 0.10 acres. All plant communities must have a FAC or wetter wetland plant indicator status each year monitored. Tables 4, 5, and 6 list the vegetative requirements for PFO, PSS, and PEM wetland habitat types.

¹² Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Table 5 - Forested Wetlands Requirements

Year	Healthy Stems/Acre	Height
Initial	600	24 In.
1	550	80% demonstrating increase in height
2	500	80% demonstrating increase in height
3	450	80% demonstrating increase in height
4	400	80% demonstrating increase in height
5	350	80% demonstrating increase in height
6	300	80% demonstrating increase in height or 65% canopy closure by woody, tree species.
7	250	80% demonstrating increase in height or 65% canopy closure by woody, tree species.
8	200	80% demonstrating increase in height or 65% canopy closure by woody, tree species.
9	125	80% demonstrating increase in height or 65% canopy closure by woody, tree species.
10	100	120 inches height or more or 65% canopy closure by woody, tree species.

Table 6 Scrub-Shrub Wetlands Requirements

Year	Live Crowns/Acre	Height
Initial	800	12 In.
1	600	with demonstrated woody, basal development
2	500	80% with demonstrated height, cover, or stem increase
3	450	80% with demonstrated height, cover, or stem increase or 65% canopy closure by woody, tree species.
4	400	80% with demonstrated height, cover, or stem increase or 65% canopy closure by woody, tree species.
5	300	24 inches to 120 inches in height or 65% shrub canopy closure.

Table 7 - Emergent Wetlands Requirements

Year	Aerial Coverage	% Perennial
End of year 1	at least 50% aerial coverage of non-woody vegetation	
2	50% aerial coverage of non-woody vegetation	20% perennial species
3	70% aerial coverage of non-woody vegetation	40% perennial species
4	80% aerial coverage of non-woody vegetation	50% perennial species
5	85% aerial coverage of non-woody vegetation	70% perennial species

Open Water:

Areas ponded or inundated more than 14 consecutive days of the growing season; whether permanently inundated or ponded or affected to such as to preclude the development of perennial wetland plant species. Development of strictly aquatic vegetation indicates sufficient ponding to indicate an open water habitat.

Invasive Species:

Invasive, undesirable plant species are listed in the PA DCNR publication, “Invasive Plant Species in Pennsylvania”. No measured 10th acre grid shall include more than 10% coverage of invasive species to be considered successful. Exceeding 10% coverage should trigger treatment.

b. Hydrology

The performance standard for hydrology will be based on the current United States Army Corps of Engineers Wetland Delineation Manual, and any applicable regional supplements. In order for a wetland bank site to be in compliance with the performance standard for hydrology, the site will have to meet the definition of having wetland hydrology in the referenced manuals.

c. Soils

The performance standard for soils will be based on the current United States Army Corps of Engineers Wetland Delineation Manual, and any applicable regional supplements. In

order for a wetland bank site to be in compliance with the performance standard for soils, the site will have to meet the definition of having wetland soils, including the sections relating to problem areas and disturbed soils, in the referenced manuals.

H. Monitoring Plan

Monitoring Plans will be tailored for each site to address monitoring of site specific performance standards. Monitoring and the contents of monitoring reports will be conducted in accordance with USACE RGL-08-03. From 2007-2008 PennDOT was a participant on the USACE Enforcement and Compliance Team along with representatives of the North Atlantic Division, the Baltimore, Pittsburgh and Philadelphia USACE Districts, and the Pennsylvania Department of Environmental Protection. This team assisted in the development of, reviewed and approved the monitoring protocol and companion electronic monitoring report format and contents in use by PennDOT today. PennDOT will continue to utilize this approved product for monitoring its compensatory wetlands to include all wetland banks. An example of a monitoring report is included in Appendix G.

The PennDOT Engineering District will conduct the monitoring on each wetland bank for which they are identified as the bank sponsor. The engineering districts will submit the completed monitoring report to PennDOT Central office for compilation and forwarding to each of the three USACE districts. The monitoring requirements for wetland bank sites will generally be five years post credit debiting; however, the PennDOT Engineering District may request early release from the IRT in the event the bank site has met the performance standards.

The intent of the monitoring requirements will be to demonstrate that the bank site is meeting the performance standards. Monitoring will include periodic wetland delineations by wetland type, and assessments of hydrology, vegetation and soils. Monitoring events beyond five years for the purpose of verifying wetland acreage and condition by wetland type (Palustrine emergent, Palustrine scrub shrub, etc.) will be conducted as needed until all credits are debited from the wetland bank.

Demonstration that a habitat zone is meeting the PSS / PFO performance standards in the performance standards section will be accomplished by utilizing one of

the following methodologies, unless a different methodology is approved by the IRT prior to monitoring.

Stem Density

In order to demonstrate that a habitat unit has achieved the required stem density the number of living stems will be counted during monitoring. On larger habitat zones sample plots may be used so long as the aggregate area of the plots is greater than 10% of the total habitat zone size. The location of the sample plot shall be shown on the monitoring map.

i. Canopy Closure

In order to demonstrate canopy closure one of several methods may be employed including:

1. Empirical Canopy Crown Calculation – for each tree or shrub in the habitat zone the size of the canopy crown will be calculated. The total of the measured canopy will be divided by the total habitat zone area to determine the percent canopy closure.
2. Transect Intercept – a transect will be established through a representative section of the habitat zone. Along the transect a cumulative total of “canopy” lengths will be calculated. The total canopy length will be divided by the transect length to determine the percent canopy closure.
3. Visual Estimate - an ocular estimate of the canopy closure may be used within habitat zones that have estimated closure of greater than 60%. Canopies with an estimated closure of less than 60% will use method 1 or 2 above.
4. Any other method pre-approved by the IRT.

I. Long-Term Management Plan

The PennDOT Engineering District will be responsible for long-term management on each wetland bank for which they are identified as the bank sponsor. Long-term management planning will be developed for each wetland bank site on a site specific basis with variations

occurring depending upon site ownership, restrictive covenants and deed restrictions established for the wetland bank site. PennDOT will retain responsibility long term for the structural integrity of the site and will pursue the necessary repairs in the event that a failure results in the loss of wetland credits/acreage. In implementing necessary repairs to assure that wetlands are preserved in perpetuity, PennDOT may use in-house environmental/maintenance staff to fulfill maintenance tasks as necessary. In the event the level of effort exceeds our capabilities, outside contractors may be utilized.

PennDOT, its Engineering Districts, and contractors will not be liable for damages and maintenance to wetlands resulting from Events of Force Majeure meaning events beyond their control, which prevents complying with any of its obligations under this Instrument, including but not limited to: acts of God or war, changes in controlling law, regulations, orders or the requirements of any governmental entity, severe weather conditions, natural disasters, fire, or other events not under the Department control.

J. Adaptive Management Plan

For all PennDOT Wetland Banks, if the bank, based on the monitoring data, is not developing as planned and identified in the site specific performance standards then the sponsoring PennDOT District will either

- a. Present a Bank Modification Plan to the IRT Chairs and upon approval pursue appropriate remedial measures to rectify conditions limiting the provision of aquatic resource functions or
- b. With the approval of the IRT, elect to modify the number of available credits available to the site within the banking agreement.
- c. Purchase credits from another bank or in-lieu fee program to offset outstanding debited credits.

These minor modifications and amendments to the Umbrella Banking Instrument will be submitted to the USACE for consideration under 33 CFR 332.8(g) (2). In implementing adaptive management and site maintenance tasks, PennDOT may use in-house environmental/

maintenance staff to fulfill maintenance tasks as necessary. In the event the level of effort exceeds our capabilities, outside contractors may be utilized.

K. Reporting Protocol

PennDOT Central Office shall assemble one annual monitoring report for all sites enrolled under the Umbrella Instrument. Said report shall, site by site, list all pertinent information related to the success of the sites and a ledger of available credits and applied debits covering the history of each site. The monitoring reports will be prepared in accordance with USACE Regulatory Guidance Letter 08-03 or any superseding guidance documents. The report shall be submitted to each of the three USACE District Engineers and to the PADEP IRT co-chair in digital format. The report will be submitted by May 1st for the preceding monitoring year. The USACE District Engineers will distribute the report to the IRT and schedule a meeting of the IRT to receive comments on the report. Based on the monitoring reports, the USACE District Engineers and PADEP may require adaptive management for a bank site or restrict the use of available credits for a particular site until remediation is complete.

V. Mitigation Bank Development

This Section of the Umbrella Wetland Banking Instrument provides the site specific details for each of the wetland bank sites submitted for enrollment with the initial submission. For these sites much of the information provided is based on the results of monitoring.

Figure 1 provides general location information for the sites being submitted. A summary of the sites is provided in Table 8 and within the text. An Appendix containing supporting documentation for each site is included with the Instrument. In addition, a separate

Table 8: Summary of Wetland Banks Proposed for Enrollment

Site Name	USACE District	PennDOT District	Service Area	Wetland Acres	Debited Acres	Build Year	County
Kettle Creek	Baltimore	2-0	Central West Branch Susquehanna	0.79	0.00	2002	Potter
Aughwick Whitsel	Baltimore	9-0	Lower Juniata	1.32	0.35	2001	Huntingdon
Cambria AWC	Baltimore	9-0	Upper West Branch Susquehanna	5.38	0.40	1997	Cambria
Fulton AWC	Baltimore	9-0	Potomac	12.86	0.36	1998	Fulton
Old Crow	Baltimore	9-0	Upper Juniata	7.62	1.60	1997	Huntingdon
Mowry AWC	Baltimore	9-0	Upper Juniata	9.90	0.48	2002	Blair
Polk	Pittsburgh	1-0	Upper Allegheny	4.38	2.98	2003	Venango
Schall	Pittsburgh	10-0	Central Allegheny	2.78	0.18	2005	Armstrong
Dubois Airport	Pittsburgh	10-0	Central Allegheny	6.73	0.77	2005	Jefferson
Wingard	Pittsburgh	10-0	Central Allegheny	6.47	0.68	2005	Jefferson
Total				58.23	7.80		

Compensatory Mitigation Rule Timeline for Bank or ILF Instrument Approval*

	Event	# of Days**	
Phase I	Optional Preliminary Review of Draft Prospectus	30	DE provides copies of draft prospectus to IRT and will provide comments back to the sponsor within 30 days.
Sponsor Prepares and Submits Prospectus ~DE must notify sponsor of completeness w/in 30 days of submission~			
Day 1** Complete Prospectus Received by DE			
Phase II	Public notice must be provided within 30 days of receipt of a complete prospectus	30	
Day 30			
Day 60	30-Day Public Comment Period	30	
Day 90	DE must provide the sponsor with an initial evaluation letter within 30 days of the end of the public comment period.	30	15 DE distributes comments to IRT members and sponsor within 15 days of the close of the public comment period.
Sponsor Considers Comments, Prepares and Submits Draft Instrument ~DE must notify sponsor of completeness w/in 30 days of submission~			
Day 1 Complete Draft Instrument Received by IRT Members			
Phase III	30-day IRT comment period begins 5 days after DE distributes draft instrument to IRT members	30	
Day 90	DE discusses comments with IRT and seeks to resolve issues ~ # of days variable~	60	90 Within 90 days of the receipt of a complete draft instrument by IRT members, the DE must notify the sponsor of the status of the IRT review.
Sponsor Prepares Final Instrument ~Sponsor provides copies to DE and all IRT members~			
Day 1 Final Instrument Received by DE & IRT			
Phase IV	DE must notify IRT members of intent to approve/not approve instrument within 30 days of receipt.	30	45
Day 30			45 IRT members have 45 days from submission of final instrument to object to approval of the instrument and initiate the dispute resolution process.
Day 45	Remainder of time for initiation of dispute resolution process by IRT members	15	
INSTRUMENT APPROVED/NOT APPROVED, or DISPUTE RESOLUTION PROCESS INITIATED			

EPA/Corps draft 4/02/08

Total Required Federal Review (Phases II-IV): ≤225 Days

*Timeline also applies to amendments

**The timeline in this column uses the maximum number of days allowed for each phase.

Compensatory Mitigation Rule Timeline for Bank or ILF Instrument Dispute Resolution*

		# of days**	
Day 1**	Final Instrument Received by DE and IRT		
Day 30	DE must notify IRT members of intent to approve instrument within 30 days of receipt.	30	45 IRT members have 45 days from submission of final instrument to object to approval of the instrument and initiate the dispute resolution process.
Day 45	IRT members then have 15 days to notify DE and other IRT members of their objection by letter	15	
Day 75	If an objection is received, the DE must respond within 30 days	30	The DE's response must be sent to all IRT members, and may either indicate an intent to disapprove the instrument as a result of the objection, or provide a modified instrument that attempts to address the objection.
Day 90	If not satisfied, IRT member may forward the issue to IRT Agency HQ*** for review****	15	150 IRT member must object within 15 days of the notification of intent from the DE. The DE must hold in abeyance the final action.
Day 110	Within 20 days, IRT Agency HQ may request further review by the Assistant Secretary of the Army, Civil Works	20	
Day 140	ASA(CW) has 30 days to review the draft instrument and advise the DE on how to proceed with the final action	30	The requesting IRT Agency HQ must also notify the ASA(CW) if further review will not be requested.
Day 150	Remainder of time for notification of the sponsor of the final decision	10	The ASA(CW) must immediately notify requesting Agency HQ of the final decision. The DE must notify the sponsor of the final decision within 150 days of receipt of the final instrument.

*Timeline also applies to amendments.

**The timeline in this column uses the maximum number of days allowed for each phase.

***IRT Agency HQ refers to the Assistant Administrator for Water, U.S. EPA, the Assistant Secretary for Fish and Wildlife and Parks, U.S. FWS, or the Undersecretary for Oceans and Atmosphere, NOAA.

****While this step is available only to EPA, NOAA and FWS, other IRT members who do not agree with the DE's final decision do not have to sign the instrument or recognize the mitigation bank or in-lieu fee program for purposes of their own programs and authorities.

Total maximum time for dispute resolution process ≤ 150 days

~ EPA/Corps draft 4/02/08

APPENDIX L

**STANDARD PERMIT CONDITIONS:
SPECIAL CONDITIONS CONCERNING COMPENSATION/MITIGATION SITES**

.....

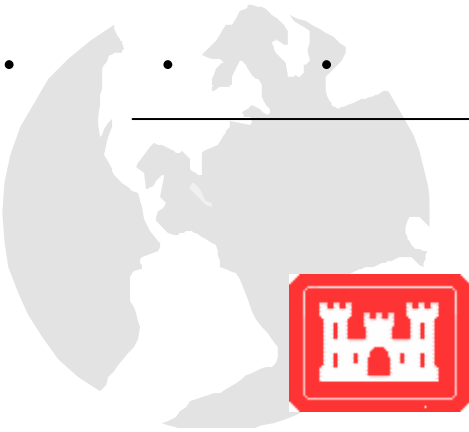
Environmental and Transportation Steering Committee

Position Paper

_____ Federal Highway Administration
PA Division

_____ U.S. Army Corps of Engineers
Lead PA District

_____ PA Department of Transportation
Central Office



Subject Standard Permit Conditions

Date 26 January 2006

•
•
•
•
•
•
•
•
•
•
•
•
26 January 2006

SPECIAL CONDITIONS CONCERNING COMPENSATION/MITIGATION SITES

1. (Special condition when final plans are part of the permit application package.)

The permittee shall compensate for the unavoidable loss of Federally regulated Waters of the United States, including wetlands, by implementing a compensatory mitigation program in accordance with the project plans identified as _____. The plans provide for the creation/restoration/enhancement/preservation of _____ acres of _____.

1a. (Special condition when final plans are NOT part of the permit application package.)

The permittee shall compensate for the unavoidable loss of _____ acres of jurisdictional wetlands and impacts to _____ linear feet of stream by implementing the conceptual mitigation plan, dated _____. The plan will achieve (CREATION, RESTORATION, ENHANCEMENT, PRESERVATION) _____ acres of (PFO, PSS, PEM) wetlands and restoration of _____ linear feet of stream at the location(s) indicated in the conceptual mitigation plan. At least 6 months prior to advertising for the receipt of bids for the construction of the highway project, the permittee shall submit to this office the information described in "Supplement: Compensatory Mitigation Plan Checklist" from Baltimore District Special Public Notice #04-12. If the compensatory mitigation is dependent upon groundwater for its hydrology, the submission will include collected data to substantiate the designer's expectations for the establishment of hydrology. The Corps will determine whether the plans warrant additional coordination with the resource agencies/public and whether a permit modification is needed. The services of the mitigation designer will be retained during construction. The designer shall periodically monitor the construction and be available for consultation should questions arise concerning the need for field changes. The designer shall record all problems and resolutions and provide the details to this office. All earth work associated with construction of the compensatory mitigation site(s) shall be completed within one year of the date that work commenced in the regulated aquatic resource. At the completion of grading, the permittee may elect to defer planting while the hydrology is monitored throughout one or more growing seasons. If so elected, the graded site shall be stabilized with a wetland seed mix or annual grasses (fescue shall not be used).

2. All earth work associated with construction of the compensatory mitigation sites referenced in

Special Condition 1 above shall be completed within ___ year(s) of the date that work authorized by this permit is initiated in Waters of the United States, including wetlands.

3. The mitigation sites(s), as identified in the approved mitigation plan(s), shall result in 85% total cover by vegetation. Vegetation shall consist of not less than 51% hydrophytic species (facultative or wetter), by the end of the fifth growing season. The composition of the vegetation shall be verified based upon data collected from samples that are at a spatial distribution and a sampling intensity sufficient to adequately characterize the vegetation of the entire mitigation area. Evidence shall also be presented that the site is inundated or saturated to the surface for a minimum of 15 consecutive days during the growing season or 12.5% of the growing season, whichever is greater.

4. The permittee shall submit monitoring reports for five years starting with the first growing season following completion of planting activities in accordance with the monitoring program set forth in the approved mitigation plan and shall identify all remedial measures to

ensure compliance with Special Condition 3 above. However, if the compensation sites meet the success criteria after the third growing season (third monitoring report), further monitoring may be discontinued at the discretion of the Corps of Engineers. Failure to achieve the success criteria may require additional plantings, excavation, and grading, and/or other measures, including additional monitoring determined appropriate by the Corps of Engineers. If such remedial measures are not successful or deemed inappropriate by the Corps of Engineers, the permittee may be required to perform mitigation at a separately approved, alternate site. Additional monitoring of the alternate mitigation site may be required.

5. At the time of submission of the first monitoring report, the permittee shall provide a survey to the District Engineer showing the mitigation site boundaries with corner point coordinates identified by reference to UTM, State Plane, or Latitude-Longitude datums and the azimuth (or bearing) and distance of the each successive corner point. For survey using GPS methods, a positional accuracy statement is required. This positional accuracy statement shall be included as part of a quality assurance/quality control (QA/QC) document, prepared by the surveyor. The QA/QC shall be used to ensure that the GPS survey points, and any required separate baseline(s), meet the positional accuracy requirements of this office.

NOTE: Class one level of accuracy is required for all wetland delineation surveys conducted by traditional plane surveying methods. This level of accuracy is achieved by an error of closure of 1 in 10,000. For wetland delineation surveys conducted using Global Positioning System (GPS), each wetland boundary point must have a positional accuracy of +/- 15 cm (0.5 feet). In the event that vegetation or other obstructions prevent the effective use of GPS for surveying any particular jurisdictional boundary delineation, establishment of a separate baseline will be required. This baseline shall be tied to the respective State coordinate system, and each point of intersection (PI) shall be clearly marked on the ground. The jurisdictional boundary line shall be referenced to the baseline by station and perpendicular offset measured to the nearest 0.1 feet. When this occurs, the survey plan must indicate the locations which have been surveyed in this manner. The submission of a GPS survey plan must include a "quality assurance/quality control" (QA/QC) document, prepared by the surveyor. The QA/QC shall be used to ensure that the GPS survey points, and any required separate baseline, meet the requirements set forth above.

6. No work within Waters of the United States including wetlands shall commence until the following occur: (a) the permittee places a conservation easement(s) or restrictive covenants in a deed instrument or instruments covering all compensatory mitigation site(s) identified in Special Condition____ above, by recording the conservation easement(s) or deed and restrictive covenants with the appropriate county office responsible for maintaining land records AND (b) the Corps of Engineers receives notification from the permittee that the conservation easement(s) or restrictive covenants have been submitted to the appropriate county office for recordation. The purpose of the conservation easement(s) or restrictive covenants is to protect the environmental values of the site(s) in perpetuity.

7. The permittee shall submit a draft of the conservation easement(s) or restrictive covenants to this office for review and approval within 60 days of issuance of this permit. The restrictive covenants shall include the following:

PURPOSE

It is the purpose of this Declaration to assure that the Conservation Area, including its air space and subsurface, will be retained in perpetuity in its natural condition as provided herein and to prevent any use of the Conservation Area that will impair or interfere with its natural resource functions and values. Declarant intends that this Declaration will confine the use of the

Conservation Area to such activities as are consistent with the purpose of this Declaration.

DURATION

This Declaration shall remain in effect in perpetuity, shall run with the land regardless of ownership or use, and is binding upon all subsequent declarants, their heirs, executors, administrators, successors, representatives, devisees, and assigns, as the case may be, as long as said party shall have any interest in any part of the Conservation Area.

RESTRICTIONS

Any activity on or use of the Conservation Area inconsistent with the purpose of the Declaration is prohibited. Without limiting the generality of the foregoing, the following activities and uses are expressly prohibited in, on, over, or under the Conservation Area, subject to the express terms and conditions below:

A) No signs, billboards or outdoor advertising structures shall be placed or maintained on the Conservation Area; except for a reasonable number of signs for resource protection, safety, boundary identification, and identification of the owner.

B) No improvements, including, but not limited to, buildings, asphalt or concrete pavement, communication towers or antennas, utility lines or conduit, or any other temporary or permanent structure or facility shall be constructed, placed, repaired, reconstructed, or maintained on, under or above the Conservation Area.

C) No storage, dumping, depositing, abandoning, discharging or releasing of any gaseous, liquid, solid or hazardous waste substance, materials or debris of whatever nature on, in, over or under the ground or into surface or ground water shall occur.

D) No loam, peat, gravel, soil, rock, sand or dredged and/or fill materials shall be placed, moved, or discharged within the Conservation Area, nor shall there be made any changes in the topography of the land.

E) There shall be no land clearing, redirection of surface water or groundwater, ditching, extraction, drilling, driving of piles, mining, excavation or removal of loam, peat, gravel, soil, rock, sand, mineral or similar material, nor any change in the topography of the land.

F) There shall be no alteration, removal or destruction of plants, trees, shrubs, wildflowers or other vegetation living or dead, or animal species except for control of diseases, pests, non-native species, and noxious weeds. Vegetation within the Conservation Area shall be allowed to grow and regrow to maturity and to remain in such state in perpetuity.

G) Intentional introduction of non-native, non-indigenous plant and animal species is prohibited.

H) There shall be no collecting of plant material, animals, minerals, or artifacts, except for scientific and nature study and in accordance with applicable State and Federal laws.

I) There shall be no use of pesticides, herbicides, insecticides or other chemicals, except as may

be necessary to control invasive species that threaten the natural character of the Conservation Area.

J) No other acts, uses or discharges shall be allowed which adversely affect fish or wildlife habitat or the preservation of land, wetlands, or water areas within the Conservation Area.

RESERVED RIGHTS

The Declarant shall include in this section, on a case-by-case basis, provisions to maintain structures or infrastructure such as utilities or drainage ditches that are present on, over or under the Conservation Area and that require on-going or periodic maintenance. The Declarant shall identify each case, the allowed work, and the boundary within which maintenance activities would occur, as separate provisions. For work in the Conservation Area that is required by a Mitigation Plan, the Declarant shall include a provision that allows construction of the mitigation work. A copy of the authorized Mitigation Plan shall be attached.

LIMITATION ON PUBLIC ACCESS

This Declaration limits the right of the general public to enter any portion of the Conservation Area if such use and activity is inconsistent with the purpose of this Declaration.

COMPLIANCE INSPECTIONS

This Declaration grants to the U.S. Army Corps of Engineers and its authorized agents the right to enter upon and inspect the Conservation Area for the purpose of verifying compliance with these restrictive covenants.

ENFORCEMENT

Without limiting the legal rights of any other party that may seek enforcement of these restrictive covenants, this Declaration grants to the U.S. Army Corps of Engineers and the United States Department of Justice a discretionary right to enforce these restrictive covenants in a judicial action against any person or entity violating or attempting to violate these restrictive covenants; provided, however, that no violation shall result in a forfeiture or reversion of title.

RECORDING

This Declaration shall be recorded in the Office of the Recorder of Deeds of _____ County, State of _____.

MODIFICATION

This Declaration is required by U.S. Army Corps of Engineers Permit _____. There shall be no changes or alterations to this Declaration without prior written approval from the District Engineer, U.S. Army Corps of Engineers, Philadelphia District.

TRANSFER OF DECLARANT'S INTEREST

Declarant agrees to incorporate this Declaration by reference into any deed or other legal instrument by which Declarant divests itself of any interest in all or a portion of the Property, including, without limitation, a leasehold interest.

INTERPRETATION OF DECLARATION

This Declaration shall be liberally construed in favor of the purpose of the Declaration and in accordance with the laws of the State of _____.

SEVERABILITY

If any portion of this Declaration, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this Declaration, or application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.

8. All restrictions on land uses set forth in the approved conservation easements or restrictive covenants are incorporated by reference herein as a condition to this permit.
9. The permittee shall prepare and provide the Corps with as-built plans of each mitigation site within the Year 1 Monitoring Report. The as-built plans will include, but are not limited to, grading, planting, structures, pool elevations, and key spot elevations. The as-built plans shall be accompanied by a narrative describing the site and any changes from the original plans.

SPECIAL CONDITIONS CONCERNING WASTE AND BORROW OPERATIONS

1. Borrow areas for fill material and areas to dispose of excess excavation shall be located in upland areas and shall not impact Waters of the United States, including jurisdictional wetlands, unless authorized by the U.S. Army Corps of Engineers and DEP.
2. All work areas inside and outside of the roadway ROW designated by the contractor shall be located in upland areas and shall not impact Waters of the United States, including jurisdictional wetlands, unless authorized by the U.S. Army Corps of Engineers and DEP. These areas include, but are not limited to: waste and borrow areas, staging areas, layout areas, storage areas, access roadways, batch plants, and equipment and service and management facilities.

SPECIAL CONDITIONS CONCERNING TEMPORARY CONSTRUCTION IMPACTS

1. All Waters of the United States, including wetlands, disturbed as a result of authorized temporary construction activities shall be returned to their predisturbance conditions within 60 days after the temporary construction activities at each site is completed. This work includes restoration of stream bank elevations, stream channel and wetland surface contours, and establishment of wetland vegetation. The permittee shall provide this office written notification of the date when use of each temporary construction activity is no longer needed.
2. Geotextile fabric shall be placed beneath all authorized temporary fills to ensure that all temporary fill material is removed at the time of restoration.
3. The restored temporary impact sites shall be replanted/seeded in accordance with the approved mitigation plan.
4. The permittee shall schedule a field view after the third full growing season following completion of the planting activities with representatives of the Corps of Engineers in order to determine whether or not the site has been satisfactorily restored. Failure to achieve successful restoration may require additional monitoring and/or remedial restoration work.

NOTE: When temporary impacts result in a significant alteration of either hydrology or soils (i.e., when dewatering or de-mucking is necessary to construct a temporary road through a wetland), the following two conditions shall be included in place of number 4 above for those types of temporary impacts:

4. The restored temporary impact sites shall result in 85% total cover by vegetation. Vegetation shall consist of not less than 51% hydrophytic species (facultative or wetter), by the end of the third growing season. The composition of the vegetation shall be verified based upon data collected from samples that are at a spatial distribution and a sampling intensity sufficient to adequately characterize the vegetation of the entire mitigation area. Evidence shall also be presented that the site is inundated or saturated to the surface for a minimum of 15 consecutive days during the growing season or 12.5% of the growing season, whichever is greater.

5. The permittee shall conduct annual inspections of the restored temporarily impacted waters of the United States, referenced in Special Condition 1 above. Annual site inspections shall be conducted for three years starting with the first full growing season following completion of planting activities. A yearly monitoring report documenting the restoration of the temporary impact sites shall be submitted to this office by December 31 of each monitoring year. The restoration sites(s), as identified on the approved plan(s), shall result in 85% total cover by suitable vegetation. Suitable vegetation shall consist of not less than 51% hydrophytic species (facultative or wetter), by the end of the third growing season. The composition of the vegetation shall be verified based upon data collected from samples that are at a spatial distribution and a sampling intensity sufficient to adequately characterize the vegetation of the entire mitigation area. Evidence shall also be presented that the site is inundated or saturated to the surface for a minimum of 15 consecutive days during the growing season or 12.5% of the growing season, whichever is greater. If wetland functions have been restored to the satisfaction of the District Engineer prior to the third year, this office may require no further monitoring. If the wetland functions have not been restored, the permittee shall propose remedial action for approval by the Corps of Engineers District Engineer. Such remedial action may include additional vegetative plantings and/or mitigation work.

SPECIAL CONDITIONS FOR CAUSEWAY CONSTRUCTION

1. Earthen causeways will not be permitted. Causeways shall be constructed in accordance with the configuration, specified opening widths, and materials shown on the drawing attached to this Corps permit. Should the contractor request to modify the causeway openings, configuration, or construction materials, the permittee shall include the contractor's alternative proposal in a request for a permit modification to the Corps office. A dam breach analysis will be required if the causeway, for any period of time, would leave less than 25% of the width of the river unobstructed. The provision of culverts beneath the causeway does not constitute an opening in the causeway, for purposes of satisfying the 25% criterion; however, a bridge would constitute an opening. If bridges are used across an opening in the causeway, the bridges will be anchored to prevent them from washing away in a high flow event. Where boaters are expected to be using the waterway in vicinity of the causeway, the contractor shall contact the Pennsylvania Fish and Boat Commission, prior to installation of the causeway, to ensure adequate warning devices are posted. When removed, all causeway material shall be disposed at an upland site, and not within Waters of the United States, including jurisdictional wetlands.

SPECIAL CONDITIONS – GENERAL

1. All work performed in association with the above noted project shall be conducted in accordance with the project plans identified as: _____.

2. Construction activities shall not result in the permanent disturbance or alteration of greater than _____ acres of Waters of the United States, including wetlands (_____ acres of each resource type).

3. Construction activities shall not result in the temporary disturbance or alteration of greater than _____ acres of Waters of the United States, including wetlands (_____ acres of each resource type).

4. Any deviation in construction methodology or project design involving waters of the United States, including wetlands, from that shown on the above noted project plans must be approved by this office, in writing, prior to performance of the authorized work. All modifications to the above noted project plans involving Waters of the United States, including wetlands, shall be approved, in writing, by this office. No work authorized by these modifications shall be performed prior to written approval by this office.

5. This office shall be notified at least 10 days prior to the commencement of authorized work by completing and signing the attached Notification/Certification of Work Commencement Form. This office shall also be notified within 10 days of the completion of the authorized work by completing and signing the attached Notification/Certification of Work Completion/ Compliance Form. All notifications required by this condition shall be in writing and shall be transmitted to this office by registered mail. Oral notifications are not acceptable. Authorized work means any activities in Waters of the United States, including wetlands, e.g., filling, grading, ditching, installation of structures.

6. The issuance of this permit does not obviate the permittee from obtaining any other Federal, State, or local approvals required by law for the activities authorized herein.

7. This office shall be notified a minimum of ten days prior to the pre-construction meeting(s) so that a representative of this office may review the conditions of this permit with the permittee. The on-site construction supervisor shall be present at pre-construction meeting(s) for this project.

8. The permittee is responsible for ensuring that the contractor(s) executing the activity(s) authorized by this permit has knowledge of the terms and conditions of the authorization and that a copy of the permit document and plans referenced therein are at the project site throughout the period the work is underway.

9. The boundary line of Waters of the United States, including wetlands, located within the project right-of-way other than Waters of the United States, including wetlands, to be permanently impacted, shall be surveyed in the field and identified using orange fencing or other clearly visible material prior to onset of construction activities. The attached Corps of Engineers Jurisdictional Determination shall be used to establish the location and extent of Federally regulated Waters of the United States, including wetlands, in the field (Enclosure ____).

10. Erosion and sediment control measures shall be in place prior to the onset of earth moving or filling activities to ensure that material does not erode into Waters of the United States, including wetlands, beyond the limits of those areas to be impacted that are identified on the referenced plans. The erosion and sediment control measures shall remain in place until construction is completed and the disturbed areas have been stabilized.

11. There shall be no stockpiling of construction materials or storage of construction equipment in any Waters of the United States, including wetlands.

12. For fills placed in Waters of the United States, including wetlands, only clean fill shall be used. All fill material shall be free of fines, oil and grease, debris, wood, general refuse, plaster and other pollutants and shall contain no asphalt.

13. The Pennsylvania Fish and Boat Commission has established a time-of-year restriction for this waterway. No work shall be conducted in the waterway during the period from _____ to _____ unless the work site is isolated from the water with a cofferdam or stream diversion device. No installation or removal of cofferdams or stream diversion devices shall take place during the restricted period.

14. No fueling or servicing of equipment shall take place while the equipment is located within Waters of the United States, including wetlands.

APPENDIX M

USACE BALTIMORE DISTRICT SURVEY STANDARDS

Please note: Pittsburgh and Philadelphia Districts both use Baltimore's standards.

DRAFT

CENAB-OP-R

Subject: Wetland Delineation Surveys Using Global Positioning Systems (GPS)

The technology of using GPS equipment for surveying section 404 of the CWA and Section 10 of the River Harbor Act jurisdictional boundaries for the Baltimore District within Maryland, Pennsylvania, Washington, DC and the Military Bases in Northern Virginia. These jurisdictional determinations are field reviewed and confirmed in writing by the Baltimore District. Also, all delineations of Section 10 & 404 must use the 1987 manual, current Federal regulations and any and all subsequent guidance.

The following are the minimum GPS requirements for data/plans for verification by Baltimore District.

- Logging interval: determines how often the receiver communicates with the satellite. The rover logging interval should be set the same as or at a multiple of the base station logging interval. Base stations generally use five second intervals.
- Satellite count: a minimum of four satellites is required to log a position. The receiver operating mode (or equivalent) should be set to 3D to record both horizontal coordinates and elevation.
- Elevation mask: the number of degrees a satellite must be above the horizon before the receiver will use its data. Since satellites near the horizon have higher error potential, the elevation mask should be set no less than 15 degrees.
- Signal to Noise Ratio (SNR): a measure of the information content of the signal relative to signal noise. The SNR for any satellite should not fall below six.
- Dilution of Precision (DOP): measure of the GPS receiver/satellite geometry. A low DOP value indicates better relative geometry and therefore higher corresponding accuracy. There are several DOP indicators, including Position DOP (PDOP) and Horizontal DOP (HDOP). The PDOP mask should be set to six or less.

Differential GPS

Differential GPS (DGPS) is a technique whereby data from a receiver at a known location (base station) is used to correct the data from a receiver at an unknown location (rover). Differential corrections are applied in either real-time or by post-processing, and can provide up to sub-meter accuracy. Either real-time or post-processed DGPS is required for wetland delineation surveys. With differential GPS, the relative positions of two receivers tracking the same GPS signals are precisely measured. This requires one receiver to be placed over a known coordinate as a base station. The base station determines what errors the satellite data contains, if any. Other receivers (rovers) use this corrected information to eliminate errors in their measurements. The two receivers used to differentially correct the data are:

Base Station - the receiver that operates as a base station, at a known location, needs to meet four criteria:

- Record data at the same time as the rover.
- Have a clear view to the sky and see all possible satellites.
- Collect synchronized measurements.
- Must be within a 250-Km radius of field data collector to achieve sub-meter results.

DRAFT

Rover – the field data logger that collects position data at the same time as the base station and uses a subset of satellites tracked by the base station.

For post-processing, the software determines the difference between the base station's reference position and the GPS information collected through complex calculations. This difference is applied to the field-collected data and time is used for error adjustments.

Quality Assurance/Quality Control (QA/QC)

In regard to the level of QA/QC applied to wetland delineation surveys, the GPS users will follow the Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys as adopted by ALTA/ACSM in 2004. For GPS measurements (all code-based) taken of the wetland delineation points, the following QA/QC checks must be performed:

- The base station locations and criteria must be used and submitted to the District for our QA/QC reviews.
- Field notes and sketches, showing dimension and relative locations among flags to allow office edits and/or checks.
- Differential correction of all point locations utilizing the same base station throughout the entire delineation survey.
- Visual and statistical inspection of point of locations prior to inclusion in the final computer files.
- Office comparison of topography from aerial photographs with the GPS locations.
- Data for any surveyed points, which did not meet QA/QC checkpoints, were re-collected.
- Inspection of survey plats by consultant prior to submission.
- The resulting point clusters are then graphically and/or statistically inspected for anomalies prior to inclusion in mapping and reporting.

APPENDIX N

PA DEP STORMWATER MANAGEMENT ANALYSIS CONSISTENCY MEMO



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO Regional Watershed Managers
Regional Soil and Waterway Section Chiefs

FROM Ken ^{KEM}Martin, Chief, Division of Waterways, Wetlands and Stormwater Management

DATE January 8, 2009

RE Stormwater Management Analysis - Clarification of Consistency Letter Requirements per Chapter 105, Section 105.13(d)(1)(v)

As a part of the Chapter 105 application review process, consistency letters from counties and municipalities for stormwater plans are required only in those watersheds with a stormwater plan developed in accordance with the Stormwater Management Act (32 P.S. §§ 680.1 – 680.17) commonly referred to as Act 167 that has been approved by the Department and adopted by the County and local municipalities. There is no requirement by the Act that a County or local municipality provide consistency letters for projects covered by their stormwater plans. In the event that an applicant is unable to obtain a consistency letter from the County or local municipality, the Department will determine whether the proposed project is consistent based upon all other Chapter 105 and Chapter 106 requirements.

To facilitate the Department's review the applicant should provide a copy of the letter (with proof of receipt) sent to both the County and local municipality requesting a review of the project for consistency with the approved stormwater plan and allow them a minimum of (30) days to comment on whether or not a consistency letter will be provided along with the expected time frame for the completion of the review and preparation of the consistency letter. One consistency letter provided by **either** the County or local municipality will be sufficient, a response is not required by both.

If the applicant receives correspondence from the municipality indicating that a consistency letter will not be provided with respect to the approved stormwater plan, the applicant should include that notification along with a copy of the original letter to the County and municipality (with proof of receipts) as a part of the application package. The applicant should include a statement from the Project Manager indicating that the project location, design and proposed construction is in accordance with the approved stormwater plan.

In the event that the applicant receives no response from either the County or local municipality within the specified 30 day period (after proof of receipt) indicating that a review of the project will take place and/or a consistency letter will be provided; the applicant should send a second letter to both the County and municipality indicating that it is the applicant's intent to proceed with the project and that any future comments regarding consistency with the approved stormwater plan be directed to the appropriate regional office of DEP, permitting and technical services section (or other section as appropriate). The applicant should include a statement from the Project Manager indicating that the project location, design and proposed construction is in accordance with the approved stormwater plan.



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO Regional Watershed Managers
Regional Soil and Waterway Section Chiefs

FROM *KEM*
Kell Murin, Chief, Division of Waterways, Wetlands and Stormwater Management

DATE January 8, 2009

RE Clarification of Consistency Letter Requirements per Chapter 105, Section 105.13(d)(1)(vi) Floodplain Management Analysis

As a part of the Chapter 105 application review process, a letter from the local municipality commenting on floodplain consistency is only required if the proposed dam, water obstruction or encroachment is located within a floodway delineated on a FEMA map. There is no requirement within the Floodplain Management Act (32 P.S. § 679.101 et seq.), compelling a local municipality to provide consistency letters for projects located within the floodway. In the event that an applicant is unable to obtain a consistency letter from the local municipality, the Department will determine whether the proposed project is consistent with the Act or other National Flood Insurance Minimum Standards based upon all other Chapter 105 and Chapter 106 requirements.

To facilitate the Department's review the applicant should provide a copy of the letter (with proof of receipt) sent to the local municipality requesting a review of the project for consistency with floodplain management ordinances and allow the municipality a minimum of (30) days to comment on whether or not a consistency letter will be provided along with the expected time frame for the completion of the review and preparation of the consistency letter.

If the applicant receives correspondence from the municipality indicating that a consistency letter will not be provided for the project, the applicant should include that notification along with the copy of the original letter to the municipality (with proof of receipt) as a part of the application package.

In the event that the applicant receives no response from the local municipality within the specified 30 day period (after proof of receipt) indicating that a review of the project will take place and/or a consistency letter will be provided; the applicant should send a second letter to the municipality indicating that it is the applicant's intent to proceed with the project and that any future comments regarding consistency with the local floodplain management ordinances be directed to the appropriate regional office of DEP, permitting and technical services section (or other section as appropriate).




pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMO

TO Regional Watershed Managers
Regional Soil and Waterway Section Chiefs

FROM  Kenneth Murin, Chief, Division of Waterways, Wetlands and Stormwater Management

DATE January 8, 2009

RE Calculation of Earth Disturbance Activities and Section 404 of the Clean Water Act

The construction/operation and maintenance of temporary stream crossings, causeways, cofferdams and their appurtenant works within waters of the Commonwealth or Waters of the U.S. are regulated and permitted under Section 404 of the Clean Water Act and as such are exempt from NPDES permit requirements in accordance with Chapter 92, Section 92.4(5). Although an earth disturbance activity, the aerial extent of their footprint located within or projecting into waters of the Commonwealth is not included in the calculation of "total earth disturbance" for NPDES permit requirements.

Issuance of the Chapter 105 permit for these regulated activities/structures including their appurtenant works also constitutes approval of Water Quality Certification under Section 401 of the Act (33 U.S.C.A. § 1341).

APPENDIX O

**MODEL DELCARATION OF RESTRICTIVE COVENANTS
AND
MODEL CONSERVATION EASEMENT
AND
INSTRUCTIONS**

INSTRUCTIONS FOR COMPLETING DECLARATION OF RESTRICTIONS AND CONSERVATION EASEMENTS

Under the Section 404 permit program, the U.S. Army Corps of Engineers (USACE) requires that restrictions be recorded on property acquired for mitigation to protect the mitigations area in perpetuity.

PennDOT can accomplish this either (1) by placing restrictive covenants on the property if PennDOT intends to acquire or currently owns the property in fee or (2) by acquiring a conservation easement.

I. Declaration of Restrictive Covenants

Where fee title is acquired or held in a mitigation area, a declaration of restrictive covenants providing protections to the resource will be placed on the property by PennDOT following acquisition. The form of the declaration of restrictive covenants is included in this Appendix.

The District should use the form in drafting the restrictive covenant for the mitigations area. The following information needs to be incorporated where indicated on the form:

- *The location of the mitigation area;*
- *The recordation information and County where recorded;*
- *The project name;*
- *The Section 404 permit number;*
- *Reserved rights, if applicable, e.g., utilities, stormwater facilities, etc.*

The standard provisions in the form should not be modified – particularly the “Restriction” section of the declaration. Modifications require approval from the Office of Chief Counsel (OCC) via the Deputy Chief Counsel of the Real Property Division.

A plan depicting the mitigation area will need to be produced and attached to the declaration of restrictive covenants as Exhibit “A”. The plan must clearly identify the “Conservation Area” by:

- *Including complete callouts or metes and bounds for the Conservation Area;*
- *If the Conservation Area is less than the total parcel or total property based on the existing deed and callouts for the Conservation Area listed separately and identified as such;*

- ***Include a scaled drawing of the Conservation Area and have it clearly labeled on the plan as such and shall be clearly identified by cross-hatching, leader lines or shading; and***
- ***Include on the drawing the location and extent of all known pre-existing easements, rights-of-ways, utilities, drainage ditches, stormwater facilities, cattle crossings or structures.***

It is recommended that the District's Environmental and Right-of-Way Units coordinate the development of the draft of the declaration of restrictive covenants.

Once the District has a draft declaration of restrictive covenants, the following general process is completed to finalize the declaration of restrictions:

- A. The draft declaration will be provided to the OCC via the Deputy Chief Counsel of the Real Property Division.
- B. After OCC has provided comments, if any, and these comments have been addressed by the District, the District will provide a copy to the USACE for review and approval to satisfy the permit conditions.
- C. If revisions are made to the declaration to address the USACE's comments, the District should resubmit to OCC for review (use track changes function to highlight changes to ease the second review).
- D. Upon agreement on the language by the District, OCC and the USACE, the District should send the declaration to the Deputy Chief Counsel of the Real Property Division (can be done via email) who will oversee finalization of the declaration. The Real Property Division will review it and forward it for execution by the Deputy Secretary of Highway Administration. The submission from the District, even if by email, must include a memorandum signed by the District Executive asking that the declaration be executed and a copy of the correspondence from the USACE indicating their approval.
- E. After the declaration is executed, the declaration is returned to the District Right-of-Way Unit for recording in the appropriate County Recorder of Deeds office.
- F. A certified copy of the recorded declaration of restrictions should be provided to the applicable USACE district to satisfy the permit conditions.

II. Conservation Easement

If a conservation easement is acquired, the definition/terms of the easement are delineated on the Right-of-Way acquisition plan. The easement provides protection to the resource in this situation without PennDOT assuming full ownership of the property. Conservation easements are commonly used for stream mitigation projects. The form of the conservation easements is included in this Appendix.

The District should use the form in drafting the notes on the Right-of-Way plan. The following information needs to be incorporated where indicated on the form:

- ***The project name;***
- ***The Section 404 permit number;***

- ***Reserved rights, if applicable, e.g., utilities, stormwater facilities, etc.***

The standard provisions in this form should not be modified – particularly the “Restrictions” section of the notes. Modifications require approval from the Office of Chief Counsel (OCC) via the Deputy Chief Counsel of the Real Property Division.

The plan depicting the mitigation should clearly identify the “Conservation Area” by:

- ***Including complete callouts or metes and bounds for the Conservation Area;***
- ***If the Conservation Area is less than the total parcel or total property shown on the plans, the plans will include metes and bounds for the total property based on the existing deed and callouts for the Conservation Area listed separately and identified as such;***
- ***Include a scaled drawing of the Conservation Area and have it clearly labeled on the plan as such, and shall be clearly identified by cross-hatching, leader lines or shading; and***
- ***Include on the drawing the location and extent of all know, pre-existing easements, Rights-of-Ways, utilities, drainage ditches, stormwater facilities, cattle crossings, or structures.***

It is recommended that the District’s Environmental and Right-of-Way Units coordinate the development of the plan and notes.

Once the District has a draft of the plan and notes for the conservation easement, the following general process is completed to finalize the conservation easement:

- A. The draft plan sheet with easement language will be provided to the OCC via the Deputy Chief Counsel of the Real Property Division.
- B. After OCC has provided comments, if any, and these comments have been addressed by the District, the District will provide a copy to the USACE for review and approval to satisfy the permit conditions.
- C. If revisions are made to the easement to address the USACE’s comments, the District should resubmit to OCC for review.
- D. Upon agreement on the language by the District, OCC and the USACE, the District should have the USACE execute an Acceptance of Rights form. The Acceptance of Rights form will be returned to the Right-of-Way Unit.
- E. Acquire the Conservation Easement. Record the Acceptance of Rights form in the appropriate county record of deeds office.
- F. A copy of the recorded deed of easement or notice of condemnation/declaration of taking should be provided to the applicable USACE District if required under the permit conditions.

FINAL VERSION

MODEL DEED RESTRICTION
FOR
PENNDOT

DECLARATION OF RESTRICTIVE COVENANTS FOR CONSERVATION

THIS DECLARATION OF RESTRICTIVE COVENANTS FOR CONSERVATION (hereinafter "Declaration") made this _____ day of _____, 20____, by the Pennsylvania Department of Transportation (hereinafter "Grantor");

WITNESSETH:

WHEREAS, Grantor is the fee simple owner of certain tracts of land located in

_____, and being
[USE IF APPLICABLE: a portion of] the property conveyed to the Grantor by deed recorded in deed in deed book *[insert LIBER FOLIO reference here]* in the land records of _____ County, Pennsylvania, more particularly described in Exhibit(s) attached hereto and incorporated by reference, hereinafter referred to as the "Property;" and

[**NOTE TO GRANTOR: The Grantor or the Pennsylvania Department of Transportation, shall prepare and attach, at a minimum, a set of plans with complete callouts for the Conservation Area for attachment and filing with the Declaration for Restrictive Covenants for Conservation, as "Exhibit A." If the Conservation Area is less than the total parcel or total property shown on the plans, the plans will include metes and bounds for the total property based on the existing deed and callouts for the Conservation Area listed separately and identified as such. A full legal description of the property, and if less than the whole property, also to include a separate, clearly identifiable, legal description of the Conservation Area, will always be preferred, but not required. The plans should be sure to include a scaled drawing of the Conservation Area, and have it clearly labeled on the plan as such, and shall be clearly identified by cross-hatching, leader lines or shading. The Grantor shall also include on the drawing the location and extent of all known, pre-existing easements, rights of ways, utilities, drainage ditches, stormwater facilities, cattle crossings, or structures.]

WHEREAS, the United States Department of the Army, Corps of Engineers, through either its Baltimore, Philadelphia or Pittsburgh District, Regulatory Branch, (hereinafter "USACE"), and the Grantor have agreed that the Grantor would make the portion of the Property designated in Exhibit A as _____ and hereinafter referred to as the "Conservation Area" subject to the conservation-based covenants described in this Declaration as a condition of the Department of the Army Permit No. _____ issued for the ***[INSERT PROJECT NAME USED FOR PERMIT APPLICATION HERE: _____]*** project; and

WHEREAS, the Grantor agrees to the creation of these conservation-based covenants and intends that the Conservation Area shall be preserved and maintained in a natural condition in perpetuity;

NOW, THEREFORE, in consideration of the mutually-held interests in preservation of the environment, as well as the terms, conditions, and restrictions contained herein, and pursuant to the laws of the Commonwealth of Pennsylvania, Grantor does agree to the following terms and conditions:

1. PURPOSE

The purpose of this Declaration of Restrictive Covenants for Conservation is:

To preserve and protect the native flora, fauna, soils, water table and drainage patterns, and other conservation values of the Conservation Area;

To view the Conservation Area in its scenic and open condition; and in general,

To assure that the Conservation Area, including its air space and subsurface, will be retained in perpetuity in its natural condition as provided herein and to prevent any use of the Conservation Area that will impair or interfere with its natural resource functions and values. Grantor intends that this Declaration will confine the use of the Conservation Area to such activities as are consistent with the purpose of this Declaration.

To accomplish the purpose of this Declaration, the following rights are created in accordance with Pennsylvania Statutes, Title 32, §§ 5051-5059.

A. To allow the Grantor, the USACE or the Pennsylvania Department of Environmental Protection (hereinafter "PADEP") the right to enter upon the Property to inspect the Conservation Area at reasonable times to monitor compliance with and otherwise enforce the terms of this Declaration; provided that, except in cases where Grantor determines that immediate entry is necessary to prevent, terminate, or mitigate a violation of this Declaration; such entry shall, when practicable, be upon reasonable prior notice to any successor or assign, and Grantor shall not unreasonably interfere with that successor's or assign's use and quiet enjoyment of the Property in accordance with the terms of this Declaration;

B. To allow the Grantor, the USACE or the PADEP to enforce the terms of this Declaration by appropriate legal proceedings in accordance with Pennsylvania Statutes, Title 32, §§ 5051-5059 so as to prevent any activity on or use of the Property that is inconsistent with the purpose of this Declaration and to require the restoration of such areas or features of the Conservation Area that may be damaged by any inconsistent activity or use; and

C. To allow the Grantor, or their authorized representatives, to enter upon the Property and its Conservation Area at reasonable times, upon prior notice to the property owner; and upon prior notice and written approval by the USACE and/or the PADEP to take any appropriate

environmental or conservation management measures consistent with the terms and purposes of this Declaration, including:

- 1) planting of native trees, shrubs, grasses and forbs; or
- 2) restoring, altering or maintaining the topography, hydrology, drainage, structural integrity, bed, water quantity, water quality or other relevant feature of any stream, wetland, water body or buffer on the Conservation Area.

2. DURATION

This Declaration shall remain in effect in perpetuity, shall run with the land regardless of ownership or use, and is binding upon all subsequent declarants, their heirs, executors, administrators, successors, representatives, devisees, and assigns, as the case may be, as long as said party shall have any interest in any part of the Conservation Area.

3. PERMITTED USES

This Declaration will not prevent the property owner and the property owner's personal representatives, heirs, successors, and assigns from making use of the area that are not expressly prohibited herein and are not inconsistent with the purpose of this Declaration.

4. RESTRICTIONS

Any activity on or use of the Conservation Area by the property owner and the property owner's personal representatives, heirs, successors, and assigns, inconsistent with the purpose of the Declaration is prohibited. Without limiting the generality of the foregoing, and except when an approved purpose under 1.C above, or as necessary to accomplish mitigation approved under the aforementioned permit, the following activities and uses are expressly prohibited in, on, over, or under the Conservation Area, subject to all of the express terms and conditions below:

- A. **Structures.** The construction of man-made structures on, in, over or above the ground or any water body, including but not limited to the construction, removal, placement, preservation, maintenance, alteration, or decoration of any buildings, roads, utility lines, billboards or other advertising. This restriction does not include deer stands, bat boxes, bird nesting boxes, bird feeders, duck blinds, and the placement of signs for safety or education purposes or boundary demarcation.
- B. **Demolition.** The demolition of fencing structures constructed for the purpose of demarcation of the Conservation Area or for public safety;
- C. **Soils.** The removal, excavation, disturbance, or dredging of soil, sand, peat, gravel or aggregate material of any kind; or any change in the topography of the land, including any discharges of dredged or fill material, ditching, extraction, drilling, driving of piles, mining, or excavation of any kind.

- D. **Drainage.** The drainage or disturbance of the water level or the water table, except for preexisting or approved project-related stormwater discharges and any maintenance associated with those stormwater discharges. All preexisting or approved project-related drainage/stormwater discharge features should be shown on the accompanying plat map or approved plan and attached to this instrument.
- E. **Wastes or Debris.** The storage, dumping, depositing, abandoning, discharging, or releasing of any gaseous, liquid, solid or hazardous waste substance, materials or debris of whatever nature on, in, over or under ground or into surface or ground water, except for preexisting or approved project-related stormwater discharges and any maintenance associated with those stormwater discharges.
- F. **Non-Native Species.** The planting or introduction of non-native species.
- G. **Herbicides, Insecticides and Pesticides.** The use of insecticides, pesticides, or herbicides or other chemicals, except for as may be necessary to control invasive species that threaten the natural character of the Conservation Area. State-approved application programs necessary to protect the public health and welfare are not included in this prohibition.
- H. **Removal of Vegetation.** The mowing, cutting, pruning, removal, disturbance, destruction, or the collection of any trees, shrubs, or other vegetation, except for pruning, cutting or removal for:
- 1) safety purposes; or
 - 2) control in accordance with accepted scientific forestry management practices for diseased or dead vegetation; or
 - 3) control of non-native species and noxious weeds; or
 - 4) scientific or nature study.
- I. **Agricultural, Livestock & Other Activities.** Unless currently used for these purposes, conversion of, or expansion into, any portion of the Conservation Area for use for agricultural, horticultural, aquacultural, silvicultural, livestock production or grazing activities. This prohibition also includes conversion from one type of these activities to another (e.g., from agricultural to silvicultural).
- J. **Other Material Impairment.** Other acts, uses or discharges which adversely affect fish or wildlife habitat or the preservation of lands, wetlands or water areas within the Conservation Area.

5. INSPECTION, ENFORCEMENT & ACCESS RIGHTS

The USACE, the PADEP, and its/their authorized representatives shall have the right to enter and go upon the Property, to inspect the Conservation Area and take actions necessary to verify compliance with this Declaration. When practicable, such entry shall be upon prior reasonable

notice to the property owner. The Grantor grants to the USACE, the U.S. Department of Justice, and/or PADEP, a discretionary right to enforce this Declaration in a judicial action against any person(s) or other entity(ies) violating or attempting to violate these restrictive covenants: provided, however, that no violation of these restrictive covenants shall result in a forfeiture or reversion of title. In any enforcement action, an enforcing agency shall be entitled to a complete restoration for any violation, as well as any other judicial remedy such as civil penalties. Nothing herein shall limit the right of the USACE to modify, suspend, or revoke the Permit.

6. RECORDING & EXECUTION BY PARTIES

The Grantor agrees to record this Declaration in the Land Records of the County or Counties where the Property is located and provide the USACE with proof of recordation prior to the start of the work in waters of the United States authorized by the referenced permit.

7. NOTICE OF TRANSFER OF PROPERTY INTERESTS

No transfer of the rights of this Declaration, or of any other property interests pertaining to the Conservation Area or the underlying property it occupies shall occur without thirty (30) calendar days prior written notice to the PADEP and the USACE.

8. MODIFICATIONS

The restrictions contained in this Declaration are required by the referenced Department of the Army Permit. There shall be no changes or alterations to the provisions in this Declaration without prior written approval from the appropriate district commander of the USACE.

9. RESERVED RIGHTS

- A. The Grantor and any holders of easements or other property rights for the operation and maintenance of pre-existing or project-related structures or infrastructure such as utilities, drainage ditches, or stormwater facilities that are present on, over or under the Conservation Area reserve the right, within the terms and conditions of their permits, their agreements, and the law, to continue with such operation and maintenance.
- B. If the authorized project requires any related or unanticipated utility relocation, drainage ditches, or stormwater controls within the identified Conservation Area, said activities must be applied for by the Grantor, project proponent, respective utility, or other appropriate party and may be permitted by the USACE.
- C. The Grantor accepts the obligation to place any other responsible party on reasonable prior notice of their need to request such permission.

10. SEVERABILITY

If any portion of this Declaration, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this instrument, or application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.

11. MITIGATION

If compensatory mitigation under the terms of the mitigation plan approved as part of Department of the Army permit _____ requires work within the Conservation Area, the Grantor, or its designee, is allowed to construct the mitigation work in accordance with the authorized mitigation plan including any revisions or modifications approved by the USACE subsequent to the recording of this Conservation Instrument. The approved mitigation plan including all revisions or modification is incorporated herein by reference.

IN WITNESS WHEREOF said GRANTOR has executed this Declaration the day and year first above written.

FOR THE PENNSYLVANIA DEPARTMENT OF
TRANSPORTATION

BY: _____
Deputy Secretary of Highway Administration

COMMONWEALTH OF PENNSYLVANIA :
: SS
COUNTY OF _____ :
:

On _____, before me, a Notary Public for the Commonwealth aforesaid, personally appeared _____, who acknowledged himself/herself to be **the Deputy Secretary of Highway Administration**, and that s/he, as an officer of the Grantor, being authorized to do so, executed, in my presence, the foregoing instrument for the purposes herein contained

IN WITNESS WHEREOF, I have set my hand and official seal.

Notary Public
My commission expires: _____

[SEAL]

COMMONWEALTH OF PENNSYLVANIA :
: SS
COUNTY OF _____ :
:

Recorded in the Office for Recording of Deeds
in and for aforesaid County, in
Deedbook _____, Vol. _____,
Page _____.

Witness my hand and seal of Office
On _____

RECORDER OF DEEDS

GRANTOR

|

Certificate of Residence

I hereby certify the Grantee's precise residence to be:
[Insert PennDOT District Office Address]

Witness my hand this ____ day of _____, 2016

Agent for the Commonwealth of Pennsylvania
Department of Transportation

Stream Mitigation Easement:

1. **PURPOSE.** The purpose of this Easement (hereinafter “Conservation Easement”) is:

- A. To construct, maintain, monitor, and manage stream mitigation within the area designated as _____ (hereinafter “Conservation Area”), which includes adequate riparian buffers, all as further described in the Department of the Army Permit issued for the *[INSERT PROJECT NAME USED FOR PERMIT APPLICATION HERE: _____]* project, Permit No. _____ (hereinafter “the Permit”);
- B. To preserve and protect the native flora, fauna, soils, water table and drainage patterns, and other conservation values of the Conservation Area;
- C. To view the Conservation Area in its scenic and open condition at ground level from adjacent publicly-accessible land; and in general,
- D. To assure that the Conservation Area, including its air space and subsurface, will be retained in perpetuity in its natural condition as provided herein and to prevent any use of the Conservation Area that will impair or interfere with its natural resource functions and values. This Conservation Easement will confine the use of the Conservation Area to such activities as are consistent with the purpose of this Conservation Easement.

2. **CREATION OF EASEMENT RIGHTS.** To accomplish the purpose of this Conservation Easement, the following rights will be transferred from the Landowner to the Pennsylvania Department of Transportation (hereinafter “Holder”), for the benefit of the Commonwealth of Pennsylvania, its successors and assigns, as well as the United States Army Corps of Engineers (“USACE”) and Pennsylvania Department of Environmental Protection (“PADEP”) (as third parties with enforcement rights only), in accordance with Pennsylvania Statutes, Title 32, §§ 5051-5059:

A. To allow the Holder, the USACE, the PADEP, or their authorized representatives, to enter upon property owned by the Landowner (hereinafter “Property”) to inspect the Conservation Area at reasonable times to monitor compliance with and otherwise enforce the terms of the Conservation Easement; provided that, except in cases where the Holder determines that immediate entry is necessary to prevent, terminate, or mitigate a violation of the Conservation Easement, such entry shall, when practicable, be upon reasonable prior notice to Landowner or any successors and assigns, and the Holder shall not unreasonably interfere with Landowner’s (or successor’s or assign’s) use and quiet enjoyment of the Property in accordance with the terms of this Conservation Easement;

B. To allow the Holder, the USACE or the PADEP to enforce the terms of this Conservation Easement by appropriate legal proceedings in accordance with Pennsylvania Statutes, Title 32, §§ 5051-5059 so as to prevent any activity on or use of the Property that is inconsistent with the purpose of this Conservation Easement and to require the restoration of such areas or features of the Conservation Area that may be damaged by any inconsistent activity or use; and

C. To allow the Holder, or their authorized representatives, to enter the Conservation Area at reasonable times, upon prior notice to the Landowner, and upon prior notice and approval by the USACE and/or the PADEP to take any appropriate environmental or conservation management measures consistent with the terms and purposes of the Conservation Easement as approved by the USACE and/or PADEP, including:

- 3) planting of native trees, shrubs, grasses and forbs; or
- 4) restoring, altering or maintaining the topography, hydrology, drainage, structural integrity, bed, water quantity, water quality or other relevant feature of any stream, wetland, water body or buffer on the Conservation Area.

3. DURATION. This Conservation Easement shall remain in effect in perpetuity, shall run with the land regardless of ownership or use, and is binding upon all subsequent Landowners, their heirs, executors, administrators, successors, representatives, devisees, and assigns, as the case may be, as long as said party shall have any interest in any part of the Conservation Area.

4. PERMITTED USES. This Conservation Easement will allow the Holder, its agents and assigns to enter the Conservation Area to perform the mitigation required by the above referenced permit including any revisions or modifications approved by the USACE subsequent to the recording of this Conservation Easement and at future reasonable times to monitor the Conservation Area. Such entry shall be upon prior reasonable notice to the Landowner.

This Conservation Easement will not prevent the Landowner and the Landowner's personal representatives, heirs, successors, and assigns from making uses of the Conservation Area that are not expressly prohibited herein and are not inconsistent with the purpose of this Conservation Easement.

5. RESTRICTIONS. Any activity on or use of the Conservation Area by the Landowners and the Landowner's personal representatives, heirs, successors, and assigns, inconsistent with the purpose of the Conservation Easement is prohibited. Without limiting the generality of the foregoing, and except when an approved purpose under 2.C above, or as necessary to accomplish mitigation approved under the aforementioned permit, the following activities and uses are expressly prohibited in, on, over, or under the Conservation Area, subject to the express terms and conditions below:

- K. **Structures.** The construction of man-made structures on, in, over or above the ground or any water body, including but not limited to the construction, removal, placement, preservation, maintenance, alteration, or decoration of any buildings, roads, utility lines, billboards or other advertising. This restriction does not include deer stands, bat boxes, bird nesting boxes, bird feeders, duck blinds, and the placement of signs for safety or education purposes or boundary demarcation.

- L. **Demolition.** The demolition of fencing structures constructed for the purpose of demarcation of the Conservation Area or for public safety;
- M. **Soils.** The removal, excavation, disturbance, or dredging of soil, sand, peat, gravel or aggregate material of any kind; or any change in the topography of the land, including any discharges of dredged or fill material, ditching, extraction, drilling, driving of piles, mining, or excavation of any kind.
- N. **Drainage.** The drainage or disturbance of the water level or the water table, except for preexisting or approved project-related stormwater discharges and any maintenance associated with those stormwater discharges. All preexisting or approved project-related drainage/stormwater discharge features are shown.
- O. **Wastes or Debris.** The storage, dumping, depositing, abandoning, discharging, or releasing of any gaseous, liquid, solid or hazardous waste substance, materials or debris of whatever nature on, in, over or under ground or into surface or ground water, except for preexisting or approved project-related stormwater discharges and any maintenance associated with those stormwater discharges.
- P. **Non-Native Species.** The planting or introduction of non-native species.
- Q. **Herbicides, Insecticides and Pesticides.** The use of insecticides, pesticides, or herbicides or other chemicals, except for as may be necessary to control invasive species that threaten the natural character of the Conservation Area. State-approved application programs necessary to protect the public health and welfare are not included in this prohibition.
- R. **Removal of Vegetation.** The mowing, cutting, pruning, removal, disturbance, destruction, or the collection of any trees, shrubs, or other vegetation, except for pruning, cutting or removal for:
 - 5) safety purposes; or
 - 6) control in accordance with accepted scientific forestry management practices for diseased or dead vegetation; or
 - 7) control of non-native species and noxious weeds; or
 - 8) scientific or nature study.
- S. **Agricultural, Livestock & Other Activities.** Unless currently used for these purposes, conversion of, or expansion into, any portion of the Conservation Area for use for agricultural, horticultural, aquacultural, silvicultural, livestock production or grazing activities. This prohibition also includes conversion from one type of these activities to another (e.g., from agricultural to silvicultural).
- T. **Other Material Impairment.** Other acts, uses or discharges which adversely affect fish or wildlife habitat or the preservation of lands, wetlands or water areas within the Conservation Area.

6. Modifications. The restrictions contained in this Conservation Easement are required by the Permit. There shall be no changes or alterations to the provisions of this Conservation Easement without prior written approval from the [ADD THE APPROPRIATE DISTRICT NAME: Baltimore, Philadelphia or Pittsburgh] district commander of the USACE.

7. INSPECTION, ENFORCEMENT & ACCESS RIGHTS. The USACE, the PADEP, and its/their authorized agents shall have the right to enter and go upon the Conservation Area (and any of the other areas of the Property of the Landowner necessary for access to, and protection of, the Conservation Area), to inspect the Property and take actions necessary to verify compliance with this Conservation Easement. When practicable, such entry shall be upon prior reasonable notice to the Landowner. The fee simple owner recognizes that the USACE, the U.S. Department of Justice, and/or the PADEP have a discretionary right to enforce this Conservation Easement in a judicial action against any person(s) or other entity(ies) violating or attempting to violate these restrictive covenants: provided, however, that no violation of the Conservation Easement shall result in a forfeiture of the Conservation Easement. In any enforcement action, an enforcing agency shall be entitled to a complete restoration for any violation, as well as any other judicial remedy such as civil penalties. Nothing herein shall limit the right of the USACE to modify, suspend, or revoke the Permit.

8. RECORDING & EXECUTION BY NECESSARY PARTIES. The Holder will, in accordance with its permit responsibilities, ensure that the necessary legal instrument transferring this conservation easement will be executed and recorded, along with recordation of the USACE's written acceptance of its rights, in the Land Records of the County or Counties where the Property is located and will provide the USACE with proof of such recordation prior to the start of the work in waters of the United States authorized by the Permit.

9. TRANSFER OF RIGHTS OR PROPERTY INTERESTS. No transfer of the Holder's rights under this Conservation Easement to a new Holder shall occur without a minimum of thirty (30) calendar days prior written notice to the USACE, and their prior written approval. No transfer of any other property interests pertaining to the Conservation Area or the underlying property it occupies shall occur without thirty (30) calendar days prior written notice to the USACE.

10. SEVERABILITY. If any portion of this Conservation Easement, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this Conservation Easement, or application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.

[TO BE ADDED TO THE RELEVANT "RESERVED RIGHTS" SECTION OF THE DEED OF EASEMENT OR DECLARATION OF TAKINGS:

- D. The Landowner and any holders of other easements or other property rights for the operation and maintenance of pre-existing or project-related structures or infrastructure such as utilities, drainage ditches, or stormwater facilities that are present on, over or under the Conservation Area are reserved the right, within the

terms and conditions of their permits, their agreements, and the law, to continue with such operation and maintenance.

- E. If the authorized project requires any related or unanticipated utility relocation, drainage ditches, or stormwater controls within the identified Conservation Area, said activities must be applied for by the Holder, Landowner, project proponent, respective utility, or other appropriate party and may be permitted by the USACE.
- F. The Landowner shall have the obligation to place any other responsible party on reasonable prior notice of their need to request such permission.]

[NOTE: The plan must include complete callouts for the Conservation Area. If the Conservation Area is less than the total parcel or total property shown on the plan, the plan must include metes and bounds for the total property based on the existing deed and callouts for the Conservation Area listed separately and identified as such. The plan must also include a scaled drawing of the Conservation Area, and have it clearly labeled as such and identified by leader lines cross-hatching, shading or other easily recognizable means to locate it on the plan. The plan must further include the location and extent of all known, pre-existing easements, rights of way, utilities, drainage ditches, stormwater facilities, cattle crossings, or structures.]

As Agreed 8-17-07

ACCEPTANCE OF RIGHTS
UNDER CONSERVATION EASEMENT

The Pennsylvania Department of Transportation will acquire a Conservation Easement for a mitigation site located on parcel no. _____ in _____ County for the **[INSERT PROJECT NAME BY S.R.]** pursuant to the Department of Army Permit No. _____.

Issuance of this authorization serves as the United States Army Corps of Engineers' formal acceptance of its third party enforcement rights conferred by the Conservation Easement. A copy of this authorization is to be recorded with the Deed of Easement or Notice of Condemnation.

FOR THE UNITED STATES ARMY CORPS OF
ENGINEERS

BY: _____
[TITLE OF OFFICER OF USACE]

COMMONWEALTH OF PENNSYLVANIA :
: SS
COUNTY OF _____ :
:

On _____, before me, a Notary Public for the Commonwealth aforesaid, personally appeared _____, who acknowledged himself/herself to be **[TITLE OF USACE Officer]**, and that s/he, as an officer of the United States Army Corps of Engineers, being authorized to do so, executed, in my presence, the foregoing instrument for the purposes herein contained

IN WITNESS WHEREOF, I have set my hand and official seal.

Notary Public
My commission expires: _____

[SEAL]

APPENDIX P

DEP COMPLETION REPORT

Commonwealth of Pennsylvania
Department of Environmental Protection
Southcentral Regional Office
Watershed Management Program
Permitting and Technical Services Section

**WATER OBSTRUCTION & ENCROACHMENT PERMIT
COMPLETION REPORT**

Project Location:

County _____

Township _____

Ladies and Gentlemen:

I (We) hereby certify that the _____
(work authorized by permit)

was completed on _____, in accordance with the plans approved and that all unauthorized obstruction have been removed.

Name: _____
(typed or printed)

Signature: _____

Title: _____

Firm: _____

Date: _____

RETURN TO:

Clerical Support
Department of Environmental Protection
Southcentral Regional Office
Watershed Management Program
Permitting and Technical Services Section
909 Elmerton Avenue, 2nd Floor
Harrisburg, Pennsylvania 17110

(permittee signature)

(date)

(signature of individual responsible
for supervision of work)

(date)