
User's Guide for the Range-wide Programmatic Informal Consultation for Indiana Bat and Northern Long-eared Bat

Version 1.1, June 4, 2015



Federal Highway Administration

Federal Railroad Administration

U.S. Fish and Wildlife Service

Contents

1.0 Introduction	1
2.0 Effects Analysis Summary	2
2.1 Overview	2
2.2 Actions That Will Have No Effect on Bats and/or Indiana Bat Critical Habitat	3
2.3 Actions That May Affect Bats.....	4
2.3.1 Actions NLAA without AMMs.....	4
2.3.2 Actions NLAA with AMMs	5
2.3.3 Actions That “May Affect, but are Not Fully Analyzed”	5
3.0 Standard Operating Procedure for Site-Specific Project(s) Submission	6
3.1 Process for Transportation Agencies	6
3.1.1 Step 1 - Begin Notification/Submittal Process	6
3.1.2 Step 2 – Determine Adherence to Scope and Submit Form	7
3.2 Process for Lead Service Field office	7
Appendix A - Project Submittal Form for FHWA, FRA, and Transportation Agencies	A1
Appendix B - Avoidance and Minimization Measures	B1

Please note that Version 1.1 of this document reflects minor changes to the “Standard Operating Procedure, Process for Lead Service Office” section (see page 8). This version also refers readers to the Service’s Region 3 website to access the latest version of the project submittal form, previously available in Appendix A.

1.0 Introduction

The following User's Guide provides guidance for the implementation of the programmatic range-wide informal consultation for the Indiana bat and northern long-eared bat (NLEB). This document is based on the Federal Highway Administration (FHWA) and Federal Railroad Administration (FRA) Range-wide Biological Assessment (BA) for Transportation Projects for the Indiana bat and the northern long-eared bat (NLEB) dated April 17, 2015 and the U.S. Fish and Wildlife Service (Service) concurrence letter dated April 20, 2015. The Service, FHWA, and FRA jointly developed this User's Guide to be instructional for both transportation agencies and Service field offices. We encourage feedback on the user's guide so that it can be updated and improved upon, as necessary.

Any questions regarding the Programmatic Informal Consultation and/or User's Guide should be addressed at the local FHWA/FRA/State Department of Transportation/Service Field Office level. If resolution cannot be achieved, contact:

U.S Fish & Wildlife Service

Forest Clark

812-334-4261

forest_clark@fws.gov

Federal Highway Administration

Brian Yanchik

443-522-9446

Brian.Yanchik@dot.gov

Federal Railroad Administration

Andrea Martin

202-493-6201

andrea.martin@dot.gov

This User's Guide provides:

- **Effects Analysis Summary:** Key effects analysis decision points and Avoidance and Minimization Measures (AMMs) for projects;
- **Standard Operating Procedure (SOP) for Site-Specific Project(s) Submission:** SOPs for project submission under the programmatic consultation for FHWA, FRA and their respective non-federal representatives (henceforth "transportation agencies") and SOPs for the Service's review and tracking of the programmatic consultation;
- **Project Submittal Form:** A form for transportation agencies to use to submit project-level information for may affect but not likely to adversely affect determinations to the appropriate Service field office in order to use the programmatic informal consultation; and
- **Avoidance and Minimization Measures:** Summary of AMMs to avoid or minimize impacts to the point of insignificant/discountable for projects to be included in the programmatic consultation.

The Service, FHWA and FRA encourage all parties who plan to use the programmatic informal consultation to review the BA and reference it if there are questions regarding interpretation. The BA contains detailed information on the types of proposed actions, analysis on the potential effects to the species and their resources, and support of determinations associated with the programmatic agreement. Documents relevant to compliance with the informal programmatic consultation including the BA, project submittal form, effects analysis, and Field Office contacts

are available at the Service's Region 3 website at:

<http://www.fws.gov/midwest/endangered/section7/fhwa/index.html>.

The BA covers the full range of both bat species within the United States, which includes all or part of the following States: Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

2.0 Effects Analysis Summary

2.1 Overview

The Description of the Proposed Action in the BA includes a general description of all types of FHWA/FRA-involved activities. This informal programmatic consultation can be used for actions that are not likely to adversely affect Indiana bats (or Indiana bat critical habitat) or NLEBs.

This section provides guidance and some examples of activities that are considered under the informal programmatic consultation. These include:

- “No effect,” in which case the transportation agency documents “no effect” on the project submittal form ([Appendix A](#)) for their files, no coordination is required, and the consultation concludes;
- “May affect, not likely to adversely affect (NLAA),” which requires coordination using the submittal form ([Appendix A](#)); and
- “May affect, not fully analyzed,” which requires separate consultation with the appropriate Service field office.¹

In certain cases the transportation agency or the Service field office may request additional up-front coordination to determine whether a project is covered under the informal programmatic consultation. This coordination could be initiated in one of two ways: 1) the transportation agency is uncertain whether or not a project is covered and contacts the appropriate Service field office, or 2) the transportation agency submits the project under the consultation, but the Service field office requests more information during the 14-day evaluation period of the submittal form.

¹ The range-wide biological assessment includes a general description of all types of transportation activities, but does not fully analyze all possible activities. Additional coordination with the appropriate Service field office is necessary to make a final effect determination on these projects. If all adverse effects cannot be avoided, formal consultation is required.

There are also two outcomes for projects requiring additional coordination: 1) upon the acquisition of additional information (e.g., summer roosting, hibernacula, bridge roosting activity, etc.) or the implementation of site-specific AMMs,² the project is determined to be NLAA and the transportation agency and Service proceed under the programmatic informal consultation, or 2) all adverse effects cannot be avoided and the project is determined to be “likely to adversely affect,” in which case separate consultation with the appropriate Service field office is necessary.

2.2 Actions That Will Have No Effect on Bats and/or Indiana Bat Critical Habitat

There are two primary ways that projects can result in “no effect” to Indiana bat and/or NLEB: 1) geographic location; or 2) suitable habitat absence. If the project is completely outside the range of either the Indiana bat or NLEB, the project will result in no effect to that species. If there is no suitable habitat within the project action area (e.g., a high-density urban area), the project will result in no effect to both species.

The following categories of activities are “no effect” with respect to Indiana bat and NLEB:

- Projects outside the species’ range³
- Projects inside the range but no suitable summer habitat (e.g., high-density urban area or non-forested areas)⁴
- Activities completely within existing road/rail surface **not involving** percussive activities that increase noise above existing traffic/background levels, such as blasting and use of pile drivers, rock drills, hoe rams, or chainsaws;
- Maintenance, alteration, or demolition of bridges/structures if the results of bridge inspection surveys indicate no signs of bats.⁵
- Activities that do not involve construction, such as; bridge inspections, property inspections, development of planning and technical studies, property sales, property easements, and equipment purchases.

In this case, the transportation agency documents “no effect” on the project submittal form ([Appendix A](#)) for their files and the consultation concludes. No coordination with FWS is required.

² If additional information is required or if site-specific AMMs are implemented in order to employ the programmatic informal consultation, the relevant transportation agency and Service field office are responsible for documenting those actions.

³ See <http://ecos.fws.gov/ipac/>

⁴ Refer to <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

⁵ We understand that only bridges with certain structural elements provide habitat for bats. Currently we do not have sufficient data to fully characterize bridges that bats use for roosting. With additional data we may ultimately be able to rule out bridges which lack particular characteristics amenable to roosting. However, until further data is gathered, we will use the evidence of bats to make the initial determination of suitable habitat. Refer to [Appendix B](#) of the Range-Wide Biological Assessment for Transportation Projects for more information on bridge inspection guidance.

2.3 Actions That May Affect Bats

If the project is within the range of either bat species, suitable habitat is present, and no bat surveys have been conducted, then the transportation agency will assume presence of the appropriate species. **This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.** Multiple actions may result in effects to Indiana bats and/or NLEBs. Transportation projects may impact roosting, foraging, or swarming bats. In general, “may affect” activities include:

- Tree removal (if suitable habitat);
- Increased noise above existing traffic/background levels through percussive activities such as blasting and use of pile drivers, rock drills, hoe rams, or chainsaws;
- Increased lighting;
- Smoke/heat associated with burning brush piles;
- Impacts to water/wetlands (where suitable habitat is present); and
- Bridge or structure maintenance or replacement at sites with bat activity.

2.3.1 Actions NLAA without AMMs

Some projects may occur near suitable habitat (e.g., non-forested area that Indiana bat or NLEB would typically cross between patches of suitable habitat) or within suitable habitat within the range of either species, but the project will result in **discountable likelihood of effects** even without the implementation of the AMMs. Activities that are NLAA as proposed include:

- Projects inside range but negative bat presence/absence (P/A) surveys⁶
- Activities completely within existing road/rail surface **involving** percussive activities described above
- Activities in areas that contain suitable forested habitat but that do not remove or alter trees (e.g., landscaping rest areas, mowing, brush removal, sign or guiderail replacement, stormwater management)
- Slash pile burning and wetland protection or stream protection associated with wetland mitigation without any suitable habitat clearing
- Wetland or stream protection associated with wetland mitigation without any suitable habitat clearing.

The transportation agency will complete and email the project submittal form ([Appendix A](#)) to the lead Service field office and observe the 14-day evaluation period for the submittal form.

⁶ Refer to <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

2.3.2 Actions NLAA with AMMs

Frequently, transportation agencies will propose projects that “may affect” Indiana bat or NLEB, but implementation of all applicable AMMs under this programmatic informal consultation (see [Appendix B](#)) will result in avoidance or minimization of impacts and a determination of NLAA.

Transportation projects that involve the features listed below, as appropriate, and implement all applicable AMMs⁷ are not likely to adversely affect Indiana bats or NLEBs:

- Tree removal that:
 - Occurs outside the active season (i.e., winter) as determined by appropriate Service field office;
 - Occurs within 100 feet (30.5 m) of existing road surfaces;
 - Does not remove documented roosts or foraging habitat.
- Structure or bridge maintenance outside the active season that:
 - Include any applicable lighting minimization measures; and
 - Do not alter roosting potential
- Structure or bridge maintenance during the active season that:
 - Does not bother roosting bats in any way (e.g., road paving, wing-wall work, work above that does not drill down to the under side of the deck, some abutment, beam end, scour, or pier repair or activity away from roosts inside common rooms in structures, normal cleaning and routine maintenance)
- Lighting that does not increase illumination above ambient conditions and that incorporates full cut-off, downward facing lights directed away from forested areas
- Activities that incorporate appropriate water quality best management practices in compliance with State/Federal permits

The transportation agency will complete and email the project submittal form ([Appendix A](#)) to the lead Service field office, which will observe the 14-day evaluation period for the submittal form.

2.3.3 Actions That “May Affect, but are Not Fully Analyzed”

The Description of the Proposed Action in the BA includes a general description of all types of transportation activities, but does not fully analyze all of them. FHWA and FWS have made a preliminary determination, however, that some activities do not meet the threshold for inclusion in the informal programmatic consultation. These projects may or may not result in adverse effects to NLEBs and/or Indiana bats. Additional coordination with the appropriate Service field office is necessary to make a final effect determination on these projects. If all adverse effects cannot be avoided, formal consultation is required.

⁷ An example of AMMs that would not be applicable would be wetland AMMs when no wetlands occur within the action area. If applicable, AMMs must be implemented for a project to fall under the programmatic informal consultation.

These types of actions include:

- New road/rail corridor (new alignment—not minor realignments)
- Activities that impact suitable forest habitat⁸ more than 100 feet from existing road/rail surfaces (any time of year)
- Raising road profile above tree canopy within 1,000 feet of known summer habitat (based on documented roosts/captures)(any time of year)
- Bridge removal or modification (so that it is no longer suitable for roosting) projects with bat colonies known to be roosting under the bridge (any time of year).⁹
- Bridge/structure maintenance activities that are near or around the roosting site while bats are documented to be present.
- Suitable forest habitat removal (any distance from a road) during the active season (unless negative bat presence/absence (P/A) surveys)
- Removal of any documented roosts or foraging/travel corridors (based on radio telemetry)(any time of year)
- Any project within 0.5 miles of hibernacula, including Indiana bat critical habitat (any time of year)

The informal programmatic consultation does not initially apply (although it may upon further review) and the transportation agency will initiate separate consultation with the appropriate Service field office.

3.0 Standard Operating Procedure for Site-Specific Project(s)

Submission

Please use the following procedure to submit site specific transportation project(s) for inclusion in the FHWA/FRA Range-wide Programmatic Informal Consultation for Indiana bat and/or NLEB, and to record site-specific information.

3.1 Process for Transportation Agencies

3.1.1 Step 1 - Begin Notification/Submittal Process

To begin this step, the applying transportation agency will go to the Information for Planning and Conservation (IPaC) website at <http://ecos.fws.gov/ipac/> and follow these steps:¹⁰

⁸ Refer to <http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>

⁹ Transportation agencies may either infer presence of listed species or hire a qualified biologist to determine the species of known bat colonies. Transportation agencies should work with the local Service Field Office if they would like to determine bat colony species, or if modifications will impact roosting suitability.

¹⁰ Transportation agencies may coordinate with the appropriate Service Field Office to develop a separate process of requesting a site-specific project be included in the range-wide programmatic informal consultation. However, the project Submittal Form must be provided.

- Enter project location and define project action area
- Request an official species list
- Enter project information (name, description, classification/type, etc.)
- Enter requesting agency name and contact information
- Check the box to verify your project and submit request.

After an initial e-mail confirmation that the request has been submitted, the transportation agency contact will receive a follow-up email with an attached official species list, an attached GIS file of their project location, the appropriate Service field office contact(s) information, and the consultation code(s) associated with the species list. Should a project span multiple Service field office jurisdictions, the transportation agency will be provided with more than one Service field office contact and consultation code. For transportation actions that cross jurisdictional boundaries (e.g., from one State DOT to another), one transportation entity should take the lead in implementing this process and determining whether the action, as a whole, meets the requirements for inclusion in this programmatic informal consultation.

3.1.2 Step 2 – Determine Adherence to Scope and Submit Form

The transportation agency will determine whether or not the proposed project adheres to the scope and criteria of the range-wide programmatic informal BA. If so, the transportation agency shall submit a project submittal form (See [Appendix A](#)) to the email addresses noted within the Service field office contact information.

3.2 Process for Lead Service Field office

Upon receiving a project submittal form from a transportation agency, the lead Service field office will update the project(s) TAILS Activity in the Environmental Conservation Online System (ECOS) Tracking and Integrated Logging System (TAILS) **using the consultation code(s)** from the project submittal form.¹¹ Each Service field office will follow their office’s data entry procedures for ECOS-TAILS as well as the processes described below. The following process is required to enter additional site-specific information and “position/associate” the Activity in the appropriate Programmatic Bundle.

- Go to ECOS-TAILS at <https://ecos.fws.gov/tails>
- Perform a Section 7 Consultation search and navigate to the TAILS Activity associated with the consultation code provided in the Project Submittal Form.
- Go to Edit – Core information¹²

¹¹ If a separate process other than IPaC is used by the transportation agency, the lead Service field office (upon receiving the Project Submittal Form) will create a Section 7 Consultation Activity in ECOS-TAILS for the specific project(s) following their office’s data entry procedures and the process described above.

¹² Information entered into IPaC is transferred to ECOS-TAILS as a Species List Activity, in which “project name” translates to the TAILS Activity Title, the “project description” translates to the TAILS Activity Description, and the “project classification/type” translates to the TAILS Action/Work Type.

- Consultation Type – will be selected via “Add Event” as described below (leave blank under Core Information)
- Species – select all species requiring consultation for the project(s)
- Staff Lead – select individual (identify additional staff within the “Staff” field)
- Lead Agency – Note that this refers to the Federal governmental lead action agency initiating consultation; change to/select FHWA or FRA under DEPT OF TRANSPORTATION as appropriate
- Supporting Agency – this is an optional field and refers to Federal or non-Federal agencies (other than the Lead Agency) involved in the activity; for these purposes, the Supporting Agency is the requesting transportation agency listed on the Project Submittal Form

For project(s) affecting **only** the Ibat and/or NLEB, complete the following; otherwise follow office data entry procedures for start date, due date, and conclusion date.

- Consultation Complexity – select Programmatic Project-Level
- Start Date – reset to date the project submittal form was received
- Due Date – enter “14” in the “Standard Days until Due” field and click on the “Compute” button (this will calculate the Due Date as being 14 calendar days out from the Start Date)
- Conclusion Date – reset to date the Service completed optional review
- Click SAVE
- Go to Edit – Bundles
 - Search for Bundle Code 09E00000-2015-B-0002 titled “FHWA and FRA Indiana bat/Northern long-eared bat Programmatic Informal Consultation”
 - Select “Add” to position/associate the Activity to the selected Bundle
- Go to Edit – Biological Conclusion
 - Biological Conclusions By Species – select effects determination/consultation type for each species
 - Click SAVE
- Go to Events – Add Event
 - Event Date – reset to date the Project Submittal Form was received
 - Type – select “Change in Consultation Type”
 - New Consultation Type (activated only with above Event Type) – select “Informal Consultation” if all species require informal consultation
 - New Consultation Type (activated only with above Event Type) – select “Formal Consultation” if any species require formal consultation (even if other species require informal consultation, including Ibat and NLEB)
 - Description – type “April 2015 FHWA/FRA range-wide programmatic informal consultation for Ibat and NLEB”
 - Staff – enter name of person who is creating the Event
 - Select “Create” to complete the Event

- Go to Events – Add Event
 - Event Date – reset to date the Project Submittal Form was received
 - Type – select “Additional Project Information Received”
 - Description – include the following information in your Event Description:
 - Identify the affected resource/habitat type (e.g., tree, bridge, other non-tree roosting structure, etc.) and acres of tree habitat removed, if applicable.
 - Staff – select who is creating the Event
 - Electronic File – upload the completed Project Submittal Form received from the transportation agency; do not select “Available Beyond FWS”
 - File Categories – select “Event General”
 - Select “Create” to complete the Event

Appendix A - Project Submittal Form for FHWA, FRA, and Transportation Agencies

Federal Highway Administration (FHWA) and Federal Railroad Administration (FRA) Range-wide Programmatic Informal Consultation for Indiana Bat and Northern Long-eared Bat

Project Submittal Form for FHWA, FRA, and Transportation Agencies

In order to use the programmatic informal consultation to fulfill Endangered Species Act consultation requirements, transportation agencies must use the project submittal form to submit project-level information for all may affect, not likely to adversely affect (NLAA) determinations to the appropriate U.S. Fish and Wildlife Service (Service) field office prior to project commencement. For more information, see the Standard Operating Procedure for Site Specific Project(s) Submission in the text of the User's Guide.

In submitting the form, the transportation agency ensures that the proposed project(s) adhere to the criteria of the range-wide programmatic informal BA. Upon submittal of the form, the appropriate Service field office may review the site-specific information provided and request additional information. If the applying transportation agency is not notified within 14 calendar days of emailing the Project Submittal Form to the Service field office, it may proceed under the range-wide programmatic informal consultation.

To access the latest version of the project submittal form, please refer to the Service's Region 3 website at: <http://www.fws.gov/midwest/endangered/section7/fhwa/index.html>.

Appendix B - Avoidance and Minimization Measures

For some projects occurring near or within suitable habitat, it will be necessary to implement AMMs to avoid or minimize impacts to the point of insignificant/discountable for projects to be included in this programmatic consultation. For these projects to be covered by this programmatic consultation, specific AMMs related to the bats will be implemented where applicable. These include:

Tree AMMs

Unless surveys document that the species are not present, these AMMs will be applied, as appropriate. The word “trees” as used in the AMMs refers to trees that are suitable habitat¹³ for each species within their range.

Tree Removal AMM 1. Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal in excess of what is required to implement the project safely. Note: Tree Removal AMM 1 is an avoidance measure. If this cannot be applied, projects may still be NLAA as long as removal is in winter and avoids known roosts.

Tree Removal AMM 2. Apply time of year (TOY) restrictions for tree removal¹⁴ when bats are not likely to be present.

Tree Removal AMM 3. Ensure tree removal is limited to that specified in project plans. Install bright orange flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits. Ensure that contractors understand clearing limits and how they are marked in the field.

Tree Removal AMM 4. Do not cut down documented Indiana bat or NLEB roosts (that are still suitable for roosting) or documented foraging habitat any time of year.

Bridge and Structure AMMs

Unless inspections or surveys have occurred to document that the species are not present in a bridge or structure, the following AMMs should be implemented as appropriate:

Bridge AMM 1. Perform any bridge repair, retrofit, maintenance, and/or rehabilitation work during the winter hibernation period (contact your local Service field office for exact dates). If bridge repair, retrofit, maintenance, and/or rehabilitation work must be performed outside of the winter hibernation period, then consider one of the other Bridge AMMs below:

¹³ See the Service’s current summer survey guidance for our latest definitions of suitable habitat.

¹⁴ Coordinate with local Service field office for appropriate dates.

Bridge AMM 2. If construction activity is planned during the active season, perform a final inspection of the bridge no more than 7 days prior to the start of construction activity to ensure bats have not started to use the area of the bridge proposed for work after the original inspection.

Bridge AMM 3. Bridge repair, retrofit, maintenance, and/or rehabilitation work outside of pup season (June 1- July 31) will occur in the evening while the bats are feeding, starting one hour after sunset, and ending one hour before daylight excluding the hours between 10 p.m. and midnight¹⁵ and keep the light localized.

Bridge AMM 4. If bridge repair, retrofit, maintenance, and/or rehabilitation work alters the bridge during the inactive season then ensure suitable roosting sites remain after the work. Suitable roosting sites may be incorporated into the design of the new bridge.

Structure AMM 1. If the goal of the project is to exclude bats, coordinate with your local Service field office and follow upcoming Acceptable Management Practices for Bat Control Activities in Structures guidance document.

Structure AMM 2. Perform maintenance and/or repair work during the winter hibernation period (contact your local Service field office for exact dates).

Structure AMM 3. If maintenance and/or repair work will be performed outside of the winter hibernation period, determine if work will occur in an area with roosting bats. If so, coordinate with your local Service field office. If there is observed bat activity (or signs of frequent bat activity), the transportation agency will avoid maintenance activity bat exclusions or similar structure alteration during the active season unless there are concerns about human health/safety/property. The agency will coordinate with a nuisance wildlife control officer and the local Service field office.

Lighting AMMs

Lighting AMM 1. Direct temporary lighting away from suitable habitat.

Lighting AMM 2. Use downward-facing, full cut-off¹⁶ lens lights, and direct lighting away from suitable habitat when installing new or replacing existing permanent lights.

Dust Control AMM

To minimize potential effects on air quality, construction contractors will use water trucks and other proactive measures to prevent discharges of dust into the atmosphere that may unreasonably interfere with the public and adjacent properties or may be harmful to plants and animals.

¹⁵ Keeley and Tuttle (1999) indicated peak night roost usage is between 10:00 p.m. to midnight.

¹⁶ http://www.lithonia.com/micro_webs/nighttimefriendly/cutoff.asp

Water Quality AMMs

To minimize potential indirect effects on bats or aquatic insects which may provide forage, adverse effects to aquatic resources will be minimized through strict adherence to the SWPPP.¹⁷

Typical SWPPPs will provide a detailed description of the pollution prevention measures that will be used to control litter, construction chemicals, and construction debris from becoming a pollutant source in stormwater discharges. In addition, SWPPPs will describe specific actions to be taken during active and post-construction phases of the project that will minimize adverse impacts to water quality from erosion and sedimentation and will include a spill prevention response plan. Typical elements of a SWPPP include the following items:

Water Quality AMM 1. Erosion Control—The project will incorporate temporary erosion control structures to minimize erosion. Erosion control measures, such as silt fence, temporary seeding, rock checks, and erosion control blankets, will be incorporated as a first step in construction and maintained throughout active construction activities. In addition, U.S. DOT often requires permanent stormwater quality practices, such as stormwater ponds, wetlands, or detention basins for projects that require coverage under the SPDES General Permit.

Water Quality AMM 2. Sediment Control—In addition, the SWPPP will describe the temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control, and sediment control for each stage of the project from initial land clearing and grubbing to project close-out, including a description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable.

Water Quality AMM 3. Roadside Drainage—Where feasible, vegetated swales will be used to assist with filtering sediment and other pollutants before it reaches streams and adjacent wetlands.

Water Quality AMM 4. Revegetation—All temporarily disturbed areas created from construction activities will be revegetated following State DOT/FRA specifications. Permanent revegetation will occur after sections are completed and consist of a variety of grasses and forbs, including legumes, wildflowers, and cereals. Seed mixes used for temporary sediment and erosion control shall consist of quick-growing species such as ryegrass, Italian ryegrass, or cereal grasses. The species used shall be suitable to the area and not compete with the permanently planted grasses. Mulch consisting of hay, straw, wood fiber, or other suitable materials will be placed evenly after the application of the seed mix to temporarily stabilize unprotected earth.

¹⁷ <http://water.epa.gov/polwaste/npdes/stormwater/Stormwater-Pollution-Prevention-Plans-for-Construction-Activities.cfm>

Water Quality AMM 5. Equipment Service/Maintenance–The SWPPP will require that any areas used for servicing and performing maintenance on construction equipment will be designated in locations away from streams, wetlands, and ponds. The contractor will submit a proposed plan designating staging areas, and this plan will be reviewed and approved by the engineer prior to construction. Materials that may leach pollutants will be stored under cover and out of the weather. Fuel tanks located on-site will have double containment systems and any fuels or other spills must be cleaned up immediately. Concrete or other material wash outs will be located in designated areas away from aquatic resources. All construction equipment will be maintained in proper mechanical condition so fuel, oil, and other pollutants do not get into water bodies during construction activities.

Water Quality AMM 6. Spill Plan–The SWPPP will include a spill plan.

Wetland/Stream Protection AMMs

For those projects that may result in wetland/stream impacts, the following measures should be applied:

Wetland/Stream Protection AMM 1. Establish and/or maintain 100-ft vegetative buffers with a sufficient number of canopy species around all permanent water bodies and perennial streams where possible to minimize erosion and sedimentation of water bodies. Intermittent streams should be buffered by 50 feet.

Wetland/Stream Protection AMM 2. Locate, design, construct, and maintain stream crossings to provide maximum erosion protection.

Wetland/Stream Protection AMM 3. Maintain existing road ditches, culverts, and turnouts to ensure proper drainage and minimize the potential for the development of ruts and mud holes and other erosion-related problems.

Wetland/Stream Protection AMM 4. Stabilize, seed, and mulch eroded roadsides and new road cuts with native grasses and legumes, where feasible, in a timely manner to minimize impacts to water bodies.

Wetland/Stream Protection AMM 5. Implement erosion and sediment controls where appropriate. Maintain protective vegetative covers over all compatible areas, especially on steep slopes. Where necessary, gravel, fabrics, mulch, riprap, or other materials that are environmentally safe and compatible with the location, may be used, as appropriate, for erosion control in problem areas.

Wetland/Stream Protection AMM 6. Erosion and sediment control measures will be inspected within 24 hours of a rain event and will be monitored and maintained throughout construction to ensure proper function.