Chapter 26

SPECIAL ENVIRONMENTAL ANALYSES

BUREAU OF DESIGN AND ENVIRONMENT MANUAL

Chapter Twenty-six
SPECIAL ENVIRONMENTAL ANALYSES

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Chapter Twenty-six
SPECIAL ENVIRONMENTAL ANALYSES

26-1 GENERAL

26-1.01 Introduction

Although the *National Environmental Policy Act* (NEPA) is the major mandate for environmental considerations, there are other laws, executive orders, regulations, agreements, etc., which require special studies, analyses, coordination, and documentation on specific environmental issues. Chapter 26 addresses these other special requirements.

26-1.02 Policy

As practical, impact analyses and related surveys, studies, and coordination made necessary by environmental laws and requirements other than NEPA shall be integrated with the development of environmental information for inclusion in environmental reports or Phase I Engineering Reports.

26-1.03 Topics

Special analyses discussed in this Chapter address the following topics:

- Section 4(f) Evaluations and Determinations,
- Section 6(f) Land Conversion Request,
- OSLAD Land Conversion Request,
- Historic Act Compliance,
- Noise Analyses,
- Floodplain Encroachments,
- Wetlands,
- Threatened and Endangered Species/Natural Areas Impact Assessments,
- Evaluations of Farmland Conversion Impacts,
- Transportation Air Quality Conformity Requirements and Documentation,
- Transportation Conformity Project-Level Qualitative Hot-Spot Analysis in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas,

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- Mobile Source Air Toxics,
- Microscale Analysis,
- Migratory Birds,
- Wildlife Resources,
- Tree/Vegetation Assessments,
- Invasive Species and Noxious Weeds,
- Surface Water Resources and Aquatic Habitat,
- Nationwide Rivers Inventory,
- Impaired Waters/TMDLs, and
- Groundwater.

26-1.04 Applicability

Many of the special environmental analyses discussed in this Chapter are the result of Federal requirements. Although the Federally required analyses primarily affect Federally funded or regulated projects, some may apply to State-only (or State and local) funded projects where the projects affect resources covered by the Federal requirements. In addition, several of the special analyses discussed are the result of State requirements. These State requirements are often more stringent than those at the Federal level, and they may potentially affect any State project if the project involves the specific types of resources the State requirements address. Carefully review the Applicability discussion for each topic within Chapter 26 to determine the need for compliance with both Federal and State requirements on specific projects.

Information from special analyses should be (or, in some cases, is required to be) included in a project's environmental report (EIS or EA) or Phase I engineering report.

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26-2 SECTION 4(F) EVALUATIONS AND DETERMINATIONS

26-2.01 Introduction

When a project involving approvals or funding from an agency of the US Department of Transportation proposes use of publicly owned land from a public park, recreational area, wildlife and waterfowl refuge, or any land from a significant historic site, special analyses are required for compliance with Section 4(f) of the *Department of Transportation Act* of 1966. This Section provides guidance for identifying land use subject to Section 4(f) and for conducting and documenting the required analyses. Analysis is completed through a *de minimis* impact determination, use of a programmatic Section 4(f) evaluation, or preparation and processing of an individual Section 4(f) evaluation. This Section discusses the applicability and requirements for each of these forms of Section 4(f) compliance documentation.

26-2.02 Legal Authority

49 USC 303, commonly known as Section 4(f) of the *Department of Transportation Act* of 1966 (Public Law 89-665), provides that the Secretary of the US Department of Transportation:

> *…may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, recreation area, refuge, or site) only if:*
>
> *(1) there is no feasible and prudent alternative to using that land; and*
>
> *(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.*

The SAFETEA-LU amendment to the Section 4(f) requirements allows the US Department of Transportation to determine certain uses of Section 4(f) land will have no adverse effect on the protected resource (i.e., *de minimis* impact). When this is the case and the responsible official(s) with jurisdiction over the resource agrees, in writing, compliance with Section 4(f) is greatly simplified.

26-2.03 References

Appendix A of Part III of the *BDE Manual* duplicates the following references that apply to Section 4(f) evaluations:

- 23 CFR 774 “Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites (Section 4(f))”;

- FHWA Technical Advisory T6640.8A "Guidance for Preparing and Processing Environmental and Section 4(f) Documents";
- *FHWA Section 4(f) Policy Paper*, July 20, 2012;
- FHWA/FTA "Questions and Answers on the Application of the Section 4(f) *De Minimis* Impact Criteria," issued December 13, 2005;
- AASHTO Practitioner's Handbook 11 *Complying with Section 4(f) of the U.S. DOT Act*, May 2009; and
- Programmatic Section 4(f) Evaluations.

26-2.04 Procedures

26-2.04(a) Definitions

1. All Possible Planning. All reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project:

   a. Public Areas. With regard to public parks, recreation areas, and wildlife and waterfowl refuges, the measures may include, but are not limited to, design modifications or design goals, replacement of land or facilities of comparable value and function, or monetary compensation to enhance the remaining property or to mitigate the adverse impacts of the project in other ways.

   b. Historic Sites. With regard to historic sites, the measures normally serve to preserve the historic activities, features, or attributes of the site as agreed by FHWA and the official(s) with jurisdiction over the Section 4(f) resource in accordance with the consultation process under 36 CFR 800 (see Section 26-5 Historic Act Compliance).

   c. Measures to Minimize Harm. In evaluating the reasonableness of measures to minimize harm, FHWA will consider the preservation purpose of the statute and:

      - the views of the official(s) with jurisdiction over the Section 4(f) property,
      - whether the cost of the measures is a reasonable public expenditure in light of the adverse impacts of the Section 4(f) property and the benefits of the measure to the property, and
      - any impacts of benefits of the measures to communities or environmental resources outside of the Section 4(f) property.

   d. Feasible and Prudent Avoidance Alternatives. All possible planning does not require analysis of feasible and prudent avoidance alternatives. Such analysis

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will have already occurred in the context of searching for alternatives that avoid Section 4(f) properties altogether or is not necessary as in the case of a *de minimis* impact determination.

e. *De Minimis* Impact Determination. A *de minimis* impact determination subsumes the requirements for all possible planning to minimize harm by reducing the impacts on the Section 4(f) property to a *de minimis* level.

2. *De Minimis* Impact.

a. Historic Sites. For historic sites, *de minimis* impact means FHWA has determined, in accordance with 36 CFR 800, that no historic property is affected by the project or that the project will have "no adverse effect" on the historic property in question.

b. Public Areas. For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f).

3. Feasible and Prudent Avoidance Alternative.

a. Section 4(f) Property. A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute.

b. Feasible Alternatives. An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.

c. Prudent Alternatives. An alternative is not prudent if:

- it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
- it results in unacceptable safety or operational problems;
- after reasonable mitigation, it still causes:
  - several social, economic, or environmental impacts;
  - disruption to established communities;
  - severe disproportionate impacts to minority or low income populations; or

+ severe impacts to environmental resources protected under other Federal statutes;

- it results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- it causes other unique problems or unusual factors; or
- it involves multiple factors in paragraphs (3)(a) through (3)(d) of this definition, while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

4. Historic Site. For purposes of 23 CFR 774, the term "historic site" includes any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. The term includes properties of traditional religious and cultural importance to an Indian Tribe that are included in, or are eligible for inclusion in, the National Register.

5. Official(s) with Jurisdiction.

   a. Historic Properties. In the case of historic properties, the official with jurisdiction is the State Historic Preservation Officer (SHPO) for the State where the property is located. When the ACHP is involved in a consultation concerning a property under Section 106 of the NHPA, the ACHP is also an official with jurisdiction over that resource for purposes of 23 CFR 774. When the Section 4(f) property is a national historic landmark, the National Park Service is also an official with jurisdiction over that resource for purposes of 23 CFR 774.

   b. Public Areas. In the case of public parks, recreation areas, and wildlife and waterfowl refuges, the official(s) with jurisdiction are the official(s) of the agency or agencies that own or administer the property in question, and who are empowered to represent the agency on matters related to the property.

   c. Wild and Scenic Rivers. In the case of portions of Wild and Scenic Rivers to which Section 4(f) applies, the official(s) with jurisdiction are the official(s) of the Federal agency or agencies that own or administer the affected portion of the river corridor in question. For State administered, Federally designated rivers, the officials with jurisdiction include both the State agency designated by the respective Governor and the Secretary of the Interior.

6. Programmatic Section 4(f) Evaluation. Documentation prepared by FHWA based on experience with a specific set of conditions that includes project type, degree of use and impact, and evaluation of avoidance alternatives. Programmatic Section 4(f) Evaluations are prepared for specific types of Section 4(f) resources covered by nationwide programmatic agreements. If the applicability requirements are satisfied, the evaluation documentation does not require circulation for legal sufficiency review or review by other Federal agencies.

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7. Section 4(f) Evaluation. Documentation prepared to support the granting of an individual Section 4(f) approval.

8. Section 4(f) Property. Publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site (publicly or privately owned) of national, State, or local significance.

9. Use. Except as set forth in 23 CFR 774.11 "Applicability" and 23 CFR 774.13 "Exceptions," a "use" of Section 4(f) property occurs:

   - when land is permanently incorporated into a transportation facility;
   - when there is a temporary occupancy of land that is adverse in terms of the statute's preservation purposes; or
   - when there is a constructive use of a Section 4(f) property, as determined by the criteria in 23 CFR 774.15.

26-2.04(b) Applicability

References: 23 CFR 774.11 "Applicability"
23 CFR 774.13 "Exceptions"
FHWA Section 4(f) Policy Paper, July 20, 2012

Section 4(f) is a Federal requirement that applies only to actions involving funding or approval from an agency of the US Department of Transportation (US DOT) (e.g., Federal Highway Administration, Federal Transit Authority, Federal Aviation Administration, Federal Railroad Administration).

Where such funding approvals are involved for highway projects initiated by the Department, FHWA will determine applicability of Section 4(f) in accordance with 23 CFR 774.11, the guidance in *FHWA Section 4(f) Policy Paper*, and the provisions of 23 USC 103(c)(5) "Exemption of interstate system."

26-2.04(c) Analysis and Documentation Process

FHWA cannot approve any use of Section 4(f) property, unless analyses regarding the proposed use determine that:

- the use, including any measure(s) to minimize harm (e.g., any avoidance, minimization, mitigation enhancement measures) to be incorporated in the project will have a "*de minimis* impact" on the property; or
- there is no "feasible and prudent alternative" to using the property, and that the project include "all possible planning" to minimize harm to the property resulting from such use.

Figure 26-2.A describes the steps for determining applicability of Section 4(f), the type of Section 4(f) documentation required to comply with Section 4(f) regulations, when applicable, and the processing of the Section 4(f) documentation.

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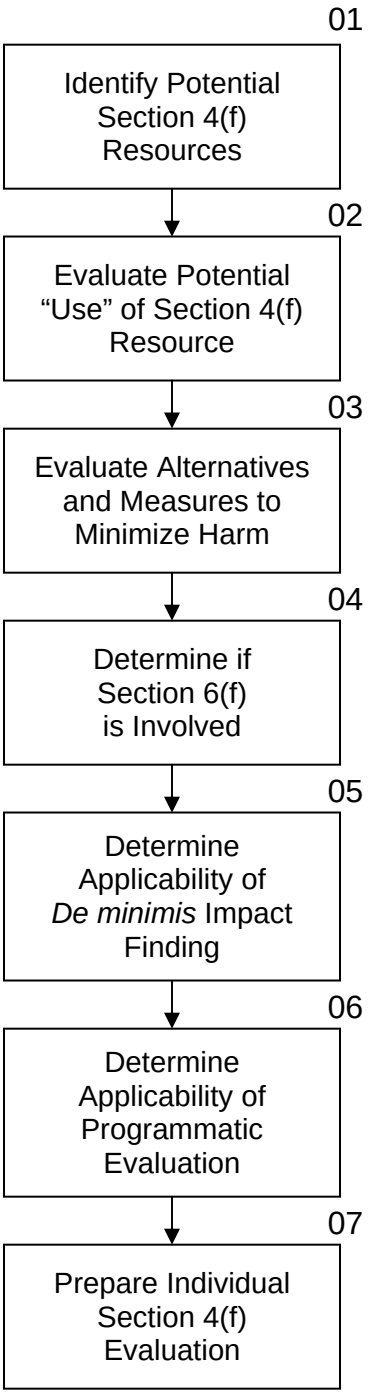

SECTION 4(f) PROCESS

Figure 26-2.A

PROJECT ACTIVITY

Activity Title: Identify Potential Section 4(f) Resources

Activity No.: 01

Activity Description:

FHWA will determine the applicability of Section 4(f) to specific resources; see 23 CFR 774.11 "Applicability," 23 CFR 774.13 "Exceptions," and *FHWA Section 4(f) Policy Paper* for further specific guidance on Section 4(f) applicability.

Identify potential Section 4(f) properties and coordinate Section 4(f) applicability with FHWA.

Regulations and Guidance:

- 23 CFR 774.11 "Applicability"
- 23 CFR 774.13 "Exceptions"
- *FHWA Section 4(f) Policy Paper,* July 20, 2012, "Section 4(f) Applicability"
- 23 USC 103(c)(5) "Exemption of Interstate System"
- *FHWA SAFETEA-LU: 6007 "Questions and Answers on the Exemption of the Interstate System"*

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PROJECT ACTIVITY

Activity Title: Evaluate Potential "Use" of Section 4(f) Resource

Activity No.: 02

Activity Description:

Evaluate the project's effects to identify use, including constructive use, of land from a Section 4(f) resource and coordinate with the officials having jurisdiction of the Section 4(f) resource and with FHWA. For historic sites, coordinate with the State Historic Preservation Officer (SHPO), FHWA, and the Advisory Council on Historic Preservation. See Section 26-5 for more information on the Section 106 compliance process.

Regulations and Guidance:

- 23 CFR 774.15 "Constructive use determinations"
- 23 CFR 774.17 "Definitions," "*Use*"
- *FHWA Section 4(f) Policy Paper,* July 20, 2012, "Section 4(f) Applicability"
- 36 CFR 800 "Protection of Historic Properties"

PROJECT ACTIVITY

Activity Title: Evaluate Alternatives and Measures to Minimize Harm

Activity No.: 03

Activity Description:

In cooperation with FHWA, evaluate alternatives that would avoid use of land from Section 4(f) properties and measures to minimize harm if there are no feasible and prudent alternatives that would avoid use of Section 4(f) land.

Regulations and Guidance:

- 23 CFR 774.17 "Definitions," "*All possible planning*"
- *FHWA Section 4(f) Policy Paper,* July 20, 2012, "Section 4(f) Evaluation; Alternative Analysis"

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PROJECT ACTIVITY

Activity Title: Determine if Section 6(f) is Involved

Activity No.: 04

Activity Description:

Coordinate with the Illinois Department of Natural Resources (IDNR) Land and Water Conservation Fund (LAWCON) State Liaison Officer to determine if an affected site has been acquired or improved with LAWCON funds.

Where conversion of land acquired or improved with Section 6(f) funds is proposed, initiate action to locate suitable replacement land in accordance with the conversion requirements.

See Section 26-3 for more information on Section 6(f) and the conversion request procedures.

Regulations and Guidance:

- 36 CFR 59.3 “Conversion requirements”

PROJECT ACTIVITY

Activity Title: Determine Applicability of *De minimis* Impact

Activity No.: 05

Activity Description:

For unavoidable use of Section 4(f) land, the district, in cooperation with FHWA, evaluates whether effects on the Section 4(f) resource(s) resulting from the proposed use may be considered *de minimis* impacts. When a project involves more than one unavoidable use of Section 4(f) land, the district and FHWA evaluate applicability of a *de minimis* impact finding for each proposed use. If applicable, based on the results of the evaluation, the district obtains FHWA concurrence to pursue a *de minimis* impact finding. The district obtains the concurrence at a district coordination meeting or via e-mail or phone.

When FHWA concurs with the district's request to pursue a *de minimis* impact finding, the district initiates coordination with the official(s) having jurisdiction over the Section 4(f) resource(s) involved. For historic properties, the State Historic Preservation Officer is the jurisdictional official. For parks, recreation areas, or wildlife and waterfowl refuges, the official(s) having jurisdiction include agencies that own or manage the properties.

The purpose of this coordination is to determine whether the jurisdictional official(s) concur with the assessment that the proposed use of Section 4(f) land will not adversely affect the attributes, features and activities that qualify the property for protection under Section 4(f). If the official(s) with jurisdiction do not agree with the assessment of impacts, the district is encouraged to work with the official(s) to seek ways to reduce the impacts of the Section 4(f) use so the official(s) can concur with a *de minimis* impact finding.

If the jurisdictional official(s) concur with the assessment of effects for a *de minimis* impact finding, the district coordinates with FHWA and documents the finding in accordance with 23 CFR 774.5. If the district is unable to obtain agreement from the jurisdictional official(s) for a *de minimis* impact finding, a programmatic or individual Section 4(f) evaluation is required.

Regulations and Guidance:

- Section 26-2.04(d) *De Minimis* Impact Determinations
- 23 USC 138 "*De Minimis* Impacts"
- 23 CFR 774.3 "Section 4(f) Approvals"
- 23 CFR 774.5 "Coordination"
- 23 CFR 774.7 "Documentation"
- 23 CFR 774.17 "Definitions," "*De minimis impact*"
- FHWA "Questions and Answers on the Application of the Section 4(f) *De Minimis* Impact Criteria"

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PROJECT ACTIVITY

Activity Title: Determine Applicability of Programmatic Evaluation

Activity No.: 06

Activity Description:

For each use of Section 4(f) land that is not subject to a *de minimis* impact determination, in cooperation with FHWA, determine applicability of a programmatic Section 4(f) evaluation.

The conditions for applicability of the programmatic Section 4(f) evaluations relate to the type of project, the severity of impacts to Section 4(f) property, the evaluation of alternatives, the establishment of a procedure for minimizing harm to the Section 4(f) resource, adequate coordination with appropriate entities, and the NEPA class of action. There are five approved programmatic Section 4(f) evaluations:

1. "Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges."
2. "Final Nationwide Section 4(f) Evaluation and Approval for Federally Aided Highway Projects with Minor Involvements with Public Parks, Recreation Lands, and Wildlife and Waterfowl Refuges."
3. "Final Nationwide Section 4(f) Evaluation and Approval for Federally Aided Highway Projects with Minor Involvements with Historic Sites."
4. "Section 4(f) Statement and Determination for Independent Bikeway or Walkway Construction Projects."
5. "Section 4(f) Evaluation and Approval for Transportation Projects That Have a Net Benefit to a Section 4(f) Property."

Approval procedures are included in each programmatic evaluation.

PROJECT ACTIVITY

Activity Title: Prepare Individual Section 4(f) Evaluation

Activity No.: 07

Activity Description:

The Section 4(f) evaluation documentation should include:

- description of the proposed action, including a concise statement of the project purpose and need (When a Section 4(f) evaluation is being done as part of an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the corresponding section of the NEPA document can be referenced);
- description of the Section 4(f) resource;
- description of the alternatives, including avoidance alternatives;
- description of impacts;
- discussion of mitigation measures;
- discussion of coordination activities; and
- documentation of coordination with the official(s) having jurisdiction.

The following paragraphs describe the preparation and processing of individual Section 4(f) evaluations.

For Parks, Recreation Areas and Wildlife/Waterfowl Refuges:

1. The district prepares a draft Section 4(f) evaluation and coordinates it with FHWA for review and comment. After addressing FHWA comments, the district submits two copies of the signature-ready draft evaluation to FHWA.

2. FHWA signs the cover sheets of the two draft Section 4(f) evaluations and returns one to BDE. BDE coordinates the signed draft with the district. The district provides 14 copies of the draft evaluation to FHWA. FHWA distributes the draft evaluation to the US Department of the Interior, the US Department of Agriculture, and the US Department of Housing and Urban Development, as applicable, for review and comment. The district provides the draft evaluation for review and comment to the owner(s) of the Section 4(f) resource and, if applicable, other State/local official(s) with jurisdiction. The recipients of the draft evaluation have 45 days to comment.

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PROJECT ACTIVITY

Activity Title: Prepare Individual Section 4(f) Evaluation

Activity No.: 07 *(Continued)*

Activity Description:

3. The district and FHWA coordinate to evaluate the comments received and incorporate appropriate revisions in the final Section 4(f) evaluation. The district submits a preliminary final evaluation to FHWA for review and comment.

4. The district addresses FHWA comments and submits two copies of the signature-ready final evaluation to FHWA.

5. FHWA submits the signature-ready final evaluation to FHWA legal counsel for a 30-day legal sufficiency review. FHWA provides comments from the legal sufficiency review to BDE for coordination with the district. The district incorporates changes as necessary to address the comments and submits two copies of the final evaluation to FHWA for signature.

6. FHWA signs the cover sheets of the two final evaluations and returns one to BDE. BDE coordinates the signed final evaluation with the district. The district provides FHWA eight copies of the signed final evaluation for distribution to Federal agencies. The district provides the signed final evaluation to the owner(s) of the Section 4(f) resource and, as applicable, to other State/local officials having jurisdiction.

For Historic Properties:

The Section 4(f) process for historic properties is essentially the same as that for parks, recreation areas, and wildlife and waterfowl refuges; except that a Section 106 Memorandum of Agreement (MOA) must be completed before the final evaluation is approved. The MOA, signed by all parties involved in the Section 106 process, must be included in the final Section 4(f) evaluation. It also may be included in the draft evaluation if it has been signed at that time.

BDE review of Section 4(f) evaluations for CE II projects is not required except when the 4(f) evaluation is included in combined Section 106/4(f) documentation. Provide Section 4(f) evaluations to BDE for review when they are associated with EA or EIS projects and/or when they are combined with Section 106 compliance documentation.

PROJECT ACTIVITY

Activity Title: Prepare Individual Section 4(f) Evaluation

Activity No.: 07 *(Continued)*

Regulations and Guidance:

- 23 CFR 774.3 "Section 4(f) Approvals"
- 23 CFR 774.5 "Coordination"
- 23 CFR 774.7 "Documentation"
- *FHWA Technical Advisory T6640.8A,* Section IX. "Section 4(f) Evaluations – Format and Content"
- *FHWA Section 4(f) Policy Paper,* July 20, 2012
- *FHWA Environmental Guidebook*

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26-2.04(d) *De Minimis* Impact Determinations

26-2.04(d)1 *De Minimis Impact Criteria*

De minimis impacts are trivial or minimal impacts. In general, these impacts will not result in an adverse effect to the activities, features, or attributes that qualify a resource for protection under Section 4(f). If FHWA determines that a transportation use of a Section 4(f) resource, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, will result in a *de minimis* impact on the resource, Section 4(f) is satisfied and an alternatives analysis is not required.

FHWA will make *de minimis* impact determinations only on a resource-by-resource basis. The criteria that must be met for FHWA to make a *de minimis* impact determination for historic properties differ slightly from those for parks, recreation areas, and wildlife and waterfowl refuges.

For historic properties, the following criteria must be met:

- As part of the compliance process for Section 106 of the *National Historic Preservation Act*, the SHPO (and ACHP, if participating in the Section 106 consultation) concur in the determination of “no adverse effect” or “no historic properties affected.”

- IDOT (BDE)/FHWA informs the SHPO (and ACHP, if participating), in writing, of the intent to make a *de minimis* impact determination based on their written concurrence in the Section 106 determination (i.e., “no adverse effect” or “no historic properties affected”).

- FHWA has considered the views of any consulting parties participating in the Section 106 consultation (see Section 26-5).

For publicly owned public parks, recreation areas, or wildlife and waterfowl refuges that qualify for Section 4(f) protection, the following criteria must be met:

- The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

- The public has been afforded notice and opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource. This requirement can be satisfied in conjunction with other public involvement procedures for the project or through one or more activities specifically for that purpose (e.g., a public hearing, public meeting, or a newspaper notice seeking comments on the Section 4(f) resource impacts (see Figure 25-2.B).

NOTICE

The Illinois Department of Transportation (IDOT) is seeking public comments on the effects that proposed improvements to Illinois Route 148 will have on the Crab Orchard National Wildlife Refuge. The Crab Orchard National Wildlife Refuge, which is under the jurisdiction of the US Fish and Wildlife Service, is a significant, publicly owned wildlife refuge. As such, it is subject to protection under Section 4(f) of the US Department of Transportation Act of 1966. For the Illinois Route 148 project, IDOT intends to seek a Section 4(f) "*de minimis*" impact finding from the Federal Highway Administration based on a determination that the project will not adversely affect the features, attributes, or activities that qualify the Crab Orchard National Wildlife Refuge for protection under Section 4(f).

Effects of the Illinois Route 148 project on the Wildlife Refuge will include [*describe the project aspects that will affect the Wildlife Refuge property and the nature and extent of the resulting effects*]. Mitigation will include [*describe proposed mitigation measures for the effects to the Wildlife Refuge*]. Detailed documentation describing the impacts and mitigation associated with the effects of the Illinois Route 148 project on the Crab Orchard National Wildlife Refuge is available at the following location(s) during normal business hours:

[*Provide district contact information and times/dates of availability of the information.*]

Written comments may be submitted at the IDOT office, mailed to the IDOT office, or submitted electronically to [*provide e-mail address*]. Comments must be received by [*date 30 days after publication of notice*] to be considered as a part of the public record.

All correspondence regarding this project should be sent to:

[*Provide district contact information.*]

EXAMPLE NEWSPAPER NOTICE

Figure 26-2.B

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- The district will inform the official(s) with jurisdiction over the property of FHWA's intent to make the *de minimis* impact determination based on their written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f). In the request for concurrence from the official(s), the district will summarize any comments received during the public comment period regarding the potential impacts to the Section 4(f) resource.

- *De minimis* impact determinations will satisfy Section 4(f) requirements only. For projects that propose the use of land from a property or site purchased or improved with funds under the *Land and Water Conservation Fund Act* (Section 6(f)) or other similar law, or the lands are otherwise encumbered with a Federal interest, coordination with the appropriate Federal agency is required to ascertain the agency's position on the land conversion or transfer. Determine other Federal requirements that may apply to the Section 4(f) land through consultation with the official(s) with jurisdiction or the appropriate Federal official. These Federal agencies may have regulatory or other requirements that apply for converting land to a different use. These requirements are independent of the *de minimis* impact determination and must be satisfied.

26-2.04(d)2 *De Minimis Impact Determination Documentation*

For FHWA to make a determination on the applicability of the *de minimis* impact definition to a proposed use of a Section 4(f) resource, IDOT must submit the following documentation to the appropriate FHWA Transportation Engineer. FHWA will respond within 30 days of determining the documentation is adequate for purposes of making a *de minimis* impact determination. The *de minimis* documentation must use the following format.

1. Project Description.

    - project number (e.g., State, Federal);
    - official project name;
    - project location (e.g., roadway designations, termini);
    - project type (e.g., new alignment, widening, safety improvement);
    - project size (e.g., total project length in miles);
    - NEPA Class of Action;
    - NEPA Purpose and Need Summary; and
    - project status.

2. Section 4(f) Resource.

    - resource type (e.g., historic property, park, recreation area, wildlife/waterfowl refuge);
    - resource name;
    - official(s) with jurisdiction (name); and
    - description of role/significance in the community.

3. Description of Intended Section 4(f) Resource Use.

- acres (ha) to be taken and/or impacted;
- type of impact (e.g., right-of-way acquisition, permanent incorporation/change in ownership, perpetual easement);
- existing function of impacted areas;
- relationship of impacted areas to Section 4(f) function and significance to resource; and
- resulting function of impacted areas.

4. Description of Efforts to Avoid, Minimize, and Mitigate or Enhance Resource.

- avoidance and minimization efforts made and benefits to the resource, and
- commitments for mitigation or enhancement.

5. Evidence of Opportunity for Public Review and Comment.

- type of public availability (e.g., internet posting, public meeting, mailers);[1]
- date of action;
- summary of comments; and
- notification of official(s) of public availability and summary of comments.

6. Evidence of Coordination with Official(s) with Jurisdiction.

- meeting minutes and agendas,
- correspondence, and
- official(s) with jurisdiction written concurrence with a "No Adverse Effect" determination.[2]

7. Supporting Documentation.

- map of project area indicating relationship of project to resource, and
- supporting photographs of resource.

[1] *The notice of the opportunity for public involvement must include at a minimum a description of the project and Section 4(f) resource, and language to the effect that "this is an opportunity for the public to review and comment on the effects of the project on the activities, features, and attributes that qualify (**Name of Section 4(f) Resource**) for protection under Section 4(f).*

[2] *Written concurrence must explicitly state "concur with a determination that there will be no adverse effect" to the resource. The concurrence cannot predate the completion of public involvement for the de minimis impact determination*.

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8. Written Request for FHWA to Make a *De Minimis* Impact Determination.

- formal statement that IDOT has determined there will be no adverse effect and that the official(s) with jurisdiction concurs with this finding; and
- format requested for FHWA determination (for CEs, either at a Coordination meeting or via e-mail, for EAs/EISs, in FONSI/ROD or other specified documentation).

26-2.04(d)3 *De Minimis Impact Determination and Environmental Class of Action*

While the general process for FHWA to make a *de minimis* impact determination will be consistent, the steps may vary depending on the environmental class of action (i.e., Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Statement (EIS)). The requirements apply to the three environmental Classes of Action as follows:

1. Class II Actions (Categorical Exclusions). IDOT will submit to the appropriate FHWA Transportation Engineer the completed *de minimis* impact determination documentation two weeks prior to the next bi-monthly coordination meeting. The FHWA Transportation Engineer, in consultation with the BDE Environment Section, determines if a *de minimis* impact determination is appropriate and ensures the adequacy of the documentation. The FHWA Transportation Engineer will coordinate with IDOT to obtain additional documentation or information if required. If the *de minimis* impact determination documentation is sufficient and FHWA concludes that the *de minimis* impact determination is appropriate, then the FHWA Transportation Engineer may formally make the *de minimis* impact determination at the next coordination meeting, where it will be documented in the meeting minutes or via e-mail with the following statement:

   > *(**Name of Project**) will result in the use of (**Name of Resource**), a Section 4(f) resource. FHWA hereby makes a de minimis impact determination for this use as it will not adversely affect this resource's activities, features, and attributes. The de minimis impact determination is based on the impact avoidance, minimization, and mitigation or enhancement measures detailed in the documentation submitted on (**Date**).*

   The *de minimis* impact determination documentation will be a part of the Phase I engineering report and the above *de minimis* impact determination statement should be on the CE II approval sheet.

2. Class III Actions (Environmental Assessment/FONSI). Documentation supporting a *de minimis* impact determination will be included in the EA under the Section 4(f) discussion. If all required *de minimis* impact coordination and public involvement is complete prior to approval of the EA, evidence of this will be included in the appendix of the EA. If any required *de minimis* impact coordination and public involvement occurs

after the EA is approved, include evidence of this coordination and/or public involvement and any additional commitments with the FONSI request.

The FHWA Transportation Engineer, in consultation with the BDE Environment Section, will evaluate the documentation during the review of the EA or the review of the FONSI to determine if a *de minimis* impact determination is appropriate. The FHWA Transportation Engineer will coordinate with IDOT to obtain additional documentation or information if required. If the *de minimis* impact determination documentation is sufficient and FHWA concludes that the *de minimis* impact determination is appropriate, the *de minimis* impact determination will be documented in the FONSI with the following statement:

> *(**Name of Project**) will result in the use of (**Name of Resource**), a Section 4(f) resource. FHWA hereby makes a de minimis impact determination for this use as it will not adversely affect this resource's activities, features, and attributes. The de minimis impact determination is based upon the impact avoidance, minimization, and mitigation or enhancement measures detailed in the attached Environmental Assessment.*

3. Class I Action (Environmental Impact Statement/ROD). Documentation supporting a *de minimis* impact determination will be included in the EIS under the Section 4(f) discussion. Evidence of coordination will be included in the appendix to the EIS. The complete *de minimis* impact determination documentation, including evidence of the opportunity for public involvement, will be included in the appendix of the FEIS. The actual *de minimis* impact determination will be made in the ROD. Evidence of coordination that occurs and any additional commitments made after FHWA approves the FEIS will be sent to FHWA with the draft ROD. The FHWA Transportation Engineer, in consultation with the BDE Environment Section, will evaluate the documentation during the review of the EIS, or ROD, to determine if a *de minimis* impact determination is appropriate. The FHWA Transportation Engineer will coordinate with IDOT to obtain additional documentation or information if required. If the *de minimis* impact determination documentation is sufficient and FHWA concludes that the *de minimis* impact determination is appropriate, the *de minimis* impact determination will be documented in the ROD with the following statement:

> *(**Name of Project**) will result in the use of (**Name of Resource**), a Section 4(f) resource. FHWA hereby makes a de minimis impact determination for this use as it will not adversely affect this resource's activities, features, and attributes. The de minimis impact determination is based upon the impact avoidance, minimization, and mitigation or enhancement measures detailed in the Environmental Impact Statement.*

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26-3 SECTION 6(F) LAND CONVERSION REQUEST

26-3.01 Introduction

Special procedures are required when lands that have Land and Water Conservation (LAWCON) funds involved in their purchase or development, will be used for highway purposes. This Section discusses these procedures. Similar procedures may be required where lands are involved that have been improved or developed with funds under Section 1010 of the *Urban Park and Recreation Recovery Act* of 1978. There are few such sites in the State. Specific procedural requirements will be addressed on a case-by-case basis.

26-3.02 Legal Authority

16 USC 4601-8(f)(3), commonly known as Section 6(f) of the *Land and Water Conservation Fund Act* of 1965 (Public Law 88-578), requires that:

> *... No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive Statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.*

"Secretary" refers to the Secretary of the US Department of Interior. The authority to approve Section 6(f) land conversions has been delegated to the Regional Directors of the National Park Service (NPS).

The Illinois Department of Natural Resources (IDNR) publishes the Statewide Comprehensive Outdoor Recreation Plan (SCORP) for Illinois. The most recent plan is available on the IDNR website or may be requested from the IDNR Planning Division.

26-3.03 Policy

Special efforts will be made in the development of a project to identify and preserve public outdoor recreational areas and facilities.

26-3.04 Procedures

26-3.04(a) Applicability

Section 6(f) procedures will be followed for all projects initiated by the Department, regardless of project type or funding source.

26-3.04(b) Coordination

Early and ongoing coordination with the official having jurisdiction over the Section 6(f) land, the IDNR and the NPS Regional Director should be diligently pursued.

26-3.04(c) Report Requirements

When a project proposes use of land in which LAWCON funds have been involved in its purchase or development, Section 6(f) requires the approval of the Secretary of the Interior for the conversion of the land to other than public outdoor recreational use. Section 6(f) does not otherwise require a special report. Discuss involvement with the Section 6(f) land in the environmental documentation for the project and in any documentation for compliance with Section 4(f) (see Section 26-2) when the project involves the use of Section 6(f) land from a significant publicly owned public park, recreational area, or wildlife and waterfowl refuge.

For a State-only funded highway project involving Section 6(f) lands, information on the Section 6(f) involvement should be incorporated in the action's Phase I engineering report.

26-3.04(d) Conversion Request

Requests to convert LAWCON-assisted properties in whole or in part to other than public outdoor recreational uses must be submitted, in writing, through the IDNR to the appropriate NPS Field Director. NPS will consider the conversion request if the entity proposing the conversion (i.e., IDOT) has met the prerequisites described below. As applicable, districts should submit a request for Section 6(f) land conversion approval to the IDNR Division of Grant Administration for submittal to the appropriate NPS Field Director. The district should submit the request after CE/FONSI/ROD approval and prior to design approval. Formal review periods for conversion requests are not specified in the regulation. IDNR has advised that the typical time frame for NPS response to conversion requests is 60 to 90 days.

The conversion request should include information to address each of the following points (i.e., based on information extracted from NPS regulations on compliance responsibilities for LAWCON-assisted properties; 36 CFR 59.3 "Conversion Requirements"):

1. Alternatives. All practical alternatives to the proposed conversion have been evaluated.

2. Value. The fair market value of the property to be converted has been established and the property proposed for substitution is of at least equal fair market value as established by an approved appraisal (i.e., prepared according to Uniform Federal Appraisal Standards), excluding the value of structures or facilities that will not serve a recreational purpose.

3. Replacement Property. The property proposed for replacement is of reasonably equivalent usefulness and location as that being converted. Depending upon the situation and at the discretion of the NPS Field Director, the replacement property does not need to provide identical recreational experiences or be located at the same site,

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provided it is in a reasonably equivalent location. Generally, the replacement property should be administered by the same political jurisdiction as the converted property. Equivalent usefulness and location will be determined based on the following criteria:

- Property to be converted must be evaluated to determine what recreational needs are being fulfilled by the facilities, which exist, and the types of outdoor recreational resources and opportunities available. The property being proposed for substitution must then be evaluated in a similar manner to determine if it will meet the recreational needs that are at least similar in magnitude and impact to the user community as the converted site. This criterion is applicable in the consideration of all conversion requests with the exception of those where wetlands are proposed as replacement property. Wetland areas and interests therein which have been identified in the wetlands provisions of the Statewide Comprehensive Outdoor Recreation Plan shall be considered to be of reasonably equivalent usefulness with the property proposed for conversion regardless of the nature of the property proposed for conversion.

- Replacement property need not necessarily be directly adjacent to or close to the converted site. This policy provides the administrative flexibility to determine a location recognizing that the property should meet existing public outdoor recreational needs. Although, generally, this will involve the selection of a site serving the same community(ies) or area as the converted site, there may be exceptions. For example, if property being converted is in an area undergoing major demographic change and the area has no existing or anticipated future need for outdoor recreation, then the district should seek to locate the substitute area in another location within the jurisdiction.

- The acquisition of one parcel of land may be used in satisfaction of several approved conversions.

4. Eligibility Requirements. The property proposed for substitution must meet the eligibility requirements for LAWCON-assisted acquisition. The replacement property must constitute or be part of a viable recreational area. Unless *each* of the following additional conditions is met, land currently in public ownership, including that owned by another public agency, may not be used as replacement land for land acquired as part of a LAWCON project:

- The land was not acquired by IDOT or the selling agency for recreation.

- The land has not been dedicated or managed for recreational purposes while in public ownership.

- No Federal assistance was provided in the original acquisition unless the assistance was provided under a program expressly authorized to match or supplement LAWCON assistance.

- Where IDOT acquires the land from another public agency, the selling agency must be required by law to receive payment for the land so acquired.

In the case of development projects for which the State match was not derived from the cost of the purchase or value of a donation of the land to be converted but from the value of the development itself, public land that has not been dedicated or managed for recreational/conservation use may be used as replacement land, even if this land is transferred from one public agency to another without cost.

5. Partial Conversion — Effect on Remainder. In the case of assisted sites that are partially rather than wholly converted, the impact of the converted portion on the remainder shall be considered. If such a conversion is approved, the unconverted area must remain recreationally viable or be replaced as well.

6. Coordination. All necessary coordination with other Federal agencies has been satisfactorily accomplished including, for example, compliance with Section 4(f) and NEPA.

7. Environmental Review. The guidelines for environmental evaluation have been satisfactorily completed and considered by NPS during its review of the proposed Section 6(f) action. Where the proposed conversion arises from another Federal action, final review of the State's proposal shall not occur until the NPS Regional Office is assured that all environmental review requirements including NEPA related to that other action have been met.

8. SCORP. The proposed conversion and substitution are consistent with the Statewide Comprehensive Outdoor Recreation Plan (SCORP) and/or equivalent recreational plans.

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26-4 OSLAD LAND CONVERSION REQUEST

26-4.01 Introduction

Special procedures, similar to those applicable under Section 6(f), are required when lands that have Open Space Land Acquisition and Development (OSLAD) grant program funds involved in their purchase or development will be converted to other than public outdoor recreational uses.

26-4.02 Legal Authority

The OSLAD program is a State-funded grant program authorized by the *Open Space Lands Acquisition and Development Act* (525 ILCS 35/1, et seq.). Illinois Administrative Code provisions for the OSLAD grant program (17 Ill. Adm. Code 3025) incorporate by reference essentially the same compliance procedures as required for the Land and Water Conservation Fund (LAWCON) Section 6(f) grant program; see Section 26-3. However, because the OSLAD program is State-funded, concurrence of the National Park Service is not required for proposed conversion of OSLAD-assisted lands to other than public outdoor recreational use.

26-4.03 Policy

Special effort shall be made in the development of a project to identify public outdoor recreational areas and to comply with applicable requirements when projects propose the conversion of such areas to other than public outdoor recreational use.

26-4.04 Procedures

The following procedures will apply:

1. Applicability. Compliance procedures for proposed conversion of OSLAD-assisted lands are applicable to all projects proposing such conversion, regardless of project type or funding source.

2. Coordination. Early and ongoing coordination with the official having jurisdiction over the OSLAD-assisted land and IDNR should be diligently pursued.

3. Report Requirements. When a project proposes the use of land in which OSLAD funds have been involved in its purchase or development, the IDNR Division of Grant Administration, in the Office of Architecture, Engineering and Grants, must approve conversion of the land to other than public outdoor recreational use; however, a special report is not required. Discuss involvement with the OSLAD-assisted land in the environmental documentation for the project and in any documentation for compliance with Section 4(f) (see Section 26-2) when the project would involve use of OSLAD-assisted land from a significant publicly owned park, recreational area, or wildlife and waterfowl refuge.

For a State-only funded highway project involving OSLAD-assisted lands, information on the involvement should be incorporated in the Phase I engineering report.

4. Conversion Request. Requests to convert OSLAD-assisted properties in whole or in part to other than public outdoor recreational uses must be submitted to the IDNR in writing. IDNR will approve conversions only upon the substitution of replacement property having equal fair market value and comparable outdoor recreational usefulness, quality, and location. As applicable, districts should submit a request for OSLAD land conversion approval to the IDNR Division of Grant Administration for review and approval. The district should submit the request prior to design approval. Formal review periods for conversion requests are not specified in the OSLAD regulation.

IDNR regulations do not specify information requirements for conversion requests; however, the information specified in the Section 6(f) requirements to support fair market value and comparable outdoor recreational usefulness, quality, and location (see Section 26-3.04(d)) should serve as a guide for the items to address in preparing OSLAD conversion requests.

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26-5 HISTORIC ACT COMPLIANCE

26-5.01 Introduction

In the development of State highway projects, it is necessary to consider the effects of the undertaking on properties included in or eligible for inclusion in the *National Register of Historic Places* (NRHP) or included in the *Illinois Register of Historic Places* (IRHP). This Section describes the procedures for identifying historic resources, evaluating their significance, and assessing and addressing effects on those resources that meet the eligibility criteria for the NRHP or that are included in the IRHP.

26-5.02 Legal Authority

The following legal authority regulates or influences the policies and procedures for historic act compliance:

- 16 USC 470f, Section 106 of the *National Historic Preservation Act* of 1966, as amended.
- 16 USC 470h-2, Section 110(f) of the *National Historic Preservation Act* of 1966, as amended.
- Executive Order 11593, Protection and Enhancement of the Cultural Environment.
- 23 USC 138 and 49 USC 303, Section 4(f) of the *Department of Transportation* Act of 1966.
- 36 CFR 800, "Protection of Historic Properties."
- 20 ILCS 3420, et seq, *Illinois State Agency Historic Resources Preservation Act*.
- 20 ILCS 3410, et seq, *Illinois Historic Preservation Act*.
- 17 Ill. Adm. Code 4180, et seq, "Rules for Review of State Agency Undertakings."

Appendix C provides brief descriptions of each of the directives in the preceding list.

26-5.03 Policy

In the development of a proposed State highway project, appropriate measures shall be taken to evaluate the undertaking's effect on properties included in or eligible for inclusion in the NRHP and properties included in the IRHP. Where such properties will be affected, coordination will be initiated with consulting parties, as appropriate, including the Advisory Council on Historic Preservation (ACHP), in accordance with applicable Federal and State historic preservation directives. Special efforts will be made to minimize harm to any national

historic landmark that may be directly and adversely affected by a proposed Federally funded/ regulated undertaking.

Throughout project development, avoidance of historic properties should be a priority.

26-5.04 Federal Requirements

26-5.04(a) Definitions

1. Area of Potential Effects. The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

2. Comment. The findings and recommendations of the Council formally provided in writing to the head of a Federal agency under Section 106.

3. Consultation. The process of seeking, discussing, and considering the views of other participants and, where feasible, seeking agreement with them regarding matters arising in the Section 106 process.

4. Council. The ACHP or a Council member or employee designated to act for the Council.

5. Day or Days. Refers to calendar days.

6. Effect. Alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the NRHP.

7. Historic Property. Any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional, religious, and cultural importance to an Indian Tribe and that meet the NRHP criteria. The term "eligible for inclusion in the National Register" includes both properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the NRHP criteria.

8. Illinois State Archaeological Survey (ISAS). The entity that conducts all archaeological investigations for IDOT projects, in accordance with an intergovernmental agreement between IDOT and the University of Illinois at Urbana-Champaign.

9. Indian Tribe. An Indian Tribe, band, nation, or other organized group or community that is officially recognized by the US government.

10. Local Government. A city, county, parish, township, municipality, borough, or other general purpose political subdivision of a State.

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11. Memorandum of Agreement. The document that records the terms and conditions agreed upon to resolve the adverse effects of an undertaking upon historic properties.

12. National Historic Landmark. A historic property that the Secretary of the Interior has designated a national historic landmark.

13. National Register. The NRHP maintained by the Secretary of the Interior.

14. National Register Criteria. The criteria established by the Secretary of the Interior for use in evaluating the eligibility of properties for the NRHP (36 CFR 60.4).

15. Programmatic Agreement. A document that records the terms and conditions agreed upon to resolve the potential adverse effects of a Federal agency program, complex undertaking, or multiple undertakings.

16. Senior Policy Official. The senior policy level official designated by the head of the lead Federal agency pursuant to Section 3(e) of Executive Order 13287.

17. State Historic Preservation Officer (SHPO). The official appointed or designated pursuant to Section 101(b)(1) of the *National Historic Preservation Act* to administer the State historic preservation program or a representative designated to act for the SHPO. The SHPO for Illinois is the Director of the State Historic Preservation Agency.

18. Undertaking. A project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance, and those requiring a Federal permit, license or approval.

26-5.04(b) Applicability

These procedures apply to all Federally funded/regulated highway project initiated by the Department that have the potential to cause effects on historic properties. See Chapter 20 of the *Bureau of Local Roads and Streets Manual* for historic act compliance procedures applicable to local highway projects.

26-5.04(c) Procedures

The following guidance reflects the assumption that FHWA, in most cases, will be the lead Federal agency for a project subject to the Section 106 requirements. If a different Federal agency is the lead (e.g., Corps of Engineers for a State-only funded project requiring a Section 404 permit), that agency would fulfill the functions indicated for FHWA. See the *AASHTO Practitioner's Handbook 06 – Consulting Under Section 106 of the National Historic Preservation Act,* February 2007, for additional guidance on the Section 106 process.

The steps in the Section 106 process will be coordinated, as appropriate, with the overall planning schedule for each project and with any reviews required under other authorities (e.g.,

the *National Environmental Policy Act* (NEPA), the *Native American Graves Protection and Repatriation Act*, the *Archaeological Resources Protection Act*, Section 4(f)). Where it is consistent with the Section 106 procedures, information developed for other reviews (e.g., NEPA) may be used to meet the requirements of Section 106.

Figure 26-5.A presents a flowchart that graphically illustrates the process for compliance with the Section 106 requirements. Following Figure 26-5.A are descriptions of the activities referenced within the flowchart.

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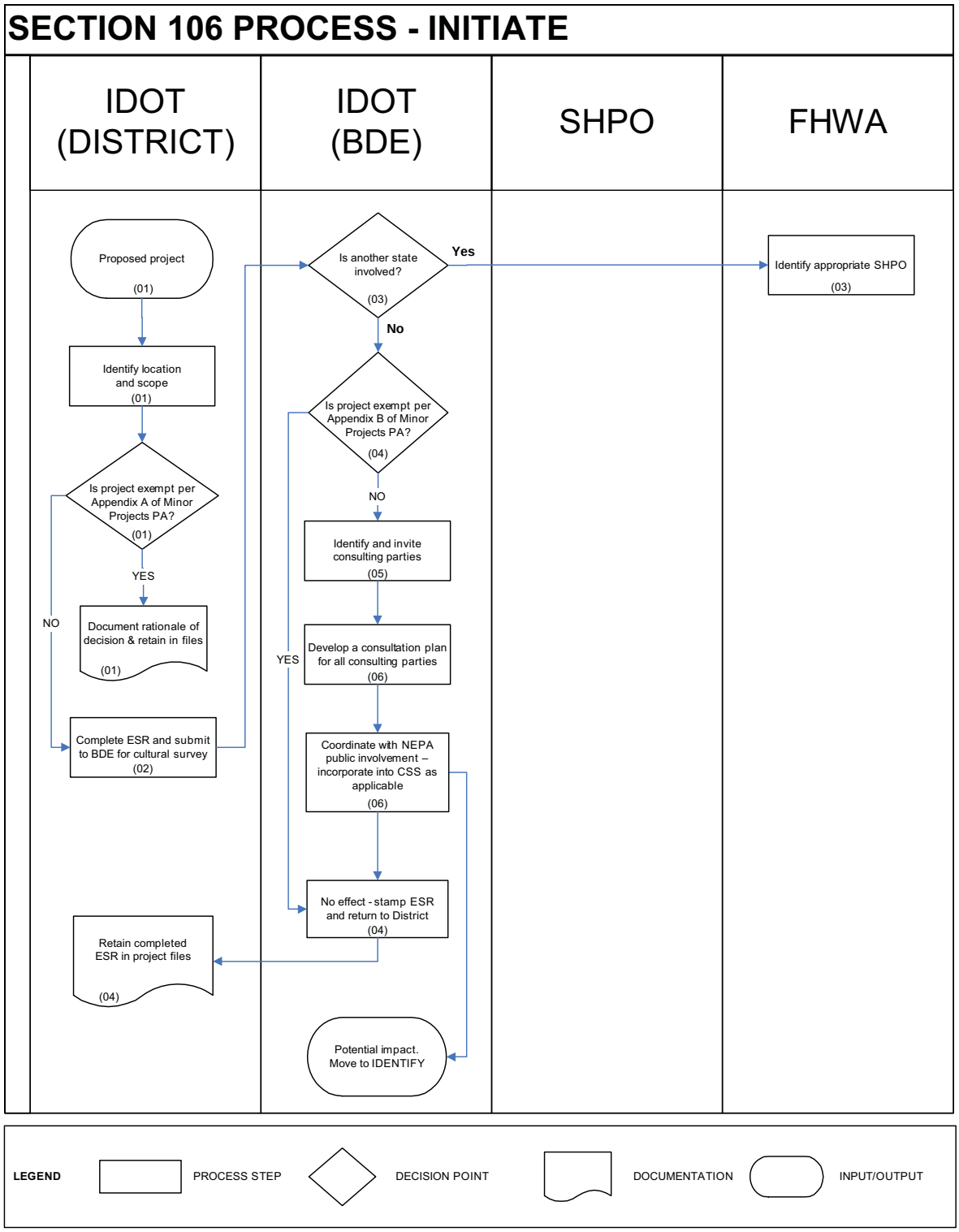
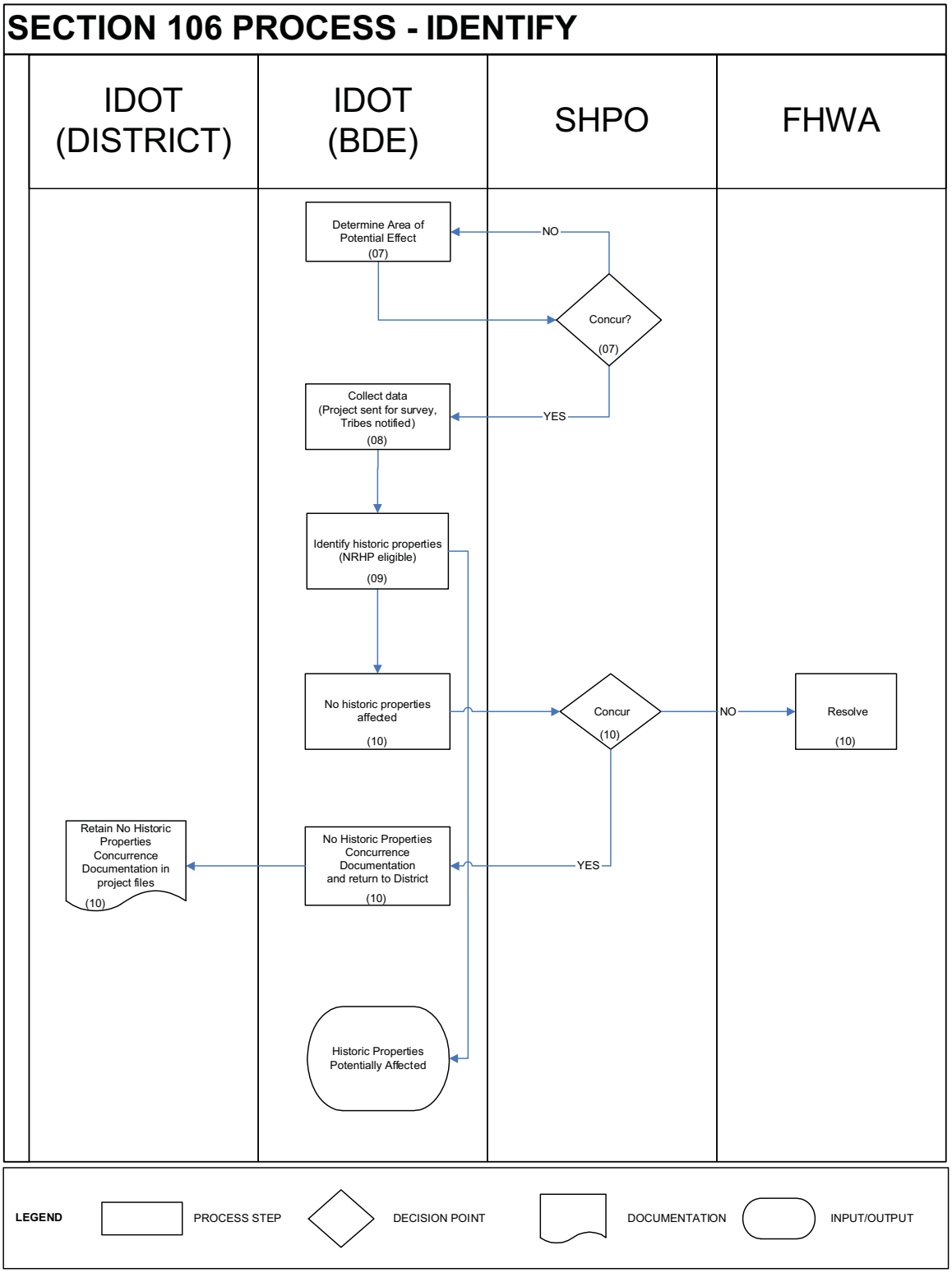


SECTION 106 PROCESS

Figure 26-5.A



SECTION 106 PROCESS

Figure 26-5.A
(Continued)

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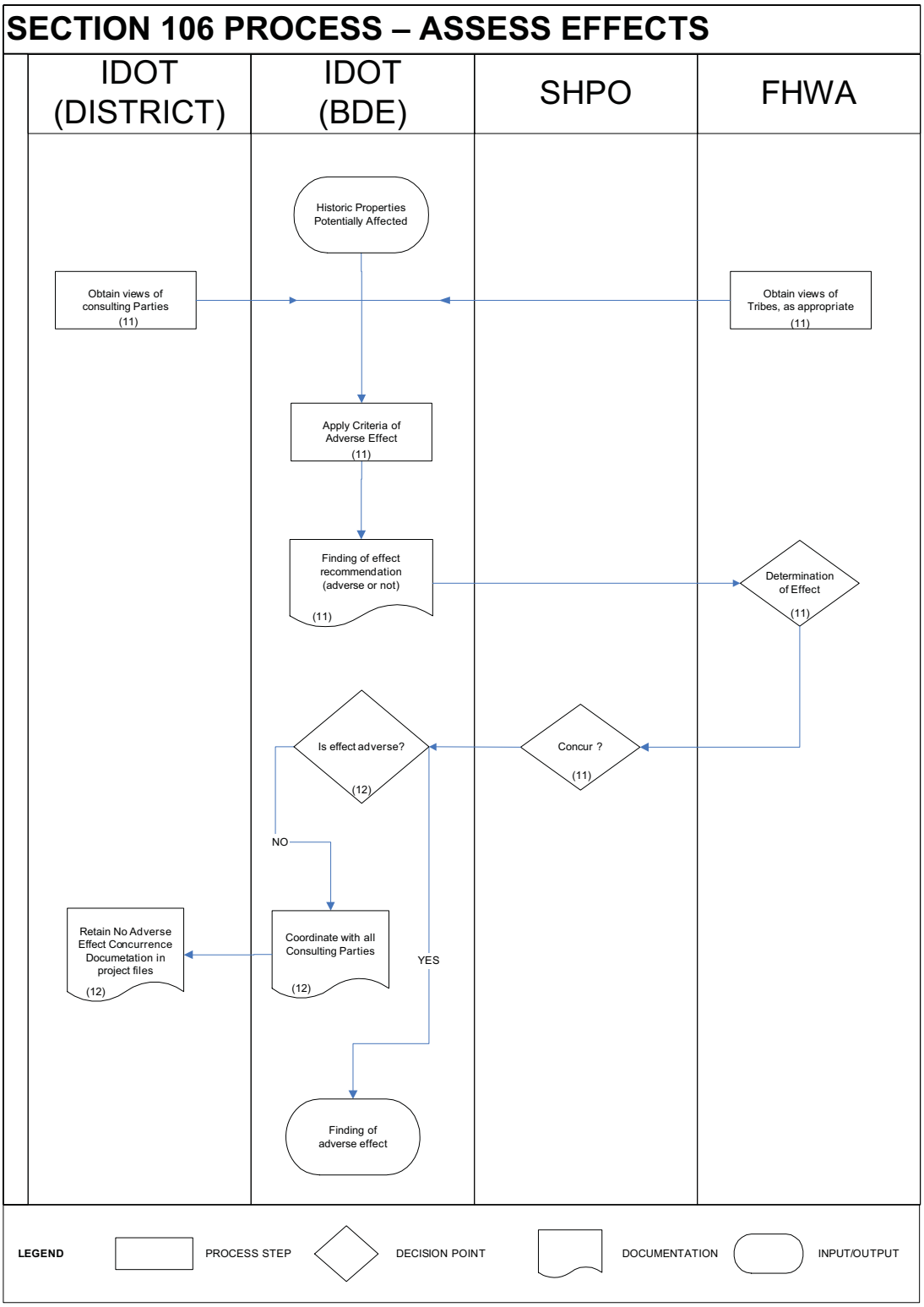
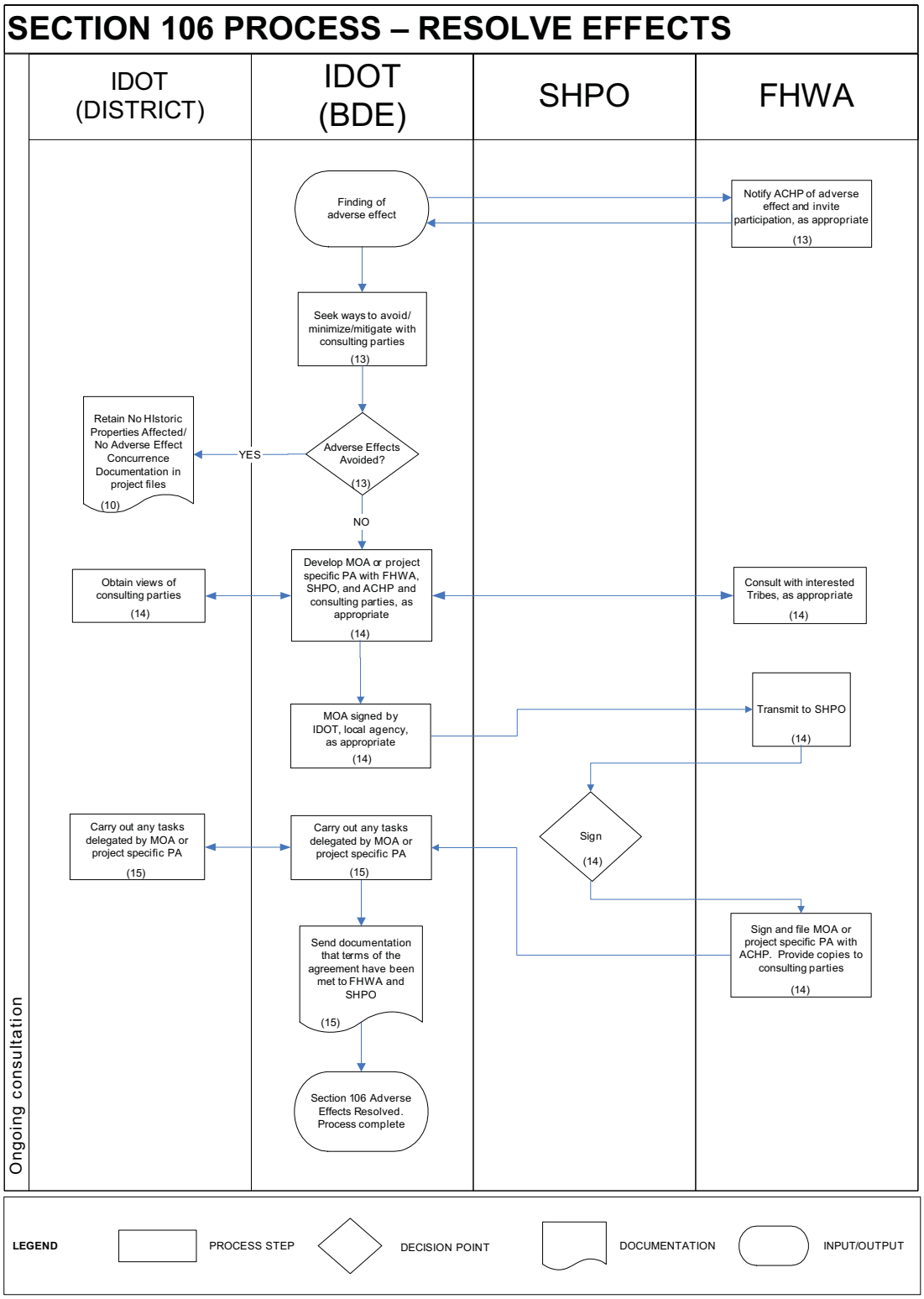


SECTION 106 PROCESS

Figure 26-5.A
(Continued)



SECTION 106 PROCESS

Figure 26-5.A
(Continued)

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PROJECT ACTIVITY

Activity Title: Identify Proposed Projects Potentially Subject to Section 106

Activity No.: 01

Responsible Unit: District

Activity Description:

For Categorical Exclusion (CE) projects, the district checks the exempt project list in Appendix A of the "Minor Projects Delegation Programmatic Agreement" (see Part III Appendix A) to determine if the project type is exempt from submittal to BDE. If the project is on the exempt list, the district documents, in the project file, that the project is on the exempt list and notes which number qualifies it as exempt, and no further action is required. If the district determines the project meets the criteria for Category A (Minor Projects Requiring No Review by IDOT Cultural Resources Staff) in the Programmatic Agreement for Minor Projects Delegation (see Part III Appendix A), the district documents the basis for determining that the action is exempt from further review by BDE and the SHPO. The district retains the documentation in project files.

For an Environmental Assessment (EA) project or an Environmental Impact Statement (EIS) project, or for a CE project that does not meet the criteria in Appendix A of the Programmatic Agreement for Minor Projects Delegation, the district proceeds to Activity 02.

References:

- 36 CFR 800.16(i) "Effect"
- 36 CFR 800.16(l) "Historic Property"
- Programmatic Agreement for Minor Projects, Appendix A

PROJECT ACTIVITY

Activity Title: Submit ESR to BDE

Activity No.: 02

Responsible Unit: District

Activity Description:

The district prepares an Environmental Survey Request (ESR) for the proposed project using the form and instructions available on the Department website. The district submits the completed form and applicable supporting information to BDE.

References:

- Chapter 27 “Environmental Surveys”

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PROJECT ACTIVITY

Activity Title: Determine Involvement of Other States

Activity No.: 03

Responsible Unit: BDE

Activity Description:

BDE evaluates the information in the ESR to determine if any other States are involved in the project. If another State is involved, BDE advises the FHWA Division Office. The FHWA Division Office, as the lead Federal agency, coordinates with the involved SHPOs to determine their respective roles (i.e., whether they may agree to designate a lead SHPO). The FHWA Division Office advises BDE of the results of coordination with the SHPOs. BDE then proceeds to Activity 04.

If another State is not involved, BDE proceeds directly to Activity 04.

References:

- 36 CFR 800.3(c)(2) “Undertakings Involving More than One State”

PROJECT ACTIVITY

Activity Title: Evaluate Project per Category B Criteria

Activity No.: 04

Responsible Unit: BDE

Activity Description:

For CE projects, BDE evaluates the proposed project to determine if it is a type included in Category B (Minor Projects Requiring Review by IDOT Cultural Resource Staff to Determine if Field Survey is Required) in the Programmatic Agreement for Minor Projects Delegation.

If BDE determines the project is a type included in Category B, it evaluates the project to determine the need for field survey and coordination with the SHPO. If BDE determines that the field survey is not warranted, it applies a stamp to the ESR indicating the finding is "no historic properties affected." BDE returns the ESR with the finding to the district. The district retains the ESR in project files.

If BDE determines either that the proposed project does not qualify as a Category B action or that it involves circumstances requiring field survey and coordination with the SHPO, it proceeds to Activity 05.

For EA projects and EIS projects, BDE proceeds to Activity 05.

References:

- Programmatic Agreement for Minor Projects, Appendix B

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PROJECT ACTIVITY

Activity Title: Identify and Invite Consulting Parties

Activity No.: 05

Responsible Unit: BDE

Activity Description:

BDE, in consultation with FHWA, identifies entities that should be invited to participate as consulting parties in the Section 106 process, including the following, as appropriate:

- SHPO,
- Indian Tribes,
- representatives of local governments, and
- individuals and organizations with a demonstrated interest in the project.

Interested Tribes are provided initial notification through ISAS Project Notification System (PNS) when BDE requests an archaeological survey. The notification includes a request for information the Tribes may have that could assist in identifying properties of religious and cultural significance.

For EA and EIS projects, FHWA contacts all Tribes early in project development (possibly prior to the PNS notification) and works with BDE/districts and the Illinois SHPO to identify other parties to contact. The district contacts each of the identified parties (e.g., by letter or e-mail) to formally invite their participation and seek their input on historic properties in the project area and potential impacts to those properties. The district compiles a list of all consulting parties and shares any information provided by the parties with BDE and FHWA. The district retains in the project files a list of who was contacted.

References:

- 36 CFR 800.2(c) “Consulting Parties”

PROJECT ACTIVITY

Activity Title: Develop Involvement Plan for Consulting Parties and the Public

Activity No.: 06

Responsible Unit: BDE

Activity Description:

The district develops a plan that identifies the points for involving consulting parties and the public in the Section 106 process. The plan identifies the appropriate points for seeking the consulting party, public input, and for notifying the public of proposed actions associated with the Section 106 process. The level of involvement documented in the plan reflects the nature and complexity of the project. The plan addresses public involvement for the Section 106 process in the context of other public involvement activities for compliance with NEPA. Use public involvement opportunities that are scheduled as part of the normal project development process to inform the public of ongoing Section 106 activities and seek the public's input. Key Section 106 issues to include during public involvement events are:

1. notification that the Section 106 process is under way, and public input on potential historic properties and effects to historic properties is being sought;

2. communicating the results of efforts to identify historic properties;

3. communicating the results of the effect findings; and

4. seeking input on measures to resolve adverse effects to historic properties.

On projects the Regional Engineer has determined will use the principles of Context Sensitive Solutions (CSS), the district coordinates with the CSS Project Study Group (PSG) to ensure the Stakeholder Involvement Plan (SIP), as outlined in Sections 19-3.01(a) and 19-3.01(b), addresses considerations associated with the Section 106 process. The district coordinates the SIP with BDE and FHWA and retains the SIP and other CSS documentation in the project file.

For most EA projects and all EIS projects, the district consults with BDE and FHWA to develop the plan.

References:

- 36 CFR 800.3 "Initiation of the Section 106 Process"
- Chapter 19 "Public Involvement Guidelines"

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PROJECT ACTIVITY

Activity Title: Determine Area of Potential Effects

Activity No.: 07

Responsible Unit: BDE

Activity Description:

For CE projects, BDE coordinates with the SHPO as needed to determine and document the area of potential effects (APE) for the proposed project. This may be an iterative process, as necessary to obtain SHPO concurrence. See Section 26-5.04(a) for the definition of the term "area of potential effects" from 36 CFR 800.16.

For EA and EIS projects, BDE, SHPO, and FHWA consult to develop the APE. The district coordinates the APE with consulting parties and the public as described in the involvement plan developed in Activity 06.

References:

- 36 CFR 800.4(a) "Determine Scope of Identification Efforts"
- 36 CFR 800.16(d) "Area of Potential Effects"

PROJECT ACTIVITY

Activity Title: Collect Data

Activity No.: 08

Responsible Unit: BDE

Activity Description:

BDE forwards the ESR to the ISAS for survey. At this point, the PNS generates the email notification to interested Tribes.

ISAS reviews existing information on historic properties, including any data concerning possible historic properties not yet identified, and conducts field surveys, as appropriate.

For EA and EIS projects, the district is responsible for providing BDE a project photo log of standing structures over 50 years old. The district also sends BDE any information received from consulting parties and the public regarding potential historic properties.

References:

- 36 CFR 800.4(a) “Determine Scope of Identification Efforts”
- Chapter 27 “Environmental Surveys”

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PROJECT ACTIVITY

Activity Title: Identify Historic Properties

Activity No.: 09

Responsible Unit: BDE

Activity Description:

For CE projects, in consultation with the SHPO and interested Tribes, BDE uses the information gathered in Activity 08 and takes the steps necessary to identify historic properties within the APE.

BDE makes a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey.

In consultation with the SHPO and interested Tribes and guided by the Secretary of the Interior's standards and guidelines for evaluation, BDE applies the NRHP criteria (36 CFR 60.4, see Section 26-5.04(f)) to properties identified within the APE.

If BDE determines any of the NRHP criteria are met and the SHPO concurs, the property is considered eligible for the NRHP for Section 106 purposes. If BDE determines the criteria are not met and the SHPO concurs, the property is considered not eligible. If BDE and SHPO do not concur, BDE coordinates with FHWA to resolve the determination. If resolution cannot be reached, FHWA obtains a determination of eligibility from the Keeper of the National Register (Department of the Interior) in accordance with 36 CFR 63.

For EA projects and EIS projects, BDE prepares eligibility recommendations and submits them to FHWA. FHWA consults with the SHPO by letter to seek concurrence with the determination. The SHPO may stamp the FHWA letter "Concur," write a letter of concurrence, or write a letter disagreeing with the determination. If the SHPO disagrees with the determination, FHWA obtains a determination of eligibility from the Keeper of the National Register in accordance with 36 CFR 63. FHWA submits the eligibility documentation to BDE. BDE forwards a copy of the documentation to the district to include in the EA or EIS. The district coordinates the determination in accordance with the involvement plan developed in Activity 06.

If historic properties are in the APE, BDE consults with the district to determine if there are feasible and prudent alternatives for avoiding the site(s).

Regulations and Guidance

- 36 CFR 800.4(b) "Identify Historic Properties"
- 36 CFR 800.4(c) "Evaluate Historic Significance"
- 36 CFR 60.4 "Criteria for Evaluation"
- 36 CFR 63 "Determinations of Eligibility for Inclusion in the National Register of Historic Places
- *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*

PROJECT ACTIVITY

Activity Title: Determine if Historic Properties May Be Affected

Activity No.: 10

Responsible Unit: BDE

Activity Description:

BDE evaluates the project scope and the information obtained in Activity 09 to determine whether the project may affect historic properties.

For CE projects, if BDE determines that there are no historic properties present or that there are historic properties present but the project will have no effect on them as defined in 36 CFR 800.16(i), BDE provides documentation of this finding to the SHPO. In accordance with 36 CFR 800.11(d), the documentation includes the following:

- a description of the project, specifying the Federal involvement, and its area of potential effects, including photographs, maps, drawings, as necessary;
- a description of the steps taken to identify historic properties, including, as appropriate, efforts to seek information from consulting parties, Indian Tribes, etc.; and
- the basis for determining no historic properties are present or affected.

If the SHPO concurs, or does not object within 30 days of receipt of an adequately documented finding, responsibilities under Section 106 are fulfilled. BDE documents the determination that no historic properties will be affected and provides the documentation to the district. The district retains the documentation in project files.

If the SHPO objects within 30 days of receipt of an adequately documented finding, BDE coordinates with FHWA and the SHPO to resolve the disagreement. If the disagreement is resolved, responsibilities under Section 106 are fulfilled. BDE documents the determination that no historic properties will be affected and provides the documentation to the district. The district retains the documentation in project files.

If the SHPO disagrees with the finding, FHWA follows the process in 36 CFR 800.4(d)(1)(ii).

The district notifies all consulting parties, including Indian Tribes, in accordance with the involvement plan developed in Activity 06 and makes the documentation available for public inspection.

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PROJECT ACTIVITY

Activity Title: Determine if Historic Properties May Be Affected

Activity No.: 10 *(Continued)*

Responsible Unit: BDE

Activity Description:

For EA and EIS projects, BDE submits documentation of findings that there are no historic properties present or that historic properties are present but the project will have no "effect" on them as defined in 36 CFR 800.16(i) (see Section 26-5.04(a)). FHWA considers the recommendation and, if in agreement, seeks concurrence from the SHPO. If the SHPO concurs, or does not object within 30 days of receipt of an adequately documented finding, responsibilities under Section 106 are fulfilled. The SHPO may stamp the FHWA letter "Concur," write a letter or concurrence, or write a letter disagreeing with the finding. If the SHPO disagrees with the finding, FHWA follows the process in 36 CFR 800.4(d)(1)(ii).

FHWA provides the documentation of coordination with the SHPO to BDE. BDE forwards the documentation to the district and the district includes it in the EA or EIS.

References:

- 36 CFR 800.11(d) "Finding of No Historic Properties Affected"

PROJECT ACTIVITY

Activity Title: Apply Criteria of Adverse Effect

Activity No.: 11

Responsible Unit: BDE

Activity Description:

In consultation with the SHPO and BDE, FHWA applies the criteria of adverse effect to historic properties within the APE.

The criteria of adverse effect provide that an adverse effect is found when a project may alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP, in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Examples of adverse effects on historic properties include, but are not limited to:

- physical destruction of or damage to all or part of the property;
- alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary of the Interior's standards for the treatment of historic properties and applicable guidelines;
- removal of the property from its historic location;
- change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian Tribe; and
- transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

FHWA considers any views provided by consulting parties, the public, and Tribes, as appropriate, regarding the project's effects on historic properties. BDE submits documentation of its preliminary findings regarding the results of application of the criteria of adverse effect to FHWA. The documentation includes:

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PROJECT ACTIVITY

Activity Title: Apply Criteria of Adverse Effect

Activity No.: 11 *(Continued)*

Responsible Unit: BDE

Activity Description:

- a description of the project, specifying the Federal involvement, and its area of potential effects including photographs, maps, and drawings, as necessary;
- a description of the steps taken to identify historic properties;
- a description of the affected historic properties, including information on the characteristics that qualify them for the NRHP;
- a description of the project's effects on historic properties;
- an explanation of why the criteria of adverse effect were found applicable or inapplicable, including any conditions or future actions to avoid, minimize, or mitigate adverse effects; and
- copies or summaries of any views provided by consulting parties and the public.

For projects that have an adverse effect, a Section 4(f) evaluation may also be required. The Section 4(f) evaluation may be combined with the Section 106 documentation to streamline and condense the processes. The district should consult with BDE and FHWA to discuss how the Section 106 documentation and Section 4(f) evaluation may be combined.

FHWA considers the recommendation and, if in agreement, seeks concurrence from the SHPO. If the SHPO concurs with FHWA's findings, or does not object within 30 days of receipt of adequately documented findings, BDE proceeds directly to Activity 12. If the SHPO disagrees with the findings, FHWA follows the process in 36 CFR 800.5(c)(2).

For CE projects, BDE may make a "no adverse effect" finding in consultation with the SHPO. If the finding is "adverse effect," then FHWA must make the finding in consultation with the SHPO.

For EA projects and EIS projects, FHWA makes either a "no adverse effect" or "adverse effect" finding in consultation with the SHPO and BDE.

PROJECT ACTIVITY

Activity Title: Apply Criteria of Adverse Effect

Activity No.: 11 *(Continued)*

Responsible Unit: BDE

References

- 36 CFR 800.5 “Assessment of Adverse Effects”
- 36 CFR 68 “The Secretary of the Interior’s Standards for the Treatment of Historic Properties”

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PROJECT ACTIVITY

Activity Title: Coordinate with Consulting Parties and the Public

Activity No.: 12

Responsible Unit: BDE

Activity Description:

BDE provides documentation, as described in Activity 11, of the effect findings to the district. The district provides the documentation to consulting parties and the public in accordance with the involvement plan developed in Activity 06.

FHWA sends the documentation to interested Tribes who have requested to be consulting parties in the Section 106 process. Information concerning the location of archaeological properties and properties of religious or cultural significance will not be included in documents to be made available for public inspection, in accordance with 36 CFR 800.11(c)(1).

If the SHPO concurs with the finding of no adverse effect, the Section 106 process is complete. The district retains the documentation in the project files and includes it in the NEPA document.

If there is a finding of adverse effect, proceed to Activity 13.

References:

- 36 CFR 800.5(c) “Consulting Party Review”
- 36 CFR 800.11(e) “Finding of No Adverse Effect or Adverse Effect”

PROJECT ACTIVITY

Activity Title: Consult to Resolve Adverse Effect

Activity No.: 13

Responsible Unit: BDE

Activity Description:

BDE sends a request to FHWA to notify the ACHP of the adverse effect finding.

BDE provides two copies of documentation described in Activity 11 to FHWA for submittal to the ACHP with the notice.

The ACHP advises FHWA whether it will participate within 15 days of receipt of the notice. FHWA notifies the SHPO and BDE by e-mail if no response has been received within 15 days, or sends the SHPO and BDE a copy of the ACHP response letter, if one is received. BDE forwards a copy of the FHWA e-mail/ACHP letter to the district for inclusion in the project file and NEPA document.

FHWA consults with BDE, the district, the SHPO, and other consulting parties, including Indian Tribes, as appropriate, to develop and evaluate alternatives or modifications to the project that could avoid, minimize, or mitigate adverse effects on historic properties.

References:

- 36 CFR 800.6(a) “Continued Consultation”
- 36 CFR 800.11(c) “Confidentiality”
- 36 CFR 800.14(b) “Programmatic Agreements”
- Chapter 19 “Public Involvement Guidelines”

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PROJECT ACTIVITY

Activity Title: Develop and Execute MOA or PA

Activity No.: 14

Responsible Unit: BDE/District

Activity Description:

BDE and FHWA consult with the SHPO, the ACHP, and other consulting parties, including Indian Tribes, to seek ways to avoid, minimize, or mitigate the project's adverse effects. If BDE, district, FHWA, SHPO, and ACHP (if they are participating in the consultation) agree on how the project's adverse effects will be resolved, they will enter into a Memorandum of Agreement (MOA) or project-specific Programmatic Agreement (PA) to document the terms and conditions agreed upon for resolving the adverse effects. After FHWA and BDE are satisfied with the terms of the MOA/PA, BDE coordinates ratification by IDOT and local agencies, as appropriate, and sends those signed copies to FHWA. There will be one original copy of the MOA/PA for each ratifying party. FHWA sends the document with signatures to the SHPO for ratification. Upon receipt of the document with the SHPO's signature, FHWA signs the MOA/PA and, if the ACHP is participating, sends it to the ACHP for signature. The MOA/PA is considered effective upon the date of FHWA signature, or signature by the ACHP, if they are participating in the consultation.

FHWA obtains signatures of Tribes and other concurring parties, as applicable. After FHWA receives all required signatures on the MOA/PA, they send a copy of the executed agreement to all signatories and consulting parties. FHWA submits a copy of the executed agreement to the ACHP, along with documentation of the following:

- any substantive revisions or additions to the documentation provided to the ACHP in Activity 13,
- an evaluation of any measures considered to avoid or minimize the project's adverse effects, and
- a summary of the views of consulting parties and the public.

After submittal of the executed MOA/PA to the ACHP, BDE proceeds to Activity 15. If the SHPO does not agree to the terms of an MOA or PA for resolving the project's adverse effects, FHWA follows the process in 36 CFR 800.6(b)(v).

After distribution of the executed MOA or PA, BDE proceeds to Activity 15. A copy of the MOA or PA is included in the project file and in the EA or EIS.

PROJECT ACTIVITY

Activity Title: Develop and Execute MOA or PA

Activity No.: 14 *(Continued)*

Responsible Unit: BDE/District

References:

- 36 CFR 800.6(b) “Resolve Adverse Effects”
- 36 CFR 800.6(c) “Memorandum of Agreement”

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PROJECT ACTIVITY

Activity Title: Implement MOA or PA

Activity No.: 15

Responsible Unit: BDE/District

Activity Description:

After execution of an MOA or PA, BDE and district carry out any assigned tasks in accordance with the provisions of the MOA or PA.

When all provisions of the MOA or PA have been fulfilled, BDE prepares documentation to confirm that all provisions have been satisfied. BDE provides copies of the documentation to FHWA, the SHPO, the district, and the Illinois Historic Preservation Agency (IHPA) and Illinois State Museum. The district retains the documentation in the project files. For archaeological resource information, the IHPA and State Museum retain the documentation in the Statewide Archaeological Files.

26-5.04(d) Unanticipated Discovery During Construction

If any unanticipated discoveries of historic properties, sites, artifacts, or objects occur during the implementation of any project, the district will coordinate with BDE and BDE will coordinate with FHWA to comply with 36 CFR 800.13 and the Illinois *Human Skeletal Remains Protection Act* (20 ILCS 3440), as appropriate. This will involve stopping work in the immediate area and informing the SHPO and County Coroner of the unanticipated discoveries or effects within two business days. BDE will coordinate with ISAS to ensure that any necessary archaeological investigations are conducted according to the provisions of the Illinois *Human Skeletal Remains Protection Act*.

If any unanticipated effects on historic properties are found to be occurring during the implementation of any project, the district will coordinate with BDE and BDE will coordinate with FHWA to comply with 36 CFR 800.13 and inform the SHPO immediately.

If any human remains are encountered during the implementation of any project exempted under the provisions of the Minor Projects Delegation Programmatic Agreement, the district will cease work in the immediate area, notify BDE, and ensure the human remains are left undisturbed. Where there is a discovery of human remains or burials on Federal lands, BDE will coordinate with FHWA to ensure compliance with the *Native American Graves Protection and Repatriation Act* (NAGPRA) (25 USC 3001). In the event of an inadvertent discovery of human remains or burials on non-Federal lands during transportation construction activities, the district will cease work in the area of the discovery and notify BDE. BDE will ensure compliance with the Illinois *Human Skeletal Remains Protection Act* and will notify FHWA of the discovery. FHWA will notify the Federally recognized Indian Tribes with an interest in that county.

Work on the portion of the site where human remains are found cannot resume until a plan for the treatment of the human remains is developed and approved in consultation with the SHPO and any appropriate consulting parties. BDE will coordinate with FHWA to ensure the plan complies with the Illinois *Human Skeletal Remains Protection Act*, and all other appropriate Federal and State guidelines, statutes, rules, and regulations.

26-5.04(e) Coordination with the National Environmental Policy Act

The regulations in 36 CFR 800 encourage agencies to coordinate Section 106 compliance with steps taken to meet the requirements of the *National Environmental Policy Act* (NEPA). Consider Section 106 responsibilities as early as possible in the NEPA process and public participation, analysis, and plan review so that they can meet the purposes of both statutes in a timely and efficient manner. The determination of whether an undertaking is a “major Federal action significantly affecting the quality of the human environment” and, therefore, requires preparation of an EIS should include consideration of the undertaking’s likely effects on historic properties. A finding of adverse effect on a historic property does not necessarily require an EIS under NEPA.

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If a project, activity, or program is categorically excluded from NEPA review, the undertaking still must be evaluated to determine if it qualifies as an undertaking that requires review under Section 106.

Section 106 documentation will be included in the CE project file, EA, or EIS. Documentation should include correspondence among all agencies and consulting parties, and the project MOA/PA, as applicable. The NEPA document will contain a summary of any Section 106 commitments.

26-5.04(f) National Register Criteria for Evaluation

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and that:

- are associated with events that have made a significant contribution to the broad patterns of our history;
- are associated with the lives of persons significant in our past;
- embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and
- have yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- a religious property deriving primary significance from architectural or artistic distinction or historical importance;
- a building or structure removed from its original location, but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event;
- a birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his/her productive life;
- a cemetery that derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;

- a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and where no other building or structure with the same association has survived;
- a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; and
- a property achieving significance within the past 50 years if it is of exceptional importance.

26-5.05 Historic Bridge Programmatic Agreement

Under the terms of a Programmatic Agreement with the FHWA and the Illinois Historic Preservation Agency (IHPA), the BDE compiled a Historic Bridge Survey (HBS) to identify those bridges in Illinois that have historic significance. The approved HBS was initially distributed via BDE Technical Environmental Memorandum No. P-1-95 and BDE periodically provides updates to affected offices. For projects that may affect an existing bridge, the district should refer to the most recent HBS to determine if the affected bridge is listed and, if so, whether or not it is coded (**).

Bridges not on the HBS are exempt from further review by BDE for historic significance. The project still may require submittal of an environmental survey request in accordance with the criteria in Section 27-1 of the *BDE Manual*.

If the bridge is included in the HBS and is coded (**), it is not eligible for inclusion on the NRHP. However, if a project will involve removal of a bridge coded (**), steps must be initiated to seek another suitable bridge to take its place on the HBS; see the BDE Technical Environmental Memorandum P-1-99.

If a bridge is included in the HBS and is not coded (**), it is subject to compliance with the *Historic Preservation Act* regulations; see Sections 26-5.04 and 26-5.06 of the *BDE Manual*. BDE Technical Environmental Memorandum P-1-99, which provides further guidance on the analysis of alternatives (i.e., avoidance, rehabilitation, replacement) and the information (e.g., concerning the selected alternative, effects on the historic characteristics of the bridge, mitigation measures for adverse effects) to be included in the compliance documentation for the historic bridge involvement.

26-5.06 State of Illinois Requirements

In addition to the Federal requirements for historic preservation, the *Illinois State Agency Historic Resources Preservation Act* (20 ILCS 3420, et seq.) and the *Rules for Review of State Agency Undertakings* (17 Ill. Adm. Code Part 4180, et seq.) establish State-level historic preservation requirements applicable to State agency undertakings. Section 4(g) of the *Illinois State Agency Historic Resources Preservation Act* provides that:

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> *(g) When an undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act of 1966, the procedures of this law shall not apply and any review or comment by the Director on such undertaking shall be within the framework or procedures of the federal law.*

IDOT highway projects typically are developed in accordance with Federal requirements, including Section 106 of the *National Historic Preservation Act*, so that they may be eligible for Federal funding participation. Accordingly, for the vast majority of IDOT highway projects, the above-referenced provision applies, and the projects are not subject to the State historic preservation requirements. In the event that a project is subject to the State requirements, the *Rules for Review of State Agency Undertakings* will be used to determine the actions necessary for compliance.

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26-6 NOISE ANALYSES

26-6.01 Introduction

In the development of a project, it is necessary to undertake special technical analyses to identify and evaluate the potential noise impacts the project will involve. The following information includes procedures for these analyses, noise abatement measures and related coordination, and the noise abatement criteria prescribed by Federal regulations.

26-6.02 Complementary Technical Manual

The *IDOT Highway Traffic Noise Assessment Manual* (Manual) provides technical information and technical procedures associated with the provisions of this topic. The Manual contents will comply with the procedures described herein.

26-6.03 Legal Authority

The following legal authority regulates or influences the policies and procedures for noise analyses:

- 42 USC 4901-4918, popularly known as the *Noise Control Act of 1972* (Public Law 92-574).
- 23 USC 109(h) and (i), which are amendments to the *Federal-Aid Highway Act of 1970* (Public Laws 93-87 and 91-605).
- 42 USC 4331 and 4332, which are portions of the *National Environmental Policy Act of 1969* (Public Law 91-190).
- 23 CFR 772 "Procedures for Abatement of Highway Traffic Noise and Construction Noise."
- "Highway Traffic Noise: Analysis and Abatement Guidance", by the US Department of Transportation, Federal Highway Administration June 2010, as revised January 2011.

26-6.04 Policy

Special efforts shall be made in the development of a project to comply with Federal and State requirements for noise control; to consult with appropriate officials to obtain the views of the affected community regarding local noise requirements, noise impacts, and abatement measures; and to mitigate highway-related noise impacts, where feasible and reasonable. The reasonableness evaluation for noise abatement will include the solicitation of viewpoints from benefited receptors.

26-6.05 Procedures

26-6.05(a) Definitions

19. *Benefited Receptor*. The recipient of an abatement measure that receives a noise reduction of 5 dB(A) or greater.

20. *Common Noise Environment*. A group of receptors within the same Activity Category in Figure 26-6A that are exposed to similar noise sources and levels; traffic volumes, traffic mix, and speed; and topographic features. Generally, common noise environments occur between two secondary noise sources, such as interchanges, intersections, and cross-roads.

21. *Date of Public Knowledge*. The date of environmental approval of the Categorical Exclusion (CE), the Finding of No Significant Impact (FONSI) for an Environmental Assessment (EA), or the Record of Decision (ROD) for an Environmental Impact Statement (EIS), as defined in 23 CFR part 771.

22. *Department*. The Illinois Department of Transportation (IDOT).

23. *Design Year*. The future year used to estimate the probable traffic volume for which a highway is designed. For NEPA, IDOT uses the latest approved traffic projections from the appropriate Metropolitan Planning Organization (MPO). For locations outside the planning area of an MPO, the design year traffic volumes shall be consistent with the traffic projections used for design.

24. *Existing Noise Levels*. The worst hourly noise level resulting from the combination of natural and mechanical sources and human activity usually present in a particular area.

25. *Facility or Existing Highway*. Any of the freeways, expressways, or various classes of roads and streets that make up the highway system under the jurisdiction of the Department.

26. *Feasibility*. The combination of acoustical and engineering factors considered in the evaluation of a noise abatement measure. The acoustical criterion for feasibility requires a minimum 5-dB(A) traffic noise reduction at a minimum of one impacted receptor location.

27. *Impacted Receptor*. The recipient that has a traffic noise impact.

28. L_{eq}. The equivalent steady-state sound level, which in a stated period of time, contains the same acoustic energy as the time-varying sound level during the same time period, with $L_{eq}(h)$ being the hourly value of L_{eq}.

29. *Multifamily Dwelling*. A residential structure containing more than one residence. Each residence in a multifamily dwelling shall be counted as one receptor when determining impacted and benefited receptors.

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30. *Noise Barrier*. A physical obstruction (i.e. stand alone noise walls, noise berms (earth or other material), and combination berm/wall systems) that is constructed between the highway noise source and the noise sensitive receptor(s) that lowers the noise level at the receptor location.

31. *Noise Reduction Design Goal*. The optimum desired dB(A) noise reduction determined from calculating the difference between future build noise levels with abatement, to future build noise levels without abatement. The noise reduction goal is at least 8 dB(A) for at least one benefited receptor location.

32. *Permitted*. A definite commitment to develop land with an approved specific design of land use activities as evidenced by the issuance of a building permit.

33. *Property Owner*. An individual or group of individuals who hold(s) a title, deed, or other legal documentation of ownership of a property or a residence.

34. *Reasonableness*. The combination of social, economic, and environmental factors considered in the evaluation of a noise abatement measure.

35. *Receptor*. A discrete or representative location of a common noise environment(s), for any of the land uses listed in Figure 26-6A.

36. *Residence*. A dwelling unit. Either a single family residence or each dwelling unit in a multifamily dwelling.

37. *Statement of Likelihood*. A statement provided in the NEPA environmental document based on the feasibility and reasonableness analysis completed at the time the environment document is being approved.

38. *Substantial Construction*. The granting of a building permit by the local governing entity with permitting authority, prior to right-of-way acquisition or construction approval for the highway.

39. *Substantial Noise Increase*. One of two types of highway traffic noise impacts. For a Department project, this is defined as an increase in noise levels of greater than 14 dB(A) in the design year over the existing noise level.

40. *Traffic Noise Impacts*. Design year build condition noise levels that approach or exceed the noise abatement criteria (NAC) listed in Figure 26-6A for the future build condition; or design year build condition noise levels that create a substantial noise increase over existing noise levels. For purposes of this policy, approach is defined as within 1 dB(A) of the NAC.

41. *Type I Project*.

- The construction of a highway on new location; or,
- The physical alteration of an existing highway where there is either:

+ *Substantial Horizontal Alteration*. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,

+ *Substantial Vertical Alteration*. A project that removes shielding, therefore exposing the line-of-sight between the receptor and the traffic noise source. This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or,

- The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a HOV lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,
- The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,
- The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,
- Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,
- The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza.

If a project is determined to be a Type I project under this definition then the entire project area as defined in the NEPA environmental document is a Type I project.

42. *Type II Project*. A Federal or Federal-aid highway project for noise abatement on an existing highway. IDOT does not maintain a Type II program.

43. *Type III Project*. A Federal or Federal-aid highway project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

44. *Undeveloped Lands*. Those tracts of land or portions thereof that do not contain improvements or activities devoted to frequent human habitation or use (including low-density recreational use) and for which no such improvements or activities are permitted.

45. *Worst Hourly Traffic Noise*. The noise level resulting from the highest hourly volume a facility can handle while maintaining stable flow. This traffic volume will be either the design hourly volume or the maximum volume that can be accommodated under level of service C (i.e., where high traffic volumes begin to restrict speed and drivers' maneuverability).

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26-6.05(b) Applicability

The noise analysis and abatement procedures described in this section shall apply to all Type I projects initiated by the Department, whether Federally funded or State-only funded (or State and local-funded, as appropriate), or requires FHWA approval regardless of funding sources.

26-6.05(c) Traffic Noise Analysis

In the development of proposed projects, expected traffic noise impacts shall be determined and analyzed, and the overall benefits that can be achieved by noise abatement measures to mitigate these impacts shall be determined, giving weight to any adverse social, economic, and environmental effects.

The traffic noise analysis shall be conducted in the following manner:

- Identify existing activities, developed areas, and undeveloped lands which may be affected by noise from the highway. Land uses shall be characterized based on the activity categories and descriptions listed in Figure 26-6A. Undeveloped lands permitted for development by the date of public knowledge shall be evaluated for traffic noise impacts and noise abatement (if impacts are identified) based on the permitted land use description.

- Predict the traffic noise levels for each reasonable alternative carried forward under detailed study (including the “no-action” alternative) using the most current version of the FHWA-approved Traffic Noise Model (TNM) which is described in “FHWA Traffic Noise Model” Report No. FHWA-PD-96-010, or any other model determined by the FHWA to be consistent with the methodology of the FHWA TNM. The pavement type in TNM shall be the average pavement type unless a different pavement type has been approved by FHWA.

- When determining traffic noise impacts, primary consideration shall be given to exterior areas where frequent human use occurs *for Activity Categories A, B, C and E. Tra*ffic noise impacts for land uses within Activity Category D shall be predicted for interior areas only if no exterior use areas are identified. See the *IDOT Highway Traffic Noise Assessment Manual* for further guidance.

- Determine the existing noise levels using field measurements, modeling, or both, using the most current version of the FHWA-approved TNM or any other model determined by the FHWA to be consistent with the methodology of the FHWA TNM. Modeling of existing conditions may not be appropriate when the project involves construction of a new roadway in a new location where there is no existing traffic noise contribution. Predicted noise levels shall be validated through comparison between measured and predicted noise levels. The $L_{eq}(h)$ noise metric shall be used to quantify the measurements of both existing and predicted noise levels.

Activity Category	L_{eq}(h)	Evaluation Location	Activity Description
A	**57**	**Exterior**	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	**67**	**Exterior**	Residential.
C	**67**	**Exterior**	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	**52**	**Interior**	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	**72**	**Exterior**	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	**---**	**---**	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	**---**	**---**	Undeveloped lands that are not permitted.

Note: The Noise Abatement Criteria are noise impact thresholds for considering abatement. (Abatement must be considered when predicted traffic noise levels for the design year approach (i.e., within 1 decibel of) or exceed the noise abatement criteria, or when the predicted traffic noise levels are substantially higher (i.e., more than 14 decibels greater) than the existing noise level.) The Noise Abatement Criteria are ***not*** *attenuation design criteria or targets. The goal of noise abatement measures is to achieve the feasibility noise reduction criteria and the noise reduction design goal. The reductions may or may not result in design year noise levels at or below the Noise Abatement Criteria.*

Figure 26-6A Noise Abatement Criteria
[Hourly A-Weighted Sound Level-decibels (dB(A))]

- Compare the predicted design year build traffic noise levels based on traffic characteristics that yield the worst traffic noise impact for the preferred alternative, or for each alternative under detailed study, with the existing noise levels and with the noise abatement criteria (see Figure 26-6A). This comparison shall also include predicted traffic noise levels for the “no-action” alternative in the design year. Such information shall be used primarily to describe the noise levels of proposed highway improvements in contrast with noise levels likely to be reached in the same area if no highway improvement is undertaken. Noise impacts are defined when the predicted traffic noise levels for the design build year approach (defined by the Department as “within 1 decibel of”) or exceed the Noise Abatement Criteria provided in Figure 26-6A, or when the predicted traffic noise levels for the design year are substantially higher (defined by the Department as “more than 14 decibels greater”) than the existing noise levels.

- Examine and evaluate noise abatement measures (see Section 26.05(d)) for existing activities, developed lands, and undeveloped lands for which development is permitted where traffic noise impacts have been identified.

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Before project plans and specifications are approved, it must be determined that noise abatement measures determined to be feasible and reasonable have been incorporated. Because decisions on noise abatement are prerequisites to determining environmental impacts, and because these impacts influence decisions on adoption of a highway location, it is important that a preliminary determination be made of likely noise abatement measures.

- Design year build noise levels shall be predicted for undeveloped lands for which there will be no development permitted by the date of public knowledge. The results shall be documented in the NEPA environmental documents and noise analysis documents. The information presented may include a prediction of noise contours or a prediction of distances from the highway for which impacts would likely occur. A noise abatement evaluation is not warranted for these undeveloped lands provided that development is not permitted by the date of public knowledge. See Section 26-6.05(e) for additional information to be provided to local officials for undeveloped lands.

26-6.05(d) Noise Abatement

26-6.05(d)1 *General Considerations*

When traffic noise impacts are identified, noise abatement shall be considered and evaluated for feasibility and reasonableness. The assessment of noise abatement should give weight to the benefits and costs of abatement and the overall social, economic, and environmental effects by using feasible and reasonable noise abatement measures presented herein.

In determining and abating traffic noise impacts, primary consideration is given to exterior areas. Abatement will usually be necessary only where frequent human use occurs and a lowered noise level would be of benefit. If a noise impact is identified, the abatement measures evaluation shall be conducted as discussed below.

Abatement measures that are feasible and reasonable shall be incorporated into the plans and specifications. The Federal Highway Administration will not approve NEPA environmental documents or plans and specifications for Federally funded projects unless such measures are identified and incorporated to mitigate the identified noise impacts.

26-6.05(d)2 *Noise Abatement Measures*

The information in this subsection is written primarily for Type I projects that are Federally funded or require Federal approval; however, the provisions regarding conditions for providing abatement measures and information on types of measures also applies to appropriate State-only funded Type I projects. All noise assessments and noise abatement evaluations for State-only funded projects should be submitted to BDE for review and concurrence.

The following are noise abatement measures that may be incorporated into Federally funded Type I projects to reduce highway-generated noise impacts when the abatement measure has been determined to be feasible and reasonable pursuant to this section. At a minimum, noise abatement in the form of noise barriers shall be considered. The remaining noise abatement

measures can be considered as an alternative abatement measure(s) for the Department, but are not required to be evaluated. The costs of such measures may be included in Federal-aid participating project costs with the Federal share being the same as that for the system on which the project is located:

- construction of noise barriers, including acquisition of property rights, either within or outside the highway right-of-way. Landscaping is not a viable noise abatement measure;
- traffic management measures (e.g., traffic control devices and signing for prohibition of certain vehicle types, time use restrictions for certain vehicle types, modified speed limits and exclusive lane designations);
- alteration of horizontal and vertical alignments;
- acquisition of real property or interests therein (predominantly unimproved property) to serve as a buffer zone to preempt development which would be adversely impacted by traffic noise; or,
- noise insulation of Activity Category D land use facilities listed in Figure 26-6A. Post installation maintenance and operational costs for noise insulation are not eligible for Federal-aid funding or State funding.

For Federally funded projects, Federal funds may be used for noise abatement measures when a traffic noise impact has been identified (see Section 26-6.05(c)) and the noise abatement measure is determined to be feasible and reasonable based on the following evaluations.

26-6.05(d)3 *Feasibility Evaluation*

A noise abatement measure is determined to be feasible by achieving IDOT's highway traffic noise reduction feasibility criterion of at least 5 dB(A) at impacted receptors. The noise reduction shall be achieved for at least <u>one impacted receptor</u>.

The noise abatement measure also needs to be determined to be possible to design and construct to be considered feasible. Factors including but not limited to safety, barrier height, topography, drainage, utilities, maintenance, and access issues should be considered. See the *IDOT Highway Traffic Noise Assessment Manual* for further guidance.

26-6.05(d)4 *Reasonableness Evaluation*

A noise abatement measure is determined to be reasonable when all three of the following reasonableness evaluation factors are met:

- cost effectiveness of the highway traffic noise abatement measure;
- achievement of IDOT's noise reduction design goal; and,
- consideration of the viewpoints of the benefited receptors (property owners and residents).

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Each of these three reasonableness evaluation factors is further described below.

Cost-Effectiveness

The estimated build cost of each noise abatement measure may not exceed the allowable noise abatement cost based on a cost per benefited receptor comparison. The base value for the allowable noise abatement cost shall be $24,000 per benefited receptor. The number of benefited receptors will be based on the locations achieving at least a 5 dB(A) traffic noise reduction and where frequent human use activity occurs. Figure 26-6B identifies potential sensitive land uses and the potential locations to be considered as benefited receptors within that land use. See the *IDOT Highway Traffic Noise Assessment Manual* for further guidance.

The estimated build cost for noise barriers should be determined using the current standard unit cost approved by IDOT. The current unit cost used by IDOT to determine the estimated build cost for noise barriers is $25 per square foot. This unit cost is based on actual IDOT Phase III construction costs (materials and installation) and engineering design. This unit cost and the allowable cost will be evaluated every five years by IDOT and will be based on actual construction costs. Estimated build costs for other noise abatement measures being evaluated should be based on estimated Phase I costs.

***Receptor* Type**	**Potential Benefited *Receptor* Unit(s)**
Single-family Residence	Each residential unit
Multi-family Residence	Each residential unit with access to the exterior common area or with exterior use areas, such as a patio or balcony
Nursing Home	Each residential unit with access to the exterior common area
School	Each classroom
Hospital	Each hospital room with a bed(s)
Hotel/Motel	Each hotel/motel room
Cemetery	Each point of anticipated gathering (i.e. bench, information board)
Places of Worship	Each point of anticipated gathering (i.e. bench, patio, gazebo)
Parks	Each gazebo, group of picnic tables, playground
Trails and Trail Heads	Each point of anticipated gathering (i.e. bench, information board)
Libraries	Each point of anticipated gathering (i.e. bench, patio, gazebo)
Business	Each business unit
Undeveloped Lands	Each unit with a building permit

Figure 26-6B – Potential Benefited Receptor Units*

* To be considered benefited, each receptor unit location must receive at least a 5 dB(A) traffic noise reduction to be considered as part of the cost-effective evaluation.

Other Reasonableness Factors

Other reasonableness factors shall be considered to potentially adjust the allowable noise abatement base value cost of $24,000 per benefited receptor to account for project-specific factors. Consideration of the following three reasonableness factors can be used to adjust

the allowable noise abatement base cost of $24,000 per benefited receptor. These other reasonableness factors include:

- the absolute noise level of the benefited receptors in the design year build scenario before noise abatement;
- the incremental increase in noise level between the existing noise level at the benefited receptor and the predicted build noise level before noise abatement; and
- the date of development compared to the construction date of the highway.

The base value of $24,000 per benefited receptor will be adjusted considering these three factors and based on Figure 26-6C. Only one value from each of the three factors may be used for each receptor, resulting in a potential maximum allowable noise abatement cost of $37,000 per benefited receptor. If the estimated build cost of noise abatement per benefited receptor is less than the adjusted allowable noise abatement cost per benefited receptor, then the noise abatement measure achieves the cost-effective reasonableness criterion. For further guidance on the use of optional reasonableness factors, see the *IDOT Highway Traffic Noise Assessment Manual*.

Absolute Noise Level Consideration

Predicted Build Noise Level Before Noise Abatement	Dollars Added to Base Value Cost per Benefited Receptor
Less than 70 dB(A)	$0
70-74 dB(A)	$1,000
75-79 dB(A)	$2,000
80 dB(A) or greater	$4,000

Increase in Noise Level Consideration

Incremental Increase in Noise Level Between the Existing Noise Level and the Predicted Build Noise Level Before Noise Abatement	Dollars Added to Base Value Cost per Benefited Receptor
Less than 5 dB(A)	$0
5-9 dB(A)	$1,000
10-14 dB(A)	$2,000
15 dB(A) or greater	$4,000

New Alignment / Construction Date Consideration

Project is on new alignment OR the receptor existed prior to the original construction of the highway	Dollars Added to Base Value Cost per Benefited Receptor
No for both	$0
Yes for either	$5,000

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Note: No single optional reasonableness factor shall be used to determine that a noise abatement measure is unreasonable.

Figure 26-6C
FACTORS FOR ADJUSTING THE ALLOWABLE NOISE ABATEMENT COST PER BENEFITED RECEPTOR BASE VALUE OF $24,000 USING OTHER REASONABLENESS FACTORS

Noise Reduction Design Goal

The second component of reasonableness is achieving the noise reduction design goal for highway noise abatement measures. The noise reduction design goal is to achieve a traffic noise reduction of at least 8 dB(A) for at least one benefited receptor and as many other receptors as is possible in accordance within the reasonableness evaluation for cost-effectiveness.

Benefited Receptor Viewpoints

The third component of reasonableness is obtaining the viewpoints of benefited receptors.

The viewpoints of benefited receptors shall be solicited for noise abatement measures (e.g., noise barriers) determined to be feasible, cost-effective and achieving the noise reduction design goal. The viewpoints of benefited receptors shall be solicited to determine the desire for implementation of the noise abatement measure. A benefited receptor includes property owners (including non-residential properties) and renters/leasers residing on the benefited property.

The goal is to obtain responses from at least one-third of the benefited receptors for each noise abatement measure (i.e., for each noise barrier being considered). If responses from one-third of the benefited receptors are not received after the first attempt, a second attempt shall be made. The desire for the proposed noise abatement can be determined after viewpoints from at least one-third of the responses have been received or after two attempts have been made to obtain the responses.

Once the responses have been collected, the viewpoints must be tallied. In order for a proposed noise abatement measure to be implemented, greater than 50% of the benefited receptors responding must be in favor of the proposed abatement measures. Viewpoints will be tallied for each individual abatement measure (i.e. for each noise barrier being considered). A response from first row benefited receptors (receptors sharing a property line with the highway right-of-way) will be counted and weighted as two responses. Benefited receptors not in the first row will count as one vote. In the case of rental properties, the tenant shall count as one response and the owner shall count as one response per benefited unit. See the *IDOT Highway Traffic Noise Assessment Manual* for further guidance and an example viewpoint evaluation.

The proposed abatement measures will be presented as likely to be implemented (provided they are deemed feasible and reasonable for noise reduction and cost-effectiveness) as part of the public involvement process.

Below is a letter template that Districts may use as the first attempt to obtain the viewpoints from benefited receptors.

(*Date*)

(*Name*)
(*Address*)

Re: Viewpoint Solicitation – First Notice
Noise Barrier Implementation
(*Project Name*)
(*Project Limits*)

Dear (*Property Owner or Resident Name*):

The Illinois Department of Transportation (IDOT) is currently conducting environmental (Phase I) preliminary engineering studies for proposed improvements to *(project name)*. The improvements include *(project description).*

As part of the Phase I Study for this project, traffic noise was evaluated for the proposed roadway improvements. Construction is anticipated to begin in (*anticipated date of construction or indication of funding availability*) and last approximately (*number*) year(s). The traffic noise analysis indicated that noise levels in your area warrant the consideration of noise abatement. The abatement for these traffic noise impacts include a noise barrier to reduce traffic noise at your location. Based on the noise abatement analysis, a noise barrier approximately *(height)* high and *(length)* long may be implemented as part of this project. The proposed noise barrier would be a (*identify: noise wall, earth berm or combination of both*).

IDOT is requesting your viewpoint regarding your desire for the noise barrier proposed near your location. This letter has been provided to all property owners and tenants who would be considered "benefited" (would receive a noise reduction of 5 dB(A) or greater) by the noise barrier.

Your viewpoint is being solicited as part of the upcoming (*identify: public hearing or meeting*) for the proposed project. The meeting information is included with this letter. If you are not able to attend the meeting to provide your views, please contact us using the telephone number or the email address included in the public hearing/meeting announcement. Please include your full name and address with any correspondence you provide, including any input provided at (*identify: public hearing or meeting*) for the proposed project.

We appreciate your views and look forward to hearing from you. IDOT has provided an information sheet for you to consider during your decision-making process. Please know that IDOT will consider all viewpoints received from "benefited" property owners or tenants. Based on the consideration of the viewpoints, the noise barrier may or may not be considered for implementation in the project. If you have additional questions, please call *(project manager)* at *(project manager phone number).* For additional information regarding traffic noise, regulations and policy, noise analyses, or noise abatement, we encourage you to access IDOT's *Noise Training Modules* at the IDOT internet site http://www.dot.il.us. Click on the "Environment" link and then the "Traffic Noise" link to access this information.

Sincerely,

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26-6.05(d)5 *Cost Averaging*

Cost averaging of noise abatement among common noise environments may be used when conducting the reasonableness evaluation. For a single noise abatement measure to be considered as part of a cost averaging evaluation, the estimated build cost of noise abatement per benefited receptor may not exceed two times the adjusted allowable noise abatement cost per benefited receptor. Noise abatement measures achieve the cost reasonableness criterion if the common noise environment collective average estimated build cost of noise abatement per benefited receptor is less than the collective average adjusted allowable cost per benefited receptor. See the *IDOT Highway Traffic Noise Assessment Manual* for further guidance and an example cost-averaging evaluation.

26-6.05(d)6 *Third Party Funding*

Third party funding is not allowed on a Federal or Federal-aid project if the noise abatement measure would require the additional funding from the third party to be considered feasible and/or reasonable. Third party funding is acceptable on Federal or Federal-aid highway project to make functional enhancements to a noise abatement measure already determined feasible and reasonable.

26-6.06 Noise Abatement Wall Materials

26-6.06(a) Physical Requirements

When the noise analysis, as described in Section 26-6.05(c), determines that a noise abatement evaluation is warranted and a noise wall is determined to be feasible and reasonable as described in Section 26-6.05(d), it will be constructed with a design life of 35 or more years. In addition, it will be aesthetically pleasing, consistent with any neighboring design themes, easily maintained, and replaceable, if damaged. The noise abatement wall material must be suitable for safe recycling.

26-6.06(b) Acoustical Specifications

The noise wall material must achieve a sound Transmission Loss (TL) (i.e., a reduction in sound transmitted through the material) equal to or greater than 20 dB in all one-third octave bands from 100 hertz to 5000 hertz, inclusive. Testing for TL shall be in accordance with ASTM E90 “Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions”. Specialty items and materials that are not covered by ASTM, AASHTO, or other Department specifications must have the prior approval of the Illinois Highway Development Council (IHDC). Contact the Engineer of Technical and Product Studies at the Bureau of Materials and Physical Research for additional information on the IHDC process.

26-6.06(c) Aesthetic Considerations

The Department uses standard surface textures and colors for noise abatement walls constructed for Department projects. The standard textures include brick, stone, or wood patterns. The standard colors include earth tones in shades of browns and grays.

The Regional Engineer or their designee will recommend one of the standard patterns and colors for a proposed noise abatement project unless, after evaluating existing or proposed design themes for the project area or the architectural style of the neighborhood, a different pattern or color is deemed appropriate.

The recommendation of the Regional Engineer, or their designee, may be presented at public involvement meetings. If the affected residents desire a different pattern or color, or a noise wall material that does not fully conform to this policy, the following options will apply:

- any of the other "standard" patterns or any color on their side of the wall may be accommodated without any monetary commitment from local agencies beyond that normally required for a "standard pattern" noise abatement project, as appropriate;

- any non-standard pattern or color on the side of the wall away from the highway may be accommodated upon agreement by the local agency(ies) to compensate the Department for 100 percent of the cost beyond that of a "standard pattern" for a "non-standard pattern", as appropriate; or

- proposals for construction of noise abatement walls from materials that meet the 20 dB TL requirement but that otherwise do not fully conform to this policy may be evaluated and approved by the Department on a case-by-case basis. The local agency funding participation required for engineering, construction, and maintenance costs associated with the wall also will be determined on a case-by-case basis.

26-6.06(d) Absorptive Material Considerations

Under the following circumstances, consider an absorptive surface[1] for noise abatement walls to be constructed pursuant to this policy:

- An absorptive surface should be considered for the *roadway* side of a noise abatement wall when:

  + walls (including noise abatement walls, retaining walls, or abutments) paralleling or approximately paralleling the proposed noise abatement wall are also located, or proposed for construction, on the opposite side of the roadway and the ratio of the "canyon" width (between the noise abatement wall and the opposing wall) to the height of the walls is 10:1 or less; or

[1] *For purposes of this policy, a noise abatement wall surface will qualify as "absorptive" provided that it achieves a composite Noise Reduction Coefficient (NRC) of at least 0.80 if on the roadway side of the wall, and a composite NRC of at least 0.65 if on the side of the wall away from the roadway. The composite NRC shall be calculated based on the individual NRC values for each of the components of the total noise abatement wall system, as determined using ASTM C423 "Standard Test Method for Sound Absorption Coefficients by the Reverberation Room Method." For purposes of this testing, the materials must be placed in accordance with Type A Mounting as described in ASTM E795 "Standard Practices for Mounting Test Specimens During Sound Absorption Tests".*

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- the noise abatement wall is proposed to close a gap in a noise abatement barrier that has an absorptive surface on the roadway side.

- An absorptive surface should be considered for the side of the noise abatement wall *away* from the roadway when:

  - residences or other noise-sensitive receptors would be affected by reflected noise from industrial, commercial, or transportation sources on the side of the wall away from the roadway or noise from the roadway reflected off structures along the roadway, and it has been determined the reflected noise reduces the noise wall effectiveness below the feasibility criterion (i.e. at least 5 dB(A) for impacted receptors) or the noise reduction design goal (i.e., at least 8 dB(A) for benefited receptors); or

  - the noise abatement wall must be gapped for an access road to the residences or other noise-sensitive receptors the wall is intended to benefit; or

  - the noise abatement wall is proposed to close a gap in a noise abatement barrier that has an absorptive surface on the side away from the roadway.

Absorptive surfaces also should be considered where walls paralleling or approximately paralleling the proposed noise abatement wall are located, or proposed for construction, on the opposite side of the roadway and the "canyon" width to wall height ratio is greater than 10:1 but less than 20:1. Conduct a parallel barrier analysis to determine the degradation in noise wall performance where the width to wall heights ratio is less than 20:1. If the multiple reflections created by parallel barriers reduce the noise wall effectiveness below the feasibility criterion (i.e. at least 5 dB(A) for impacted receptors) or the noise reduction design goal (i.e., at least 8 dB(A) for benefited receptors), the feasible and reasonable evaluation should be presented using both an absorptive surface and a reflective noise wall surface.

26-6.06(e) Noise Abatement Wall Maintenance

The Department will maintain the roadway side of the noise abatement wall. Where the wall is located in such close proximity to the right-of-way line that the other side of the wall cannot be maintained from the State's right-of-way, a maintenance agreement with the appropriate local agency will be pursued. If such an agreement is not reached, additional right-of-way or easements may be acquired to provide access for maintenance.

26-6.07 Coordination

The Districts shall furnish local officials (e.g. county or municipal officials) within whose jurisdiction the highway project is located the following information pertaining to undeveloped lands within the project limits:

- approximate generalized design year traffic noise levels (for various distances from the highway improvement) for currently undeveloped lands or properties in the immediate vicinity of the project, and

- information that may be useful to local communities to protect future land development from becoming incompatible with anticipated highway noise levels.

Design year build noise levels shall be provided to inform local officials of the possibility of traffic noise impacts should the land be developed. Distances from the edge of the nearest travel lane of the highway improvement shall be provided where the noise levels approach the exterior noise abatement criteria in Figure 26-6A. Noise contours may be used to depict the build noise levels for the design year. This information shall be included in the traffic noise analysis documentation and NEPA environmental documentation. See the *IDOT Highway Traffic Noise Assessment Manual* for further guidance.

During the NEPA environmental studies, likely abatement measures should be discussed at public meetings and hearings. Information to be presented shall include the preliminary form of barrier, location, height, length, cost, and predicted noise reduction. Published notices advertising these meetings will identify that noise abatement measures are being investigated for potential installation and that the viewpoints of benefited receptors will be solicited as a part of the proposed project. Further details concerning the proposed noise barrier may be made available for review and comment during final design.

26-6.08 Construction Noise

The following general steps for addressing construction noise shall be performed for Type I projects, as appropriate:

- Identify land uses or activities affected by noise from construction of the project. This identification should be considered during the NEPA environmental studies.

- Determine the measures recommended for inclusion in the contract plans and specifications to minimize or eliminate adverse construction noise impacts on the community. This determination shall include a weighing of the benefits to be achieved and the overall adverse social, economic, and environmental effects and the costs of the abatement measures.

- Incorporate the needed abatement measures in the plans and specifications.

A construction noise evaluation should determine the following:

- if there is sufficient basis (i.e., needs or benefits) for recommending early construction of proposed noise barriers, so that they might also abate construction noise; and

- if provisions for any of the following (or other) abatement measures should be incorporated into project construction contract documents:

    + requiring special construction measures (e.g., work hour limits, equipment muffler requirements, location of haul roads, elimination of “tail gate banging,” reduction of backing up for equipment with alarms, use of

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"sound curtains" on certain equipment such as pavement breakers, placing materials stockpiles to form temporary noise barriers, positioning equipment as far as practical from sensitive areas);

+ limiting the duration of the contract period (calendar date of completion); or

+ imposing limits on all construction during special events (e.g., outdoor concerts, athletic events).

FHWA has released the FHWA Roadway Construction Noise Model (FHWA RCNM). Use of this model is not required on Federal-aid projects; however, it is a screening tool that can be used during NEPA environmental studies for the prediction of construction noise when construction noise has been identified as a potential concern.

Construction noise should be addressed in NEPA documents and Phase I engineering reports. The following paragraph should be included:

> *Trucks and machinery used for construction produce noise that may affect some land uses and activities during the construction period. Residents along the alignment will, at some time, experience perceptible construction noise from implementation of the project. To minimize or eliminate the effect of construction noise on these receptors, mitigation measures have been incorporated into the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction as Article 107.35.*

When additional abatement measures are proposed to mitigate construction noise, a brief description of the specific measures should also be included. See the *IDOT Highway Traffic Noise Assessment Manual* for further guidance.

26-6.09 Documentation

Although there may be instances in which a noise analysis is conducted independent of NEPA environmental studies for a highway project, the analysis typically is conducted concurrently with the development of an EIS or other environmental document (or Phase I engineering report, where applicable). For NEPA document approval, the traffic noise analysis shall be completed to the extent that design information on the reasonable alternative(s) carried forward under detailed study in the environmental document is available at the time the NEPA document is completed.

It is important that appropriate information from the technical noise study be made a part of the NEPA documentation. Therefore, careful planning should be undertaken to ensure that the technical study reaches appropriate milestones in time to incorporate summaries of the noise analysis results into the NEPA documentation for circulation and comments, as appropriate.

The summary of the noise analysis should include, but is not limited to, the following:

- A brief description of common noise environment(s) contiguous to the project.

- An identification of locations where noise impacts are predicted to occur.
- An identification of locations of noise abatement measures which are feasible and reasonable, and likely to be incorporated in the project.
- An identification of locations of noise impacts for which no noise abatement measures are feasible and reasonable and the reasons why.

The summaries should be of sufficient detail to provide quality information to aid decision-makers in understanding the impacts and proposed abatement measures for the preferred alternative(s).

A statement of likelihood shall be included in the NEPA environmental document since feasibility and reasonableness determinations may change due to revisions in project design after approval of the NEPA environmental document. The statement of likelihood shall include the preliminary location and physical description of noise abatement measures determined to be feasible and reasonable. The statement of likelihood shall also indicate that final abatement recommendations are determined during final design and the public involvement process. Traffic noise reporting is covered in more detail in the *IDOT Highway Traffic Noise Assessment Manual*. The following paragraph (or similar to) should be included in the NEPA environmental documents:

> *Based on the traffic noise analysis and noise abatement evaluation conducted, highway traffic noise abatement measures are likely to be implemented based on preliminary design. The noise barriers determined to meet the feasible and reasonable criteria are identified in Table (*reference table ID*). If it subsequently develops during final design that constraints not foreseen in the preliminary design or public input substantially change, the abatement measures may need to be modified or removed from the project plans. A final decision of the installation of the abatement measure(s) will be made upon completion of the project's final design and the public involvement process.*

Projects classified as Type III should be addressed in NEPA environmental documents or Phase I engineering reports, as appropriate. The following paragraph should be included:

> *The referenced project meets the criteria for a Type III project established in 23 CFR Part 772. Therefore, the proposed project requires no traffic noise analysis or abatement evaluation. Type III projects do not involve added capacity, construction of new through lanes, changes in the horizontal or vertical alignment of the roadway, or exposure of noise sensitive land uses to a new or existing highway noise source.*

26-6.10 Validity of Noise Assessments

After approval of any Record of Decision, Finding of No Significant Impact, or Categorical Exclusion approvals, and before the Districts request any subsequent approvals (e.g., approval to acquire right-of-way, final design and construction funding) from FHWA, the Districts should consult with FHWA and BDE to determine if the NEPA decision, documentation, and approvals remain valid or if any additional or updated noise analysis is required.

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26-7 FLOODPLAIN ENCROACHMENTS

26-7.01 Introduction

Projects involving Federal and/or State funds will include an evaluation of all encroachments into 100-year floodplains. The results of the evaluation will be documented in the reports prepared for corridor and/or design approval and must be summarized in the projects' environmental documentation. This Section provides guidance regarding information on floodplain encroachments to include in project environmental documents.

26-7.02 Complementary Technical Manual

The *IDOT Drainage Manual* discusses hydraulic analyses for floodplain encroachments.

26-7.03 Legal Authority

The following legal authority regulates or influences the policies and procedures for floodplains:

- Executive Order 11988, "Floodplain Management."
- US Water Resources Council's Floodplain Management Guidelines for Implementing Executive Order 11988.
- US Department of Transportation Order 5650.2, "Floodplain Management and Protection Floodplain."
- Federal Highway Administration regulations on "Location and Hydraulic Design of Encroachments on Floodplains" (23 CFR 650, Subpart A).
- 92 Ill. Admin. Code 708, implementing Sections 23, 29, and 30 of the *Rivers, Lakes, and Streams Act,* 615 ILCS 5/23, 29a, and 30.
- 44 CFR 206.430 et seq. "Hazard Mitigation Grant Program."
- Illinois Executive Order 2006-05, "Construction Activities in Special Flood Hazard Areas."

26-7.04 Policy

In the development of Federal and/or State-funded projects, special efforts shall be made to:

- encourage a broad and unified effort to prevent uneconomic, hazardous, or incompatible use and development of floodplains;
- avoid longitudinal encroachments, where practical;

- avoid significant encroachments, where practical;
- minimize impacts of actions that adversely affect base floodplains;
- restore and preserve the natural and beneficial floodplain values that are adversely impacted by IDOT actions;
- avoid support of incompatible floodplain development; and
- be consistent with the intent of the Standards and Criteria of the National Flood Insurance Program, where appropriate.

26-7.05 Procedures

26-7.05(a) Definitions

The following definitions are included to provide *BDE Manual* users a broad understanding of terminology associated with analysis and documentation of project-related floodplain encroachments. A number of these terms are not specifically used in the text of this Section, but may arise in coordination efforts with the Federal Emergency Management Agency (FEMA), Illinois Department of Natural Resources, Office of Water Resources (IDNR-OWR), and public concerning floodplain encroachments.

1. Action. Any highway project construction, reconstruction, rehabilitation, repair, or improvement.
2. Base Flood. The flood or tide having a 1-percent chance of being exceeded in any given year (i.e., the 100-year flood).
3. Base Flood Elevation (BFE). The water surface elevation of the base flood.
4. Base Floodplain. The area subject to flooding by the base flood (100-year flood).
5. Design Flood. The peak discharge (volume, if appropriate) stage or wave crest elevation of the flood associated with the probability of exceedance selected for the design of a highway encroachment. By definition, the highway will not be inundated from the stage of the design flood.
6. Encroachment. An action within the limits of the base floodplain.
7. Flood Fringe. That portion of the floodplain outside of the floodway (often referred to as “floodway fringe”).
8. Floodplain. The lowland and relatively flat areas adjoining waters, including, at a minimum, that area subject to a 1% or greater chance of flooding in any given year.
9. Freeboard. The vertical clearance of the lowest structural member of a bridge superstructure above the water surface elevation of the overtopping flood. It is a factor

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of safety usually expressed in ft (m) above a flood level for purposes of floodplain management. Freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a flood frequency and floodway conditions (e.g., wave action, floating debris under bridge openings).

10. Longitudinal Encroachment. An encroachment on the floodplain that is parallel to the direction of flow.

11. Minimize. To reduce to the smallest practicable amount or degree.

12. Natural and Beneficial Floodplain Values. These include but are not limited to fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge.

13. Practicable. Capable of being done within reasonable natural, social, or economic constraints.

14. Preserve. To avoid modification to the functions of the natural floodplain environment or to maintain it as closely as practicable in its natural state.

15. Regulatory Floodway. The floodplain area that is reserved in an open manner by Federal, State, or local requirements (i.e., unconfined or unobstructed either horizontally or vertically) to provide for the discharge of the base flood so that the cumulative increase in water surface elevation is no more than a designated amount (not to exceed 1 ft (300 mm)) as established by FEMA for Administering the National Flood Insurance Program (NFIP).

16. Restore. To reestablish a setting or environment in which the functions of the natural and beneficial floodplain values adversely impacted by the highway agency action can again operate.

17. Risk. The consequences associated with the probability of flooding attributable to an encroachment. It shall include the potential for property loss and hazard to life during the service life of the highway.

18. Significant Encroachment. A highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction- or flood-related impacts:

- a significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route,
- a significant risk, or
- a significant adverse impact on natural and beneficial floodplain values.

19. Special Flood Hazard Areas (SFHAs). The areas delineated on a NFIP map as being subject to inundation by the base (100-year) flood.

20. Support Base Floodplain Development. To encourage, allow, serve, or otherwise facilitate additional base floodplain development. Direct support results from an encroachment; indirect support results from an action out of the base floodplain.

21. Transverse Encroachment. An encroachment on the floodplain that is perpendicular to the direction of flow.

26-7.05(b) Applicability

These procedures shall apply to all Federal and/or State-funded projects initiated by the Department, that will entail encroachment or which otherwise will affect base floodplains, except for repairs made with emergency funds during or immediately following a disaster. The assessment of floodplain encroachments should be incorporated into the development and analysis of corridor and design alternatives so that floodplain impacts will not be considered in isolation from other social, economic, environmental, and engineering considerations.

26-7.05(c) Floodplain Studies

For studies for evaluating proposed highway location alternatives, use the following steps for evaluating and documenting floodplain impacts:

1. Determine whether the proposed action will encroach upon the base (100-year) floodplain. Identify the geographic area of the floodplain. NFIP maps must be used if available. If NFIP maps are not available, information developed by IDOT and/or local, State, and Federal water resources and floodplain management agencies should be used for determining an encroachment.

   There are several types of NFIP maps available. The Flood Insurance Rate Map (FIRM) is the most common map and most communities have this type of map. The FIRM depicts flood hazard zones and their boundaries, and may show floodways and BFEs. Use the FIRM, if available, to identify the floodplain boundaries.

   Several other NFIP maps are in circulation. The Flood Boundary and Floodway Map (FBFM) shows only the floodway and flood boundaries. The FBFM is no longer produced and is in the process of being phased out. The Flood Hazard Boundary Map (FHBM) is an older version of a flood map and is based on approximate data. Digital FIRMs (DFIRM) are being produced for Illinois. Maps are available on the Illinois Floodplain Maps website maintained by the Map Modernization Project in the Illinois State Water Survey. Use these maps if they are available for the county or counties where the project is located.

2. Determine if the project has transverse or longitudinal encroachments or both.

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3. Address the following items for transverse encroachments:

   - Is there a significant potential for interruption of the roadway that is needed for emergency vehicles or provides a community's only evacuation route?
   - Are there significant impacts on natural and beneficial floodplain values?
   - Is there a significant increase in the risk of flooding?
   - Will the project support and/or result in incompatible floodplain development?

4. Address the following items for longitudinal encroachments:

   - Can the longitudinal encroachment be avoided? If the answer is yes, revise the project to avoid the longitudinal encroachment.
   - If the longitudinal encroachment cannot be practicably avoided; document the reasons why.

5. Determine if the project involves any significant encroachments. If an encroachment is significant, an "Only Practicable Alternative Finding" is required. A proposed action that includes a significant encroachment will not be approved unless FHWA finds that the proposed significant encroachment is the only practicable alternative.

6. Document the following in the location study report, in accordance with 23 CFR 650.111(e):

   - The determination of whether or not the project alternatives involve floodplain encroachments.
   - Evaluation and discussion of the practicability of alternatives to any longitudinal encroachments.
   - Discussion of the following items, commensurate with the significance of the risk or environmental impact, for all alternatives containing encroachments and for those actions that would support base floodplain development:

     + the risks (e.g., flooding risk) associated with implementation of the action;
     + the impacts on natural and beneficial floodplain values;
     + the support of probable incompatible floodplain development;
     + the measures to minimize floodplain impacts associated with the action; and
     + the measures to restore and preserve the natural and beneficial floodplain values impacted by the action.

- Evaluation and discussion of the practicability of alternatives to any significant encroachments or any support of incompatible floodplain development.

Summarize the results of the floodplain studies in the project's Environmental Impact Statement (EIS) or Environmental Assessment (EA).

Section 26-7.05(d) provides guidance on the appropriate documentation to be incorporated in project environmental documents.

26-7.05(d) Environmental Documentation for Floodplain Encroachments

The environmental document should briefly summarize the results of the location hydraulic studies. The summary should identify the number of encroachments and any support of incompatible floodplain developments and their potential impacts. Where an encroachment or support of incompatible floodplain development results in substantial impacts, the environmental document should provide more detailed information on the location, impacts, and appropriate mitigation measures. In addition, if any alternative (1) results in a floodplain encroachment or supports incompatible floodplain development having significant impacts, or (2) requires a commitment to a particular structure size or type, the environmental document needs to include an evaluation and discussion of practicable alternatives to the structure or to the significant encroachment. The environmental document should include exhibits that display the alternatives, the base floodplains, and, where applicable, the regulatory floodways.

If the preferred alternative includes a significant floodplain encroachment, the final environmental document (final EIS or FONSI) must include a finding that it is the only practicable alternative, as required by 23 CFR 650.113. The finding should refer to Executive Order 11988 and 23 CFR 650, Subpart A. Include it in a separate subsection entitled "Only Practicable Alternative Finding" and must be supported by the following information:

- the reasons why the proposed action must be located in the floodplain,
- the alternatives considered and why they were not practicable, and
- a statement indicating whether the action conforms to applicable State or local floodplain protection standards.

For each alternative encroaching on a designated or proposed regulatory floodway, the environmental document should provide a preliminary indication of whether the encroachment would be consistent with or require a revision to the regulatory floodway. Engineering and environmental analyses should be undertaken, commensurate with level of encroachment, to permit the consistency evaluation and identify impacts. Coordination with FEMA and appropriate State and local government agencies should be undertaken for each floodway encroachment. If the preferred alternative encroaches on a regulatory floodway, the final environmental document should discuss the consistency of the action with the regulatory floodway. If a floodway revision is necessary, the environmental document should include

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evidence from FEMA and local or State agency indicating that such revision would be acceptable.

26-7.05(e) FEMA Buyout Properties Floodplain

The Federal government, through FEMA, administers the Hazard Mitigation Grant Program (HMGP) under 42 USC 5170c "Hazard mitigation," to purchase flood prone properties, rather than repeatedly providing disaster relief after each flooding episode. The Illinois Emergency Management Agency (IEMA) administers the HMGP and makes grants available to State and local governments, and eligible private, non-profit organizations to implement cost-effective and long-term mitigation measures following major disaster declarations.

There are over 3,000 flood buyout parcels throughout the State that are located in flood prone areas. These parcels are owned by the local community or a private, non-profit organization. Deed restrictions are in place so that no structures or improvements, including placement of fill material or bridge piers, may be placed or erected on these properties. These sites are restricted to open space, recreation, or wetlands in perpetuity and must be avoided. Contact the BDE or the IEMA Hazard Mitigation Specialist for the location of buyout properties.

26-7.05(f) Mitigation

In general, flood damages outside the project right-of-way are not to be increased due to increased flood heights. Absent contrary evidence, this requirement is considered met for urban bridge crossings if, for all events up to and including the 100-year event, the water surface profile increase would not exceed 0.5 ft (150 mm) at the structure, nor 0.1 ft (30 mm) at a point 1,000 ft (300 m) upstream of the structure or would be constrained within flood easements. For rural bridge crossings, the limits are 1.0 ft (300 mm) at the structure and 0.5 ft (150 mm) 1,000 ft (300 m) upstream of the structure. For other types of development (e.g., longitudinal encroachments), absent contrary evidence, this requirement is considered met if, considering cumulative effects, the water surface profile increase would not exceed 0.1 ft (30 mm) (urban); 0.5 ft (150 mm) (rural) or would be contained within flood easements.

If there are existing buildings or other uses in the 100-year floodplain that would be damaged by higher flood stages than would occur under existing conditions, this would constitute "contrary evidence" and the normally allowed water surface increases are not applicable unless all impacted property owners are compensated for the additional flood damages attributed to the project. If compensation is provided (by the purchase of the properties or flood easements), the project may be designed so that the maximum overall water surface profile increase, considering both the project alone and the combined effects of equal floodplain encroachments on other properties, would be limited to 0.5 ft (150 mm) (urban)/1.0 ft (300 mm) (rural) at the bridge and 0.1 ft (30 mm) (urban) / 0.5 ft (150 mm) (rural) 1,000 ft (300 m) upstream of the bridge and throughout the remaining impacted reach.

Also, compensatory flood storage volume would need to be provided to compensate for any floodway storage losses resulting from the project. To minimize flood easement and flood storage compensation costs, consider the following:

- purchase of adjoining flood fringe properties to compensate for lost floodway conveyance and storage. A non-construction covenant would have to be put on the property to ensure preservation of the conveyance and storage provided; and
- removal of existing floodway encroachments or construction of conveyance/storage areas to compensate for the restrictions created by the project.

26-7.05(g) Public Involvement

Executive Order 11988 provides that when the only practicable alternative cannot avoid encroachment into the floodplain, the public must be given the opportunity for early review and comment. A reference to encroachments on the 100-year floodplain must be included in public involvement notices and any encroachments must be identified at public meetings.

26-7.05(h) Coordination

IDOT will coordinate with the entity having land use jurisdiction, whether it is a city, county, or the State. The local community has the responsibility for enforcing NFIP regulations in that community if the community is participating in the NFIP. Most NFIP communities have established a permit requirement for all development within the base (100-year) floodplain. Consistency with NFIP standards is a requirement for Federal-aid highway actions involving regulatory floodways. The community, by necessity, is the entity that must submit proposals to FEMA for amendments to NFIP ordinances and maps in that community if it becomes necessary.

IDOT coordination with FEMA should occur in situations where administrative determinations are needed involving a regulated floodway or where flood risks in NFIP communities are significantly impacted. The circumstances that would ordinarily require coordination with FEMA include:

- a proposed crossing encroaches on a regulatory floodway and, consequently, would require an amendment to the floodway map;
- a proposed crossing encroaches on a floodplain where a detailed study has been performed, but no floodway designated and the maximum 1-ft (300 mm) increase in the base flood elevation would be exceeded; and
- a local community is expected to enter into a regulatory program within a reasonable period and detailed floodplain studies are under way.

The IDNR-OWR is authorized to administer a permit program regulating construction within public bodies of water and within floodways of rivers, lakes, and streams. The program's

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jurisdiction is tied to the size of the drainage area, the project scope of work, and the level of floodplain development at the project site. An IDNR-OWR permit is not required for projects within urban or urbanizing watersheds under 1 square mile (2.6 km^2) or for rural locations draining less than 10 square miles (26 km^2).

The Bureau of Bridges and Structures (BBS) is responsible for obtaining all IDNR-OWR permits on projects that require approval of the Hydraulic Report by the BBS.

Special permits are required for actions involving construction within the regulatory (100-year) floodways, as designated by the OWR, in Cook, DuPage, Kane, Lake, McHenry, and Will counties, except for those areas that are within the City of Chicago. IDOT will issue the necessary permits for Department actions (State and local) that meet State regulatory requirements for appropriate uses and allowable flood stage increases.

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26-8 WETLANDS

26-8.01 Introduction

Federal Executive Order 11990 applies special requirements for addressing the impacts of Federal projects on wetlands. Wetlands also are subject to regulation under the Federal *Clean Water Act* as a part of the Section 404 permit process and the Section 401 Water Quality Certification requirements. In addition, the Illinois *Interagency Wetland Policy Act of 1989* and the implementing rules for the *Act* address State policy for wetlands, which is reflected in the IDOT "Wetlands Action Plan" for compliance with the *Act* and rules. This Section provides guidance and procedures for complying with applicable requirements when proposed State highway projects would impact wetlands.

26-8.02 Complementary Technical Manual

The IDOT *Water Quality Manual* provides additional information to assist in fulfilling the requirements discussed in this Section.

26-8.03 Legal Authority

The following legal authority regulates or influences the policies and procedures for wetlands:

- Executive Order 11990, "Protection of Wetlands."
- US Department of Transportation Order 5660.1A, "Preservation of the Nation's Wetlands."
- 33 USC 1341, "Certification" (*Clean Water Act* Section 401).
- 33 USC 1344, "Permits for Dredged or Fill Material" (*Clean Water Act* Section 404).
- 33 CFR 320 through 331, Regulatory Program of the Corps of Engineers (Corps).
- 33 CFR 332, "Compensatory Mitigation for Losses of Aquatic Resources."
- 40 CFR 230, "Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material."
- 23 CFR 777, "Mitigation of Impacts to Wetlands and Natural Habitat."
- 20 ILCS 830, Illinois *Interagency Wetland Policy Act of 1989*.
- 17 Ill. Adm. Code 1090, "Implementation Procedures for the *Interagency Wetland Policy Act of 1989*."
- Illinois Department of Transportation Wetlands Action Plan.

26-8.04 Policy

In the development of proposed State highway projects, avoid impacts to wetlands unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to the wetlands. Further, in accordance with the *Interagency Wetland Policy Act of 1989*, the Department shall preserve, enhance, and create wetlands where necessary in order to increase the quality and quantity of the State's wetland resource base.

26-8.05 Procedures

26-8.05(a) Definitions

1. Adverse Wetland Impact. Any land management and construction or related project activity that directly or indirectly reduces the size of a wetland or impairs a wetland's functional value or the hydraulic and hydrologic characteristics of a wetland. Throughout this Section, the term "wetland impact" refers to an adverse impact.

2. Coefficient of Conservatism (C). An integer from 0 to 10 assigned to each plant species in the Illinois flora that is used to calculate the Floristic Quality Index. Each value reflects an estimate of a plant species' tendency to be restricted to "natural areas." Native species most successful in badly damaged habitats are given C values of 0. Species virtually restricted to natural areas receive values of 10. Non-native species or those not identified to the species level are not treated in the calculations of FQI. The C is identified on the Illinois Natural History Survey (INHS) wetland delineations provided through the Environmental Survey Process.

3. Floristic Quality Index (FQI). An index derived from floristic inventory data that is considered in determining mitigation ratios for wetland compensation, in accordance with the provisions of 17 Ill. Adm. Code 1090. The FQI is calculated and identified on the INHS wetland delineations. In general, an index score below 10 suggests a site of low natural quality; below 5, a highly disturbed site. An FQI value of 20 or more suggests that a site has evidence of native character and may be considered an environmental asset.

4. Hydrologic Unit. An 8-digit number (Cataloging Unit) depicted on the Hydrologic Unit Map-1974 State of Illinois. Each of the 52 Unit Codes represents a specific watershed (drainage basin).

5. Mitigation Bank. A site where wetlands and/or natural habitats are restored, created, enhanced, or preserved, expressly for the purpose of providing compensatory mitigation in advance of authorized impacts to similar type resources.

6. National Wetlands Inventory. A mapping program administered by the US Fish and Wildlife Service (USFWS) for identifying the locations of wetlands and deepwater habitats. Quadrangle-based maps are available for Illinois that include Riverine (streams), Lacustrine (lakes), and Palustrine (wetland) systems.

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7. Off-Site. Where a wetland compensation site is located within the same Hydrologic Unit boundary but more than one mile (1.6 km) from the project for which wetland compensation is required.

8. On-Site. When a wetland compensation site is located within the same Hydrologic Unit boundary and is within one mile (1.6 km) of the project for which wetland compensation is required.

9. Out-of-Basin. When a wetland compensation area is located outside the Hydrologic Unit boundary that includes the site of the proposed project for which wetland compensation is required.

10. Percent Adventive. The determination of the percentage of non-native species at a wetland site determined by dividing the number of non-native plant species by the total number of plant species in a wetland. The percentage is calculated from the Species List information included with INHS wetland delineations. A high percentage of adventive (invasive) plants indicates a high level of disturbance.

11. Practicable. Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purposes.

12. Wetlands. Those areas that are inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. For purposes of the *Interagency Wetland Policy Act of 1989*, the term includes areas that are restored or created as the result of mitigation or planned construction projects and that function as a wetland even when all three wetland parameters (i.e., hydric soils, inundation or saturation by surface or groundwater, and prevalence of hydrophytic vegetation) are not present.

13. Wetland Classification. A system for designating wetlands and deepwater habitats as to type, based on vegetation and other pertinent characteristics. The Cowardin classification of wetlands and deepwater habitats is used on the National Wetland Inventory maps. Sites depicted as palustrine on these maps may be jurisdictional wetlands. On-site wetland determinations are required to confirm the jurisdictional status of the site. Classes of palustrine wetlands include emergent, scrub-shrub, and forested.

14. Wetland Compensation Plan. A plan developed for each individual construction project affecting wetlands that details how compensation will be provided for unavoidable adverse wetland impacts.

15. Wetland Functions. Benefits that wetlands provide because of their physical, chemical, and biological properties and processes. Examples of these functions include surface and subsurface water storage, nutrient cycling, particulate removal, maintenance of plant and animal communities, and groundwater discharge and recharge.

16. Wetland Impact Evaluation (WIE) Form. An IDOT form that identifies the amount and type of wetland impact, the measures considered to avoid and minimize the impacts, the applicable mitigation ratio, and the amount of compensation required for each wetland impacted by a project.

17. Wetland Technical Report. A report in the form of a brief Environmental Assessment (EA) used to determine the significance of wetland impacts. The significance determination is based on the analysis of wetland impacts in the Report and the results of coordination of the Report with the Corps, USFWS, US Environmental Protection Agency, FHWA, and IDNR.

26-8.05(b) Applicability

The procedures in this Section apply to all highway projects initiated by the Department that:

- involve acquisition of additional right-of-way or easements (temporary or permanent);
- require a drainage structure runaround or any in-stream work;[1]
- potentially affect a recognized natural area/nature preserve or a location where a State-listed or Federal-listed species is known to occur; or
- potentially affect a wetland within existing right-of-way, as identified through National Wetland Inventory (NWI) maps or other wetlands information source that the district possesses.

26-8.05(c) Analysis and Documentation

The following procedures address identification and description of wetlands (e.g., plant communities), avoidance and minimization of wetland impacts, identification and description of unavoidable wetland impacts, mitigation of unavoidable wetland impacts, and public involvement and agency coordination for wetland involvement.

26-8.05(c)1 *Wetland Identification*

The identification and characterization of wetland resources is accomplished through the Environmental Survey Process (Chapter 27). In response to the submittal of an Environmental

[1] *Note: For contractor-furnished borrow, waste, and use areas and for contractor-proposed drainage structure runarounds affecting areas beyond the limits of Phase I environmental surveys conducted for the project, BDE performs initial screening for wetlands as described below. For any wetlands potentially affected by these contractor-furnished facilities, the contractor is responsible for obtaining delineations of the wetlands in accordance with the current Federal Wetlands Delineation Manual. The contractor also is responsible for complying with applicable permitting and compensation requirements for any unavoidable adverse wetland impacts resulting from these contractor-furnished facilities. The procedures in this Section are not intended to cover compliance actions for contractor-furnished facilities.*

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Survey Request (ESR), BDE uses available information (e.g., National Wetland Inventory maps, aerial photos, soils maps) to determine whether wetlands are, or may be, present in the area potentially affected by the project. If the information clearly indicates that no wetlands are present in or near the project vicinity, BDE provides the district a sign-off indicating that further action under the wetland requirements will not be necessary, unless the scope or location of the project changes and it would potentially affect locations beyond the area previously reviewed for wetlands. For projects processed as a Categorical Exclusion (CE), include the BDE sign-off in the Phase I engineering report. For projects processed with an Environmental Assessment (EA) or Environmental Impact Statement (EIS), include a statement in the environmental document indicating that the project area was reviewed for wetlands and none were identified. Retain the BDE sign-off in the project file.

If the review indicates there are, or may be, wetlands in or near the project vicinity, BDE submits the project to the INHS for wetland delineation. The turnaround time for providing wetland delineations is six months to one year from the date the ESR is received. If the INHS delineations indicate that the sites are not wetlands, BDE provides the survey results to the district with a sign-off as described above. For CE projects, include the BDE sign-off and the INHS delineations in the Phase I engineering report. During Phase II, if the project requires a Section 404 permit from the Corps for other reasons (e.g., streams, impoundments), include the INHS delineations as a part of the permit submittal to document the absence of wetlands. For EA or EIS projects, include a statement in the environmental document indicating that the project area was reviewed and surveyed for wetland resources and none were identified. If the surveyed locations involve wooded areas, identify and describe these areas in the upland plant community section of the environmental document or, if in a riparian corridor, in the surface water resources/aquatic habitat section of the document.

If the INHS survey results identify wetlands within the project vicinity, BDE provides the district the wetland delineations and a wetland survey report. BDE includes a request that a Wetland Impact Evaluation (WIE) Form be filled out and submitted to BDE once the extent of any unavoidable wetland impacts is determined. For CE projects, include in the Phase I engineering report a copy of the wetland delineations, the wetland survey report, the completed WIE Form, and the BDE reply to the WIE Form, if needed. For EA or EIS projects, include in the environmental document descriptions of each delineated wetland within the project vicinity. Place the descriptions in a table with the following headings:

- Wetland Site Number,
- Wetland Type (plant community/cover type),
- Wetland Size (acres (ha)),
- NWI Code (if any),
- Dominant Plant Species,
- Soil Type,
- FQI,
- Percent Adventive, and
- Wetland Functions.

This information can be obtained from the wetland delineations and the INHS wetland survey report.

26-8.05(c)2 *Evaluation of Wetland Importance*

Although wetlands in general are subject to protection under Federal and State directives, wetlands with a higher level of importance warrant proportionately greater efforts for avoidance of adverse impacts. In evaluating the importance of wetlands, consider factors such as uniqueness, natural quality, special designations, and habitat functions.

Unique wetland types include bog, fen, flatwoods, sedge meadow, wet prairie, seep, and forested wetland containing oak, hickory, birch, beech, black gum, eastern arborvitae, bald cypress, or black ash. These types of wetland plant communities are not common because of the unique geological and topographic conditions necessary to support their existence. Accordingly, the potential for creating or restoring wetlands of these types is extremely limited or non-existent. These types of wetlands deserve the utmost consideration for avoidance of adverse impacts.

Natural quality is a measure of the extent to which a wetland has avoided disturbance (e.g., of its wetland plant communities). A relative lack of disturbance is considered to confer high quality or Illinois Natural Area status to an area. Wetlands with unpolluted water, unaltered to slightly altered water level, and intact vegetation structure with a diversity of native plant species are considered to be of high natural quality.

Wetlands with special designations include those designated as Advanced Identification (ADID) sites and Illinois Natural Areas. These designations are made by US Environmental Protection Agency (USEPA), the Corps for ADID sites, and IDNR for Illinois Natural Areas. The designations are applied based on the high quality of the resource.

Where wetlands provide habitat for Federal and/or State listed threatened and endangered species and/or contain designated critical/essential habitat for listed species, these wetlands have a high level of importance based on their habitat functions.

26-8.05(c)3 *Analysis of Impact Avoidance and Minimization Alternatives*

Where a project may affect wetlands, the district must consider location and design alternatives to avoid and minimize adverse wetland impacts to the extent practical. This includes consideration of the “no action” alternative, alternative alignments, and other design aspects (e.g., steepening slopes, reducing median and lane widths, overland bridges) to minimize encroachment into wetlands.

In the environmental documentation for the project, include information on any measures taken to avoid and minimize adverse wetland impacts (e.g., discussion and comparison of alternatives that avoid and minimize impacts to wetland resources). Show location alternatives on maps or other drawings that depict the wetland areas. If avoidance alternatives are not practicable,

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include in the environmental documentation an explanation of the reasons why (e.g., cost, impacts on highway performance, socio-economic, other environmental impacts).

26-8.05(c)4 *Wetland Impact Evaluation Form*

For all projects that are surveyed for wetlands and determined to have wetlands within the project vicinity, complete a WIE Form and submit it to BDE. Submit the WIE Form after completing the analysis of avoidance and minimization alternatives and determining the likely extent of unavoidable wetland impacts. The information in the WIE Form indicates whether or not the project involves unavoidable adverse wetland impacts and provides the basis for determining whether it qualifies as a Programmatic Review Action or Standard Review Action, in accordance with the IDOT Wetlands Action Plan (see Part III, Appendix A).

If the project will not impact wetlands, indicate that determination on the WIE Form and send the completed form to BDE. BDE will respond, indicating that coordination under the wetland requirements is complete. For CE projects, include a copy of the completed WIE Form in the Phase I engineering report. For EA or EIS projects, include a statement in the environmental document indicating that the project will not impact wetland resources.

If the project has wetland impacts, fill out the WIE Form and submit it to BDE for review. For Programmatic Review Actions, BDE responds to the WIE submittal to confirm the processing category and confers with the district on options for providing the necessary compensation for unavoidable adverse wetland impacts. For Standard Review Actions, BDE coordinates the WIE Form, delineations, and wetlands survey report with IDNR, as required by the IDOT Wetlands Action Plan and 17 Ill. Adm. Code 1090.50(a)(1). Upon completion of IDNR's review, BDE provides the district a copy of IDNR's response and confers with the district on options for providing the necessary compensation for unavoidable adverse wetland impacts. For CE projects, include in the Phase I engineering report the completed WIE and results of coordination with BDE and, if applicable, with IDNR, for Standard Review Actions. For EA or EIS projects, include the following information in the environmental document for each alternative that would affect wetlands:

- a brief description of the work within wetlands;
- wetland impacts, summarized in a table containing the wetland site number, its aerial exhibit sheet number, wetland type, total size of the wetland (acres(ha)), area of impact (acres(ha)), FQI, percent Adventive, and function(s) impacted;
- as applicable, identification and description of impacts to wetlands identified as important; and
- description of impacts on wetland functions (e.g., wildlife habitat, flood storage, groundwater discharge).

For Standard Review Actions, also include the results of coordination with IDNR in the environmental document.

26-8.05(c)5 *Compensation Plan Development*

After the processing category and amount of anticipated unavoidable adverse wetland impacts have been established for a project, the compensation process can begin. Compensation for unavoidable adverse wetland impacts will be in accordance with the "Policy on Wetlands Impacts and Compensation" in Section V of the IDOT Wetlands Action Plan (recognizing that the size of wetland impacts eligible for accumulation is now 0.1 acre (400 m^2), rather than 0.3 acre (1200 m^2) as indicated in the Wetlands Action Plan). For projects requiring compensation under a Section 404 permit, the Corps may, at its discretion, require different ratios on a case-by-case basis. The project will need to comply with the more stringent of the State or Federal compensation requirements.

If the district and BDE decide to accumulate impacts smaller than 0.1 acre (400 m^2), BDE documents the decision and records the impact amount for tracking against the maximum thresholds for total amounts that can be accumulated as set forth in Section V of the IDOT Wetlands Action Plan. For Standard Review Actions, BDE informs the IDNR of the decision to accumulate the impacts when the project is coordinated for IDNR review. This decision also should be reflected in the environmental documentation for the project.

If compensation for impacts smaller than 0.1 acre (400 m^2) will be provided on-site or from an existing source of wetlands credits, preparation and processing of a compensation plan will be necessary, as described below.

The Department's preferred method of wetland compensation involves the use of pre-existing wetland credits from a commercial or Department-owned wetland mitigation bank site. This preference may be met when the project is within the service area of a bank site. Information on Department-owned wetland mitigation bank sites and service areas may be accessed at the Department's Environment webpage. For projects that are not within the service area of a mitigation bank, compensation will be provided through wetlands restoration, enhancement, and/or creation, as described below.

26-8.05(c)6 *Compensation through Use of Pre-Existing Wetland Credits*

Credits generated at approved commercial and Department bank sites may be used to satisfy compensation requirements for Section 404 of the *Clean Water Act* and the *Interagency Wetland Policy Act of 1989*.

If compensation will be provided from a wetland bank or other approved source of wetlands credits, a compensation plan is prepared in accordance with Section VII A. of the IDOT Wetlands Action Plan. BDE coordinates the plan in accordance with Section VI of the IDOT Wetlands Action Plan. Summarize the information from the compensation plan in the environmental documentation for the project and include evidence of IDNR concurrence in the plan for projects classified as Standard Review Actions.

For proposals to draw credits from a Department bank, BDE forwards a copy of the WIE to the District Environmental Coordinator and District Programming Engineer. Debits are considered

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pending until the project is awarded. Current district bank site ledger information can be obtained by contacting BDE.

Districts receive priority consideration for use of credits from their own bank(s) and BDE will only approve credit withdrawals for other districts if the bank has sufficient credits available to meet the foreseeable needs of the district that owns the bank. Each district has the option to object to an incoming WIE, in writing, within 20 working days of receipt of the WIE. The reason for the objection must be included in the written documentation.

BDE serves as the principal point of contact with wetland regulatory agencies for resolving issues regarding the use of bank credits on specific projects and for any required reporting to those agencies associated with the bank sites (e.g., concerning credit balances, credits used).

A district may want to purchase a block or surplus of credits from a commercial or Department-owned bank site. These credits would be purchased in advance of any known impacts and used to compensate for small losses (i.e., less than 0.5 acre (0.2 hectare)) from several projects. When a district purchases a block of credits, the district creates and maintains a ledger for tracking debits from that block. When coordinating with BDE, the district submits a copy of the ledger associated with the block purchase with the WIE.

A district that proposes to draw credits from a commercial bank must commit program funds to cover the purchase of credits. Where credits from a Department-owned bank are used by another district, that district must reimburse the district that owns the bank. The Office of Planning and Programming (OPP) accomplish billing and reimbursement through the re-appropriation of district program funds. Re-appropriations will occur once each year based on information provided by BDE. Each district should submit their cost for bank site development to OPP to ensure the district is adequately compensated during the re-appropriation process. Cost should be the sum of land acquisition, construction, and maintenance for each acre (ha).

26-8.05(c)7 *Compensation through Wetlands Restoration, Enhancement, and/or Preservation*

If compensation will be provided through wetlands restoration, enhancement, and/or preservation, the district takes the lead in locating a suitable compensation site(s), giving appropriate consideration to the effect of the applicable compensation ratios on the amount of compensation needed. The district also should consider wetland resource needs within the watershed and the practicability of accomplishing ecologically self-sustaining on-site wetland restoration, enhancement, and/or preservation (i.e., at the site of the proposed project). In selecting potential sites for wetland restoration, the district should consider the need for using sites that contain a majority of hydric soils.

After the district has identified one or more potential compensation sites, it submits information to BDE to request a more detailed assessment of the suitability of the sites for wetland compensation purposes. The information provided to BDE includes a map (7.5′ topographic map or plat map) that shows the location and boundary of the site(s) and indicates their size and current ownership. In response to this submittal, BDE makes a preliminary site suitability

evaluation, based on soils information. If BDE has concerns about the suitability of the site based on this preliminary evaluation, it confers with the district before proceeding with any further studies or evaluations of the site. If BDE does not identify any immediate site suitability concerns, or if its concerns are resolved, it forwards the information to the INHS and the Illinois State Geological Survey (ISGS), as appropriate. INHS and ISGS will conduct further investigations of the hydrology, soils, vegetation, and adjacent land use for the proposed site. As necessary, BDE contacts the district to confirm that landowner permission has been obtained or that written notification has been provided to the landowner prior to having the INHS/ISGS initiate the on-site investigations. BDE forwards the results of the site assessments to the district with recommendations on the suitability of the site for wetland restoration or creation.

For sites the district wishes to continue to pursue, it submits an ESR to BDE to initiate evaluations of the site for cultural resources, and endangered and threatened species, or Illinois Natural Area Inventory sites. The district also screens the site for special waste in accordance with the procedures in Section 27-3.02. For sites on agricultural land, the district coordinates with the Natural Resources Conservation Service (NRCS) of the US Department of Agriculture to obtain certification on the status of wetlands on the site (e.g., prior-converted wetlands, farmed wetlands).

After completion of site evaluations and any necessary coordination for cultural resources, endangered species/natural areas, or special wastes, the district and BDE confer regarding the suitability of the site for use prior to preparing the conceptual compensation plan or initiating property negotiations with the landowner.

1. Conceptual Compensation Plan. After conferring with BDE and deciding to proceed with proposing use of a particular site for compensation, the district prepares a conceptual compensation plan in accordance with the outline in Section VII B. of the IDOT Wetlands Action Plan and the following:

   - In the description of the proposed wetland compensation site(s), include an indication of its current vegetation characteristics.

   - Include in the conceptual compensation plan a description of the monitoring plan that will be used to evaluate the success of the compensation, including the use of measures to correct identified deficiencies or problems. Monitoring of restored or created wetlands should commence the growing season after completion of the work for the restoration/creation. Compensation projects larger than one acre (0.4 ha) are monitored for five years. Compensation projects of one acre (0.4 ha) or less are monitored for three years. All monitoring is conducted by the INHS, through BDE. BDE accomplishes any required coordination of monitoring reports with IDNR and the Corps.

   - Include in the conceptual compensation plan a description of the operation, management, and maintenance plan for the site. Include procedures to restrict further adverse impacts to the site (e.g., use of buffer areas, restricting highway project, other incompatible construction within the wetland compensation area).

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The district submits one copy of the conceptual plan to BDE for review. As a part of the initial review, BDE may confer with the Corps or the USFWS, or both, on a case-by-case basis to obtain a preliminary reaction to the conceptual plan prior to proceeding with further reviews. Any concerns or comments from these agencies will be relayed to the district. After BDE review of the conceptual compensation plan and resolution of any concerns identified, BDE provides the plan to IDNR for concurrence in accordance with Section VI of the IDOT Wetlands Action Plan.

Summarize the details of the conceptual compensation plan as concurred in by IDNR in the environmental documentation for the project. On EIS projects, include a summary of the conceptual compensation plan information in the draft and final statement. If an EA is prepared, ensure that the summary conceptual compensation plan information is in the document when it is available for public and agency review. If the project qualifies as a CE, include a summary of the conceptual compensation plan information in the Phase I engineering report prior to Design Approval. Include a table presenting a summary of the wetland mitigation. In the table, provide the wetland site number, wetland type, impact area (acres (h)), ratio category (e.g., on-site, off-site, FQI, T&E species, natural area, essential habitat), ratio (State mitigation ratio), and compensation required (acres (ha)).

2. Compensation Design Plan. After the conceptual compensation plan has received the necessary concurrence from IDNR, include appropriate information and details for the approved compensation plan in the project design plans. Continue to analyze and incorporate, as practical, ways to avoid and minimize adverse wetland impacts as plan preparation progresses. As a part of the design-phase compensation plan work, proceed with development of any necessary agreement with the entity or entities that will assume responsibility for long-term management of the compensation wetlands. Submit the agreement to BDE as far in advance of the target letting date for the project as practical. As appropriate, include in the design documents the following details for compensation to be provided through wetland restoration, enhancement, and/or creation:

   a. Earthwork. Provide a grading plan with contours of final grading elevations, staging and method of grading, and topsoil stockpile site(s), unless at contractor's discretion.

   b. Planting Plan and Specifications. Provide species list, quantities, sizes, form (e.g., container-grown, bare root, cutting, sprig), spacing, grouping, staking requirements, timing of planting, weed control, etc.

   c. Hydrology. Indicate inflow and outflow points and water control structures.

   d. Work Schedule. Reflect the timing of each construction phase for the wetland compensation site in the plans and specifications to ensure the successful establishment of wetland hydrology, plant materials, etc. The wetlands compensation work should commence prior to or concurrent with the highway project construction work that causes the adverse wetlands impacts requiring the

compensation (i.e., compensation for wetland impacts that would occur under the first contract of a project should commence prior to or concurrent with the work under that contract and should not be put off to be addressed under a subsequent contract).

e. Special Measures. Include a description in the special provisions or plan notes for any special measures that will be implemented during construction of the wetland compensation site to avoid or minimize unnecessary construction-stage impacts to existing wetlands (e.g., designation of "no-work" areas, restrictions on utility relocation/accommodation that could affect wetlands, placement of geotextile fabric to prevent permanent compaction of wetland soils), and to correct temporary impacts that may occur (e.g., restoration of preconstruction contours, replanting or reseeding of areas in which wetlands vegetation is disturbed or destroyed). Include notations in the plans to ensure that the wetland compensation site will not be used as a construction staging area, concrete recycling site, temporary stockpile site for spoil soils or topsoil, or other such construction-related uses.

f. Notification to BDE. Include provisions in the plans for notifying BDE to facilitate monitoring and reporting on progress in accordance with the approved conceptual compensation plan. This must include notification when the wetlands compensation site construction work begins and when it is completed. In addition, the plans must provide for contacting the BDE Natural Resources Unit regarding any field changes that would affect the approved wetlands compensation plan so the changes can be coordinated with IDNR, as necessary, prior to implementation.

Describe the information concerning hydrology in the plan notes and show the information on the plan sheets for grading work. Show planting information on plan sheets for the planting work and in appropriate specifications. Show estimates of quantities in the same way as those for highway construction to provide guidance to contractors bidding on the work. District personnel responsible for plan preparation should work closely with district personnel and others involved in the development of the wetlands compensation plan to ensure that the components of the compensation work are completely and accurately reflected in the plans.

Submit plan information for the wetlands compensation work to BDE for review at 50% completion and at 100% completion. The district should address these submittals to the attention of the BDE Natural Resources Unit or should notify the BDE Natural Resources Unit by phone or e-mail when these submittals are being sent. In one of these submittals, include an indication of the scheduled letting date for the contract that will include the compensation site work. If the scheduled letting date subsequently changes, notify the BDE Natural Resources Unit. For project tracking purposes, the district should also notify the BDE Natural Resources Unit when the contract involving the wetland compensation site work is awarded and advise that Unit of the anticipated date that construction work for the compensation site will begin.

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When BDE receives the wetlands compensation plan information for review at 100% completion, it coordinates the plan with IDNR for approval in accordance with Section VI of the IDOT Wetlands Action Plan. Approval may also be required from the Corps. The Corps may want to provide the plan to the USFWS for review and comment prior to making its decision. BDE coordinates the compensation design plan to obtain all necessary approvals.

When the necessary approvals are received from IDNR and, as appropriate, the Corps, BDE provides the district documentation of the approvals. The validity period for IDNR's approval of the compensation plan will be as stipulated in Section VI.B of the IDOT Wetlands Action Plan. If the district does not commence implementation of the compensation plan (i.e., acquire the mitigation site and/or begin the earthwork, planting, or other work necessary for the wetland restoration, enhancement, and/or creation) within three years of IDNR's approval, contact BDE to request a reevaluation of site conditions. BDE will reinitiate evaluations of the site by the INHS and/or ISGS, as necessary, and confer with the district on any changes needed in the compensation plan. BDE will re-coordinate the plan with IDNR, and, as necessary, with the Corps, before implementation of the compensation plan may commence.

For projects involving wetland compensation work, it may be beneficial to provide for a pre-bid conference to afford an opportunity to answer any questions regarding the compensation plan.

26-8.05(c)8 *Compensation Plan Implementation*

Once the compensation plan has received any needed approvals from IDNR and the Corps, the district proceeds with actions necessary to implement the plan. Projects involving adverse wetlands impacts should not proceed to letting until the wetland compensation plan has been approved.

26-8.05(c)9 *Compensation Plan for Use of Preexisting Wetland Credits*

When the approved plan calls for use of credits from an IDOT bank site, the district and BDE coordinate to accomplish the necessary accounting in the bank site ledger for the application of credits on the project. When the approved plan calls for acquiring credits from a commercial bank or other outside source, the district proceeds with the actions necessary to secure the credits for the project. Piecemeal acquisition of compensation credits for a project is discouraged. To the fullest extent practical, provide all of the compensation credits required for a project or acquired concurrently. Provide and secure the credits before the associated adverse wetland impacts occur. Once the credits are secured, provide written confirmation to BDE to verify compliance with the terms of the approved compensation plan. For purchase of credits from commercial banks, include in the written confirmation documentation from the bank owner/manager indicating that the credits have been purchased. BDE coordinates written confirmation with IDNR and the Corps, as necessary.

26-8.05(c)10 *Compensation Plan for Wetlands Restoration, Enhancement, and/or Creation*

When compensation will be provided through wetlands restoration, enhancement, and/or creation, careful oversight will be required to ensure that the compensation plan is implemented as approved, including any long-term monitoring and reporting required. (Implementation of the wetlands compensation site construction work should commence prior to or concurrent with the contract for the highway project construction work that causes the adverse wetlands impacts requiring the compensation.) This oversight responsibility applies throughout construction of the compensation site and beyond, until successful criteria have been met and the compensation site is transferred for long-term management. Address the considerations described below as implementation of the compensation plan proceeds (e.g., through district procedures for tracking and follow-through on commitments, or other suitable means). BDE will have ongoing involvement in the oversight for monitoring activities and in the coordination of the results of those activities with IDNR and the Corps, as appropriate.

1. Land Acquisition Phase.

   a. Acquire parcels necessary for accomplishing the wetlands compensation work in a timely manner to facilitate conducting the wetlands work at the proper time in the project construction schedule.

   b. If the property will be transferred to an entity other than IDNR, include suitable deed restrictions, conservation easements, or other enforceable legal mechanisms in the documents for transfer of compensation wetlands to prevent future activities at the site(s) that would be incompatible or potentially harmful to the wetlands.

2. Construction Phase.

   a. It may be beneficial for the preconstruction conference on the project to include discussion of logistics and other issues relating to the wetland compensation plan to promote understanding of the objectives of the plan and to respond to any questions or concerns. Depending upon the complexity of the compensation plan, consider inviting BDE and district staff involved in the development of the compensation plan, and the planting contractor or other special subconsultants that will be involved in the wetlands work. The following topics may be appropriate for discussion:

      - scheduling in relation to other project construction work;
      - no-work areas (e.g., existing wetlands, other areas to be avoided);
      - topsoil stockpile sites; and
      - utility relocation/accommodation issues.

   b. Notify BDE at key points (e.g., site work begins, when it is completed) in implementation of the wetland compensation plan to facilitate appropriate monitoring and reporting on progress in accordance with the provisions in the

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approved compensation plan. Notify BDE within 30 days of completion, and prior to closing out the contract, to afford time for a final check of the site and to allow for accomplishing any associated corrective measures that may be necessary. In response to this notification, BDE will provide a compensation site post-construction evaluation report to IDNR, as required by the IDOT Wetlands Action Plan and the implementing rules for the *Interagency Wetland Policy Act*.

c. Any proposed field changes that would affect components of the wetland compensation as approved by IDNR and the Corps must be coordinated with the BDE Natural Resources Unit prior to proceeding. As necessary, BDE will confer with IDNR and the Corps regarding the effect of the proposed changes on the approved wetland compensation plan.

3. Operations Phase.

a. When BDE receives notification from the district that activities for construction of the wetland compensation site have been completed, it will task the INHS and ISGS to begin monitoring the site in accordance with the monitoring plan component of the compensation plan approved by IDNR and the Corps. BDE will review the monitoring reports and transmit them to the district, with copies to IDNR and the Corps, as appropriate. The transmittals and monitoring reports will identify any needed management or maintenance measures for the wetland site and will include an assessment of the progress toward attainment of the site performance standards. The district will be responsible for accomplishing any identified management and/or maintenance measures in accordance with the site management component of the approved wetland compensation plan. BDE will be available to provide guidance as needed.

b. Districts must ensure that maintenance personnel are aware of the location and limits of wetland compensation sites that could be affected by maintenance operations. Wetland compensation sites adjacent to highway rights-of-way must be protected from mowing, weed spraying, or other operations activities where those activities would adversely affect the wetlands.

c. When the monitoring reports indicate that site performance standards have been attained, BDE will include a request for final approval of the compensation site in the transmittal of the monitoring information to IDNR and the Corps. The request will offer the option for either agency to request an on-site meeting to inspect the compensation area prior to giving approval. BDE will coordinate with the district on arrangements for on-site meetings, if requested. After IDNR and the Corps have approved the compensation site, monitoring will be terminated and the district may begin the process of transferring the site for long-term management. District and central Land Acquisition Bureaus must ensure that transfer of wetlands compensation sites for long-term management complies with Section XI of the IDOT Wetland Action Plan and the provisions of any agreements executed with the entity that is to receive the site.

26-8.05(d) Public Involvement/Coordination

For projects being processed with an environmental document, a public notice must be given if wetlands would be affected (see Chapter 19). Include documentation of coordination with State and Federal agencies in the Appendix. The addendum for an EA or the FEIS will address any comments received from the public or State and Federal agencies concerning the wetland involvement. The response to comments may include acceptance of recommendations for practicable measures that would decrease wetland impacts.

26-8.05(e) Wetlands Finding

If the preferred alternative is located in wetlands, include in the environmental documentation the finding required by Executive Order 11990 that there are no practicable alternatives to construction in wetlands.

26-8.05(e)1 *Categorical Exclusion*

FHWA has approved a wetland finding on a program-wide basis for transportation improvement projects classified as a categorical exclusion (CE). It satisfies the requirements of Executive Order 11990 and US Department of Transportation Order 5660.1A. No individual wetland finding needs to be prepared for CE projects.

26-8.05(e)2 *Environmental Assessment/Environmental Impact Statement*

For Finding of No Significant Impact (FONSI) or Final Environmental Impact Statement, provide a separate subsection under Wetlands entitled “Only Practicable Alternative Finding.” Include the following support information:

- a reference to Executive Order 11990;
- an explanation why there are no practicable alternatives to the proposed action;
- an explanation why the proposed action includes all practicable measures to minimize harm to wetlands; and
- a concluding statement:

> *Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.*

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26-8.05(f) Development of IDOT Wetland Banks

Districts may propose development of IDOT wetland banks for use in providing compensation credits for offsetting unavoidable adverse wetland impacts resulting from highway projects. The procedures in the following Sections will apply.

If the proposed IDOT wetland bank will be within an area covered by an area-specific Federal or State interagency agreement or directive governing wetland banking activities (e.g., the "Interagency Coordination Agreement on Wetland Mitigation Banking Within the Regulatory Boundaries of Chicago District, Corps of Engineers"), the provisions of that agreement or directive will govern to the extent that its requirements are different from the details in this Section. BDE will be available to provide assistance as necessary for complying with applicable alternative requirements and still should be involved in review of information prepared for evaluation of potential banking sites and information for development of the bank prospectus and banking instrument/charter. In addition, BDE still should be involved in coordinating information regarding development of the prospectus and banking instrument with Mitigation Bank Review Team (MBRT) agencies as discussed in these procedures.

26-8.05(f)1 *Site Identification and Evaluation*

The district takes the lead in identifying proposed sites for IDOT wetland bank development. The Corps district offices and the local offices of the USFWS, NRCS, and IDNR may be able to provide useful information on potential bank sites in their area of jurisdiction. Districts should be aware that some Corps district offices may stipulate minimum sizes for banks that will be used to provide compensation credits under the Section 404 permit requirements. Districts should confer with the Corps district office(s) that have jurisdiction to determine the nature and applicability of any constraints.

After the district has identified a site it wishes to pursue for use as a wetland bank, it submits information to BDE to request a more detailed assessment of the suitability of the site for wetland compensation purposes. The information provided to BDE includes a map (7.5′ topographic map or plat map) that shows the location and boundary of the site and its size and ownership. In response to this submittal, BDE makes a preliminary site suitability evaluation based on soils information. If BDE has concerns about the suitability of the site based on this preliminary evaluation, it confers with the district before proceeding with any further studies or evaluations of the site. If BDE does not identify any immediate site suitability concerns or if concerns are resolved, it forwards the information to the INHS and ISGS, as appropriate. INHS and IGS conduct further investigations of the hydrology, soils, vegetation, and adjacent land use for the proposed site. As necessary, BDE contacts the district to confirm that landowner permission has been obtained or that written notification has been provided prior to having the INHS/ISGS initiate the on-site investigations. BDE forwards the results of the site assessments to the district with recommendations on the suitability of the site for wetland banking purposes.

For sites that the district wishes to continue to pursue, it submits an Environmental Survey Request form to BDE to initiate evaluations of the site for cultural resources, and endangered and threatened species, or Illinois Natural Area Inventory sites. The district also evaluates the

site for special waste in accordance with the procedures in Section 27-3.02. For sites on agricultural land, the district coordinates with the NRCS to obtain certification on the status of wetlands on the site (e.g., prior converted wetlands, farmed wetlands).

26-8.05(f)2 *Mitigation Bank Prospectus*

To initiate the planning and review process with outside agencies for a proposed bank site, the district is responsible for preparing a Mitigation Bank Prospectus. Preparation of the prospectus should not begin until site evaluations and any necessary coordination for cultural resources, endangered species/natural areas, or special wastes have been completed, and the district and BDE have conferred regarding suitability of the site for banking purposes. After the district and BDE confer and decide to proceed with proposing use of a site for wetland banking purposes, BDE contacts the appropriate Corps district(s) and IDNR to obtain their preliminary views on the proposal. BDE provides the district any information or views provided by the Corps and IDNR for consideration in preparing the prospectus. BDE provides assistance, as needed.

The prospectus provides information that IDNR and the Corps will use to evaluate the need for, and technical feasibility of, a proposed mitigation bank. The prospectus should contain the following information:

- the site location, size, and legal description;
- a delineation of any wetlands or other jurisdictional areas that may exist at the proposed bank location;
- the type of real estate interest proposed for the bank site;
- the type of bank proposed (e.g., government agency bank for use in offsetting unavoidable adverse wetland impacts of highway projects);
- the method of credit production (e.g., restoration, creation, enhancement, preservation), the number of credits to be produced by each method, and the rationale for crediting;
- a general site plan showing the location of all existing and proposed wetland and upland habitats, roads, trails, structures, utilities, and any other existing or proposed site improvements;
- a preliminary bank site construction plan and schedule of completion, preliminary planting plan, and preliminary administrative, management, and monitoring plans; and
- an outline of management and maintenance responsibilities.

For bank site proposals within the Chicago Corps District, the prospectus also must include a statement regarding compliance with the “Interagency Coordination Agreement on Wetland Mitigation Banking within the Regulatory Boundaries of Chicago District, Corps of Engineers.”

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The district submits one copy of the prospectus to BDE for review. After BDE review of the prospectus and resolution of any concerns identified, BDE coordinates the prospectus with the Corps and IDNR. After the Corps and IDNR have responded to the prospectus, the district and BDE confer on whether to continue to pursue acquisition and development of the proposed bank site. When it is decided that a site will be acquired and established as a bank, the district proceeds with preparation of a Mitigation Banking Instrument.

26-8.05(f)3 *Mitigation Banking Instrument*

All mitigation banks must have mitigation banking instruments to document concurrence of all the responsible State and Federal agencies in the objectives and administration of the banks. This includes IDOT, IDNR, the Corps, the USEPA, and the USFWS. The banking instrument documents, in detail, the physical and legal characteristics of the bank and how the bank will be established and operated. The district is responsible for preparing the Mitigation Banking Instrument. BDE provides assistance, as needed.

The mitigation banking instrument should address the following items:

- bank goals and objectives;
- ownership of bank lands;
- bank size and classes of wetlands and/or other aquatic resources proposed for inclusion in the bank, including a site plan and specifications;
- description of baseline conditions at the bank site;
- geographic service area;
- wetland classes or other aquatic resource impacts suitable for compensation from the bank;
- methods for determining credits and debits;
- accounting procedures;
- performance standards for determining credit availability and bank success;
- reporting protocols and monitoring plan;
- contingency and remedial actions and responsibilities (if performance standards are not being met);
- compensation ratios; and
- provisions for long-term management and maintenance.

The district submits one copy of the Mitigation Banking Instrument to BDE for review. After BDE review of the Mitigation Banking Instrument and resolution of any concerns identified, BDE coordinates the document with the Corps, IDNR, USEPA, and USFWS. These agencies generally constitute the MBRT for mitigation banking proposals in Illinois. After review by the MBRT and resolution of any concerns identified, BDE coordinates the Mitigation Banking Instrument for final execution. The Secretary of IDOT and a representative of each of the agencies on the MBRT sign the Mitigation Banking Instrument. BDE provides the district a copy of the executed Mitigation Banking Instrument and advises that implementation of the steps to establish the bank may proceed.

26-8.05(f)4 *Mitigation Bank Implementation*

After approval to proceed with implementation of the mitigation bank proposal, the district may initiate property negotiations for acquiring the site and may proceed with arrangements for any site work necessary to establish wetlands credits. Careful oversight is required to ensure that the provisions of the Mitigation Banking Instrument are implemented as approved, including any long-term monitoring and reporting required. As implementation proceeds, the district involves BDE, as necessary, to accomplish monitoring, ensure consistency with the approved bank plan, and evaluate progress toward establishment of mitigation credits. BDE is also involved in reporting to the MBRT on implementation of the mitigation bank, in accordance with the reporting protocols in the Mitigation Banking Instrument.

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26-9 THREATENED AND ENDANGERED SPECIES/NATURAL AREA IMPACT ASSESSMENTS

26-9.01 Introduction

In the development of a project, special studies and coordination are required when the action may affect Federally listed threatened or endangered species. Studies and coordination also are required for actions that may adversely impact State-listed species or an area included on, or published as a candidate for inclusion on, the Illinois Natural Areas Inventory. This Section addresses the reporting and processing requirements for such actions.

26-9.02 Complementary Technical Manual

Currently, there is not a complementary IDOT Technical Manual for this subject area.

26-9.03 Legal Authority

The following legal authority regulates or influences the policies and procedures for Threatened and Endangered Species/Natural Area Impact assessments:

- 16 USC 1536(a)-(d) of the *Federal Endangered Species Act* of 1973 (Public Law 93-205).
- 50 CFR 402, "Procedures for Interagency Cooperation - Endangered Species Act of 1973," as Amended.
- Section 11 of the *Illinois Endangered Species Protection Act* (520 ILCS 10/1, et seq).
- *Illinois Natural Areas Preservation Act* (525 ILCS 30).
- 17 Ill. Adm. Code 1075, "Consultation Procedures for Assessing Impacts of Agency Actions on Endangered and Threatened Species and Natural Areas."
- 17 Ill. Adm. Code 1080, "Incidental Taking of Endangered or Threatened Species."
- Memorandum of Understanding by and between the Illinois Department of Natural Resources and the Illinois Department of Transportation, 2007.

See Appendix C for more information.

26-9.04 Policy

In the development of a project, an assessment shall be made of the likely impacts on species of plants or animals listed at the Federal and/or State level as threatened or endangered and on State-designated Natural Areas. Every effort shall be made to minimize the likelihood of

jeopardizing the continued existence of listed threatened or endangered species, the destruction or adverse modification of a Natural Area, or an area of habitat that has been designated as critical habitat or essential habitat.

26-9.05 Federal Requirements

26-9.05(a) Definitions

26-9.05(a)1 *From 50 CFR 402.04*

1. Action Area. All areas to be affected directly or indirectly by the proposed action and not merely the immediate area involved in the action.

2. Biological Assessment. Information on listed and proposed species and designated and proposed critical habitat that may be present in the action area, and the evaluation of potential effects of the action on such species and habitat.

3. Biological Opinion. The document that states the opinion of the US Fish and Wildlife Service (USFWS) as to whether an action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

4. Conference. A process that involves informal discussions with USFWS regarding the impact of an action on proposed species or proposed critical habitat and recommendations to minimize or avoid the adverse effects.

5. Conservation Recommendations. Suggestions of the USFWS regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information.

6. Critical Habitat. An area designated by USFWS as critical habitat.

7. Destruction or Adverse Modification. A direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.

8. Formal Consultation. A process between USFWS and the Federal agency responsible for a proposed action that commences with the Federal agency's written request for consultation and concludes with USFWS issuance of a biological opinion.

9. Informal Consultation. An optional process that includes all discussions, correspondence, etc., with USFWS prior to formal consultation, if required.

10. Jeopardize the Continued Existence. To engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival

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and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

11. Listed Species. Any species of fish, wildlife, or plant that has been determined to be endangered or threatened pursuant to the *Federal Endangered Species Act*.

12. Major Construction Activity. A construction project (or other undertaking having similar physical impacts) that is a major Federal action significantly affecting the quality of the human environment as referred to in the *National Environmental Policy Act* (NEPA).

13. Proposed Critical Habitat. Habitat proposed in the *Federal Register* to be designated or revised as critical habitat for any listed or proposed species.

14. Proposed Species. Any species of fish, wildlife, or plant that is proposed to be listed under Section 4 of the *Federal Endangered Species Act.*

26-9.05(a)2 *From the Endangered Species Act Consultation Handbook*

1. Biological Assessment. Information prepared to determine whether a proposed action is likely to: (a) adversely affect listed species or designated critical habitat; (b) jeopardize the continued existence of species that are proposed for listing; or (c) adversely modify proposed critical habitat. Biological assessments must be prepared for "major construction activities." The outcome of the biological assessment determines whether formal consultation or a conference is necessary.

2. Conference. A process of early interagency cooperation involving informal or formal discussions with USFWS regarding the likely impact of an action on proposed species or proposed critical habitat. Conferences are: (a) required for proposed Federal actions likely to jeopardize proposed species, or destroy or adversely modify proposed critical habitat; (b) designed to help identify and resolve potential conflicts between an action and species conservation early in a project's planning; and (c) designed to develop recommendations to minimize or avoid adverse effects to proposed species or proposed critical habitat.

3. Conservation Measures. Actions to benefit or promote the recovery of listed species that are included as an integral part of a proposed project. These actions will serve to minimize or compensate for project effects on the species under review. These may include actions taken prior to the initiation of consultation, or actions committed to in a biological assessment or similar document.

4. Conservation Recommendations. Non-binding suggestions from the USFWS resulting from formal or informal consultation that: (a) identify discretionary measures a Federal agency can take to minimize or avoid the adverse effects of a proposed action on listed or proposed species, or designated or proposed critical habitat; (b) identify studies, monitoring, or research to develop new information on listed or proposed species, or

designated or proposed critical habitat; and (c) include suggestions on how an action agency can assist species conservation as part of their action.

5. Formal Consultation. A process between the Services and a Federal agency or applicant that: (a) determines whether a proposed Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat; (b) begins with a Federal agency's written request and submittal of a complete initiation package; and (3) concludes with the issuance of a biological opinion and incidental take statement by USFWS. If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required; except when USFWS concurs, in writing, that a proposed action “is not likely to adversely affect” listed species or designated critical habitat.

6. Incidental Take. Refers to takings that result from, but are not the purpose of, carrying out an otherwise lawful activity.

7. Is Likely to Adversely Affect. The appropriate finding in a biological assessment (or conclusion during informal consultation) if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not: discountable, insignificant, or beneficial (see definition of is “not likely to adversely affect”). In the event the overall effect of the proposed action is beneficial to the listed species, but is also likely to cause some adverse effects, then the proposed action “is likely to adversely affect” the listed species. If incidental take is anticipated to occur as a result of the proposed action, an "is likely to adversely affect" determination should be made. An “is likely to adversely affect” determination requires the initiation of formal consultation.

8. Is Not Likely to Adversely Affect. The appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not: (a) be able to meaningfully measure, detect, or evaluate insignificant effects; or (b) expect discountable effects to occur.

9. May Affect. The appropriate conclusion when a proposed action may pose any effects on listed species or designated critical habitat. When the Federal agency proposing the action determines that a “may affect” situation exists, they must either initiate formal consultation or seek written concurrence from the Services that the action “is not likely to adversely affect” listed species.

10. No Effect. The appropriate conclusion when the action agency determines its proposed action will not affect a listed species or designated critical habitat.

11. Take. To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct; may include significant habitat modification or

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degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

26-9.05(b) Applicability

The procedures in this Section apply to all projects initiated by the Department that involve funding or approvals from FHWA or another Federal agency.

The preparation of a Biological Assessment is required for any Federally funded/regulated "major construction activity" where listed species or critical habitat may be present in the action area. A Biological Assessment also may be appropriate for other actions where listed species or critical habitat may be present and it is unclear whether they may be affected. If they may be adversely affected, formal consultation is required.

For additional guidance on the Federal requirements, see the following:

- USFWS *Endangered Species Consultation Handbook*, March 1998;
- February 20, 2002, FHWA Memorandum on "Management of the Endangered Species Act (ESA) Environmental Analysis and Consultation Process"; and
- February 18, 2005, FHWA Memorandum on "Joint Agency Agreement on ESA's Formal Consultation Process."

26-9.05(c) Determination of Need for a Biological Assessment

To initiate the process for compliance with the Federal *Endangered Species Act* requirements, obtain information from USFWS concerning any listed or proposed species or designated or proposed critical habitat that may be present in the action area. Either request the information from USFWS during project scoping/early coordination or gather the information from websites maintained by the USFWS Rock Island and Chicago field offices.

In response to a request for information, USFWS will:

- provide information regarding listed or proposed species, or designated or proposed critical habitat that may be present in the action area, and a list of candidate species that may be present in the action area[1]; or
- advise whether, based on the best scientific and commercial data available, any listed or proposed species or designated or proposed critical habitat may be present in the action area.

[1] *Candidate species refers to any species being considered by USFWS for listing as endangered or threatened but not yet formally proposed or listed. Candidate species are accorded no protection under the Endangered Species Act. Notification concerning each species is intended to alert agencies of potential proposals or listings. These species should be identified in the environmental report for a proposed undertaking. Also, close contact should be maintained with BDE on the disposition of the candidate species during the environmental processing of a project.*

If, as a result of the coordination with USFWS, a determination is made that no listed species or critical habitat may be present, a Biological Assessment is not required. In such cases, a "no effect" determination applies and further consultation with USFWS on listed species or critical habitat is not required. If it is determined that only proposed species or proposed critical habitat may be present, a Biological Assessment is not required unless the proposed listing and/or designation becomes final before the action is completed.

If the coordination with USFWS results in a determination that listed species or critical habitat may be present, prepare a Biological Assessment. Where proposed species or proposed critical habitat also may be present, they should be addressed in the Biological Assessment.

26-9.05(d) Preparation of the Biological Assessment

Biological Assessments will be prepared by or under the direction of BDE and in consultation with the IDOT district(s) responsible for the action involved. If the proposed action may involve impacts to Critical Habitat, consider the guidance provided in BLE IM 1-78 "*Endangered Species Act* of 1973, Mitigation of Critical Habitat." Any associated specialized environmental field studies required also will be conducted by or under the direction of BDE. The Biological Assessment for an action must be completed before any contract for construction is entered into and before construction is initiated.

There is no prescribed format for a Biological Assessment prepared pursuant to Federal requirements; however, the following items typically will be included:

- a description of the proposed undertaking; its location (including a map) and purpose; and, if available, anticipated dates for beginning and completing construction;
- the results of an on-site inspection of the action area to determine if listed or proposed species are present or occur seasonally;
- the views of recognized experts on the species at issue;
- a review of the literature and other information concerning species potentially involved with the action;
- an analysis of the effects of the action on the species (in terms of individuals and populations) and habitat required for its survival and propagation, including consideration of cumulative effects and the results of any related studies; and
- an analysis of alternatives considered for the proposed action.

The Biological Assessment must be completed within 180 days of its initiation unless a different time period is agreed upon in consultation with USFWS.

If preparation of the Biological Assessment for an action is not initiated within 90 days of the response from USFWS (indicating that listed species or critical habitat may be present), verification of the current accuracy of the species/habitat information must be accomplished with

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USFWS at the time the preparation of the Biological Assessment is initiated. BDE will make the necessary contacts for this verification, if required.

If a proposed action requiring a Biological Assessment is identical, or very similar, to a previous action for which a Biological Assessment was prepared, a separate Biological Assessment need not be prepared for the current action. The earlier Biological Assessment, plus any supporting data from other documents pertinent to the consultation, may be incorporated by reference into a written certification to USFWS indicating that:

- the proposed action involves similar impacts to the same species in the same geographic area;
- no new species have been listed or proposed or no new critical habitat designated or proposed for the action area; and
- the Biological Assessment has been supplemented with any relevant changes in information.

26-9.05(e) Processing of the Biological Assessment

The complete Biological Assessment will be coordinated with FHWA and transmitted by BDE to USFWS for review. USFWS will respond in writing within 30 days on whether it concurs with the findings of the Biological Assessment.

If the Biological Assessment indicates the action is not likely to jeopardize the continued existence of proposed species or result in the destruction or adverse modification of proposed critical habitat and USFWS concurs, then a conference is not required. If it is determined the action is likely to jeopardize the continued existence of proposed species or result in the destruction or modification of proposed critical habitat, a conference is required.

If the Biological Assessment indicates that listed species or critical habitat are not likely to be adversely affected by the action and USFWS concurs, then formal consultation is not required.

If it is determined that listed species or critical habitat are likely to be adversely affected by the action, formal consultation is required. In this case, BDE will coordinate with FHWA and FHWA will submit a written request to USFWS to initiate formal consultation. This request will include:

- a description of the proposed action;
- a description of the specific area that may be affected by the action;
- a description of any listed species or critical habitat that may be affected by the action;
- a description of the manner in which the action may affect any listed species or critical habitat and an analysis of any cumulative effects;

- relevant reports including any Environmental Impact Statement, Environmental Assessment, or Biological Assessment prepared; and
- any other relevant available information on the action, the affected listed species, or critical habitat.

Formal consultation will be directed toward further analysis of the species and/or critical habitat involved and alternatives to the proposed action. The purpose of these analyses is to allow USFWS to develop its opinion concerning whether the action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Formal consultation will be concluded within 90 days after its initiation unless a longer period is mutually agreed to. Within 45 days after concluding formal consultation, USFWS will provide its Biological Opinion concluding that:

- the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat (a "jeopardy" biological opinion); or
- the action is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat (a "no-jeopardy" biological opinion).

If a "jeopardy" biological opinion is issued, USFWS must be notified of the final decision on the action (i.e., whether the action will be modified and, if so, how).

If the final decision on the action will involve a likelihood of jeopardizing the continued existence of a listed species or resulting in the destruction or adverse modification of critical habitat, the action may not proceed (under Federal approvals or with Federal funds) unless, and until, an exemption from the requirements of Section 7(a)(2) of the *Endangered Species Act* (which directs Federal agencies to "ensure" that their actions are not likely to "jeopardize" listed species or destroy or adversely modify critical habitat) is obtained.

The results of coordination regarding Federal endangered and threatened species and/or critical habitat should be summarized in the environmental report or Phase I engineering report for the action.

26-9.06 State Requirements

26-9.06(a) Definitions

1. Action. Construction, land management, or other activities that are authorized, funded, or performed in whole or in part by agencies of State and local governments, and that will result in a change to the existing environmental conditions or may affect listed threatened or endangered species or their essential habitat or Natural Areas.

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2. Adverse Impact. A direct or indirect alteration of the physical or biological features of the air, land, or water that may affect the survival, reproduction, or recovery of a listed species or that may diminish the viability of a Natural Area.

3. Biological Opinion. The component of the Detailed Action Report prepared by the Illinois Department of Natural Resources (IDNR) when a valid record of an occurrence for a threatened or endangered species or Natural Area exists within the vicinity of a proposed action. This opinion will conclude whether the action will jeopardize the listed species present, destroy or adversely modify their essential habitat, or adversely modify a Natural Area.

4. Cumulative Effects. Direct and indirect effects of a proposed action(s), together with the identifiable effects of actions that are interrelated or interdependent with the action. Indirect effects are those that are caused by the action but are later in time or farther in distance. Interrelated actions are those that are a part of a larger action. Interdependent actions are those that have independent utility apart from the action.

5. Detailed Action Report. A written report that is prepared by an agency when a threatened or endangered species or Natural Area has been identified within the vicinity of a proposed action. This report shall contain sufficient information to make a judgment regarding the potential adverse impacts to a listed species, its essential habitat, or a Natural Area.

6. Essential Habitat. The physical and biological environment that is required to maintain viable populations of a listed species to ensure the survival and recovery of that species.

7. Jeopardize. To engage in an action that would reduce the likelihood of the survival or recovery of a listed species, result in the destruction or adverse modification of the essential habitat of such a species, or result in the destruction or adverse modification of a Natural Area.

8. Listed Species. Any species of plant or animal that has been listed as threatened or endangered by the Illinois Endangered Species Protection Board or the USFWS.

9. Natural Area. Any area of land in public or private ownership that is registered under the Illinois *Natural Areas Preservation Act* 525 ILCS 30 or is identified in the Illinois Natural Areas Inventory.

10. Vicinity. The area surrounding the action, as determined by the life history requirements of the species of concern or proximity to a Natural Area.

26-9.06(b) Applicability

The following procedures are applicable to all projects requiring submittal of an Environmental Survey Request (ESR) pursuant to the criteria in Section 27-1.02.

26-9.06(c) Project Screening

BDE will screen all ESRs against the information in the IDNR Natural Heritage Database to evaluate whether the projects may be in the vicinity of an Illinois-listed Threatened or Endangered species (T&E species) or a site listed on the Illinois Natural Areas Inventory (INAI), which includes Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, and registered Land and Water Reserves. BDE will determine "in the vicinity" using the following buffers around the project footprint: terrestrial plants within 1/2 mile (800 m), terrestrial animals and INAI sites within 1 mile (1.6 km), and aquatic resources within 2 miles (3.2 km).

For projects that BDE determines may be in the vicinity of a T&E species or INAI site, BDE will submit information for the project to the IDNR EcoCAT website for further review and processing. If BDE determines a project is not in the vicinity of a T&E species or INAI site, BDE will not submit the project to the EcoCAT website and will clear the project for potential effects on State-listed T&E species and INAI sites.

BDE will evaluate whether proposed projects for which ESRs are submitted could adversely affect additional natural resources including the following:

- certain listed high-quality streams and their riparian corridor;
- forest/trees (e.g., if the project bisects a forest or removes a significant number of trees);
- prairie/savanna areas; or
- properties owned, leased, or managed by IDNR.

IDNR may recommend biological surveys for some projects. If biological surveys are conducted as recommended by IDNR, BDE will provide a copy of the survey results to IDNR. If biological surveys are not conducted as recommended, BDE will provide IDNR documentation to support that decision.

If BDE determines none of the listed additional natural resources will be adversely affected, BDE will clear the project for potential adverse effects on those resources.

If BDE or IDNR identifies any T&E species, INAI sites, or additional natural resources listed above, BDE will submit a Biological Resource Review (BRR) to IDNR that describes the steps IDOT will take to avoid or minimize adverse impacts to the identified resources.

For potential adverse impacts to T&E species or Natural Areas, the procedures in the following sections will apply.

26-9.06(d) Determination of Need for Detailed Action Report

The district will consider information on threatened and endangered species/Natural Areas in evaluating potential environmental effects as development of the proposed project proceeds. The evaluation of effects on threatened and endangered species/Natural Areas should determine whether any of the following findings apply to the project:

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- a listed species or Natural Area may be adversely affected within the right-of-way (existing or proposed), easements, or borrow/use areas the project will involve;
- construction activities within the right-of-way will adversely affect wetland areas outside the right-of-way and listed species are known to occur in the wetlands; or
- noise, air quality, or water quality aspects of a project may adversely affect a listed species or Natural Area outside the right-of-way, easements, or borrow/use areas for the action.

If any of the preceding findings are applicable, a Detailed Action Report is required unless a programmatic agreement with the IDNR is in force for the resource(s) involved that addresses measures for avoidance and mitigation of adverse impacts. An example would be the restrictions on the months in which Indiana Bat nesting trees may be cut. If the resource involved is covered by a programmatic agreement and the project will comply with the agreed terms, no further coordination with IDNR is necessary for that resource.

If the district and BDE determine that the project will not adversely affect listed species or Natural Areas, a Detailed Action Report is not required.

26-9.06(e) Preparation of the Detailed Action Report

When a Detailed Action Report is required, it will be prepared by, or under the direction of BDE in consultation with the district responsible for the action involved. Any associated specialized environmental studies needed will also be conducted by or under the direction of BDE. The Detailed Action Report typically will include the following components:

- the name and address of the contact person in BDE;
- a description of the proposed action, its location (including a map) and purpose and, if available, anticipated dates for beginning and completing construction;
- an analysis of the effects of the action on any Natural Area(s) present and on listed species (in terms of individuals and populations) and habitat required for their survival and propagation, including consideration of cumulative effects; and
- a discussion of any alternatives considered for the proposed action.

The Detailed Action Report may include the following additional components, when necessary to respond to specific issues or concerns regarding listed species:

- results of an on-site inspection of the area affected by the action to determine if listed or proposed species are present or occur seasonally;
- the views of recognized experts on species involved; and

- a review of literature and other pertinent information on species potentially involved with the action.

26-9.06(f) Processing of the Detailed Action Report

BDE will transmit the completed Detailed Action Report to the IDNR for formulation of a Biological Opinion. The Biological Opinion will address whether the action, taken with its cumulative effects, will jeopardize the listed species present, have an adverse impact on its essential habitat, or cause adverse modification of a Natural Area.

Within 90 days of the date it receives the Detailed Action Report (unless an extension is mutually agreed to by IDOT and IDNR), IDNR will provide its Biological Opinion to the BDE. The Biological Opinion will result in one of the following findings:

- the action may promote the conservation of a listed species or its essential habitat or enhance the protection of a Natural Area, in which case the consultation process for endangered species/Natural Areas is concluded;

- the action is not likely to jeopardize a listed species or its essential habitat or cause adverse modification of a Natural Area, in which case the consultation process for endangered species/Natural Areas is concluded; or

- the proposed action is likely to jeopardize a listed species or its essential habitat or cause adverse modification of a Natural Area, in which case the consultation process will continue. In this case, IDNR generally will include recommendations in the Biological Opinion on how the impacts to the listed species/Natural Area could be avoided or minimized.

If the Biological Opinion concludes that an action is likely to jeopardize a listed species or its essential habitat or cause the adverse modification of a Natural Area, IDOT and IDNR will have 45 days, commencing on the date IDOT receives the Biological Opinion, to attempt to satisfactorily resolve the adverse effects on the listed species/Natural Area. If satisfactory resolution is reached within the 45-day period, IDNR will provide a sign-off indicating compliance with the requirements of the *Illinois Endangered Species Protection Act* and the *Illinois Natural Areas Preservation Act*. If a resolution is not reached within the 45-day period, one of the following will occur:

- the consultation process will end and will be classified as having failed or partially failed to protect the resource(s) involved;

- IDOT and IDNR may decide to elevate the matter within each agency,[1] or

[1] *It is desirable that disagreements which arise be resolved quickly and at the lowest possible level of agency involvement. For most actions, disagreements should be resolved by middle- or upper-level management of IDNR and IDOT. However, where there is failure to reach agreement, it may be necessary to refer the matter to the IDNR Director and IDOT Secretary for resolution.*

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- upon mutual agreement by both parties, negotiations may continue.

When agreement is reached on the satisfactory resolution of adverse impacts to listed species or Natural Areas, IDNR will provide a sign-off to IDOT indicating compliance with threatened and endangered species/Natural Area requirements. The IDNR sign-off for threatened and endangered species/Natural Area requirements is valid for three years from the date of issuance. If the project involves other resource concerns requiring further IDNR review, the IDNR will re-screen the project against the Natural Heritage Database prior to any final action confirming satisfactory disposition of the other resource issues. In such cases, the validity period will be reset to extend for three years from the date of resolution of the other issues, provided no Special Circumstances, as described in Section 26-9.06(g), apply.

26-9.06(g) Special Circumstances

Consultation will be initiated, or a terminated consultation process will be reopened, if any of the following circumstances apply:

- new information reveals effects of the proposed action that may adversely affect a listed species or its essential habitat or a Natural Area in a manner not previously considered;
- the proposed action is subsequently modified such that it may adversely affect a listed species or its essential habitat or a Natural Area in a manner that was not considered in the consultation process; or
- additional listed species or their essential habitat or Natural Areas are identified within the vicinity of the action.

26-9.06(h) Incidental Taking Authorization

Section 11 of the *Illinois Endangered Species Protection Act* (520 ILCS 10/11) states that where a State or local agency evaluates its actions through the *Endangered Species Act* consultation process with the IDNR, the agency shall be deemed to have complied with its obligations under the *Act*, provided the agency action shall not result in the killing or injuring of any Illinois-listed animal species, or provided that authorization for taking a listed species has been issued in accordance with Sections 4, 5, or 5.5 of the *Act*. Based on this language, the endangered species consultation process can be used to establish compliance with the *Act* for all impacts of agency actions on Illinois-listed plant species. The consultation process also can establish compliance for effects of agency actions on Illinois-listed animal species, provided the action will not result in killing or injuring of any of the species. However, if the agency action will result in killing or injuring of a listed animal species, the only way compliance with the *Act* can be established for that aspect of the action is by obtaining an authorization for "taking." (Section 2 of the *Act* defines "take" to mean, in reference to animals, "…to harm, hunt, shoot, pursue, lure, wound, kill, destroy, harass, gig, spear, ensnare, trap, capture, collect, or to attempt to engage in such conduct." This definition covers killing or injuring of listed animal species.)

Section 5.5 of the *Act* sets forth "incidental taking" provisions whereby IDNR may authorize a taking that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. IDNR has promulgated detailed procedures for the incidental taking authorization process in 17 Ill. Adm. Code 1080.

The requirements for obtaining an incidental taking authorization will apply to any project that will result in killing or injuring of Illinois-listed animal species. The need for requesting an incidental taking authorization will be based on a thorough evaluation of the likelihood that the project will result in the killing or injuring of any Illinois-listed animal species. This evaluation will consider available data and/or the results of field studies regarding the actual occurrence of Illinois-listed animal species, not just the existence of suitable habitat, within the specific area that will be affected by the project. It will also consider the potential for the undertaking to actually impact the species such that they may be killed or injured.

Recommendations for obtaining an incidental taking authorization may be included in IDNR's coordination responses (e.g., for a Biological Resource Review or Detailed Action Report). Another possibility is that the district and/or BDE may determine that an incidental taking authorization is needed, based on the results of field studies or other available information. If an incidental taking authorization is determined to be necessary, initiate the application process as soon as possible after the need for the authorization is confirmed. The *Endangered Species Protection Act* and the implementing rules on incidental taking provide that the authorization for incidental taking must be in place before a taking occurs. To ensure appropriate compliance with this requirement on highway projects, the incidental taking authorization must be in place prior to awarding the contract for the work that will cause the incidental taking, unless the potential incidental taking issue is not identified until after the contract has been awarded. If the potential incidental taking is identified after award, the authorization still must be in place before proceeding with the work that would result in a taking.

It is recommended that coordination with IDNR for a potential incidental taking be initiated as early as practical to afford maximum flexibility for considering and accommodating alternatives to avoid, minimize, and mitigate the taking. The avoidance alternatives and minimization and/or mitigation measures will ultimately be reflected in the conservation plan, which will provide the information IDNR will use in making its decision on approval or denial of the authorization request. Although there currently is no requirement for having the incidental taking authorization prior to design approval, coordination with IDNR on the incidental taking issues should occur prior to that point to ensure that project plans reflect decisions (e.g., regarding minimization and mitigation measures for the proposed incidental taking) that are acceptable to IDNR for purposes of approving the incidental taking authorization. Failure to do so may result in potentially costly project/plan changes and delays later in project development or implementation (e.g., if IDNR does not accept the minimization and mitigation measures as planned or stipulates additional measures as a condition for approving the incidental taking authorization).

When the need for an incidental taking authorization is identified during Phase I, coordinate the public notice procedures required for the incidental taking authorization to coincide with other public involvement activities for the project to the extent practical.

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If the district receives a recommendation from IDNR or BDE to obtain an incidental taking authorization and subsequently determines that the incidental taking authorization will not be pursued (e.g., because changes in the project have eliminated the need), the district must provide written notification of the decision to the BDE. Provide notification as soon as possible after the determination is made and include an explanation of the reason(s) for not seeking the incidental taking authorization.

When authorization for incidental taking is determined necessary, the following procedures will apply, unless the IDNR has approved special "programmatic" procedures for the category of action and species involved. In such case, the approved alternate procedures will govern:

1. The district will be responsible for preparing the required Conservation Plan[1] and newspaper notice for compliance with the incidental taking authorization rules (17 Ill. Adm. Code 1080, distributed via BDE Information Memorandum 01-35). BDE will provide information and technical assistance, as needed, to help the district in preparing the plan and notice. This may include, for example, biological data on the affected species, recommendations for mitigation measures, data and information regarding the effect of the proposed taking on the likelihood of the survival of the listed species, and information identifying participants that will be involved in implementing portions of the Conservation Plan.

    a. Conservation Plan. At a minimum, ensure the Conservation Plan contains the following:

        - A description of the impact likely to result from the proposed taking of the listed animal species that would be covered by the authorization, including, but not limited to:

            + legal description, if available, or detailed description including street address and map of the area to be affected by the proposed action and information indicating the ownership or control of the affected property;

            + biological data on the affected species;

            + description of the activities that will result in taking (e.g., killing, injuring) of the endangered or threatened animal species; and

            + explanation of the anticipated adverse effects on the listed species.

[1] *The State implementing rules for the incidental taking requirements provide that a Habitat Conservation Plan approved by the US Fish and Wildlife Service pursuant to Section 10 of the Endangered Species Act of 1973 may be submitted in lieu of a Conservation Plan as otherwise required under the State rules. The rules also provide that an authorization to take an endangered or threatened species under the terms of biological opinion issued by the US Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Protection Act of 1973 may be submitted in lieu of a Conservation Plan.*

- Measures that will be taken to minimize and mitigate the impact on the listed animal species and the funding that will be available to undertake those measures, including, but not limited to:

  + plans to minimize the area affected by the proposed action, the estimated number of individuals of the endangered or threatened species that will be taken, and the amount of habitat affected;

  + plans for management of the area affected by the proposed action that will enable continued use of the area by endangered or threatened species;

  + description of all measures to be implemented to minimize or mitigate the effects of the proposed action on the endangered or threatened species;

  + plans for monitoring the effects of measures implemented to minimize or mitigate the effects of the proposed action on the endangered or threatened species;

  + adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of measures instituted to minimize or mitigate the effects of the proposed action on the endangered or threatened species; and

  + verification that adequate funding exists to support and implement all mitigation activities described in the Conservation Plan.

- A description of alternative actions considered that would not result in take of an Illinois-listed animal species and the reasons that each of those alternatives was not selected. A “no action” alternative shall be included in this description of alternatives.

- Data and information to indicate that the proposed taking will not reduce the likelihood of the survival of the endangered or threatened animal species in the wild within the State of Illinois, the biotic community that the species is a part, or the habitat essential to the species’ existence in Illinois.

- An implementing agreement, which includes, but is not limited to:

  + the names and signatures of all participants in the execution of the Conservation Plan;

  + the obligations and responsibilities of each of the identified participants with schedules and deadlines for completion of

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activities included in the Conservation Plan and a schedule for preparation of progress reports to be provided to the IDNR;

+ certification that each participant in the execution of the Conservation Plan has the legal authority to carry out their respective obligations and responsibilities under the Conservation Plan;

+ assurance of compliance with all other Federal, State and local regulations pertinent to the proposed action and to execution of the Conservation Plan; and

+ copies of any final Federal authorizations already issued for the proposed taking, if any.

b. Newspaper Notice. At a minimum, the notice for publication in the newspaper, as described later, includes the following:

- the name of the district contact person and the district mailing address;
- a map or description that clearly shows or describes the precise location and boundaries of both the area to be affected by the proposed project and any areas to be affected by provisions of the Conservation Plan and is sufficient to enable local residents to readily identify the subject areas. It must include towns, bodies of water, local landmarks, or any other information that would identify the subject areas. If a map is used, indicate the north direction;
- a summary of the incidental taking for which authorization is being requested;
- a summary of the measures that will be instituted to minimize and mitigate the effects of the proposed incidental taking;
- the location where a copy of the Conservation Plan is available for inspection;
- the street and e-mail address of the IDNR office to which comments on the Conservation Plan may be submitted; and
- the closing date for receipt of written comments on the Conservation Plan. The closing date must allow at least 30 days from the last date the notice will be published in the newspaper as discussed in Item #5, below.

2. After the district, in consultation with BDE, as necessary, has prepared the Conservation Plan and proposed newspaper notice, it will submit two copies of each to BDE.

3. BDE will complete a final review of the Conservation Plan and notice. After resolving any comments with the district, BDE will forward the Conservation Plan and notice to IDNR.

4. Within 30 days of receipt of the Conservation Plan and notice, IDNR will either respond that the Conservation Plan is complete and the newspaper notice is satisfactory or will provide an indication of any deficiencies identified in the Conservation Plan or notice.

5. If IDNR identifies deficiencies in the Conservation Plan or notice, BDE will coordinate with the district and IDNR as necessary to resolve the deficiencies. When IDNR advises that the Conservation Plan is complete and the notice is satisfactory, the district will proceed with publication of the notice. It must be placed in a newspaper of general circulation in the locality of the proposed action at least once a week for three consecutive weeks. At least 14 days must elapse between the first and last publication of the notice. Concurrent with the first publication in a local newspaper, the notice also must be published one time in the official State newspaper. Prior to, or concurrent with, publication of the first newspaper notice, the district must make one or more copies of the complete Conservation Plan available for review at the nearest public library in the county or counties in which the proposed action will occur. The district also must provide a copy of the complete Conservation Plan to the Executive Director of the Illinois Endangered Species Protection Board at IDNR headquarters.

6. The Incidental Taking rules in 17 Ill. Adm. Code 1080.30 provide that comments on the Conservation Plan may be submitted to IDNR for up to 30 days following the last publication of the newspaper notice. The rules also indicate that "…IDNR shall, upon receipt of written comments, transmit a copy of the comments to the applicant." As comments submitted on the Conservation Plan are received from IDNR, BDE will forward them to the district. The district, in consultation with BDE, will prepare a written summary in accordance with the requirements in the Incidental Taking rules. The summary will include a list of all persons or organizations making comments, a list of the criticisms, suggestions, and issues raised, and an analysis of each comment, including a description of any revisions to the Conservation Plan made in response to public comment. Complete the written summary of comments as quickly as possible so that it can be submitted to the IDNR Office of Resource Conservation within 10 days after the close of the public comment period, as required by Section 1080.30 of the Incidental Taking rules.

7. The IDNR Office of Resource Conservation must complete its review of the Conservation Plan and issue its decision on the incidental taking authorization request within 120 days after the date of the first publication of the notice in the newspaper. IDNR may authorize the incidental taking if it finds that the taking will meet all requirements as stipulated in 17 Ill. Adm. Code 1080.40(a). If IDNR finds that the Conservation Plan does not meet all of the stipulated requirements, it may require additional terms and conditions to ensure the requirements will be met. BDE will coordinate with the district and IDNR to resolve any identified deficiencies in the Conservation Plan and to respond to any additional terms and conditions proposed by

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IDNR. Upon receipt of the written notice from IDNR concerning its decision on the incidental taking application, BDE will forward the notice to the district. Work that would cause the killing or injuring of an Illinois-listed animal species must not be commenced until IDNR has issued an incidental taking authorization for the work.

BDE will be available to provide technical assistance to the district, as necessary, in implementing the approved Conservation Plan and any additional terms and conditions required.

26-9.07 Coordination of Federal/State Requirements

Where a species involved with an action is listed at both the Federal and State level, the Biological Assessment (Federal) and Detailed Action Report (State) prepared for the action will be processed concurrently with USFWS and IDNR as practical. Although processing may be concurrent and the results of consultation with either agency may be considered by the other, the Federal and State requirements are independent; both must be satisfied when species are on both the Federal and State lists.

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26-10 EVALUATIONS OF FARMLAND CONVERSION IMPACTS

26-10.01 Introduction

In the development of a project, consideration must be given to the impacts that the action will cause in the conversion of farmland to non-farm uses. Under certain circumstances, coordination must be initiated with the US Department of Agriculture, Natural Resources Conservation Service (NRCS), and/or the Illinois Department of Agriculture (IDOA) to evaluate the impacts on farmland and obtain the views of those agencies on alternatives to the proposed action. This Section discusses the criteria and procedures for accomplishing the necessary coordination with NRCS and IDOA.

26-10.02 Legal Authority

The following legal authority regulates or influences the policies and procedures on farmland conversions:

- 7 USC 4201-4209, "*Farmland Protection Policy Act* of 1981" (Public Law 97-98).
- 7 CFR 658, "*Farmland Protection Policy Act."*
- *Farmland Preservation Act*, 505 ILCS 75/1 et seq.
- State Executive Order No. 4 (1980), "Preservation of Illinois Farmland."
- Illinois Department of Transportation, Agriculture Land Preservation Policy.
- Cooperative Working Agreement between the Illinois Department of Agriculture and the Illinois Department of Transportation on Farmland Preservation.
- 8 Ill. Adm. Code 700, *Farmland Preservation Act*.

See Appendix C for more information.

26-10.03 Policy

In the development of a project, evaluate the action's effects on conversion of farmland to non-farm use. Undertake coordination with NRCS and/or IDOA, as appropriate, to obtain their views on any anticipated farmland conversion. This evaluation and coordination with NRCS and IDOA is to be accomplished in conformance with Federal and State statutes, regulations, Executive Orders, and IDOT agreements concerning farmland. Consider alternatives that could lessen adverse impacts to farmland. As practical, ensure proposed actions are developed to be compatible with State, local government, and private programs and policies to protect farmland.

26-10.04 Federal Requirements

26-10.04(a) Definitions

1. Farmland. Prime or unique farmlands, as defined in Section 1540(c)(1) of the *Farmland Protection Policy Act*, or farmland that is determined by the appropriate State or unit of local government agency or agencies with concurrence of the Secretary of Agriculture to be farmland of Statewide or local importance. Farmland does not include land already in or committed to urban development or water storage. Farmland "already in" urban development or water storage includes all such land with a density of 30 structures per 40 acre (16 ha) area. Farmland already in urban development also includes lands identified as urbanized area (UA) on the Census Bureau Map, as urban area mapped with a tint overprint on the USGS topographical maps, or as urban-built-up on the USDA Important Farmland Maps. Areas shown as white on the USDA Important Farmland maps are not farmland and, therefore, are not subject to the *Act*. Farmland committed to urban development or water storage includes all such land that receives a combined score of 160 points or less from the land evaluation and site assessment criteria.

2. Site. The location(s) that would be converted by the proposed action(s).

26-10.04(b) Applicability

A project that requires additional right-of-way outside any corporate limits must be coordinated with NRCS unless any one of the following apply:

1. There are no Federal funds involved in the project.

2. None of the acquired land is prime farmland or farmland of Statewide or local importance.

3. The land to be acquired is in urban development (i.e., has a minimum current density of 30 structures (permanently affixed to the ground) per 40 acre (16 ha) tract).

4. The project is exclusively for widening and resurfacing, and does not involve borrow areas, mitigation sites, or new alignment in which the right-of-way diverges from and is not contiguous to the existing right-of-way.

5. The project is nonlinear (e.g., bridge, intersection improvements) and requires acquisition of no more than 10 acres (4 ha) of land. This threshold applies to nonlinear projects other than new rest areas and new truck weigh stations. All new rest area and truck weigh station projects must be coordinated with NRCS, regardless of the amount of acquisition involved. Where the area of right-of-way for the project approaches the 10 acre (4 ha) threshold for coordination and the project will likely involve additional acquisition for borrow or mitigation, coordinate the project with NRCS. Anticipated sites for borrow and mitigation should be indicated if known.

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6. The project is linear; requires acquisition of no more than 3 acres of land per project mile (0.75 ha of land per project kilometer) (area of acquisition divided by project length); and does not involve alternative alignment(s) in which the right-of-way diverges from, and is not contiguous to, the existing right-of-way. Where the amount of right-of-way to be acquired approaches the 3 acres per project mile (0.75 ha per project kilometer) threshold for coordination and the project will likely involve additional acquisition for borrow or mitigation, coordinate the project with NRCS. Anticipated sites for borrow and mitigation should be indicated if known.

The categories of projects addressed by these items have been programmatically addressed in consultations with NRCS, and a general Form AD-1006 (see Section 26-10.04(d)) has been prepared for these actions. The general Form is available in the IDOT district offices or may be obtained from BDE. Further project-specific review by NRCS on these projects ordinarily will not be necessary. See Section 26-10.04(c) for further discussion of requirements for these types of actions.

If there is a question on whether any of the above conditions are met, contact BDE for a determination of applicability.

26-10.04(c) Procedures

The following will apply:

1. NRCS Coordination. For all projects requiring coordination with NRCS according to the criteria in Section 26-10.04(b), contact NRCS as early in the project development process as practical. Make the initial contact with the State Office of the NRCS in Champaign. Forward Form AD-1006 to the NRCS Office as part of the coordination process as soon as sufficient information is available. Coordination may be initiated prior to completion of the forms, as appropriate.

2. Minor Impacts. Where a project appears to be covered by Item #'s 5 and 6 in Section 26-10.04(b), care should be taken to ensure that the project does not involve more than minor impacts on farmland and that there are no unusual circumstances that would make the criteria described inapplicable to the project. If more than minor impacts on farmland are involved or if unusual circumstances are present, initiate coordination with NRCS as discussed in Item #1 above.

   If such impacts/circumstances are not involved, documentation should be included in the project file indicating the applicability of the criterion in Section 26-10.04(b) as the basis for not coordinating with NRCS. Also, include a copy of the general Form AD-1006 for these projects in the file. A paragraph such as the following should be included in the Phase I engineering report or environmental report, as appropriate:

   > *The impact of this project on farmland conversion has been evaluated in accordance with the requirements of the US Natural Resources Conservation Service (NRCS). The project will convert 3 acres or less of*

farmland per mile (0.75 hectares or less of farmland per kilometer) and the conversion will not result in more than minor impacts. Accordingly, the project conforms to the general Form AD-1006 prepared by NRCS. Therefore, further coordination with NRCS on this project will not be necessary.

26-10.04(d) Form AD-1006

The following will apply:

1. Districts should complete Parts I and III of Form AD-1006 and submit it to the State NRCS office when information is submitted to IDOA in accordance with State farmland protection requirements (see Section 26-10.05(c)). NRCS will complete Parts II, IV, and V and will then send the Form to IDOA for completion of the Site Assessment portions of the Form. When completed, IDOA will return the Form to the district.

2. Form AD-1006 is the primary means of coordination with NRCS. It may, however, be supplemented with other information. It is recommended that a copy of the information sent to IDOA (see Section 26-10.05(c)) be sent to NRCS with Form AD-1006. The additional information will help to expedite the review and minimize turnaround time. Provide an informational copy of the completed AD-1006 form to IDOA when it is submitted to NRCS.

3. On new construction and reconstruction projects, early contacts with the local field offices and the Statewide office of NRCS are recommended. This will notify NRCS of the project and allow early comments while maximum flexibility still exists. Form AD-1006 can follow later as project development permits. In this manner, substantive comments are discovered early and the potential for major changes in the later stages of project development will be reduced.

4. Copies of and instructions for completing Form AD-1006 are available in the IDOT district offices and may be obtained from BDE. See Section 26-10.04(f) for an example of a completed form.

Do not send AD-1006 forms for single-county projects to NRCS county field offices. Send AD-1006 forms for single and multi-county projects to the State NRCS office at the following address:

United States Department of Agriculture
Natural Resources Conservation Service
Attention: State Soil Scientist
2118 West Park Ct.
Champaign, Illinois 61821

See the NRCS website for additional contact information.

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26-10.04(e) Siting Requirements

Sites or alternatives with the highest combined scores (determined on Form AD-1006) should be regarded as most suitable for protection from conversion to non-farm use, and sites/alternatives with the lowest scores as least suitable for such protection. Sites or alternatives receiving total scores of 175 or fewer points require only minimal consideration for protection from conversion, and no additional sites/alternatives need be evaluated. Sites or alternatives with scores of 176 to 225 points are in the moderate range for consideration of protection from conversion. For such projects, consider at least one build alternative that would involve lesser amounts of farmland conversion. Sites or alternatives receiving scores over 225 points should receive the highest priority for protection from conversion to non-farm uses. For such sites or alternatives, consider other alternatives such as rehabilitation of existing facilities and alignments that use lesser amounts of farmland.

Alternatives that adversely affect agriculture may be recommended, but only after full consideration of adverse effects and less damaging alternatives. The coordination with NRCS will ensure the adequacy of that consideration.

Summarize the results of coordination with NRCS in the environmental report or Phase I engineering report for the action.

26-10.04(f) Notification of Selected Alternative

NRCS requires that, when a Federally funded project has one or more alternatives that require acquisition of farmland subject to the FPPA and is not otherwise exempted from the requirement to submit Form AD-1006, the project agency should provide NRCS a copy of the Form AD-1006 indicating the project alternative selected for implementation. Upon receiving design approval for such projects, the district shall inform the State NRCS office which alternative was selected for implementation. The district should use a copy of the previously coordinated Form AD-1006 for providing this notification. The district should complete the parts of the Form entitled “Site Selected” (enter appropriate site identification letter from the AD-1006) and “Date of Selection” and should then send one copy to the State NRCS office at the address provided in Section 26-10.04(d). To aid NRCS in its record keeping, note on the top of the Form that it is a “Final Decision Notification.” Figure 26-10.A provides an example. *Note: Figure 26-10.A illustrates an example of a Form that was originally submitted to NRCS and was subsequently marked-up manually to identify the selected alternative.*

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: January 1, 1992
Name Of Project: FAP 000	Federal Agency Involved: FHWA
Proposed Land Use: New Highway	County And State: Adams and Hancock Counties, Illinois
PART II *(To be completed by SCS)*	Date Request Received By SCS:

Does the site contain prime, unique, statewide or local important farmland? Yes ☒ No ☐
(If no, the FPPA does not apply — do not complete additional parts of this form).

Acres Irrigated: 0 | Average Farm Size: 321 acres

Major Crop(s): Corn, Soybeans, Wheat	Farmable Land In Govt. Jurisdiction: Acres: 31,200,000 % 87.6	Amount Of Farmland As Defined in FPPA: Acres: 31,200,000 % 87.6
Name Of Land Evaluation System Used: Statewide	Name Of Local Site Assessment System: Statewide	Date Land Evaluation Returned By SCS:

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	1022	1034	1040	
B. Total Acres To Be Converted Indirectly	0	0	0	
C. Total Acres In Site	1022	1034	1040	
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	754.1	801.3	812.2	
B. Total Acres Statewide And Local Important Farmland	703.4	191.3	187.4	
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.000032	0.000033	0.000033	
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	35.5	35.5	35.5	
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	128	129	129	
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)* — Maximum Points				
1. Area In Nonurban Use				
2. Perimeter In Nonurban Use				
3. Percent Of Site Being Farmed				
4. Protection Provided By State And Local Government		(SITE ASSESSMENT		
5. Distance From Urban Builtup Area		CORRIDOR FACTORS		
6. Distance To Urban Support Services		ON SEPARATE SHEET)		
7. Size Of Present Farm Unit Compared To Average				
8. Creation Of Nonfarmable Farmland				
9. Availability Of Farm Support Services				
10. On-Farm Investments				
11. Effects Of Conversion On Farm Support Services				
12. Compatibility With Existing Agricultural Use				
TOTAL SITE ASSESSMENT POINTS — 150* — ~~160X~~	52	56	80	
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland *(From Part V)* — 150* — ~~160X~~	128	129	129	
Total Site Assessment *(From Part VI above or a local site assessment)* — 150* — ~~160X~~	52	56	80	
TOTAL POINTS *(Total of above 2 lines)* — 300* — ~~260X~~	180	185	209	

Site Selected: A	Date Of Selection 9/1/94	Was A Local Site Assessment Used? Yes ☒ No ☐

Reason For Selection

* When using the State Site Assessment Corridor Factors, 150 points are assigned to the land evaluation portion and 150 points are assigned to the site assessment portion, for a maximum score of 300 total points.

(See Instructions on reverse side) Form AD-1006 (10-83)

FARMLAND CONVERSION IMPACT RATING

Figure 26-10.A

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26-10.05 State Requirements

26-10.05(a) Definitions

1. Agricultural Land or Farmland. All land in farms including cropland, hayland, pastureland, forestland, corrals, gardens, and orchards; land used for farmsteads, buildings, barns, and machinery sheds; adjacent yards or corrals, pens, waste lagoons, feedlots, farmstead or feedlot windbreaks, grain bins, lanes for farm residences and fields, field windbreaks, ponds, commercial feedlots, greenhouses, nurseries, broiler facilities, and farm landing strips.

2. Agricultural Land Conversion. The taking of land directly out of agricultural production or displacing it by another use and not returning it to production.

3. Land Class. One of eight classes of land in the Land Capability Classification System (Handbook 210, issued September 1961, and approved for reprinting January, 1973) as developed by the Soil Conservation Service, United States Department of Agriculture. Incorporation by reference does not include any future editions or amendments. The land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. The soils are grouped according to their limitations for field crops, the risk of damage to the soil if they are used for crops, and the way they respond to management.

4. Modern Soil Survey. A document published after 1965 by SCS or NRCS containing a description of a county's soils, maps showing their distribution, and discussions concerning their behavior and adaptability.

26-10.05(b) Applicability

Coordination with the IDOA is required for State highway and bridge projects funded in whole or in part with State funds and which require additional right-of-way, unless any of the following apply:

1. The project is located within the boundaries of an incorporated municipality.

2. The project is nonlinear (e.g., bridge, intersection improvements) and requires acquisition of no more than 10 acres (4 ha) of land. When the area of right-of-way for the project approaches the 10 acre (4 ha) threshold for coordination and the project will likely involve additional acquisition for borrow or mitigation, coordinate the project with IDOA. If known, indicate anticipated sites for borrow and mitigation.

3. The project is linear; requires acquisition of no more than 3 acres of land per project mile (0.75 ha per project kilometer) (area acquisition divided by project length); and does not involve alternative alignment(s) in which the right-of-way diverges from, and is not contiguous to, the existing right-of-way. When the amount of right-of-way for the project approaches the threshold for coordination and the project will likely involve additional

acquisition for borrow or mitigation, coordinate the project with the IDOA. If known, indicate anticipated sites for borrow and mitigation.

26-10.05(c) Procedures

26-10.05(c)1 *General*

IDOA is especially interested in projects that consider more than one alignment, each of which has different agricultural impacts and different amounts of farmland conversion. Projects with multiple alignments can be as localized as those developed to eliminate offset intersections, or as widespread as those for a new freeway connecting distant cities. In all cases, however, only that information that is likely to influence a choice among alternatives should be gathered and considered. For 3R/spot improvements with multiple alignments, include soils information when modern soil surveys are available. If modern soil surveys are not available, forward the remaining coordination information to IDOA. If it is determined that soils information is necessary, IDOA will normally acquire such information. Studies of alternative freeway alignments between distant points should consider a multitude of factors and soil class/type should be among them because the scope of the project alternatives will likely encounter soils of varying qualities. On new construction/reconstruction projects, IDOT will acquire all soils information.

Where a proposed project will convert farmland to non-farm use, consider measures that could mitigate the scope and impacts of the conversion. In cases where coordination with IDOA is required, this coordination will assist in the identification and evaluation of possible mitigation measures. In all other instances, the IDOT district should ensure that measures to minimize farmland conversion impacts are appropriately identified and considered.

Project information being furnished to the IDOA for review should be addressed as follows:

Illinois Department of Agriculture
Bureau of Land and Water Resources
P. O. Box 19281
State Fairgrounds
Springfield, Illinois 62794-9281

When IDOA has completed its review, it will respond in writing to the agency that submitted the information. Early and complete submittals will generally result in a timely response. Should the IDOA response contain substantive comments or raise controversial issues, such comments and issues should be addressed to the extent that the information is available and a response forwarded expeditiously to IDOA. Remaining comments should then be addressed as soon as the necessary information becomes available. Additional follow-up coordination may be required to determine if mutually satisfactory solutions exist prior to assuming a Departmental position at a hearing or in draft and final environmental documents.

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Summarize the results of the evaluations of farmland conversion impacts, mitigation measures, and associated coordination with IDOA in the project's environmental report or Phase I engineering report, as appropriate.

The discussions below identify specific procedures for projects involving construction or reconstruction and for 3R projects. If coordination with IDOA is necessary and it is unclear whether the project is 3R or reconstruction, provide the information required for a 3R project to IDOA as early in project development as practical. When offered an early opportunity to review project information, IDOA can make an initial determination of its degree of interest and request follow-up information, if appropriate, without delaying the project unduly.

26-10.05(c)2 *New Construction or Reconstruction Projects*

When coordination with IDOA is required, the timing of the coordination and the information provided is important. When new construction or reconstruction is involved, it is appropriate, shortly after location and/or environmental studies have been initiated, to notify IDOA that a project is being studied and that more detailed information will follow as it is developed. On such major projects, it is desirable to maintain contact with IDOA so that potential problems can be identified early to minimize any delays. This may be accomplished through IDOA attendance at scheduled district coordination meetings, NEPA/404 Merger meetings and/or recurring written communications providing information contained in the list below. It is also appropriate to include IDOA on the recipient list for public hearing/meeting notices.

On new construction and reconstruction projects, the description, purpose, and scope of each proposed project shall be provided to IDOA, together with the following information for each alternative:

1. The location, including proposed right-of-way lines if scale permits, on all the following maps:

    - a general county highway map,
    - a plat map, and
    - a modern soil survey map (if available).

2. Total land area in acres (hectares) required for additional right-of-way (includes frontage and access roads).

3. The number of acres (hectares) of each USDA Land Capability Classification (Land Classes I - VIII) and Soil Type (including index number) proposed for acquisition, if applicable.

4. Identification of all soil types occurring within the proposed right-of-way and the number of acres (hectares) of each soil type, if applicable. *Note: Land class and soil type are obtainable from a county's modern soil survey that may be obtained from a local NRCS field office*.

5. Identification of the following impacts that may be associated with the implementation of the project, as applicable:

   - number of farm units and owners affected;
   - number of farm parcels severed;
   - number of farm unit operations severed;
   - number of landlocked parcels created;
   - miles (kilometers) of adverse travel created for each affected farm unit;
   - effects of the proposal upon existing farm drainage systems (surface and subsurface);
   - acres (hectares) of farmland required for borrow and location of the borrow site (depicted on a soil survey and plat map), if available; and
   - erosion control techniques to be utilized on the disturbed area during and after project construction.

6. A brief discussion of all measures included to mitigate any adverse impacts identified in Item #'s 1 through 5.

7. Indication that farmland conversion has been minimized and other appropriate mitigation included for the selected alternative consistent with the operational and safety requirements applicable to the project.

26-10.05(c)3 *3R Projects*

When coordination is necessary and the proposed improvement primarily involves 3R work on existing alignment, it is appropriate, shortly after location and/or environmental studies have been initiated, to notify IDOA that a project is being studied and to provide the following information:

1. Description, purpose, and scope of the proposed project.

2. Map depicting the location of the project. A county highway map is acceptable.

3. Total land area in acres (hectares) required for additional right-of-way and a brief description of its nature; for example, a 10 ft (3 m) strip on north side or a 3 acre (1 ha) parcel to flatten curve at location noted on map.

4. Indication that farmland conversion has been minimized and other appropriate mitigation included for the selected alternative consistent with the operational and safety requirements applicable to the project.

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Summarize the results of coordination with IDOA in the environmental report or Phase I engineering report for the action.

26-10.05(d) Coordination

IDOA should be invited to all district coordination meetings. The invitation should include the meeting notice and agenda. IDOA also may participate in NEPA/404 Merger meetings hosted by FHWA.

26-10.06 Relationship of Federal and State Requirements

Requirements for coordination with the NRCS, although similar to those for the IDOA, are separate and distinct. Coordination with IDOA does not preclude the need to coordinate with NRCS. Projects that require coordination with NRCS will normally also require coordination with IDOA.

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26-11 TRANSPORTATION AIR QUALITY CONFORMITY REQUIREMENTS AND DOCUMENTATION

26-11.01 Introduction

Section 176(c) of the *Clean Air Act* Amendments of 1990 requires that transportation plans, programs, and projects that are funded or approved under Title 23 USC must be determined to conform to State or Federal air implementation plans. Such implementation plans describe how air quality standards will be achieved in those areas of a State in which standards are being exceeded. Areas where monitored air quality exceeds established National Ambient Air Quality Standards (NAAQS) are termed nonattainment areas. Areas that were once classified as nonattainment but have been re-designated as being in compliance with the NAAQS are termed maintenance areas. Conformity to an implementation plan is defined in the *Clean Air Act* as conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. Federal activities may not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with the timely reduction of emissions as reflected in the State Implementation Plan (SIP). The implementing regulations for determining conformity of transportation projects (40 CFR 93, "Determining Conformity of Federal Actions to State or Federal Implementation Plans") also impose requirements upon "regionally significant projects" in nonattainment or maintenance areas regardless of whether those projects involve Federal funding or approvals. Regionally significant projects are transportation projects (other than projects exempt from the conformity requirements) that are on facilities which serve regional transportation needs (e.g., access to and from the area outside of the region, major activity centers in the region, major planned developments, transportation terminals) and would normally be included in the modeling of a metropolitan area's transportation network including, at a minimum, all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel.

The US Environmental Protection Agency (USEPA) has established NAAQS for six criteria pollutants including carbon monoxide (CO), ozone (O_3), lead (Pb), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and particulate matter (PM). The PM pollutant includes both PM_{10}, which are particles with an aerodynamic diameter less than or equal to a nominal 10 microns, and $PM_{2.5}$, which are particles with an aerodynamic diameter less than or equal to a nominal 2.5 microns. Transportation-related criteria pollutants include ozone, carbon monoxide, nitrogen dioxide, and both $PM_{2.5}$ and PM_{10}. Precursors of these pollutants also are considered for regulatory purposes and in regional air quality analyses for nonattainment and maintenance areas. These precursors include volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in ozone areas and NO_x in $PM_{2.5}$ areas. Illinois includes areas in which standards are being exceeded for one or more of the criteria pollutants and also includes areas that have been re-designated from nonattainment to maintenance for the PM_{10} NAAQS.

BDE disseminates information to all districts regarding the location, boundaries, and applicable criteria pollutant(s) for nonattainment and maintenance areas in Illinois. Updates to this information will be issued as changes are published in the *Federal Register*. This information also is available on the USEPA website.

26-11.02 Applicability

The following procedures are applicable to all highway projects initiated by the Department that are funded or approved by the Federal Highway Administration (FHWA) under Title 23 USC and to "regionally significant projects" in nonattainment or maintenance areas, regardless of whether such projects are Federally funded or approved under Title 23.

26-11.03 Procedures

26-11.03(a) Determining Project Involvement in Designated Nonattainment or Maintenance Areas

In the preparation of environmental documentation for projects subject to these procedures, districts should review the most recent information from BDE regarding those areas of Illinois that have been designated as nonattainment or maintenance for one or more of the criteria pollutants. If the proposed improvement is partially or completely within a designated nonattainment or maintenance area it will be subject to the conformity requirements unless the type of work involved is exempted (see the following section). *The USEPA rules do not require conformity determinations for projects outside of nonattainment or maintenance areas (i.e., within attainment areas).*

26-11.03(b) Determining Whether Project is Exempt from Conformity Requirements

The USEPA conformity rules for transportation projects exempt the project types listed below from the requirement for a conformity determination. The determination of whether a particular action is exempt from the conformity requirement, in most cases, is made during the development of the Transportation Improvement Program (TIP) by a Metropolitan Planning Organization (MPO) prior to the initiation of, or in conjunction with, Phase I planning. Note that a particular project of a type listed is not exempt if the MPO, in consultation with USEPA and FHWA, concurs that it has potentially adverse emissions impacts for any reason. The following are exempt projects:

1. Safety. The following safety projects are exempt:

   - railroad/highway crossing;
   - hazard elimination program;
   - safer non-Federal-aid system roads;
   - shoulder improvements;
   - increasing sight distance;
   - safety improvement program;

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- traffic control devices and operating assistance other than signalization projects;
- railroad/highway crossing warning devices.
- guardrails, median barriers, crash cushions;
- pavement resurfacing and/or rehabilitation;
- pavement marking demonstration.
- emergency relief (23 USC 125);
- fencing;
- skid treatments;
- safety roadside rest areas;
- adding medians;
- truck climbing lanes outside the urbanized area;
- lighting improvements;
- widening narrow pavements or reconstructing bridges (no additional travel lanes); and
- emergency truck pullovers.

2. Air Quality. Exempt projects include:

- continuation of ride-sharing and van-pooling promotion activities at current levels, and
- bicycle and pedestrian facilities.

3. Other. Other exempt projects include:

- specific activities that do not involve or lead directly to construction, such as:
  - planning and technical studies,
  - grants for training and research programs,
  - Federal-aid systems revisions, and
  - planning activities conducted pursuant to Titles 23 and 49 USC;
- engineering to assess social, economic, and environmental effects of a proposed action or alternatives to that action;
- noise attenuation;

- emergency or hardship advance land acquisitions (23 CFR 712.204(d));
- acquisition of scenic easements;
- plantings, landscaping, etc;
- sign removal;
- directional and informational signs;
- transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities); and
- repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial changes in function, location, or capacity.

4. Exempt from Regional Emissions Analyses. The following projects are exempt:

- intersection channelization projects,
- intersection signalization projects at individual intersections,
- interchange reconfiguration projects,
- interchange reconfiguration projects.
- changes in vertical and horizontal alignments, and
- truck size and weight inspection stations.

26-11.03(c) Determining Highway Project Conformity

To determine conformity of non-exempt projects within designated nonattainment or maintenance areas, the district must ascertain whether the project is from a conforming transportation plan and a conforming TIP and satisfies other applicable conditions as specified in the conformity rules. As used in this procedure, the term transportation plan refers to the official intermodal metropolitan transportation plan that is developed through the metropolitan planning process for the metropolitan planning area pursuant to 23 CFR 450. TIP refers to the staged, multi-year, intermodal program of transportation projects covering a metropolitan planning area that is consistent with the metropolitan transportation plan and is developed pursuant to 23 CFR 450. The district should contact their Area Programmer or their MPO if confirmation or clarification is needed regarding whether a specific project was in a conforming plan and the latest conforming TIP.

The project conforms with the requirements of the *Clean Air Act* if the district confirms that the following statements are applicable to the action:

- The project was included in the latest conforming transportation plan and TIP in the fiscally constrained portion of the plan.

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- The project design concept and scope have not changed significantly from what was reflected in the conformity analysis for the plan and TIP.
- The project will comply with $PM_{2.5}$ and/or PM_{10} control measures in the SIP.
- Hot-spot analysis requirements are satisfied.

(Other criteria and procedures will apply for determining conformity of projects within CO, $PM_{2.5}$, or PM_{10} nonattainment or maintenance areas (e.g., Transportation Conformity Hot-Spot Analysis). See Section 26-12.

To determine conformity for projects in nonattainment areas or maintenance areas outside of locations served by Metropolitan Planning Organizations, the district should contact BDE. BDE will discuss and coordinate with the Office of Planning and Programming to initiate a regional emissions analysis. The purpose of this analysis is to demonstrate that the proposed project will not cause nor contribute to any new localized violations nor increase the frequency or severity of any existing violations of the NAAQS for the criteria pollutant(s) that caused the area to be designated as nonattainment. The project will be determined to conform with the requirements of the 1990 *Clean Air Act* Amendments upon the concurrence of FHWA in the regional emissions analysis supporting this finding.

Projects must be found to conform before they are adopted, accepted, approved, or funded. Conformity must be re-determined if none of the following major steps has occurred within three years of the conformity determination — NEPA process completion; start of final design; acquisition of a significant portion of the right-of-way; or approval of the plans, specifications, and estimates. A new conformity determination also will be required if there is a significant change in project design concept and scope or if a supplemental environmental document for air quality purposes is initiated.

Regionally significant projects that do not involve Federal approvals or funding from FHWA do not require conformity determinations. However, under the conformity rules, IDOT may not approve these projects unless there is a currently conforming transportation plan and TIP for the area in which the project is located and the project satisfies specific conditions regarding its potential effect on regional air quality. The district should contact BDE relative to regionally significant non-Federal projects in nonattainment and maintenance areas for guidance regarding these specific conditions.

26-11.03(d) Information for NEPA Documents or Project Reports

The environmental documentation for all projects subject to these procedures must include a statement regarding the status of the project with regard to the *Clean Air Act* conformity regulations (i.e., indicating that the project is outside of any designated nonattainment or maintenance area, that the project is of a type exempted from conformity requirements, or that the project has been determined to satisfy the conformity regulations). The following paragraphs indicate the different statements that should be used for this documentation:

Note: For those statements that include references to dates (e.g., for TIPs and plans), the district should enter the dates in effect at the time of the latest conformity determination. BDE should be contacted for guidance if questions arise regarding particular projects.

1. Projects Outside of Nonattainment or Maintenance Areas. For projects that the district determines are completely outside of any designated nonattainment or maintenance areas, the following statement should be included in the project environmental documentation:

> *No portion of this project is within a designated nonattainment or maintenance area for any of the air pollutants for which the USEPA has established standards. Accordingly, a conformity determination under 40 CFR Part 93 ("Determining Conformity of Federal Actions to State or Federal Implementation Plans") is not required.*

2. Exempt Projects. For projects that the district determines are located within a designated nonattainment or maintenance area but have been identified by their MPO as an exempt project type as identified in Section 26-11.03(b) (which includes project types exempt from conformity and those exempt from regional emissions analyses), include the following statement in the project environmental documentation:

> *This project is located within a designated nonattainment or maintenance area but is a project type which the US Environmental Protection Agency (USEPA) has designated as exempt from regional emissions analyses of transportation plans and Transportation Improvement Programs for purposes of determining conformity with the State Implementation Plan (SIP). This designation is based on USEPA's determination that the nature of the project is such that it would not affect the outcome of a regional emissions analysis.*

For project-types discussed in the following sections (i.e., projects that are within a nonattainment or maintenance area and are not exempt projects), include the following introductory paragraphs before the applicable paragraphs documenting the conformity finding for the project-type involved:

> *The National Ambient Air Quality Standards (NAAQS), established by the US Environmental Protection Agency, set maximum allowable concentration limits for six criteria air pollutants. Areas in which air pollution levels persistently exceed the NAAQS may be designated as "nonattainment." States where a nonattainment area is located must develop and implement a State Implementation Plan (SIP) containing policies and regulations that will bring about attainment of the NAAQS. Areas that had been designated as nonattainment, but that have attained the NAAQS for the criteria pollutant(s) associated with the nonattainment designation, will be designated as maintenance areas.*

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All areas of Illinois currently are in attainment of the standards for four of the six criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead.

For the eight-hour ozone and $PM_{2.5}$ *standards, Cook, DuPage, Kane, Lake, McHenry, and Will Counties, as well as Aux Sable and Goose Lake Townships in Grundy County and Oswego Township in Kendall County, have been designated as nonattainment areas. Jersey, Madison, Monroe, and St. Clair Counties in the St. Louis area also have been designated as moderate nonattainment areas for the eight-hour ozone standard. In addition, Madison, Monroe, St Clair, and Baldwin Township in Randolph County are nonattainment for* $PM_{2.5}$*.*

The Lake Calumet area and Lyons Township in Cook County have been designated as a maintenance area for the particulate matter (PM_{10}) *standard. In addition, Oglesby and several adjacent townships in LaSalle County and Granite City Township and Nameoki Township in Madison County have been designated as maintenance areas for the* PM_{10} *standard. All other areas of Illinois currently are in attainment for the ozone and* PM_{10} *standards.*

3. Projects Within a Portion of a Nonattainment or Maintenance Area Where the Chicago Metropolitan Agency for Planning (CMAP) is the MPO. In addition to the introductory paragraphs above, the following paragraphs should be used to document the necessary findings for conformity of projects within a nonattainment or maintenance area for which CMAP is the MPO:

This project is included in the FY [indicate years] Transportation Improvement Program (TIP) endorsed by the Metropolitan Planning Organization Policy Committee of the Chicago Metropolitan Agency for Planning (CMAP) for the region in which the project is located. Projects in the TIP are considered to be consistent with the [indicate year] regional transportation plan endorsed by CMAP. The project is within the fiscally constrained portion of the plan.

On [indicate date], the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) determined that the [indicate year] regional transportation plan conforms with the State Implementation Plan (SIP) and the transportation-related requirements of the 1990 Clean Air Act Amendments. On [indicate date], the FHWA and the FTA determined that the TIP also conforms with the SIP and the Clean Air Act Amendments. These findings were in accordance with 40 CFR Part 93, "Determining Conformity of Federal Actions to State or Federal Implementation Plans."

The project's design concept and scope are consistent with the project information used for the TIP conformity analysis. Therefore, this project

conforms to the existing State Implementation Plan and the transportation-related requirements of the 1990 Clean Air Act Amendments.

The TIP number for this project is _____.

4. Projects Within a Nonattainment or Maintenance Area Served by an MPO other than CMAP. In addition to the introductory paragraphs above, use the following paragraphs to document the necessary findings for conformity of projects within a nonattainment or maintenance area served by a MPO other than CMAP:

This project is included in the [indicate date] Long-Range Transportation Plan and in the [indicate years] Transportation Improvement Program (TIP) endorsed by [indicate name of MPO], the Metropolitan Planning Organization (MPO) for the region in which the project is located. The project is within the fiscally constrained portion of the plan.

On [indicate date] the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) determined that the Long-Range Transportation Plan conforms with the transportation-related provisions of the Clean Air Act Amendments of 1990. The FHWA and the FTA determined on [indicate date] that the TIP conforms with the Clean Air Act Amendments. These findings were in accordance with 40 CFR Part 93, "Determining Conformity of Federal Actions to State or Federal Implementation Plans."

The project's design concept and scope are consistent with the project information used for the TIP conformity analysis. Therefore, this project conforms to the existing State Implementation Plan and the transportation-related requirements of the 1990 Clean Air Act Amendments.

The TIP number for this project is _____.

5. Projects Within a Nonattainment or Maintenance Area Not Served by an MPO. For projects that the district determines will be located within a nonattainment or maintenance area outside an area served by an MPO, in addition to the introductory paragraphs above, use the following paragraphs to document the necessary analysis and finding by FHWA for conformity:

This project is located within an area that the US Environmental Protection Agency (USEPA) has designated as nonattainment or maintenance in relation to the national ambient air quality standards for [insert name(s) of applicable criteria pollutant(s)]. The project is outside of an area served by a Metropolitan Planning Organization (MPO).

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The Federal Highway Administration (FHWA) has reviewed the results of a regional emissions analysis prepared by the Illinois Department of Transportation that includes the proposed project. Based on the results of this analysis, the FHWA has determined that the project will not cause or contribute to any new localized violations of the standard[s] for [insert name(s) of applicable criteria pollutant(s)] nor increase the frequency or severity of any existing violations of the [insert name(s) of applicable criteria pollutant(s)] standard[s]. Therefore, this project conforms to the transportation-related requirements of the 1990 Clean Air Act Amendments.

6. "Regionally Significant" Non-Federal Projects Within a Nonattainment or Maintenance Area. For "regionally significant" projects located in nonattainment or maintenance areas that do not involve funding or approvals from FHWA, in addition to the introductory paragraphs above, use the following paragraphs to document compliance with the conformity regulations:

This project is located within an area that the US Environmental Protection Agency (USEPA) has designated as nonattainment or maintenance in relation to the national ambient air quality standards for [insert name(s) of applicable criteria pollutant(s)]. The project does not involve approvals or funding from the Federal Highway Administration but has been determined to be "regionally significant" under 40 CFR Part 93 "Determining Conformity of Federal Actions to State or Federal Implementation Plans."

The Illinois Department of Transportation has confirmed that there is a currently conforming transportation plan and transportation improvement program and has determined that the plan, transportation improvement program, and project are consistent with 40 CFR Part 93.129, "Requirements for adoption or approval of projects by other recipients of funds designated under Title 23 USC or the Federal Transit Act."

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26-12 TRANSPORTATION CONFORMITY PROJECT-LEVEL QUALITATIVE HOT-SPOT ANALYSIS IN $PM_{2.5}$ AND PM_{10} NONATTAINMENT AND MAINTENANCE AREAS

26-12.01 Introduction

The provisions of 40 CFR 93.116 and 40 CFR 93.123 establish the transportation conformity criteria and procedures for determining which transportation projects in Particulate Matter (e.g., $PM_{2.5}$, PM_{10}), nonattainment, and maintenance areas require a transportation conformity project-level Hot-Spot analysis.

Transportation conformity is required under the *Clean Air Act*, Section 176(c) (42 USC 7506(c)) to ensure that Federally supported highway and transit project activities are consistent with the purpose of the State air-quality implementation plan (SIP). Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant National Ambient Air Quality Standards (NAAQS). The US Environmental Protection Agency (USEPA) transportation conformity rule (e.g., 40 CFR 51.390, 40 CFR 93) establishes the criteria and procedures for determining whether transportation activities conform to the SIP.

A Hot-Spot analysis is defined in 40 CFR 93.101 as an estimation of likely future localized $PM_{2.5}$ or PM_{10} pollutant concentrations, and a comparison of those concentrations to the relevant air quality standards. A Hot-Spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area. The analysis is a means of demonstrating that a transportation project meets *Clean Air Act* conformity requirements to support State and local air quality goals with respect to potential localized air quality impacts. On March 29, 2006, USEPA and FHWA issued joint guidance, *Transportation Conformity Guidance for Qualitative Hot-Spot Analysis in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*, on how to perform a qualitative Hot-Spot analysis. See FHWA's website for further guidance or the district can contact BDE for a copy of the document.

When a Hot-Spot analysis is required, it is included within the project-level conformity determination that is made by FHWA or the Federal Transit Administration.

The Chicago Metropolitan Agency for Planning, Tier 2 Consultation Team has a PM Hot-Spot analysis procedure for all transportation projects, regardless of mode. This Section describes how the IDOT will comply with the Hot-Spot analysis requirements for FHWA-Funded projects Statewide and how the IDOT process fits into the Tier 2 Consultation Team procedure. In addition to the Hot-Spot analysis, other requirements of the transportation conformity regulations (40 CFR 93) must be met prior to NEPA approval (see Section 26-11).

26-12.02 Applicability

The following procedures are applicable to all Federally funded/approved highway projects in $PM_{2.5}$ and PM_{10} nonattainment and maintenance areas.

As of the date of publication of the current edition of the *BDE Manual*, these nonattainment and maintenance areas include the following locations:

1. District 1. All six counties in District 1 are $PM_{2.5}$ nonattainment areas. In addition, the Lake Calumet Area (the area bounded on the north by 79th Street; on the west by Interstate 57, between Sibley Boulevard and Interstate 94, and by Interstate 94, between Interstate 57 and 79th Street; on the south by Sibley Boulevard; and, on the east by the Illinois/Indiana state line), and Lyons Township in Cook County are PM_{10} maintenance areas.

2. District 3. Aux Sable and Goose Lake Townships in Grundy County and Oswego Township in Kendall County are $PM_{2.5}$ nonattainment areas. In addition, Oglesby (including the following Townships, Ranges, and Sections: T33N, R1E, S24; T33N, R1E, S25; T33N, R2E, S30; T33N, R2E, S31; T33N, R1E, S36; T32N, R1E, S1; T32, R2E, S6) is a PM_{10} maintenance area.

3. District 8. Madison County, Monroe County, St. Clair County, and Baldwin Township in Randolph County are $PM_{2.5}$ nonattainment areas. In addition, Granite City Township and Nameoki Township (combined) in Madison County are PM_{10} maintenance areas.

26-12.03 Procedures

26-12.03(a) Exempt Projects

See Section 26-11.03(b) for a list of project-types (from 40 CFR 93.126 “Exempt projects”) that are exempt from Hot-Spot analysis requirements and project-level conformity determinations. Further coordination with FHWA and BDE is not required for these project-types provided requirements in 40 CFR 93.126 are met (i.e., a particular action listed under 40 CFR 93.126 is not exempt if the MPO in consultation with other agencies, the USEPA, and FHWA concur that it has potentially adverse emissions impacts for any reason).

In addition to the project types listed in Section 26-11.03, in accordance with 40 CFR 93.128, traffic signal synchronization projects may be approved, funded, and implemented without satisfying conformity requirements.

For projects that are exempt, insert the following language into the NEPA document or project report:

> *This project is considered exempt from the requirements of conformity per 40 CFR 93.126 or 40 CFR 93.128, as applicable. USEPA has determined that such projects meet the Clean Air Act’s requirements without any further Hot-Spot analysis.*

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26-12.03(b) Non-Exempt Projects That Are Not an Air Quality Concern

Non-exempt projects that are not an air quality concern do not require a Hot-Spot analysis, but should be discussed at the district coordination meeting and still require a project-level conformity determination that meets the remaining applicable provisions of the conformity rule.

The following are examples of non-exempt projects that are not an air quality concern under 40 CFR 93.123(b)(1)(i) and (ii):

- Projects that do not meet the criteria under 40 CFR 93.123(b)(1) (i.e., they are not new or expanded highway projects that have a significant number of, or a significant increase in, diesel vehicles, and are not projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project).

- An intersection channelization project or interchange configuration project that involves turn lanes or slots, lanes, or movements that are physically separated. These kinds of projects improve freeway operations by smoothing traffic flow and vehicle speeds by improving weave and merge operations, which would not be expected to create or worsen $PM_{2.5}$ or PM_{10} violations.

- Intersection channelization projects, traffic circles or roundabouts, intersection signalization projects at individual intersections, and interchange reconfiguration projects that are designed to improve traffic flow and vehicle speeds and do not involve any increases in idling.

For non-exempt projects that are not an air quality concern, insert the following language into the NEPA document or project report:

> *This project is not an air quality concern under 40 CFR 93.123(b)(1). Due to [state reason(s)], it has been determined that the project will not cause or contribute to any new localized $PM_{2.5}$ or PM_{10} violations or increase the frequency or severity of any $PM_{2.5}$ or PM_{10} violations. USEPA has determined that such projects meet the Clean Air Act's requirements without any further Hot-Spot analysis.*

26-12.03(c) Nonexempt Projects That Are an Air Quality Concern

USEPA specifies in 40 CFR 93.123(b)(1) that projects that are an air quality concern include highway and transit projects that involve significant levels of diesel vehicle traffic, or any other project that is identified in the $PM_{2.5}$ SIP as a localized concern. The following are projects of air quality concern that require a Hot-Spot analysis:

- new or expanded highway projects that have a significant number of or significant increase in diesel vehicles;

- projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
- new bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
- expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
- projects in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$ or PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Some examples of projects of air quality concern that would be covered by 40 CFR 93.123(b)(1)(i) and (ii) include, but are not limited to:

- a project on a new highway or expressway that serves a significant volume of diesel truck traffic (e.g., facilities with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic);
- new exit ramps and other highway facility improvements to connect a highway or expressway to a major freight, bus, or intermodal terminal;
- expansion of an existing highway or other facility that affects a congested intersection (operated at Level-of-Service D, E, or F) that has a significant increase in the number of diesel trucks; and
- similar highway projects that involve a significant increase in the number of diesel transit buses and diesel trucks.

Discuss all projects located in the $PM_{2.5}$ nonattainment and PM_{10} maintenance areas at district coordination meetings so BDE and FHWA can jointly determine if the project is an air quality concern. The district may also involve the air quality Tier 2 Consultation Team if FHWA and IDOT cannot conclude the project is not an air quality concern. The district should provide the following information associated with the project in a table format:

- AADT in current year, time of completion, and design year;
- diesel truck percentage (e.g., total of all categories), and diesel truck AADT, in current year, time of completion and design year;
- anticipated change of diesel truck traffic due to the project; and
- level-of-service (for intersections) in existing year, time of completion, and design year.

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If a project does not clearly fit any of the examples of projects that are not an air quality concern, BDE and FHWA may recommend the district contact their Metropolitan Planning Organization (MPO) so that the project may be discussed at an interagency consultation meeting to determine if a project is an air quality concern as described in 40 CFR 93.123(b)(1).

If it is determined that the project is not an air quality concern, the basis for the determination should be included in the district coordination meeting minutes (e.g., low AADT, low percentage of diesel vehicles). Include the following paragraph in the environmental consequences section of the NEPA document or project report.

> *This project is not an air quality concern under 40 CFR 93.123(b)(1). Due to [state reason(s)], it has been determined that the project will not cause or contribute to any new localized $PM_{2.5}$ or PM_{10} violations or increase the frequency or severity of any $PM_{2.5}$ or PM_{10} violations. USEPA has determined that such projects meet the Clean Air Act's requirements without any further Hot-Spot analysis.*

If the project is determined to be an air quality concern, a qualitative Hot-Spot analysis will be required and the steps in Section 26-12.03(d) should be followed.

Projects located in both a $PM_{2.5}$ nonattainment and a PM_{10} maintenance area (e.g., Lake Calumet Area) will require a Hot-Spot analysis for <u>both</u> pollutants.

26-12.03(d) Hot-Spot Analysis Procedures

1. <u>Obtain Regional Emissions PM Analysis Table</u>. The district should contact BDE to obtain the Regional Emissions Analysis Table provided by the MPO for their region. This table will become a component of the Hot-Spot Analysis Report.

2. <u>Draft Hot-Spot Analysis Report</u>. BDE will provide the district with an example Hot-Spot Analysis Report. The district should use this example in conjunction with the joint guidance issued by FHWA and USEPA to complete a Hot-Spot Analysis report. The title of this guidance is *Transportation Conformity Guidance for Qualitative Hot-Spot Analysis in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*. Districts should also use the "Final PM Qualitative Guidance Clarification," issued by FHWA June 12, 2009.

   One of the two qualitative methods described below should be used until USEPA releases a quantitative model:

   a. <u>Comparison to Another Location with Similar Characteristics</u>. This method involves reviewing existing highway or transit facilities constructed in the past and built in locations similar to the proposed project and, whenever possible, near an air quality monitor (a surrogate) to allow a comparison of $PM_{2.5}$ or PM_{10} air quality concentrations.

      The district, in consultation with BDE, should identify proposed project(s) and air quality monitor(s) to be used for the surrogate and coordinate this with the Tier 2

Consultation Team through the appropriate MPO. The district will document in the project-level conformity determination the reasons for picking a surrogate project and air quality monitor, including similarities to and differences between the surrogate and proposed project and location, and summarize the coordination that took place with the Tier 2 Consultation Team.

b. Air Quality Studies for the Proposed Project Location. Air quality information from many sources may be available for the proposed project's location. The State Implementation Plan (SIP) can be an important tool to be referenced when conducting qualitative Hot-Spot analysis, especially for PM_{10} maintenance areas that already have SIPs in place. $PM_{2.5}$ nonattainment areas may use any preliminary data or modeling from a $PM_{2.5}$ SIP. The Illinois Environmental Protection Agency would be able to supply data from air quality monitors that may be useful in a given Hot-Spot analysis.

In some cases, the USEPA or a university may have also performed an air quality study near the location of a proposed project. In addition, other scientific studies may be appropriate to understand the potential air quality impact from certain projects.

The interagency coordination process with the appropriate MPO can be used to determine what air quality information from a SIP or other air quality study is appropriate for assessing the air quality impacts of the proposed project. The district should contact BDE for further guidance. The district would then document within the project-level conformity determination the air quality information used and why it is appropriate.

The following documentation should be included in the Hot-Spot Analysis Report:

- description of project (e.g., location, design and scope; date project is expected to be open, what part of 40 CFR 93.123(b)(1) applies);
- description of type of emissions considered in the analysis (e.g., road dust, construction emissions);
- contributing factors;
- air quality;
- transportation and traffic conditions;
- built and natural environment;
- meteorology, climate, and seasonal data;
- adopted emissions control measures;
- consideration of full timeframe of area's Long-Range Transportation Plan;

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- description of existing conditions;
- description of changes resulting from project;
- description of analysis method chosen;
- description of analysis years;
- examination of year or years in which emissions are expected to peak;
- discussion of why project will not cause violation of either the annual or 24-hour standard;
- discussion of professional judgment on impact;
- discussion of any mitigation measures;
- written commitments for mitigation; and
- conclusion on how project meets 40 CFR 93.116 and 93.123.

Upon completion of the draft Hot-Spot Analysis Report, the district will provide a copy of the report to BDE. BDE will coordinate the report, as appropriate, with FHWA for comments on the draft report. BDE will provide the comments from BDE and FHWA to the district for the district to address. Once all BDE and FHWA comments have been addressed, the Hot-Spot Analysis Report will be summarized in the NEPA document and the full version included in the NEPA document appendix. If the project is a CE, a copy of the report will be retained in the project files.

3. Public Involvement. The documents and information supporting the project level conformity determination, including the qualitative Hot-Spot analysis must be made available to the public for comment prior to a project-level conformity determination being issued by FHWA. The public involvement process typically used by the districts to satisfy NEPA requirements can be used to satisfy the public involvement requirements for the project-level conformity determination, because project-level conformity determinations are usually conducted as part of the NEPA process. Therefore, the Hot-Spot analysis, and documentation for other project-level conformity requirements should be summarized in the Draft EIS or in the EA.

However, if a CE project requires a qualitative Hot-Spot analysis, and the CE does not require public involvement, then the analysis must be made publicly available prior to determining project-level conformity and concluding the NEPA process. The district should coordinate with BDE/FHWA to determine the appropriate public involvement activity.

For projects of air quality concern that completed the NEPA process before April 5, 2006, and an FHWA approval is still required, a Hot-Spot analysis must be completed. A public comment opportunity must be provided prior to FHWA issuing a project-level

conformity determination if the NEPA public involvement process cannot be used to coordinate the Hot-Spot analysis with the public.

This may be accomplished by posting an advertisement in the local newspaper, posting the notice on the MPO's or IDOT's website, and having a copy of the announcement placed at a library or libraries closest to the project corridor.

The following language is suggested for the advertisement/notice:

> *The Illinois Department of Transportation (IDOT) is currently proposing improvements from _____to_____. The project scope includes ____ _____. On March 10, 2006, the US Environmental Protection Agency issued new regulations on Particulate Matter ($PM_{2.5}$ and PM_{10}) Hot-Spot Analysis in Project-Level Transportation Conformity Determinations. A Hot-Spot analysis is defined in 40 CFR 93.101 as an estimation of likely future localized $PM_{2.5}$ or PM_{10} concentrations and a comparison of those concentrations to the relevant air quality standards.*
>
> *The proposed project has been identified as a project of air quality concern requiring a Hot-Spot analysis as part of the project level conformity determination. IDOT has completed a Hot-Spot analysis for the proposed improvement that is available for public comment. The Hot-Spot analysis is available for review on _____ or at _____. A hard copy of this analysis can be obtained by contacting _____ at _____. Comments should be received no later than _____. (Thirty days is recommended. For shorter time-periods consult BDE and FHWA.) Written correspondence related to this Hot-Spot analysis should be addressed to _____.*

4. Final Approval. The district should provide BDE and FHWA a summary of any public comments received and the district's response to those comments. If necessary, the district may need to revise the Hot-Spot Analysis Report based on comments received from the public involvement process. The district will provide BDE with the revised report who will then coordinate it with FHWA. FHWA and BDE will review the revised report and provide the district with comments, if any, through BDE.

If the qualitative analysis demonstrates the project does not create or increase the existing $PM_{2.5}$ and/or PM_{10} violations, include the following statement in the NEPA document:

> *The qualitative analysis demonstrates the project will not create new local $PM_{2.5}/PM_{10}$ violations. Furthermore, the analysis demonstrates the project will not increase the severity or number of existing $PM_{2.5}/PM_{10}$ violations. The FHWA has, therefore, determined that the project satisfies the Clean Air Act project-level conformity requirements for $PM_{2.5}/PM_{10}$.*

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If mitigation measures are necessary to demonstrate conformity, include the mitigation measures in the NEPA document, along with enforceable written Environmental Commitments to implement them. The following statement must be included in the NEPA document:

> *The qualitative analysis demonstrates the project may create new local $PM_{2.5}$/PM_{10} violations or it may increase the severity or number of existing $PM_{2.5}$ /PM_{10} violations. Implementation of the following air quality mitigation measures will allow this project to meet the conformity Hot-Spot requirements [list mitigation measure(s) here]. The FHWA has, therefore, determined that the project satisfies the Clean Air Act project-level conformity requirements for $PM_{2.5}$/PM_{10}.*

Final approval of the conformity determination is made upon approval of the NEPA document (FONSI, ROD or CE determination).

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26-13 MOBILE SOURCE AIR TOXICS

26-13.01 Introduction

On September 30, 2009, the US Department of Transportation and FHWA issued an updated interim guidance on when and how to analyze Mobile Source Air Toxics (MSAT) in the NEPA process for highway projects. See the *Interim Guidance Update on Mobile Source on Air Toxic Analysis in NEPA Documents* for further guidance.

The *Clean Air Act* identified 188 air toxics, also known as hazardous air pollutants. The US Environmental Protection Agency (USEPA) has assessed this expansive list of toxics and identified a group of 93 compounds emitted from mobile sources, listed in the USEPA Integrated Risk Information System (IRIS). The USEPA also identified a subset of this list of 93 that are considered the seven priority MSATs. These are acrolein, benzene, 1,3-butidiene, diesel particular matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considered these to be the priority MSATs, USEPA stresses that the list is subject to change and may be revised in future rules.

FHWA developed a tiered approach for analyzing MSATs in NEPA documents, depending on the specific project circumstances. FHWA has identified three levels of analysis:

- no analysis for projects with no potential for meaningful MSAT effects,
- qualitative analysis for projects with low potential MSAT effects, or
- quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

26-13.02 Applicability

The following procedures apply to all proposed highway projects initiated by the Department.

26-13.03 Procedures

26-13.03(a) Projects with No Meaningful Potential MSAT Effects or Exempt Projects

The types of projects in this category include:

- Projects qualifying as a categorical exclusion under 23 CFR 771.117(c); see Section 23-1.04(b) for examples of actions that would typically qualify as CE I Actions listed in 23 CFR 771.117(c).
- Projects exempt under the *Clean Air Act* conformity rule in 40 CFR 93.126; see Section 26-11.03(b) (Items 1-3) for exempt project types.
- Other projects with no meaningful impacts on traffic volumes or vehicle mix.

For project types qualifying as a categorical exclusion under 23 CFR 771.117(c), or for projects that are exempt under the *Clean Air Act* conformity rule under 40 CFR 93.126, include the following certifying paragraph in the Phase I engineering report:

Mobile Source Air Toxics

> *This project is of a type qualifying as a categorical exclusion (CE II) under 23 CFR 771.117(c), or exempt under the Clean Air Act conformity rule under 40 CFR 93.126, and, as such, a Mobile Source Air Toxics analysis is not required.*

For project types with no meaningful impacts on traffic volumes or vehicle mix such as found in 23 CFR 771.117(d) (See Section 23-1.04(c)), or 40 CFR 93.127 (See Section 26-11.03(b)(Item #4.)), include the following text in the Phase I engineering report and, as applicable, the associated environmental document:

Mobile Source Air Toxics

> *This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special Mobile Source Air Toxic (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the non-build alternative.*
>
> *Moreover, USEPA regulations for vehicle engines and fuels will cause overall MSATs emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with USEPA's MOBILE6.2 model forecasts a combined reduction of 72 percent in the total annual emission rate for the priority MSAT from 1999 to 2050 while vehicle-miles of travels are projected to increase by 145 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.*

26-13.03(b) Projects with Low Potential MSAT Effects

The types of projects included in this category are those that serve to improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase MSAT emissions. This category covers a broad range of projects.

Any projects not meeting the criteria in Sections 26-13.03(a) or 26-13.03(c), should be included in this category. Examples of these types of projects are minor widening projects; new interchanges (e.g., those that replace a signalized intersection on a surface street); or projects where design year traffic is projected to be less than 140,000 to 150,000 annual average daily traffic AADT.

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For project types that have a low potential for MSAT effects, conduct a qualitative assessment of emissions projections. Four types of project documentation are offered:

1. a minor widening project,
2. a new interchange connecting an existing roadway with a new roadway,
3. a new interchange connecting new roadways, and
4. minor improvements or expansions to intermodal centers or other projects that affect truck traffic.

In addition to the qualitative assessment, the NEPA document for this category of projects must include a discussion of information that is incomplete or unavailable for a project specific assessment of MSAT impacts, in compliance with Council on Environmental Quality (CEQ) regulations 40 CFR 1502.22(b). Recommended prototype language for this discussion is included in Section 26-13.03(d).

Following are some examples of qualitative MSAT analyses for different types of projects. Each project is different and some projects may contain elements covered in more than one of the examples below. The district can use the example language as a starting point, but should tailor it to reflect the unique circumstances of the project being considered. Consider the following factors when crafting a qualitative analysis:

- For projects on an existing alignment, MSATs are expected to decline due to the effect of new USEPA engine and fuel standards.
- Projects that result in increased travel speeds will reduce MSAT emissions per vehicle miles traveled (VMT) basis, although the effect of speed changes on diesel particular matter is not accounted for in the MOBILE6.2 model. This speed benefit may be offset somewhat by increased VMT if the more efficient facility attracts additional vehicle trips.
- Projects that facilitate new development may generate additional MSAT emissions from new trips, truck deliveries, and parked vehicles (due to evaporative emissions). However, these may also be activities that are attracted from elsewhere in the metro region; thus, on a regional scale there may be no net change in emissions.
- Projects that create new travel lanes, relocate lanes, or relocate economic activity closer to homes, schools, businesses, and other populated areas may increase concentrations of MSAT at those locations relative to No Action.

Other elements related to a qualitative analysis are a discussion of information that is incomplete or unavailable for a project-specific assessment of MSAT impacts and a discussion of any MSAT mitigation measures that may be associated with the project.

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by FHWA entitled “A Methodology for

Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives." The study is available through the FHWA website. Consider the following introduction language for qualitative assessments:

1. Minor Widening Project. For purposes of this scenario, minor highway widening projects are those in which the design year traffic level is predicted to be less than 140,000 AADT. Widening projects that surpass these criteria are subject to a quantitative analysis. Include wording similar to the following:

   For each build alternative carried forward in this [identify NEPA document], the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables (e.g., fleet mix) are the same for each alternative. The VMT estimated for each of the Build Alternatives carried forward is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to USEPA's MOBILE6.2 model, emissions of all of the priority MSAT except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emission decreases will offset VMT-related emission increases cannot be reliably projected due to the inherent deficiencies of technical models.

   Because the estimated VMT under each of the Build Alternatives carried forward are nearly the same, varying by less than [specify] percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of USEPA's national control programs that are projected to reduce annual MSAT emissions by 72 percent between 1999 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great, even after accounting for VMT growth, that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

   The following paragraph may apply if the project includes plans to construct travel lanes closer to populated areas:

   The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools and businesses; therefore, under each Build -Alternative

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carried forward there may be localized areas where ambient concentrations of MSAT could be higher under certain Build Alternatives than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built at [specify location], under Alternatives [specify], and along [specify route] under Alternatives [specify alternatives]). However, the magnitude and the duration of these potential increases compared to the No-build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts.

In summary, where a highway is widened, the localized level of MSAT emissions for the Build Alternative carried forward could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion, which are associated with lower MSAT emissions. Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, USEPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

2. New Interchange Connecting an Existing Roadway with a New Roadway. This example is oriented toward projects where a new roadway section connects to an existing limited access highway. The purpose of the roadway is primarily to meet regional travel needs (e.g., by providing a more direct route between locations). Include wording similar to the following:

For each build alternative carried forward in this [identify NEPA document type], the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables (e.g., fleet mix) are the same for each alternative. Because the VMT estimated for the No Build Alternative is higher than for any of the Build Alternatives carried forward, higher levels of regional MSAT are not expected from any of the Build Alternatives carried forward compared to the No Build Alternative. In addition, because the estimated VMT under each of the Build Alternatives carried forward are nearly the same, varying by less than [specify] percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of USEPA's national control programs that are projected to reduce MSAT emissions by 72 percent from 1999 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great, even after accounting for VMT growth, that MSAT

emissions in the study area are likely to be lower in the future in virtually all locations.

Under each alternative carried forward, there may be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. The localized increases in MSAT emissions would likely be most pronounced along the new roadway sections that would be built at [specify location], under Alternatives [specify alternatives], and along [specify route] under Alternatives [specify]. However, even if these increases do occur, they too will be substantially reduced in the future due to implementation of USEPA's vehicle and fuel regulations.
In summary, under all Build Alternatives carried forward in the design year it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No Build Alternative, due to the reduced VMT associated with more direct routing, and due to USEPA's MSAT reduction programs.

3. New Interchange Connecting New Roadways. This example is oriented toward interchange projects developed in response to or in anticipation of economic development (e.g., a new interchange to serve a new shopping/residential development). Projects from the previous example may also have economic development associated with them, so some of this language may also apply. Include wording similar to the following:

For each build alternative carried forward in this [identify NEPA document type], the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables (e.g., fleet mix) are the same for each alternative. The VMT estimated for each of the Build Alternatives carried forward is slightly higher than that for the No Build Alternative, because the interchange facilitates new development that attracts trips that would not otherwise occur in the area. This increase in VMT means MSAT under the Build Alternatives carried forward would probably be higher than the No Build Alternative in the study area. There could also be localized differences in MSAT from indirect effects of the project such as associated access traffic, emissions of evaporative MSAT (e.g., benzene) from parked cars, and emissions of diesel particulate matter from delivery trucks [modify] depending on the type and extent of the associated development). Travel to other destinations would be reduced with subsequent decreases in emissions at those locations.

Because the estimated VMT under each of the Build Alternatives carried forward are nearly the same, varying by less than [specify] percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various Build Alternatives. For all Alternatives carried forward, emissions are virtually certain to be lower than present

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levels in the design year as a result of USEPA's national control programs that are projected to reduce MSAT emissions by 72 percent from 1999 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great, even after accounting for VMT growth, that MSAT emissions in the study area are likely to be lower in the future than they are today.

The following discussion would apply to new interchanges in areas already developed to some degree. For new construction in anticipation of economic development in rural or largely undeveloped areas, this discussion would be applicable only to populated areas (e.g., residences, schools, businesses).

The travel lanes contemplated as part of the project alternatives carried forward will have the effect of moving some traffic closer to nearby homes, schools and businesses; therefore, under each alternative carried forward there may be localized areas where ambient concentrations of MSAT would be higher under certain Alternatives than others. The localized differences in MSAT concentrations would likely be most pronounced along the new/expanded roadway sections that would be built at [specify location], under Alternatives [specify alternatives], and along [specify route] under Alternatives [specify]. However, the magnitude and the duration of these potential increases cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. Further, under all Alternatives carried forward, overall future MSAT are expected to be substantially lower than today due to implementation of USEPA's vehicle and fuel regulations.

In summary, under all Build Alternatives carried forward in the design year, it is expected there would be slightly higher MSAT emissions in the study area, relative to the No Build Alternative, due to increased VMT. There also could be increases in MSAT levels in a few localized areas where VMT increases. However, USEPA's vehicle and fuel regulations will bring about significantly lower MSAT levels for the area in the future than today.

4. Minor Improvements or Expansions to Intermodal Centers or Other Projects that Affect Truck Traffic. The description for these types of projects depends on the nature of the project. The key factor from an MSAT standpoint is the change in truck and rail activity and the resulting change in MSAT emissions patterns. Include wording similar to the following:

For each build alternative carried forward in this [identify NEPA document type], the amount of MSAT emitted would be proportional to the amount of truck vehicle miles traveled (VMT) and rail activity, assuming that other

variables (e.g., travel not associated with the intermodal center) are the same for each alternative. The truck VMT and rail activity estimated for each of the Build Alternatives carried forward are higher than that for the No Build Alternative, because of the additional activity associated with the expanded intermodal center. This increase in truck VMT and rail activity associated with the Build Alternatives carried forward would lead to higher MSAT emissions (particularly diesel particulate matter) in the vicinity of the intermodal center. The higher emissions could be offset somewhat by two factors: 1) the decrease in regional truck traffic due to increased use of rail for inbound and outbound freight; and 2) increased speeds on area highways due to the decrease in truck traffic. The extent to which these emissions decreases will offset intermodal center-related emissions increases is not known.

Because the estimated truck VMT and rail activity under each of the Build Alternatives carried forward are nearly the same, varying by less than [specify] percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of USEPA's national control programs that are projected to reduce annual MSAT emissions by 72 percent from 1999 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the USEPA-projected reductions are so significant, even after accounting for VMT growth, that MSAT emissions in the study area are likely to be lower in the future as well.

The following discussion may apply if the intermodal center is close to other development:

The additional freight activity contemplated as part of the project alternatives carried forward will have the effect of increasing diesel emissions in the vicinity of nearby homes, schools and businesses; therefore, under each alternative carried forward there may be localized areas where ambient concentrations of MSAT would be higher than under the No Build alternative. The localized differences in MSAT concentrations would likely be most pronounced under Alternatives [specify]. However, as discussed above, the magnitude and the duration of these potential differences cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific health impacts. Even though there may be differences among the Alternatives carried forward, on a region-wide basis, USEPA's vehicle and fuel regulations, coupled with fleet turnover, will cause substantial reductions over time so that in almost all cases, the MSAT levels in the future will be significantly lower than today.

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Insert a description of any emissions-reduction activities that are associated with the project (e.g., truck and train idling limitations or technologies, auxiliary power units, alternative fuels, engine retrofits for container-handling equipment).

In summary, all Build Alternatives carried forward in the design year are expected to be associated with higher levels of MSAT emissions in the study area, relative to the No Build Alternative, along with some benefit from improvements in speeds and reductions in region-wide truck traffic. There also could be slightly higher differences in MSAT levels among Alternatives carried forward in a few localized areas where freight activity occurs closer to homes, schools and businesses. Under all alternatives carried forward, MSAT levels are likely to decrease over time due to nationally mandated cleaner vehicles and fuel.

26-13.03(c) Projects with Higher Potential MSAT Effects

This category includes projects that have the potential for meaningful differences in MSAT emissions among project alternatives. Projects included in this category must:

- create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location; or
- create new or add significant capacity to urban highways (e.g., Interstates, urban arterials, urban collector-distributor routes) with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000 or greater by the design year; and
- be proposed to be located in proximity to populated areas.

Projects within this category should be more rigorously assessed for impacts. If a project meets the criteria, the district should contact FHWA, Illinois Division Office, for assistance in developing a specific approach for assessing impacts. This approach would include a quantitative analysis to forecast local-specific emissions trends of the priority MSAT for each build alternative carried forward, to use as a basis of comparison. This analysis also may address the potential for cumulative impacts, where appropriate, based on local conditions. Consider how and when cumulative impacts would be addressed as part of FHWA assistance outlined above. The NEPA document should also include relevant language on unavailable information as outlined below. Districts should consult with BDE on documenting this information in NEPA documents.

If the analysis for a project in this category indicates meaningful differences in levels of MSAT emissions, mitigation options as outlined below, should be identified and considered.

Districts should also consult with FHWA Division Office, for projects that do not meet the criteria of the project types listed above, but may have the potential to substantially increase future MSAT emissions.

1. MSAT Mitigation Strategies. Lessening the effects of mobile source air toxics should be considered for projects with substantial construction-related MSAT emissions that are likely to occur over an extended building period, and for post-construction scenarios where the NEPA analysis indicates potentially meaningful MSAT levels. Evaluate such mitigation efforts based on the circumstances associated with individual projects, and may not be appropriate in all cases. There are a number of available mitigation strategies and solutions for countering the effects of MSAT emissions.

2. Mitigating for Construction MSAT Emissions. Construction activity may generate a temporary increase in MSAT emissions. Project-level assessments that render a decision to pursue construction emission mitigation will benefit from a number of technologies and operational practices that should help lower short-term MSAT. In addition, 23 USC 149, as amended by the *Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users* (Public Law 109-59, August 10, 2005), places emphasis on a host of diesel retrofit technologies – technologies that are designed to lessen a number of MSAT.

   Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time (e.g., reducing the numbers of trips, extended idling). Operational agreements that reduce or redirect work or shift times to avoid community exposures can have positive benefits when sites are near populated areas. For example, agreements that stress work activity outside normal hours of an adjacent school campus would be operations-oriented mitigation. Verified emissions control technology retrofits or fleet modernization of engines for construction equipment could be appropriate mitigation strategies. Technology retrofits could include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. Implementing maintenance programs per manufacturers' specifications to ensure engines perform at USEPA certification levels, as applicable, and to ensure retrofit technologies perform at verified standards could also be deemed appropriate. The use of clean fuels (e.g., ultra-low sulfur diesel, biodiesel, natural gas) can be a very cost-beneficial strategy.

   The USEPA has listed a number of approved diesel retrofit technologies. Many of these can be deployed as emissions mitigation measures for equipment used in construction. See the USEPA website.

3. Post-Construction Mitigation for Projects with Potentially Significant MSAT Levels. Travel demand management strategies and techniques that reduce overall vehicle-mile of travel (vehicle-km of travel); reduce a particular type of travel (e.g., long-haul freight, commuter travel) or improve the transportation systems' efficiency will mitigate MSAT emissions. Examples of such strategies include congestion pricing, commuter incentive programs, and increases in truck weight or length limits. Operational strategies that focus on speed limit enforcement or traffic management policies may help reduce MSAT emissions even beyond the benefits of fleet turnover. Well-traveled highways with high proportions of heavy-duty diesel truck activity may benefit from active Intelligent Transportation System programs (e.g., traffic management centers, incident

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management systems). Similarly, anti-idling strategies (e.g., truck-stop electrification) can complement projects that focus on new or increased freight activity.

Planners also may want to consider the benefits of establishing buffer zones between new or expanded highway alignments and populated areas. Modifications of local zoning or the development of guidelines that are more protective may also be useful in separating emissions and receptors.

The initial decision to pursue MSAT emissions mitigation strategies should be made in consultation with BDE.

26-13.03(d) Prototype Language for Compliance with 40 CFR 1502.22

For projects that require a quantitative or a qualitative analysis, include wording similar to the following for compliance with 40 CFR 1502.22. This language should precede the specific qualitative or quantitative analysis in the environmental document.

INCOMPLETE OR UNAVAILABLE INFORMATION FOR PROJECT-SPECIFIC MSAT HEALTH IMPACTS ANALYSIS

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

<u>USEPA Role</u>

The US Environmental Protection Agency (USEPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The USEPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects." The IRIS can be accessed through the USEPA website. Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Role of Other Organizations

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's "Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents." Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease. See research reports available through the HEI website.

Problems with Modeling Methodologies

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts; each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology, which affects emissions rates over that time frame, because such information is unavailable. The results produced by the USEPA's MOBILE6.2 model, the California EPA's Emfac2007 model, and the USEPA's DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel particulate matter (PM) emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of USEPA's guideline CAL3QHC model was conducted in an NCHRP study, available through the USEPA website, which documents poor model performance at ten sites across the country - three where intensive monitoring was conducted plus an additional seven with less intensive monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with National Ambient Air Quality Standards for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways, and to determine the portion of time that people are actually exposed at a specific location.

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MSAT Toxicity Estimates

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The USEPA and the HEI have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

Level of Risk

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the USEPA, as provided by the Clean Air Act, to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards (e.g., benzene emissions from refineries). The decision framework is a two-step process. The first step requires USEPA to determine a "safe" or "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the US Court of Appeals for the District of Columbia Circuit upheld USEPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Conclusions

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits (e.g., reducing traffic congestion, crash rates, and fatalities plus improved access for emergency response) that are better suited for quantitative analysis.

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26-14 MICROSCALE ANALYSIS

26-14.01 Introduction

FHWA Technical Advisory T 6640.8A recognizes that carbon monoxide (CO) is a project-related concern and should be evaluated as a part of the environmental analyses for proposed projects. The Illinois Department of Transportation (IDOT) and Illinois Environmental Protection Agency (IEPA) have executed an "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects." This agreement establishes requirements for determining when a microscale analysis is necessary and the methodology to be used for accomplishing the analysis. BDE has developed a *Carbon Monoxide Screen for Intersection Modeling Air Quality Manual* that is a key component of the procedures for implementing the IDOT-IEPA agreement. The procedures in this Section provide guidance on documenting microscale analysis results in accordance with the IDOT-IEPA agreement and the *Carbon Monoxide Screen for Intersection Modeling Air Quality Manual*.

26-14.02 Applicability

The following procedures apply to all proposed highway projects initiated by the Department.

26-14.03 Procedures

26-14.03(a) Projects That Do Not Add Through Lanes or Auxiliary Turning Lanes

Under the terms of the IDOT-IEPA "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," projects that do not add through lanes or auxiliary turning lanes are exempt from the requirement for a microscale CO analysis. For projects that qualify for this exemption, enter the following statement in the Environmental Resources, Impacts, and Mitigation discussion:

> *In accordance with the IDOT-IEPA "Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects," this project is exempt from a project-level carbon monoxide air quality analysis because it does not add through lanes or auxiliary turning lanes.*

26-14.03(b) Projects Involving No Sensitive Receptors and Projects Not Suitable for Use of COSIM 3.0

For projects that will add through lanes or auxiliary turning lanes, but that either have no "sensitive" receptors (as defined in the COSIM 3.0 - *Air Quality Manual*) within 1000 ft (300 m) of any intersection or that do not fit the assumptions for use of the COSIM model (see COSIM *Air Quality Manual*), contact BDE regarding evaluation of the need for further air quality modeling for CO and the documentation to include in the Environmental Resources, Impacts, and Mitigation discussion.

26-14.03(c) Projects Subject to COSIM Pre-Screen

For projects that will add through lanes or auxiliary turning lanes and that fit the assumptions for use of the COSIM program, the first step in the microscale CO analysis process will be to use the Pre-screen feature in version 3.0 of COSIM to determine whether further air quality modeling is needed. If the project "passes" the Pre-screen (i.e., "worst case" assumptions indicate the project will not exceed the Carbon Monoxide NAAQS), enter the following statement in the Environmental Resources, Impacts, and Mitigation discussion:

> *A Pre-Screen carbon monoxide analysis was completed for the proposed project. The results from this proposed roadway improvement indicate that a COSIM air quality analysis is not required, as the results for the worst-case receptor are below the 8-hour average National Ambient Air Quality Standard for CO of 9.0 ppm, which is necessary to protect the public health and welfare.*

26-14.03(d) Projects Subject to COSIM Screening Analysis

If the project "fails" the Pre-screen, conduct a complete COSIM screening analysis as the next step in the microscale CO analysis process. The COSIM analysis will indicate whether further detailed air quality analysis is needed. If the COSIM analysis indicates that the project "passes" (i.e., does not have the potential for causing a violation of the NAAQS for CO for any affected receptors), further detailed air quality analysis is not required. Complete and include the following paragraphs in the Environmental Resources, Impacts, and Mitigation discussion:

> *The air quality effects of the proposed project were analyzed using the Illinois Carbon Monoxide Screen for Intersection Modeling (COSIM). The "worst case" analysis provided by the COSIM model indicated that the proposed undertaking does not have the potential for contributing to a violation of the National Ambient Air Quality Standards for CO. CO concentrations for the worst case receptor (i.e., residence) located [_____] (see Exhibit [__]) were as follows:*
>
> *Existing ([year]) - ___ ppm; Build – Time of Completion (TOC) ([year]) - ___ ppm, TOC + 10 years ([year]) - ___ ppm, and Design Year ([year]) - ___ ppm; No Action - ___ ppm in [TOC year], ___ ppm in [TOC + 10 year], and ___ ppm in [design year].*

26-14.03(e) Projects Subject to Detailed Project-Level CO Analysis

If the COSIM screening analysis indicates the project "fails" (i.e., that it has potential for contributing to a violation of the NAAQS for CO) or if the project does not fit the assumptions for use of the COSIM screening analysis, perform and document a detailed project-level CO analysis. Districts should use the latest US Environmental Protection Agency (USEPA) emission factor and air quality dispersion models and contact BDE for guidance on the latest inputs and modeling information.

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Analysis results above the eight-hour CO NAAQS will indicate impacts that will require discussion of mitigation measures with FHWA, USEPA, and IEPA. Describe any such mitigation measures in the Environmental Resources, Impacts, and Mitigation discussion.

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26-15 MIGRATORY BIRDS

26-15.01 Introduction

The *Migratory Bird Treaty Act* affords protection to migratory bird species native to the United States or its territories and makes it unlawful (unless and except as permitted by regulation) at any time, by any means or in any manner to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, sell, import or export any migratory bird, any part, nest, or eggs of any such bird or any product that includes any such bird or any part, nest, or egg thereof. The *Act* prohibits the direct take of birds and their young, eggs, and nests. A take does not include habitat destruction or alteration, as long as there are no birds, nests, or eggs occupying the habitat being removed or altered.

Bald and golden eagles are migratory birds that are also protected under the *Bald and Golden Eagle Protection Act*. Special conditions apply when projects intrude on eagle nesting and winter roosting areas.

In the development of a proposed highway project, an environmental screening must be done to identify and evaluate the potential for impacts to migratory birds, their nests, eggs, and young. This Section prescribes procedures for these analyses, related coordination, mitigation, and documentation.

26-15.02 Legal Authority

The following legal authorities influence policies and procedures for migratory birds:

- 16 USC 703-712, *Migratory Bird Treaty Act.*
- 16 USC 668, a-d, *Bald and Golden Eagle Protection Act.*
- Executive Order 13186, “Responsibilities of Federal Agencies to Protect Migratory Birds.”
- US Fish and Wildlife Service (USFWS), “National Bald Eagle Management Guidelines,” May 2007.

26-15.03 Policy

Make special effort to avoid construction-related impacts to migratory birds, their nests, eggs, and young.

26-15.04 Procedures

26-15.04(a) Definitions

1. Area-Sensitive Birds. Species of birds requiring a relatively large forest or grassland patch within which to reproduce successfully.

2. Disturb. To agitate or bother a bald eagle or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, injury to an eagle; a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

3. Fragmentation. The degree to which forested or grassland areas are being broken into smaller patches and interspersed with habitat areas of different vegetative composition.

4. Forest-Interior Birds. Neotropical migrants that nest in large, contiguous forest areas and are affected by fragmentation.

5. Migratory Bird. Any bird species listed in 50 CFR 10.13 “List of Migratory Birds.”

6. Neotropical Migrant. Birds that nest in the United States and Canada and spend the winter months in tropical Mexico, Central and South America, and the Caribbean.

7. Take. To pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to carry out any of these activities. Take does not include habitat destruction or alteration, as long as there are no birds, nests, or eggs occupying the habitat being removed or altered.

26-15.04(b) Applicability

The following procedures apply to proposed projects initiated by the Department involving tree removal or destruction of grassland habitat.

26-15.04(c) Analysis and Documentation

To assess the presence of nesting migratory birds within a project area, a determination of breeding birds within the project area to be disturbed by construction will need to be made. Information on Illinois birds can be obtained from the USFWS *Breeding Bird Survey* (BBS), which is available on the USFWS, Division of Migratory Bird Management *Bird Monitoring* website. The BBS is a roadside survey designed to monitor population trends of land birds. A total of 103 routes are run annually throughout Illinois. Each BBS route includes species presence, abundance, and land cover data. Though most projects will not involve BBS routes, the BBS data can be applied to most project areas by extrapolation. Match a BBS route close to the project area that contains land cover types similar to those within the project area. If appropriate information cannot be obtained from these sources, initiate an individual breeding bird survey. Projects reviewed through the Environmental Survey Process (see Chapter 27) will

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be evaluated for the presence of migratory birds. Results of the evaluation will be sent to the district for evaluation of the project's impact on migratory birds.

Projects processed with an EA or EIS should identify the species potentially present within the project area, the habitat(s) they occupy, their abundance in the region, the likely mechanisms of take (e.g., vegetation removal, habitat loss, fragmentation), and mitigation measures to avoid a take (e.g., restricting tree removal during the breeding season).

Identify the fragmentation of a forested parcel or woody riparian corridor larger than 20 acres (8 ha) and discuss the potential for impacts to forest interior species. For those neotropical migrants that could be affected by the project, include a table within the EA or EIS identifying the species, the species' habitat, and the nesting season dates. This information can be obtained from *The Illinois Breeding Bird Atlas* and *The Birds of Illinois*. *The Illinois Breeding Bird Atlas* (Kleen, Cordle, and Montgomery, 2004) provides information on distribution, abundance, breeding habitats, and fledgling times. *The Birds of Illinois* (Bohlen and Zimmerman, 1989) provides arrival and departure dates on a geographical basis. Discuss the mitigation measures and the actions to avoid a take.

Projects Involving Bald Eagles

Projects involving bald eagles will follow the USFWS *National Bald Eagle Management Guidelines*, available on the USFWS, Division of Migratory Bird Management *Bald and Golden Eagle* website. The EA or EIS will document the results of application of the USFWS guidelines.

In Illinois, bald eagle habitat consists of wintering habitat, winter night roosts, and nesting habitat. During the winter (October through March) migrating bald eagles (and some golden eagles) are present along the Mississippi and Illinois Rivers, and adjacent lakes and sloughs. They also occur around large impoundments. Winter night roosts generally consist of wooded ravines along the bluffs of the Mississippi and Illinois Rivers. These ravines are used annually and offer protection from cold winds and seclusion from human disturbance. The locations of winter night roosts can be obtained through coordination with the Illinois Department of Natural Resources (IDNR). Eagles build large nests in the upper branches of the tallest trees, usually cottonwoods. Edges and openings in forests, fencerows, and other type areas are used for nesting. Impact analysis for nesting and winter night roosts follows the USFWS guidelines. A circle with a radius of 1,320 ft (400 m) is established around a nest/winter night roost. The circle is broken into three zones, as follows:

- The first zone extends out from the nest/winter night roost 330 ft (100 m). No human use is allowed year-round within this zone.
- The second zone extends from 330 ft to 660 ft (100 m to 200 m). Land-use activities involving clear cutting, land clearing, or major construction are prohibited within this zone.

- The third zone extends from 660 ft to 1,320 ft (200 m to 400 m) and is the least restrictive. Most activities are permissible within this zone except during the nesting period (generally late February to mid July).

Projects processed as CEs should receive either a biological signoff or a Biological Resource Review (BRR) Memorandum. A biological signoff indicates the likelihood of migratory bird impacts is remote. If potential migratory bird habitat and/or impacts are present, the BRR Memorandum will contain the results of the migratory bird evaluation. Projects involving bald eagles will follow the USFWS guidelines as described above. Include this documentation in the Phase I engineering report.

26-15.04(d) Coordination

Coordination with the USFWS is required for all actions that are likely to take a migratory bird(s). In general, EIS projects will be coordinated with the USFWS, IDNR, and US Environmental Protection Agency through the circulation of the Draft and Final EIS. EA and CE projects will be coordinated with the IDNR and USFWS (if appropriate) through the Environmental Survey Process. Agency comments, if any, should be addressed by the district with a copy to the BDE. Construction plans must include identification of sensitive areas and measures to be used to avoid a take of a migratory bird or its nest, eggs, or young.

The construction contractor should be made aware through the use of a General Note in the project plans if the action is likely to take a migratory bird(s). The construction contractor is personally liable for violations of the *Migratory Bird Treaty Act*. Mitigation options include avoiding impacts to migratory birds, their nest, eggs, or young; performing tree removal outside the critical stage for the species involved; or performing a specific bird survey to confirm that migratory birds are not using the area.

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26-16 WILDLIFE RESOURCES

26-16.01 Introduction

Wildlife resources are of ecological, educational, aesthetic, cultural, recreational, economic, and scientific value to Illinois. In the development of projects, it may be necessary to undertake special technical analyses, coordination, and mitigation to reduce and minimize impacts to wildlife species and their habitats.

26-16.02 Legal Authority/Guidance

- 16 USC 661-667e, *Fish and Wildlife Coordination Act*.
- 23 CFR 777, "Mitigation of Impacts to Wetlands and Natural Habitats."
- 23 CFR 710.513, "Environmental Mitigation."
- 40 CFR 230, "Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material."
- "Memorandum of Understanding to Foster the Ecosystem Approach between all Federal Agencies," December 15, 1995.
- Illinois Comprehensive Wildlife Conservation Plan and Strategy (Illinois Wildlife Action Plan), 2005.
- Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects, 2006.
- *Critter Crossings: Linking Habitats and Reducing Roadkill* (FHWA-EP-004) (available on FHWA website).
- *Wildlife Vehicle Collision Reduction Study: Best Practices Manual* (FHWA-HEP-09-022), 2008 (available on FHWA website).

26-16.03 Policy

In the development of major highway projects, project impacts to wildlife resources will be identified and evaluated and consideration will be given to implementing practical measures for avoiding, minimizing, and mitigating adverse impacts to those resources.

26-16.04 Procedures

26-16.04(a) Definitions

1. Cover Types. This term refers to the plant communities (predominant vegetation types) for a particular area of land. The cover types used in evaluating proposed highway

projects are derived from the Natural Areas Inventory and US Fish and Wildlife Service (USFWS) Habitat Evaluation Procedure, and have been modified to fit the Department's need for consistent field survey results. Cover types include forest, cropland, urban/built-up lands, and other plant community types. These cover types are further described in Section 26-17.06(b).

2. Important Use Areas. Specific areas (e.g., pond, marsh, or similar features) containing amphibians and reptiles having a high species diversity relative to other areas in the region.

3. Species in Greatest Need of Conservation in Illinois. This term refers to those species of fish and wildlife listed in Appendix I of the Illinois Wildlife Action Plan.

4. Wildlife Action Plan. This is a Statewide plan for Illinois that addresses conservation of a broad range of wildlife species by identifying their associated habitats and the actions needed to protect and restore the viability of those habitats. The strategies for habitat protection and restoration focus on the species in greatest need of conservation while also addressing the needs of the full array of wildlife in the State.

5. Wildlife Resources. In the context of this Section, this term refers to terrestrial insects, amphibians, reptiles, birds, mammals and their habitats.

6. Wildlife Habitat. This term refers to areas of land that provide food, water, cover, and space required to meet the biological needs of one or more wildlife species.

26-16.04(b) Applicability

The following procedures are applicable to highway projects initiated by the Department that are being processed as an EA or EIS where the project would result in destruction or modification of forested, grassland, including pasture and hayland, and/or wetland (marsh) wildlife habitat.

26-16.04(c) Analysis and Documentation

In response to submittal of an Environmental Survey Request, BDE will determine the need for and the type of wildlife studies for the proposed project. In making this determination, BDE will consider the environmental class of action, the scope of the project, the potential wildlife resources in the project area, and the potential for adverse impacts to wildlife and their habitats. If biological surveys are determined necessary for gathering information on wildlife resources, BDE will task the Illinois Natural History Survey (INHS) to perform the surveys. BDE will provide a scope of work for the survey work to the INHS and the district. The biological surveys generally are conducted over a yearlong period that covers the spring, summer, and fall seasons. Surveys that do not start at the beginning of a year may take 15 months or more to complete. BDE will provide the results of the biological surveys conducted for the project to the district and to Federal, State, and local agencies and the public, as appropriate.

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The district will summarize the information on wildlife resources in the project area from the INHS biological survey report and from the appropriate sections of the Illinois Wildlife Action Plan. This summary will include the identification and brief characterization of the Illinois Natural Division, major habitat types, wildlife species and groups of species and their habitats, wildlife impacts, and a discussion of measures to minimize and mitigate adverse impacts to wildlife species and their habitats.

Identify the Natural Division(s) and characterize the features relevant to the project area based on information in the Wildlife Action Plan.

Characterize wildlife habitats in the project areas as wooded, non-wooded, or transitional areas between the two primary habitat divisions. Provide a brief summary regarding the distribution of habitats in the project area and the general wildlife species that occupy these habitats and transitional areas.

Identify species with the greatest need of conservation that are known to occur within or adjacent to a project area and characterize their habitats. The discussion also should address the distribution and abundance of these habitat-types in the project area.

Identify wildlife species or groups of wildlife species that require more specialized habitats and characterize their habitats (e.g., important use areas for amphibians, reptiles). Identify the population size for these species and describe linkages between their habitats.

Many groups of avian species are subject to national plans and are of ecological or economic importance. These groups include neotropical migrants, shorebirds, raptors, wading birds, waterfowl, and upland game bird species. Their importance for consideration in project development varies by season and their habitat preferences. If these types of avian species groups do not use and/or are not present in the project area, they do not need to be discussed in the environmental document.

Neotropical migrants occupy a variety of habitat types and breed from late March to mid-July, depending upon the location within the State. Breeding habitat and species' susceptibility to habitat fragmentation should be identified and characterized. Shorebirds (e.g., yellowlegs, sandpipers) are long-distance migrants that pass through Illinois during the spring or fall migration. These birds often migrate through in large numbers and use lake shorelines, river floodplains, and flooded agricultural fields. Shorebird species, their numbers, and the habitats used during the spring migration should be identified and characterized. Important migration routes for raptors (e.g., hawks, falcons, eagles, vultures, owls) are along the bluffs of major river systems. Raptors generally breed from February to mid-July and use wooded habitats for breeding. The location of a raptor's breeding area and/or the presence of migration routes should be identified and characterized. See Section 26-15 for additional guidance regarding migratory birds.

Wading birds include bitterns, herons, egrets, and cranes. Some wading birds are communal species (e.g., herons, egrets). They nest together in a cluster called a rookery. These colonies can be made up of a single species of bird or may include two or more species. The species

forage outward for miles (km) from these rookeries. Identify the location, species, and population size of the rookery and the major foraging areas within the project area.

Waterfowl (e.g., ducks, geese) are of economic importance. Major habitats for these species include lakes, ponds, streams, and open water wetlands. Identify the species that are known to breed in the project area, location of important habitat areas, and economic importance of these species within the project area.

Upland game bird species include both native (e.g., American crow, mourning dove) and introduced (e.g., wild turkey, ring-necked pheasant) species. These species would be considered recreationally important on public lands and some private lands. Where a project will affect these types of lands on which upland game bird species are recreationally important, identify the lands and species.

Identify the areas of high deer/vehicle collisions based on information obtained from the IDOT Division of Traffic Safety. If the project traverses large areas of public and private lands under wildlife management and wildlife mortality is a concern, the district should conduct a roadkill survey. This survey is meant to supplement the deer/vehicle collision data with information on small and medium size mammals, birds, amphibians, and reptiles. The purpose of the survey is to identify areas where wildlife mortality is high and where such features as overpasses, underpasses, or culvert/bridge modifications may be appropriate to reduce the incidence of wildlife/vehicle collisions. Discuss the study protocols for specific roadkill surveys with BDE and the INHS. Generally, the following protocols will apply:

- Drive the survey route during the morning on the first working day of each week from March through September.
- Identify each individual specimen by species and location (e.g., stationing, mile marker, or other identifier). Species identification can be accomplished by photographing the specimen and sending the photo to the INHS for identification.

The environmental documentation should identify and characterize the project impacts on wildlife (e.g., habitat loss, impacts to species in greatest need of conservation, impacts to wildlife species or groups of species). In addition to habitat loss, other impacts to wildlife include construction mortality, barriers to movement, habitat fragmentation, and operational mortality. Identify and evaluate measures to minimize and mitigate adverse wildlife impacts. Possible impact minimization measures include reducing the roadway footprint, fencing, preserving wildlife habitat, restricting vegetation removal during critical times in the life cycle of a potentially impacted affected species, and incorporating wildlife underpasses or overpasses into the project. Possible mitigation measures include habitat banking; restoration of degraded forest, prairie or savanna areas; planting trees to fill gaps within forested areas on public land or restoring woody vegetation along stream banks within and adjacent to highway rights-of-way. Some of these alternatives may require the purchase of conservation easements. For areas involving high incidence of vehicle/deer collisions, consider alternative locations, design modifications, and/or habitat modifications for reducing the likelihood of these collisions.

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In evaluating potential mitigation measures and strategies for addressing wildlife impacts, consider the needs identified in the Illinois Wildlife Action Plan for the Natural Division(s) where the project is located. Coordination should be initiated with IDNR and BDE to evaluate proposals for addressing the identified needs. All proposed mitigation measures for wildlife impacts should be coordinated with BDE.

26-16.04(d) Coordination

For projects processed as EAs or CEs, coordination regarding wildlife resources is done through the ESR process. Coordinate the biological survey reports with the IDNR and the USFWS, as appropriate. Coordination with the public will be done when the EA is made available at the public meeting. Address comments received in the FONSI.

For projects processed as an EIS, coordination with IDNR and USFWS will occur through the NEPA/404 Merger Process; see Section 22-4. The biological survey reports will be made available on the IDOT website and the link to the documents will be provided to IDNR, USFWS, and other agencies involved in the Merger Process. Discuss the potential project impacts on wildlife resources and measures to minimize and mitigate these impacts at NEPA/404 Concurrence Point meetings and include a summary of these discussions in the draft EIS. For projects the Regional Engineer determines will use the principles of Context Sensitive Solutions (CSS), the link to the biological survey documents also will be made available to the community resource council and/or appropriate Technical Advisory Group(s) (TAG), as applicable; see Section 19-3.01(a). The district will consider any comments submitted by the TAG(s) regarding wildlife resource issues in preparing the draft EIS or EA.

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26-17 TREE/VEGETATION ASSESSMENTS

26-17.01 Introduction

As reflected in Departmental Policy D&E-18, the Department acknowledges the beneficial functions that trees can perform and the importance of considering effects on these functions in project development. Project effects on functions performed by other types of vegetation also should be considered as a part of the project development process. Tree and vegetation assessments provide information for determining overall quality of the vegetation in the project area, for identifying important plant communities (e.g., that provide wildlife habitat) and for inventorying and evaluating trees in the area the project may affect (e.g., type, size, health, functions).

This Section provides policy and procedures for conducting and documenting tree and vegetation assessments for proposed projects.

26-17.02 Legal Authority

- 605 ILCS 5/2-220, "Forestation of Department Controlled Property."
- D&E-18, "Preservation and Replacement of Trees."
- 23 CFR 752.11(b), "Federal Participation for Use of Native Wildflowers."
- 605 ILCS 5/4-219, "Context Sensitivity."
- "Memorandum of Understanding by and between the Illinois Department of Natural Resources and the Illinois Department of Transportation," 2007.

26-17.03 Policy

Tree/vegetation assessments will be conducted as necessary to ensure full compliance with Departmental Policy D&E-18 and to support the identification and appropriate consideration of project effects on other types of vegetation and their respective functions.

26-17.04 Procedures

26-17.04(a) Definitions

1. District Tree Evaluation Team. A team within each district that is responsible for conducting evaluations in accordance with Departmental Policy D&E-18 for trees being considered for removal. The team must include expertise in roadside safety, landscape architecture, and environmental impact analysis.

2. Diameter at Breast Height (DBH). The diameter of a tree measured (in inches (mm)) at a point 4.5 ft (1.35 m) above ground level.

3. Specimen Tree. A notable and valued tree, based on consideration of species, size, condition, age, longevity, visual quality, and genetic attributes, as determined by the public and/or resource agencies and the district.

4. Tree. For purposes of the Department's *Standard Specifications for Road and Bridge Construction,* a tree is a woody perennial plant having a single main stem (trunk), the diameter of which is 6 in (150 mm) or more at a point 4.5 ft (1.35 m) above the highest ground level at the base of the tree. The term "tree" also includes woody perennial plants having a single trunk of less than 6 in (150 mm) in diameter where such plants have been intentionally planted for landscaping, environmental mitigation, or habitat preservation/enhancement. For purposes of biological surveys conducted for proposed projects, the criteria for identifying "trees" are essentially the same as in the first sentence above, except that the diameter used is 4 in (100 mm) or more at a point 4.5 ft (1.35 m) above the highest ground level at the base of the plant.

5. Trees with Special Functions. Woody vegetation that is a buffer between a highway and a State-listed Natural Area, Nature Preserve, or Land and Water Reserve are considered trees with special functions.

6. Vegetation. The plants of an area.

26-17.05 Applicability

These procedures apply to all proposed highway projects initiated by the Department.

26-17.06 Analysis and Documentation

26-17.06(a) Tree Surveys

For most projects needing tree surveys, the district Tree Evaluation Team accomplishes the surveys. On some projects in rural areas being processed with an Environmental Assessment (EA) or an Environmental Impact Statement (EIS), the Illinois Natural History Survey (INHS) accomplishes the surveys. The purpose of the tree surveys is to obtain information on the health and diversity of trees and shrubs in a project area. Tree surveys are recommended for projects that involve:

- residential areas containing numerous trees of various sizes, particularly if the project is one on which CSS principles are being applied or if the community has an established urban tree program;
- removal of trees from public land;
- rest area construction in wooded locations;
- new interchange construction in wooded locations;

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- impacts to wooded areas 20 acres (8 ha) or larger in agricultural locations;
- wooded areas along scenic routes and/or in existing and potential scenic easement areas;
- need to establish an inventory of trees and their condition on existing highway rights-of-way for management purposes;
- need to identify targeted woody species in USDA Quarantine areas (see Section 26-18); and
- wooded areas along streams with special designations (see Section 26-19) or streams for which the Corps could request mitigation for impacts to the riparian corridor.

Tree surveys should be initiated for projects in urban areas that will involve the removal of trees along streets and/or removal of associated landscape elements from residential areas, public lands, and open lands including fence rows. Before doing a tree survey in a community that has an established urban tree program, contact the community's urban forester or other appropriate official to discuss the information to be collected and its relationship to the community's program, as appropriate. Likewise, contact the appropriate official(s) responsible for public lands prior to initiating tree surveys on those lands. Provide the results of the surveys to a community's urban forester or other designated official and to the appropriate official(s) responsible for public lands, as applicable. If a project is one on which principles of Context Sensitive Solutions (CSS) are being applied, provide the survey results to the project study group and the appropriate Technical Advisory Group(s).

The methods for conducting tree surveys involve either direct counting or sampling. The particular method used is determined by the distribution of trees within the project area and the purpose of the survey.

26-17.06(a)1 *Direct Counting Method*

Tree surveys in residential areas, on public lands, in scenic areas, along stream corridors, or for projects that will affect a relatively small area (e.g., interchanges, rest areas) are accomplished using the direct counting method. In this method, each individual tree within the project limits is inventoried. For each tree, information is collected on its species, size (DBH), station, offset, health, structure, and impact status. Collected field data is incorporated into the project files. If coordination with the public and/or agencies will be undertaken, prepare a tree survey report. The data should be in table format and the table headings should include tree species, size (DBH), station, offset, health, structure, impact status, and suitability for preservation.

The report should categorize "health" and "structure" as good, fair, poor, or dead. The report should explain that ratings for "health" are based on the extent to which a tree is reasonably free of signs and symptoms of disease, and ratings for "structure" are based on the extent to which a tree has structure and form typical of the species.

The report should categorize "suitability for preservation" as good, fair, or poor. Suitability for preservation considers the health, age, and structural condition of the tree and its potential to remain an asset into the future. A rating of good applies to trees with good health and structural stability that have the potential for longevity at the site. A rating of fair applies to trees with somewhat declining health and/or structural defects that can be abated with treatment. These trees will require more intense management and monitoring and may have a shorter life span. A rating of poor applies to trees in poor health or with significant structural defects that cannot be mitigated. They should be removed.

The information on impact status and suitability for preservation will be coordinated with project designers in making final decisions on whether specific trees along the project should be removed or preserved and protected (e.g., trees outside project right-of-way that are given suitability for preservation ratings of poor due to significant structural defects and which, therefore, pose a hazard, should be identified for removal).

Coordinate the tree survey report with the community's urban forester or other designated official, as applicable and affected landowner(s), as appropriate. During Phase II, coordinate tree trimming or removal with the landowner and offer replacement trees and/or shrubs.

26-17.06(a)2 *Sampling Method*

Tree surveys can be done in spot locations or for projects on new alignments. Instead of inventorying each tree, quantitative or qualitative sampling can be employed. The ecological literature has a number of methods for the quantitative sampling of trees. Two of these are the circular plot and point-center quarter methods. When using either of these survey methods, document the quality, disturbance, and presence of specimen trees, or other noteworthy features within the area being sampled.

Either method yields information on density (number of trees per acre (ha)), size (basal area per acre (ha)), and distribution within the stand (frequency of occurrence for each species sampled). Using these results, generate a table for inclusion in the tree survey report summarizing the information for the wooded stands that were sampled. The table should include headings for the stand location, species composition, structure (density, basal area, and frequency of occurrence) and potential project impact (acreage (ha) or number of trees lost). The tree report also should include a discussion of specimen trees, trees with special functions and other features of the stand, as well as mitigation options for the project's anticipated impacts to trees. If the project is being processed as an Environmental Assessment (EA) or Environmental Impact Statement (EIS), include a summary of the report into the environmental document. If the project is a CE, the report and the results of coordination with Illinois Department of Natural Resources (IDNR) should be in the appendix of the Phase I engineering report.

26-17.06(b) Cover Type and Vegetation Surveys

Cover type surveys are done for some EA projects and most EIS projects. BDE tasks the Illinois Natural History Survey (INHS) to survey the project area for the purpose of classifying

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plant communities according to cover type and characterizing the vegetation in the area. Cover type surveys are done to determine the distribution and composition of plant communities (e.g., vegetation/habitat types) within a project area. The survey is usually based on the review of aerial photography and topographic maps with field checks to determine the adequacy of the cover typing and to identify the species composition, quality, and disturbance history of the delineated plant communities. Cover type surveys are usually done for projects on new alignments or in areas where the project will affect a diverse number of plant communities.

The vegetation cover types used for INHS cover type mapping are derived from the Natural Areas Inventory and the USFWS Habitat Evaluation Procedure and have been modified to fit IDOT projects. The definitions of the vegetation cover types used by the INHS are provided below:

1. Forbland. Abandoned pastures and successional fields dominated by disturbance adapted and disturbance tolerant forbs. Shrub or tree cover should not exceed 25% of the overall cover.

2. Pasture and Hayland. Dominated by perennial grasses or forbs, native or introduced, that are planted primarily for livestock grazing or are mowed at least once a year. Both pasture and hayland should have no more than 5 percent areal cover from woody vegetation.

3. Cropland. Agricultural field planted to annual crops of grains, vegetables, or silage.

4. Urban/Built-Up Lands. Includes any land that has been modified or has structures built on it. Examples include residential, commercial, and industrial areas, vacant urban lots, farm buildings, feedlots, parking lots, roadways, and cemeteries.

5. Shrubland. Abandoned pastures, successional fields, railroad and highway rights-of-way dominated by dense to open stands of shrubs and young trees, with at least 25% shrub cover.

6. Grassland (Prairie). Native grasses dominated communities found as remnant communities along roadsides, in pastures, abandoned rights-of-way, and cemeteries. Also includes prairie restoration areas.

7. Non-Native Grassland. Open land dominated by exotic cool-season grasses, especially brome, blue grass, and fescue. The areas are periodically mowed. This cover type includes mowed roadsides and grass ways within cropland.

8. Upland Forest. Forests that normally are not flooded by stream overflow.

9. Floodplain Forest. Forests that occur on the 100-year floodplain. These forests may or may not meet the regulatory requirements of a wetland. When they do, they also qualify as forested wetland.

10. Forested Wetland. Forests that meet the regulatory requirements of a wetland.

11. Wet Shrubland. Includes areas dominated by woody vegetation (e.g., greater than 25% areal cover) less than 20 ft (6 m) in height.

12. Marsh. Includes areas dominated by tall graminoid plants and that have water near or above the surface for most of the year.

13. Sedge Meadow. Includes areas dominated by sedges on peat, muck, or wet sand.

14. Wet Meadow. Includes areas dominated by grasses, where the soils are hydric.

15. Pond. Natural or man-made impoundments that support wetland vegetation around the periphery of the pond (regulated wetland) or maintained ponds that are actively used farm ponds, sewage lagoons, ornamental ponds, active quarry ponds, or retention/detention facilities not containing hydrophytic vegetation (non-wetland areas).

16. Lacustrine. Deepwater habitats that are situated in a topographic depression or dammed river channel. Their total area exceeds 20 acres (8 ha).

17. Riverine. Includes habitats contained within a channel. Refers to a stream, creek, or river.

18. Barren Land. Land having less than 1% total vegetation cover. Includes rock outcrops, recently mined areas, and recently scraped areas.

Vegetation surveys are done by the district to characterize existing conditions in potential mitigation sites and managed roadside areas. The results of these surveys are depicted on maps. Proposed modifications in the vegetation can be overlaid on these maps to delineate the nature and extent of the changes.

26-17.07 Coordination

Coordinate tree surveys done in an urban area with the community's urban forester, if applicable, and the appropriate property owners. Coordinate tree surveys in other venues with the IDNR. For project processed with an EIS, summarize tree and vegetation surveys in the draft EIS and coordinated through the circulation of the document. Coordinate tree and vegetation survey reports on EA processed projects with the IDNR. Summarize these reports and the results of coordination with IDNR in the EA.

Vegetation surveys accomplished by the district for mitigation purposes will be coordinated with BDE and IDNR.

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26-18 INVASIVE SPECIES AND NOXIOUS WEEDS

26-18.01 Introduction

Non-native flora and fauna can cause significant changes to ecosystems, upset the ecological balance, and cause economic harm to the agricultural and recreational sectors. Transportation systems can facilitate the spread of plant and animal species outside their natural range. Those species that are likely to harm the environment, human health, or economy, including species designated as noxious weeds, are of particular concern.

Highway corridors provide opportunities for the movement of invasive species and noxious weeds through the landscape. Invasive plants can be moved from site to site during spraying and mowing operations. Weed seed can be inadvertently introduced into the corridor during construction, on equipment, and through the use of mulch, imported soil or gravel, and sod. Some invasive plant species might be deliberately planted in erosion control, landscape, or wildflower projects. Highway rights-of-way traverse public and private lands and many of these adjacent lands have weed problems. The highway rights-of-way provide corridors for further spread of the weeds.

Federal and State requirements are in place for controlling and/or eliminating noxious weeds and invasive species. The procedures in this Section provide guidance for evaluating and documenting invasive species and noxious weed issues in the environmental documentation for proposed highway projects.

26-18.02 Legal Authority

- Executive Order 13112, “Invasive Species.”
- 7 USC 2814, “Management of Undesirable Plants on Federal Lands.”
- 7 USC 7702, “Definitions.”
- 7 CFR 360, “Noxious Weed Regulations.”
- FHWA “Guidance on Invasive Species,” August 10, 1999.
- 505 ILCS 100/ *Illinois Noxious Weed Law*.
- 8 Ill. Adm. Code 220, “Illinois Noxious Weed Law.”
- 525 ILCS 10/ *Illinois Exotic Weed Act.*
- 505 ILCS 90/14 *Illinois Insect Pest and Plant Disease Act*.

26-18.03 Policy

The environmental analyses and documentation for proposed highway projects initiated by the Department will include determinations of the likelihood of introducing or spreading invasive species and/or noxious weeds. When invasive species and/or noxious weed are identified as a potential concern, include in the environmental documentation a description of measures to be taken to avoid introducing or spreading the species and to minimize their potential for causing harm.

26-18.04 Procedures

For projects being processed with an Environmental Impact Statement, the Environmental Survey Process will include identification of invasive species and/or noxious weeds in the area the project potentially may affect. Biological survey reports and wetland determinations produced by the Illinois Natural History Survey for these projects will include information on these species. For projects processed as Categorical Exclusions or with an Environmental Assessment, obtain information on invasive species and/or noxious weeds the project may involve from the Illinois Department of Agriculture website.

26-18.04(a) Definitions

1. Alien Species. Any species with respect to a particular ecosystem including its seeds, eggs, spores, or other biological material capable of propagating that species that is not native to that ecosystem.

2. Control. As appropriate, eradicating, suppressing, reducing, or managing invasive species populations, preventing spread of invasive species from areas where they are present, and taking steps such as restoration of native species and habitats to reduce the effects of invasive species and to prevent further invasions. Control as applied to weed control, means to prevent weeds from spreading or being spread by dissemination of seed or other propagating parts.

3. Ecosystem. The complex of a community of organisms and its environment.

4. Eradicate. The complete killing or destruction of weeds, seeds, or other propagating parts of weeds by the use of cutting, chemicals, tillage, cropping systems, pasturing, livestock or crops, or any one or all of these in effective combination.

5. Exotic Weeds. Plants not native to North America, which, when planted, either spread vegetatively or naturalize and degrade natural communities, reduce the value of fish and wildlife habitat, or threaten an Illinois endangered or threatened species.

6. Introduction. The intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity.

7. Invasive Species. An alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

8. Native Species. With respect to a particular ecosystem, a species that, other than a result of an introduction, historically occurred or currently occurs in that ecosystem.

9. Noxious Weed. For Federal requirements, any plant or plant product that can directly or indirectly injure or cause damage to crops, including nursery stock or plant products, livestock, poultry, or other interests of agriculture, irrigation, navigation, natural resources of the United States, public health, or environment. For the State of Illinois requirements, this means an annual, biennial, or perennial plant propagated by seed or

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vegetative parts that is designated in 8 Ill. Adm. Code 220.60 as being a noxious weed, in accordance with Section 2(5) and Section 4 of the *Illinois Noxious Weed Act*.

26-18.04(b) Applicability

These procedures apply to all proposed highway projects initiated by the Department.

26-18.05 Analysis and Documentation

During early coordination and/or scoping, discussions with agencies and stakeholders should identify the potential for the introduction and/or spread of invasive species and/or noxious weeds and should address possible prevention and control measures.

The project environmental documentation should identify and quantify any existing plant and animal invasive species populations and/or noxious weeds occurring within the project area. In addition, if a project is in the vicinity of a designated US Department of Agriculture quarantine zone for an invasive species and/or noxious weed, identify and briefly discuss the quarantine zone. Information regarding these quarantine zones is available through the Illinois Department of Agriculture website.

The environmental documentation should discuss the potential of the project to promote or inhibit the spread of invasive species and/or noxious weeds that were identified in the project area.

The environmental documentation also should include a discussion of any preventative measures or eradication measures that will be taken on the project. Examples include the inspection and cleaning of construction equipment, commitments to ensure the use of invasive-free mulches, top soils and seed mixes, and eradication strategies.

The discussion should indicate that landscaping and erosion control included in the project will not use species listed as noxious weeds. It also should state that in sensitive areas (e.g., Natural Areas, Nature Preserves, parks), if noxious weeds and/or invasive species are found in or adjacent to construction areas, precautions will be taken to ensure the project does not result in noxious weed and/or invasive species impacts to the sensitive areas.

If it is anticipated that noxious weeds and/or invasive species will be a problem during construction, the discussion should acknowledge that concern. It should also identify and assess potential impacts associated with clearing and grading operations, borrow/fill areas, disposal sites, and in-stream work, as appropriate, and measures for avoiding and/or minimizing those impacts.

26-18.06 IDOT List of Species Under Management

This list represents the primary plant and animal species that IDOT targets for eradication. It is based on Departmental experience with trying to control exotic species on highway rights-of-

way or that are associated with other resource issue areas (e.g., wetlands, incidental take authorizations). Individual districts may have targeted other plant and animal species for eradication in addition to those in the following list.

Plants:

Purple Loosestrife (Lythrum salicaria)	Wetlands, roadside ditches
Canada Thistle (Cirsium arvense)	Open areas, roadsides
Teasel (Dipsacus spp.)	Open areas, roadsides
Johnson Grass (Sorghum halepense)	Open areas, roadsides
Musk Thistle (Carduus nutans)	Open areas, roadsides

Animals:

Zebra Mussel (Dreissena polymorpha)	Large rivers
Emerald Ash Borer (Agrilus planipennis)	Ash trees

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26-19 SURFACE WATER RESOURCES AND AQUATIC HABITAT

26-19.01 Introduction

Surface water resources are of ecological, economic, educational, aesthetic, cultural, recreational, and scientific value to Illinois. In the development of highway projects, it may be necessary to undertake biological surveys, special technical analyses, and coordination to comply with Federal, State, and local laws and regulations applicable to surface water resources and aquatic habitat. This Section provides guidance and procedures regarding these surveys, analyses, and related coordination. The surface water resources that highway projects most commonly encounter are streams (including rivers and creeks). Where other types of surface waters (e.g., drainage ditches, lakes, ponds) are involved, identify and analyze in a manner similar to streams.

In addition to this Section, Section 26-9, Section 26-20, Section 26-21, Chapter 28, Chapter 40, and Chapter 41 also contain guidance and procedures applicable to surface water resources/aquatic habitat.

26-19.02 Complementary Technical Manuals

The IDOT *Water Quality Manual* and *IDOT Drainage Manual* provide additional information to assist in fulfilling the requirements of this Section.

26-19.03 Legal Authority

- 16 USC 661-667e, *Fish and Wildlife Coordination Act*.
- 23 CFR 777, “Mitigation of Impacts to Wetlands and Natural Habitat.”
- 23 CFR 710.513, “Environmental mitigation.”
- FHWA (2005) Memorandum: Federal-aid Eligibility of Wetland and Natural Habitat Mitigation.
- 40 CFR 230. “Section 404(b)(1), Guidelines for Specification of Disposal Sites for Dredged or Fill Material.”
- Executive Order 11990, “Protection of Wetlands.”
- Executive Order 11988, “Floodplain Management.”
- “Statewide Implementation Agreement for the *National Environmental Policy Act* and *Clean Water Act* Section 404 Concurrent NEPA/404 Process for Transportation Projects in Illinois.”

- "Memorandum of Understanding by and between the Illinois Department of Natural Resources and the Illinois Department of Transportation," 2007.
- 35 Ill. Adm. Code 302.105, "Antidegradation."

26-19.04 Policy

In the development of proposed State highway projects, potential project impacts to surface water resources and aquatic habitat will be identified and evaluated. Consideration will be given to implementing practical measures for avoiding, minimizing, and mitigating adverse project impacts to those resources.

26-19.05 Procedures

Surface water resources within a project's area of potential effects are identified through the Environmental Survey Process; see Chapter 27. BDE determines the need for aquatic habitat surveys and/or agency coordination based on consideration of the following:

- results of preliminary coordination with Illinois Department of Natural Resources (IDNR);
- presence of listed threatened or endangered aquatic species (see Section 26-9) or natural areas;
- presence of a stream included in the Nationwide Rivers Inventory (see Section 26-20);
- presence of a stream that is involved in an Advanced Identification (ADID) study (i.e., for identifying high quality aquatic resources that should be protected);
- presence of a biologically significant stream;
- presence of a stream with a Biological Stream Rating of "A" or "B" for diversity or integrity;
- project scope of work; and
- environmental Class of Action (i.e., Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Statement (EIS)).

For major actions (i.e., EIS projects and some EA projects), BDE requests the Illinois Natural History Survey (INHS) to provide an assessment of biological resources. The resulting report contains information on the existing aquatic habitat in the project area. Summarize this information in the environmental document. If aquatic habitat survey information is not available, the district should consult the IDOT *Water Quality Manual* for guidance on how to obtain this information. The following Section provides guidance on the various physical, biological, and chemical parameters evaluated for surface water resources and aquatic habitat.

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26-19.05(a) Definitions

1. Aquatic Habitat. Places where aquatic plants and animals interact with the physical and chemical components of their environment.

2. Biologically Significant Stream. A stream that has a Biological Stream Rating System score of "A" either for Diversity or Integrity based on data from at least two taxonomic groups. These streams are unique resources in the State and are considered to be the highest quality streams.

3. Biological Stream Rating System (BSRS). A system administered by the IDNR that identifies Illinois stream segments possessing exceptional quality, based on data concerning the populations of fish, mussels, macroinvertebrates, crayfish, and threatened and endangered species they support. The system provides a stream segment rating for three areas: integrity, diversity, and biological significance. Ratings for each area range from "A" (excellent) to "E" (very poor). BSRS ratings are available only for small to medium size streams. They are not available for rivers.

4. Diversity. The variety of taxa from several important aquatic groups (e.g., mussels, fish, macroinvertebrates, crayfish) present within a stream segment.

5. Dominant Fish Species. Those species of fish that make up 20% or more of the total catch at a sampling site.

6. Ephemeral Stream. A stream that has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

7. EPT Richness. The total number of different kinds of aquatic organisms in a collection belonging to the insect groups Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddis flies).

8. In-Stream Work. Any work or other activity within the stream banks that modifies or otherwise affects the streambed or stream banks (e.g., cofferdams, riprap, construction haul roads, work pads, abutment construction, pier removal and construction, bank clearing and excavation, channel excavation, channel change, weir construction).

9. Integrity. The wholeness of a stream system and its ability to support organisms and processes comparable to the natural habitat of the region, based on BSRS data.

10. Intermittent Stream. A stream that has flowing waters during certain times of the year, where groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

11. Intolerant Species. Species of fish sensitive to various environmental perturbations as identified by the IDNR or Illinois Environmental Protection Agency (IEPA).

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12. Mean Habitat Score. An index used to rate the habitat structure of a stream segment based on the physical aspects of the stream. A score greater than 130 indicates excellent habitat characteristics. A score below 80 indicates poor habitat characteristics.

13. Perennial Stream. A stream that has flowing water year-round during a typical year. The water table is located above the streambed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

14. Pollutant. For surface water resources and aquatic habitat, this is any substance that, due to its characteristics and/or quantity, if introduced into the aquatic environment has a degrading effect that impairs the usefulness of the aquatic environment or renders it offensive.

15. Substrate. The mineral and organic material that forms the bed of the stream on which aquatic organisms live. Mineral materials may include sand, gravel, cobble, silt, bedrock, etc. Organic material may include algae, macrophytes, dead leaves, woody debris, etc.

16. Tolerant Species. Species of fish tolerant of various environmental perturbations as identified by the IDNR/IEPA.

17. Woody Riparian Habitat. An area predominantly covered by trees and/or shrubs located adjacent to and up-gradient from streams and lakes.

26-19.05(b) Applicability

These procedures apply to all proposed highway projects initiated by the Department that may have an effect on surface water resources.

26-19.05(c) Analysis and Documentation

The analysis and documentation required for addressing surface water resources and aquatic habitat will vary according to the scope of work and environmental class of action for a proposed project and the presence of streams with special designations. Bridge replacement projects often involve minor in-stream work that requires minimal analysis and documentation (see Chapter 12, Figure 12-3.F, and Checklist for Phase I Reports). Projects that involve more extensive in-stream work and/or that occur within or adjacent to a stream with a special designation will require more analysis, documentation, and coordination. Projects requiring an EIS generally will require extensive analysis and coordination. The coordination typically is accomplished through the NEPA/404 Merger Process; see Section 22-4.

The following guidance discusses the various factors that may need to be considered in analyzing project effects on surface water resources and aquatic habitat. For projects processed with an EIS, all of the factors generally will apply. For other projects, evaluate the range of factors and address those that are determined applicable.

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For EIS projects, BDE provides the district information for analysis of effects on surface water resources and aquatic habitat in an Assessment of Biological Resources Report prepared by the INHS. The Report also contains additional information that may be useful in preparing the environmental document (e.g., information that describes and characterizes potentially affected resources and that provides a basis for discussing potential project impacts). As needed, the district should contact BDE for assistance in determining which items of additional information may be relevant for inclusion in the EIS.

1. *Clean Water Act* Section 404(b)(1). The alternative analysis for NEPA and the *Clean Water Act* differs substantially. During project development for projects that will require an individual Section 404 permit, it is essential that these differences are understood and are reflected in the environmental documentation. NEPA requires that all reasonable alternatives be evaluated in detail. Section 404(b)(1) of the *Clean Water Act*, and the associated implementing guidelines in 40 CFR 230, provide that the US Army Corps of Engineers (Corps) can approve only the Least Environmentally Damaging Practicable Alternative (LEDPA). The guidelines are binding regulations that the Corps uses in determining a project's impact on aquatic resources from discharges of dredged and/or fill material. The LEDPA requirement means that no discharge of dredged or fill material will be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. Noncompliance with this requirement is a sufficient basis for the Corps to deny a permit. If the project does comply with the guidelines, the Corps still may deny the permit if it is determined to be contrary to the public interest.

   The following guidance is based on the requirements of the Section 404(b)(1) "Guidelines for Specification of Disposal Sites for Dredged or Fill Material" in 40 CFR 230. The guidance is applicable to all projects that will involve in-stream work or anticipated impacts from operation and maintenance of the roadway. For EA and EIS projects, include the information prepared in accordance with this guidance in the environmental document. For CE projects, incorporate the information in the Phase I engineering report and associated appendices.

2. Physical Parameters. Identify the physical attributes that characterize streams. Examples of these attributes include upstream drainage area, flow regime, substrate, stream width and depth, mean habitat quality, woody riparian habitat, highly erodible soils, and watershed cover types. List the attributes for each stream. For projects with a number of stream crossings, present the information in a table to allow for comparisons between streams and/or stream reaches. Identify attributes the project may affect and include discussion of the nature and extent of the potential effects in the text of the document. Physical parameters are further described below:

   - Upstream drainage area is one of the measures of stream size and provides an indication of the size of a stream's watershed. The district determines upstream drainage area.

- Illinois streams have either a perennial, intermittent, or ephemeral flow regime. Perennial and intermittent flow regimes are depicted on US Geological Survey (USGS) topographic quadrangles (7.5 minutes). Ephemeral flow regimes can be identified from aerial photography and/or field observations. A perennial flow regime is required to support fish and mussels. An intermittent flow regime may support a limited assemblage of fish species during seasonal high water periods. Flow regimes identified in INHS reports are based on field observations.

- Stream width is another measure of stream size. Stream depth refers to the depth of water in a stream when measured during biological surveys. It does not necessarily correlate with the stream flow regime as depicted on USGS topographic maps.

- Substrates in Illinois streams consist of varying percentages of cobble, gravel, sand, silt, or bedrock. Excessive sand and silt in the stream substrate can diminish habitat quality for fish and aquatic macroinvertebrates. Other substrate types (e.g., gravel, cobble, detritus) can contribute to a diverse fish and aquatic macroinvertebrate assemblage. In-stream work can result in varying degrees of change in the physical, biological, and chemical characteristics of the substrate. In addition, discharge of sediment from the adjacent construction site can affect bottom-dwelling organisms at the site by smothering immobile forms and by changing the habitat.

- Mean habitat quality scores are based on a modification of a standard US Environmental Protection Agency (USEPA) method. They are used by the INHS to rate the habitat structure of a stream reach and to identify need for more accurate assessment methods (e.g., aquatic resource surveys for fishes, mussels, aquatic macroinvertebrates). The scores are derived from 12 physical characteristics (e.g., channel structure, flow, bank vegetation, substrate) of a stream. Two people complete the evaluation and numerical values are given to each characteristic and are averaged and summed. The sum of the values is called the mean habitat score. A score greater than 130 receives a rating of “excellent,” a score of 129.9 to 110 is considered “good,” a score of 109.9 to 80 is “fair,” and a score below 80 is “poor.” These scores indicate the presence of degraded habitat and/or the presence of pollutants.

- Woody riparian habitat provides cover for fish and other wildlife, keeps streams cool, slows erosion and stream flow, and adds organic material to the aquatic food chain. Woody riparian habitat is a key requirement for healthy streams and aquatic communities. Where a project will remove woody riparian habitat, describe the composition, length, and width of this habitat, along each bank, in the environmental documentation. Mitigation for the loss of this habitat may be required. Consider replacing the habitat on-site and working with landowners to extend it to adjacent areas that do not currently have that habitat-type.

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- Highly erodible soils have slopes of 4% or greater. The district should identify these soils from appropriate County Soil Maps. These soil types are usually associated with changes in topography and can occur along streams. When these soils are cleared of vegetation during construction, they become a source of sediment pollution for the adjacent stream.

- Watershed cover types are those that dominate the area through which a stream flows. In Illinois, these would mainly be residential/urban areas, agricultural, upland and bottomland forests/woodlands, and non-native grasslands. These cover types are discussed further in Section 26-17. Drainage from these cover types has a bearing on the potential sediment and chemical makeup of the stream.

- Other factors to be considered include the identification of upstream dischargers of pollutants (e.g., industrial facilities, wastewater treatment plants) and the downstream receivers (e.g., water supply intakes). Districts should obtain this information, based on their knowledge of the project area. Information on the locations of pollutant discharge sources also can be found on Illinois State Water Survey maps (7-Day 10-Year Flow Maps). Locations of water supply intake structures can be obtained through coordination with Illinois EPA or the IDNR Natural Heritage Database.

3. Biological Parameters. Biological parameters include fish, mussels, and aquatic macroinvertebrates. Fish are important and dominant organisms in streams and have ecological, economic, and recreational values. Several parameters of the fish population should be characterized (e.g., dominant species, total number of species sampled, number of tolerant and intolerant species, percentage of tolerant and intolerant individuals). This information is best depicted in a table.

   Identify the presence of species listed as endangered and threatened and discuss the species in the part of the environmental documentation that addresses that subject.

   In the environmental documentation, identify and discuss potential project impacts on the fish populations and habitat in the stream from construction, operation, and maintenance of the roadway. Address the following items, as appropriate:

   - If species of fish identified in the *Illinois Wildlife Action Plan* as Species in Greatest Need of Conservation are found in the area a project will affect, include discussion of the species, their habitat requirements, and possible measures to minimize impacts and provide improved habitat conditions for the species.

   - If a project involves a river that supports recreational and/or commercial fishing and other water-related recreation, identify and discuss the nature and extent of these activities in the project area. IDNR can provide this type of information. Also, discuss potential project impacts on these activities and measures to minimize the impacts.

Mussels occur in most permanent flow streams. Their occurrence in beds (e.g., dense, natural aggregations of mussels, which can support a diverse variety of benthic fauna) is generally restricted to large rivers and high quality streams. IDNR has designated some of these beds as Natural Areas. The environmental document should indicate the number of live individuals per species at a particular site. This material can be presented in a table that also includes fish data.

Aquatic macroinvertebrates are useful in determining the health of a water resource with regard to the presence of organic pollution. Indices that can be used are the mean Family-Level Biotic Index and EPT Richness. This information can also be presented in a table, along with fish and mussel data.

The Biological Stream Ratings (BSR) process includes data from 1997 through 2007. It is anticipated that the ratings will be updated on a regular basis; see the IDNR website for more information. The Ratings score the streams on three parameters: Diversity, Integrity, and Biologically Significant Streams. Letter ratings of A to E are used for the Diversity and Integrity Ratings. The following biotic resource quality descriptors apply to these Letter Ratings: A (excellent), B (good), C (fair), D (poor), and E (very poor). The Biologically Significant Streams are unique (high quality) stream resources. The biological communities present in these streams must be protected at the stream reach and at the upstream reach. Identify and discuss streams that have been rated.

4. Chemical Parameters (Water Quality). For EIS projects, water quality sampling is done in the spring, summer, and fall by the INHS and tabulated results are included as appendices to their reports. The INHS does not include a water quality analysis in the reports. The district is responsible for conducting this analysis. The tabulated results include many different parameters. For most projects, only a select group of the parameters needs to be analyzed. These parameters include the following:

- air and water temperature;
- dissolved oxygen;
- pH;
- sulfate;
- total potassium;
- chloride;
- total dissolved solids;
- hardness; and
- dissolved copper, lead, and zinc.

Present the information on these parameters in a table in the EIS, labeled “Measured Levels of Water Quality Constituents vs. the Numeric Water Quality Standards within the Project Area.” The values in the table are the average of the three seasonal values for each parameter. For those parameters that have a water quality standard, compare the summarized values and the individual values from the INHS Report to the numeric Illinois water quality standard from the most recent issue of the *Integrated Water Quality Report and Section 303(d) List*, available on the IEPA website. Use the individual values

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to determine whether there is an exceedance of the standards. If a value exceeds the applicable standard, include information in the environmental document identifying the parameter, its concentration as sampled, and the date of the sample. Also, include discussion of the possible reason(s) for the exceedance of the water quality standard.

In areas where traffic volumes are expected to exceed 50,000 vehicles per day, perform a pollutant loading analysis to determine project effects on the water quality of streams from storm water runoff. Available data indicate that toxicants are more likely to be a problem than nutrients. Heavy metals (i.e., copper, lead, and zinc) are considered to be the dominant toxic pollutants in storm water runoff into streams. Use the FHWA document "Pollutant Loadings and Impacts from Highway Storm Water Runoff, Volume I: Design Procedures" in conducting the analysis. Summarize the results of the analysis in the environmental document.

In areas where the use of road salt (sodium chloride) for winter maintenance is an issue, conduct an analysis to determine chloride concentrations in highway storm water runoff. Use the methodology from the FHWA publication "Evaluation and Management of Highway Runoff Water Quality" to predict the chloride concentrations. Compare the predicted chloride concentrations with the existing chloride levels indicated in the INHS Report. Summarize the results of the analysis, including existing and predicted chloride levels, in the environmental document. If the sum of the predicted chloride value and the existing chloride value exceeds the 500 ppm water quality standard for chloride, measures must be implemented to reduce the use of road salt in the area of the potential violation of the standard.

In addition to numeric water quality standards, the *Integrated Water Quality Report and Section 303(d) List* contains narrative water quality standards. These are based on designated use methodology. Under the State's general use water quality standards, designated uses have been identified for many Illinois streams. These designated uses include aquatic life, fish consumption, primary contact, secondary contact, and aesthetic quality. Streams are either in full support or nonsupport of their designated uses. Streams that are in nonsupport of the designated use are considered impaired; see Section 26-21. Include information in the environmental document identifying designated uses for each stream in the area of a project.

Another way to judge a stream's water quality is by using Hilsenhoff's Family-Level Biotic Index. This Index is based on the sensitivity of aquatic macroinvertebrates to organic pollution. Scores range from 0 to 10, where 0.00 to 3.75 = Excellent; 3.76 to 4.25 = Very good; 4.26 to 5.00 = Good; 5.01 to 5.75 = Fair; 5.76 to 6.5 = Fairly poor; 6.51 to 7.25 = Poor; and 7.26 to 10.00 = Very poor. Low scores indicate good water quality with negligible organic pollution; high scores indicate bad water quality with serious organic pollution. This information can be obtained from INHS Reports and should be incorporated in the environmental document.

5. Special Designations. Identify streams in the area of a proposed project that have a special designation. The special designation may impose additional requirements that

must be addressed (e.g., impact analysis, coordination with specific Federal, State, local agencies). The following discuss various special designations that may apply:

a. Navigable Waters. The *IDOT Drainage Manual* and the IDOT *Water Quality Manual* include a listing of navigable streams in Illinois. In addition to being subject to other surface water permit requirements (e.g., Section 404 of the *Clean Water Act*), navigable streams are subject to specific permit requirements under Section 9 and Section 10 of the *Rivers and Harbors Act of 1899*. Section 9 requires a permit from the US Coast Guard (USCG) for construction of bridges or causeways over or in a navigable stream. Section 10 requires a permit from the Corps for construction of any structure other than a bridge or causeway in or over a navigable stream, for the excavation/dredging or deposition of material in a navigable stream, or for any obstruction or alteration in a navigable stream. When a project requires a Section 9 or a Section 10 permit, include discussion in the environmental document concerning need for the permit(s) and the project's effects on navigational use of the stream. Identify the presence of barge terminals and the number of commercial and recreational vessels passing through the project area. Also, identify and discuss any existing navigational deficiencies in and adjacent to the navigational channel. Incorporate this discussion in the environmental document in a subsection on Navigation in the part of the document that addresses land use. Include a summary of coordination with USCG and/or the Corps. Discuss the physical, biological, and chemical aspects of the stream in the Water Resources and Aquatic Habitat section of the environmental document.

The USCG and Corps are signatories to the agreement for the "Concurrent NEPA/404 Process for Transportation Projects in Illinois." For EIS and EA projects requiring a Section 9 permit and/or a Section 10 permit, invite the USCG and the Corps to be Cooperating Agencies (and Participating Agencies for EIS projects, pursuant to 23 USC 139 "Efficient environmental reviews for project decision-making").

For CE projects, identify the Section 9 permit and/or Section 10 permit involvement(s) in the Phase I engineering report and include copies of correspondence with USCG and/or the Corps in an appendix to the report.

See Chapter 28 for additional guidance concerning Section 9 and Section 10 permits.

b. Nationwide Rivers Inventory. The list of streams included in the Inventory is available on the National Park Service "Conservation and Outdoor Recreation" website. Potential involvement with streams on the Inventory is identified as a part of the Environmental Survey Process when an Environmental Survey Request (ESR) form is submitted for a project. Potential involvement with a stream included in the Inventory may require coordination with the National Park

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Service. See Section 26-20 for further guidance on the Nationwide Rivers Inventory.

c. Illinois Natural Area. Approximately 110 stream segments in Illinois are listed by IDNR as aquatic Natural Areas. When an ESR form is submitted for a proposed project, the Environmental Survey Process identifies potential involvements with streams designated as Illinois Natural Areas. Information on these stream segments also is available from IDNR. For EA and EIS projects, identify these potential involvements in the part of the environmental document that addresses surface water resources and aquatic habitat. Include detailed discussion of the involvements, including results of coordination with IDNR, in the part of the document that deals with State-designated lands. For CE projects, document the involvement and results of coordination with IDNR in the Phase I engineering report, in accordance with the Checklist for Phase I Reports (Figure 12-3.F). See Section 26-9 for guidance on the requirements associated with designated Illinois Natural Areas.

d. Advanced Identification of Water Resources (ADID) Streams. These are streams that the USEPA and Corps have determined contain high quality aquatic habitat that is generally unsuitable for discharges of dredged or fill material. Under the ADID process, identification of a stream as generally unsuitable for discharges of dredged or fill material is an advisory designation. It alerts potential permit applicants that a discharge into the stream is not likely to be consistent with the Section 404(b)(1) “Guidelines for Specification of Disposal Sites for Dredged or Fill Material” and that the USEPA could request denial of the permit. These streams may also be subject to local ordinances based on the ADID study that identified the area as containing high quality aquatic habitat. When an ESR form is submitted for a proposed project, the Environmental Survey Process identifies potential involvements with ADID streams. Information on these streams also is available on site maps for those counties that have completed ADID studies. The site maps are accessible via the Internet.

Where a proposed project may affect an ADID stream, include information in the environmental documentation identifying the stream and describing its physical, biological, and chemical attributes. Determine and document potential impacts on stream functions (e.g., aquatic habitat value, shoreline/stream bank stabilization, hydrologic stabilization) and summarize the results of coordination with the USEPA and US Fish and Wildlife Service. If a stream is subject to local requirements, identify the requirements and the actions necessary for compliance.

e. BSRS High Quality Streams. These include stream segments designated as Biologically Significant Streams and stream segments rated as “A” or “B” for Diversity or Integrity. When an ESR request is submitted for a proposed project, the Environmental Survey Process identifies high quality stream segments.

For Biologically Significant Streams, the biological communities present must be protected at the stream reach (i.e., project site) and in-stream work in these areas should be prohibited. In addition, the scientific literature documents findings that the physical and chemical properties of water at a stream site reflect upstream influences. Accordingly, consider the potential effects of work in the upstream reach of Biologically Significant Streams and coordinate projects affecting the upstream reach with IDNR.

For potential project involvements with stream segments rated as "A" or "B" for Diversity or Integrity, identify and evaluate the potential project impacts on the features of the stream that were the basis for the "A" or "B" ratings.

Include information on potential involvements with high quality stream segments in the part of the environmental documentation that addresses surface water resources and aquatic habitat. Include discussion of potential project impacts, measures for reducing or mitigating the impacts, and the results of coordination with IDNR regarding the potential impacts and mitigation measures.

f. Impaired Streams. These are streams that are included on the *Clean Water Act* Section 303(d) list of impaired waters in Illinois. The list is included in the *Integrated Water Quality Report and Section 303(d) List*, available on the IEPA website. The "impaired" designation is based on a determination that the streams are sufficiently polluted that they are unable to support their designated uses (e.g., aquatic life, indigenous aquatic life, primary contact (swimming), public and food processing water supply (drinking water), secondary contact, aesthetic quality, fish consumption). Streams on the Section 303(d) may be subject to Total Maximum Daily Load (TMDL) restrictions that limit the quantity of specific pollutants that may be introduced into the streams.

For projects involved with a stream on the Section 303(d) list, identify the pollutant(s) causing the impairment and determine if the project may contribute to the impairment. If the project may contribute pollutants causing the impairment, evaluate measures to reduce the contribution to an acceptable level, consistent with TMDL requirements, if applicable. Identify the impaired stream(s) and summarize the results of the analysis of impacts and mitigation measures in the part of the environmental documentation that addresses surface water resources and aquatic habitat. For CE projects, place the documentation of the analyses in an appendix to the Phase I engineering report. See Section 26-21 for additional guidance on Impaired Waters/TMDLs.

26-19.06 Antidegradation Assessment

In accordance with the requirements set forth in 35 Ill. Adm. Code 302.105, the IEPA must conduct an antidegradation assessment for any proposed action involving an increase in pollutant loading that necessitates the issuance of a new, renewed, or modified National Pollutant Discharge Elimination System (NPDES) permit or a Section 401 water quality certification. The purpose of the antidegradation requirements is to protect existing uses of all

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waters of the State of Illinois, maintain the quality of these waters with a quality that is better than the water quality standards, and to prevent the unnecessary deterioration of waters of the State.

In conducting antidegradation assessments, IEPA must consider the following provisions of 35 Ill. Adm. Code 302.105 regarding existing uses, outstanding resource waters, and high quality waters.

26-19.06(a) Existing Uses

Existing uses actually attained in a surface water body or water body segment, whether or not they are included in the water quality standards, must be maintained and protected. Examples of degradation of existing uses of the waters of the State include:

- an action that would result in the deterioration of the existing aquatic community (e.g., a shift from a community of predominantly pollutant-sensitive species to pollutant tolerant species or a loss of species diversity);
- an action that would result in a loss of a resident or indigenous species whose presence is necessary to sustain commercial or recreational activities; or
- an action that would preclude continued use of a surface water body or water body segment for a public water supply or for recreational or commercial fishing, swimming, paddling, or boating.

26-19.06(b) Outstanding Resource Waters

A surface water body or water body segment that is of exceptional ecological or recreational significance as designated by the Illinois Pollution Control Board (i.e., an Outstanding Resource Water (ORW)) must not be lowered in quality except as provided below:

- activities that result in short-term, temporary (e.g., weeks, months) lowering of water quality in an ORW; or
- existing site storm water discharges that comply with applicable Federal and State storm water management regulations and do not result in a violation of any water quality standards.

As of the date of publication of this edition of the *BDE Manual*, the Pollution Control Board had not designated any Illinois waters as Outstanding Resource Waters. However, the Biologically Significant Streams discussed in Section 26-19.07 would qualify as exceptional ecological resources.

26-19.06(c) High Quality Waters

High quality waters are waters of the State whose existing quality is better than any of the established standards. These waters must be maintained in their present high quality, unless the lowering of water quality is necessary to accommodate important economic or social development.

26-19.06(d) Information Requirements

To ensure that IEPA has the information needed for conducting antidegradation assessments, when required, include the following information in submittals for NPDES permits, individual Section 404 permits, and nationwide permits that require an individual 401 water quality certification (e.g., nationwide permit 23 for approved categorical exclusions):

- Identification and characterization of the water body affected by the proposed load increase or proposed activity and the existing water body's uses. Characterization must address physical, biological, and chemical conditions of the water body.
- Identification and quantification of the proposed load increases for the applicable parameters and of the potential impacts of the proposed activity on the affected waters.
- The purpose and anticipated benefits of the proposed activity.
- Assessments of alternatives to proposed increases in pollutant loading or activities subject to IEPA certification pursuant to Section 401 that result in less of a load increase, no load increase, or minimal environmental degradation.
- Any additional information IEPA may request.
- Proof that a copy of the application has been provided to the IDNR.

26-19.07 Coordination

EIS projects will be coordinated with the Corps, USEPA, USFWS, and IDNR through the circulation of the draft EIS and some or all of these agencies may serve as Cooperating Agencies. Where the project is being processed under the NEPA/404 Merger Process, BDE and the district must provide the agencies the information and analysis required under the Section 404(b)(1) guidelines. Coordination with the Corps, USEPA, and USFWS will be through the Merger Process. EA and CE projects will be coordinated with the USFWS and IDNR through the Environmental Survey Process. Address any agency comments, including any concerning consideration of measures for minimization and mitigation of impacts.

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26-20 NATIONWIDE RIVERS INVENTORY

26-20.01 Introduction

The Nationwide Rivers Inventory (NRI) is managed by the National Park Service Rivers, Trails, and Conservation Assistance Program. It is a compilation of rivers and river segments that appear to have one or more qualities that could qualify them for inclusion in the National Wild and Scenic Rivers System. The NRI contains a number of Illinois streams or stream segments. The list of Illinois NRI streams is maintained on the National Park Service NRI website. The list includes the river name, county or counties of occurrence, reach, length (miles), year listed/updated, potential classification, Outstandingly Remarkable Values (ORVs), and description. In accordance with a 1979 Presidential Directive and associated Council on Environmental Quality procedures, Federal agencies, as part of their normal planning and environmental review process, must take care to avoid or mitigate adverse effects on rivers included in the NRI. This Section provides guidance and procedures for complying with these requirements and for documenting compliance in project environmental documentation.

26-20.02 Complementary Technical Manual

The *IDOT Water Quality Manual* provides additional information and procedures to assist in fulfilling the requirements discussed in this Section.

26-20.03 Legal Authority

- 16 USC 1271-1287, “Wild and Scenic Rivers.”
- Presidential Memorandum for the Heads of Departments and Agencies, dated August 2, 1979, requiring each Federal agency, as part of its normal planning and environmental review process, to take care to avoid or mitigate adverse effects on rivers identified in the Nationwide Rivers Inventory.
- Council on Environmental Quality, “Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the Nationwide Inventory”, August 10, 1980.
- FHWA, “Policy Guidance for Wild and Scenic Rivers”, dated October 3, 1980, transmitting the Council on Environmental Quality procedures for Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the Nationwide Inventory.

26-20.04 Policy

In the development of Federally funded or regulated State highway projects, take care to avoid or mitigate adverse effects on rivers identified in the NRI. The evaluation of potential project impacts on these streams or stream segments will be coordinated with the NPS prior to taking actions that could effectively foreclose wild, scenic, or recreational river status for rivers in the Inventory.

26-20.05 Procedures

The identification of NRI streams within the project area will be done through the Environmental Survey Process. BDE will determine the need for coordination with the NPS based on the project's scope of work. See Section 26-20.05(d) for information on coordination requirements and procedures.

26-20.05(a) Definitions

1. Adverse Effect. An impact to a listed stream or stream segment that alters the free-flowing characteristics, causes the deterioration of water quality, or has the potential to impair the ORV(s) that qualified the stream for listing in the NRI.

2. Nationwide Rivers Inventory (NRI). A registry of streams compiled and maintained by the National Park Service consisting of stream and stream segments that potentially qualify as national wild, scenic, or recreational river areas.

3. Outstandingly Remarkable Value (ORV). A characteristic that a river must possess, in addition to being free-flowing, to be listed on the NRI. ORVs include scenery, recreation, fish, wildlife, geology, prehistory, history, cultural, and other similar values.

26-20.05(b) Applicability

These procedures apply to all Federally funded/regulated projects that have the potential for an adverse effect on a NRI stream or stream segment.

26-20.05(c) Analysis and Documentation

For projects that affect a stream listed on the NRI, the analysis of potential impacts to the stream's free-flowing characteristics, water quality, and ORV(s) that qualified it for listing, should be sufficient to determine whether the impacts would be adverse. Adverse affects should be avoided or mitigated, in accordance with the Presidential directive and Council on Environmental Quality procedures regarding the NRI.

As applicable, incorporation documentation of project impacts on NRI streams, and NPS recommendations regarding those impacts into Phase I engineering reports, Environmental Assessments (EAs), and Environmental Impact Statements (EISs) discussed in the following Sections.

26-20.05(c)1 *Categorical Exclusion (CE) Projects*

A project being processed as a CE that affects an NRI stream is considered to have potential for "unusual circumstances" and, therefore, requires FHWA approval of the CE classification; see Section 23-1.04(c). In accordance with the CEQ procedures for "Interagency Consultation to

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Avoid or Mitigate Adverse Effects on Rivers in the Nationwide Inventory," an adverse effect on a listed stream will require processing the project as an EA or EIS.

For NRI streams that BDE has determined will not be affected, the Phase I engineering report should contain documentation of the BDE determination.

For NRI streams that BDE has determined will be affected, the Phase I engineering report should contain documentation of the BDE determination and the NPS response regarding the effect(s), the results of any further coordination with the NPS, and the response to NPS recommendations for addressing the effects.

26-20.05(c)2 *EA/EIS Projects*

Because the NRI consists of streams, include the main discussion of this topic in a subsection of the Surface Water Resources and Aquatic Habitat Section entitled "Nationwide Rivers Inventory". However, include the data on the physical, biological, and water quality aspects of the NRI stream in the physical, biological, and water quality subsections of the Surface Water Resources and Aquatic Habitat Section.

The environmental document should identify the stream and include the ORV(s) and stream description from the NRI website. Describe the stream's free-flow nature and water quality. The document should identify the potential impacts caused by each construction activity and briefly discuss the effects on the stream's ORV(s), free flowing characteristics, and water quality.

A determination of the magnitude of the impact on water quality, free-flow, and each listed ORV should be made and documented. The coordination response from the NPS should help in determining the magnitude of the impacts.

Include a summary of the coordination effort with the NPS and describe impact avoidance, minimization, and mitigation measures, as appropriate. The discussion of these measures should center on the listed ORV(s).

The appendix of the EA or EIS must contain the results of the coordination with the NPS. The FONSI (EA) or the ROD (EIS) will summarize the coordination, list the measures to minimize harm and proposed mitigation, as appropriate, and include a commitment to ensure the stream's eligibility for the NRI and/or the Wild and Scenic Rivers System is not diminished.

If the ORV of a listed stream is scenery, the Visual Resources Section of the environmental document should identify the stream and refer to the discussions in the Nationwide Rivers Inventory subsection of the Surface Water Resources and Aquatic Habitat Section.

26-20.05(d) Coordination

Coordination with the NPS is required for projects that may affect NRI streams. BDE will initiate early coordination with the NPS, when required, through the Environmental Survey Process and

will provide the district the results of the coordination. Additional coordination, if required, will be the responsibility of the district, with input from BDE.

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26-21 IMPAIRED WATERS/TMDLS

26-21.01 Introduction

Pursuant to Section 303(d) of the *Clean Water Act*, the Illinois Environmental Protection Agency (IEPA) identifies and prioritizes waters in the State that do not meet the applicable water quality standards or do not fully support their designated uses. These waters are referred to as impaired waters. Section 303(d) also requires that a Total Maximum Daily Load (TMDL) be established for each pollutant of an impaired water body. The TMDL is then used to allocate pollutant loads among the identified pollution sources in a watershed, including highway facilities, thereby supporting attainment of applicable water quality standards and designated uses.

Information on impaired waters can be obtained from the "Illinois Integrated Water Quality Report and Section 303(d) List" available on the IEPA website. This Report is revised and updated every two years.

Information on TMDLs can be obtained from the "TMDL Watersheds Map," "TMDL Report Status," and "TMDL Implementation Projects" web pages on the IEPA website. TMDL Reports will identify the waters affected and the source(s) and cause(s) of the impairment(s). The Final TMDL Report will provide Implementation Actions and Management Measures for each identified pollutant.

26-21.02 Complementary Technical Manual

The *IDOT Water Quality Manual* provides additional information and procedures to assist in fulfilling the requirements discussed in this Section.

26-21.03 Legal Authority

- 33 USC 1313(d) "Identification of areas with insufficient controls; maximum daily load; certain effluent limitations revision" (*Clean Water Act*, Section 303(d)).
- 40 CFR 130 "Water Quality Planning and Management."

26-21.04 Policy

In the development of proposed State highway projects, impaired waters, and waters subject to TMDLs will be identified within the areas the projects may affect. Where projects have potential to increase levels of a pollutant that is a cause of impairment, measures will be implemented to reduce the discharge of that pollutant from the project to ensure it does not contribute to the impairment and is consistent with any applicable TMDL.

26-21.05 Procedures

The district will check the most recent "Integrated Illinois Water Quality Report and Section 303(d) List" to determine if a proposed project may affect an impaired water resource. Appendices B-2 (Specific Assessment Information for Streams) and B-3 (Specific Assessment Information for Inland Lakes) contain the information required for Phase I engineering reports and environmental documents. Larger streams (e.g., Illinois, Rock, Fox, and Sangamon Rivers) are divided into assessment units. To determine the applicable assessment unit, use the Illinois Water Quality Mapping Tool on the IEPA website. The project's contribution to the cause of the impairment should be determined and discussed, as appropriate.

For involvements with water bodies involving a draft or final TMDL, the district should determine if construction, operation, or maintenance of the transportation facility would contribute to an increase in the pollutant(s) of concern addressed in the TMDL. If a project contributes to an increase in the pollutant(s) of concern, the district will evaluate practicable measures to reduce or eliminate that contribution.

26-21.06 Definitions

1. Impaired Waters. Waters listed on the IEPA Section 303(d) List due to nonattainment of applicable water quality standards and/or designated uses.

2. Total Maximum Daily Load (TMDL). The greatest amount of a given pollutant that a water body can receive without violating water quality standards and designated uses.

   TMDLs set pollution reduction goals that are necessary to improve the quality of impaired waters. A TMDL takes a watershed approach in determining the pollutant load that can be allowed in a given lake or stream. By taking a watershed approach, a TMDL considers all potential sources of pollutants, both point and non-point sources. It also takes into account a margin of safety, which reflects scientific uncertainty and future growth. The effects of seasonal variation are also included.

26-21.07 Applicability

These procedures apply to all proposed highway projects initiated by the Department that may affect a water resource listed by IEPA as impaired and/or that is subject to a TMDL.

26-21.07(a) Analysis and Documentation

For projects that may affect a water resource listed as impaired and/or subject to a TMDL, the Phase I engineering report (for projects processed as CEs) or environmental document (EA or EIS) should contain the following impaired waters information:

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1. Section 303(d) Impaired Waters List. If the proposed project may affect a listed water body or water body segment, include the following information from the list for each affected water body or segment:

   a. Water Body Identification. Indicate the Name and Assessment Unit ID of the water body as shown on the list.

   b. Use Attainment. Identify designated use(s) classified as non-supporting.

   c. Causes. Identify the cause(s) of the impairment listed for the water body (use the word descriptors rather than the numeric codes) on the Section 303(d) List.

   d. Sources. Identify the source(s) of the impairment listed for the water body (use the word descriptors rather than the numeric codes) on the Section 303(d) List.

2. Total Maximum Daily Load. For each affected water body or segment on the Section 303(d) list, also indicate whether a TMDL is under development or has been finalized.

3. Analysis and Discussion. The analysis and discussion of the project's effects on waters listed as impaired should address how those effects relate to the "Causes" that resulted in the impaired waters designation. Indicate whether the project may contribute to an increase or decrease in any of the constituent(s) causing the impairment. If the project would potentially contribute to an increase in those constituent(s), identify the specific constituent(s), describe the anticipated increase, and discuss practicable mitigation measures that can be implemented to reduce or eliminate that contribution. If none of the listed constituent(s) causing the impairment are generated by the project, document that finding and how it was determined.

4. Pollutant Load. If a project contributes to the pollutant load identified in a final TMDL, identify and discuss those aspects that would apply to the construction, operation, or maintenance of the highway project and discuss how the project will respond to the TMDL provisions.

26-21.07(b) Coordination

Coordination with IEPA for impaired waters is not required. However, for projects that have potential to contribute to an increase in a pollutant identified in a final TMDL, coordination with IEPA is recommended. The coordination should address the potential pollutant contribution from the project and the measures proposed for implementation to reduce or eliminate the contribution to the pollutant load. The district should initiate the coordination with guidance from the BDE.

IEPA considers impaired waters as a component of antidegradation assessments; see Section 26-19.06.

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26-22 GROUNDWATER

26-22.01 Introduction

The *Illinois Environmental Protection Act*, the *Illinois Groundwater Protection Act*, and parts of the *Illinois Administrative Code* impose requirements for protection of the State's groundwater resources to ensure their availability for beneficial purposes. This Section provides guidance and procedures for considering and addressing these requirements as part of the environmental impact evaluation process for proposed State highway projects. The topics covered in this Section include potable water supply wells, special resource groundwaters, karst topography, groundwater discharge areas (seeps), and sole source aquifers.

26-22.02 Complementary Technical Manual

The *IDOT Water Quality Manual* provides additional information and procedures to assist in fulfilling the requirements discussed in this Section.

26-22.03 Legal Authority

- 415 ILCS 5, *Illinois Environmental Protection Act*.
- 415 ILCS 55, *Illinois Groundwater Protection Act*.
- 35 Ill. Adm. Code 615, "Existing Activities in a Setback Zone or Regulated Recharge Area."
- 35 Ill. Adm. Code 616, "New Activities in a Setback Zone or Regulated Recharge Area."
- 35 Ill. Adm. Code 617, "Regulated Recharge Areas."
- 35 Ill. Adm. Code 618, "Maximum Setback Zones."
- 35 Ill. Adm. Code 620, "Groundwater Quality."
- 40 CFR 149, Sole Source Aquifers.

26-22.04 Policy

In the development of proposed highway projects initiated by the Department, potential impacts to groundwater resources will be identified and consideration will be given to implementing practical measures for avoiding, minimizing, and mitigating adverse project impacts to those resources.

26-22.05 Procedures

The information and requirements for evaluating groundwater resources in the vicinity of the project area, and for identifying and addressing potential adverse environmental impacts of project alternatives on these resources are described below. In general, proposed projects must be designed to avoid adverse impacts to groundwater resources, to the fullest extent practical and to mitigate any unavoidable adverse impacts (e.g., through use of Best Management Practices (BMPs)).

26-22.05(a) Definitions

1. Aquifer. Saturated (with groundwater) soils and geologic materials that are sufficiently permeable to readily yield economically useful quantities of water to wells, springs, or streams under ordinary hydraulic gradients.

2. Groundwater. Underground water that occurs within the saturated zone and geologic materials where the fluid pressure in the pore space is equal to or greater than atmospheric pressure.

3. Potable. Generally fit for human consumption in accordance with accepted water supply principles and practices.

4. Potential Primary Source. Any unit at a facility or site not currently subject to a removal or remedial action that:

   - is used for the treatment, storage, or disposal of any hazardous or special waste not generated at the site;
   - is used for the disposal of municipal waste not generated at the site, other than landscape waste, and construction and demolition debris;
   - is used for the landfilling, land treating, surface impounding, or piling of any hazardous or special waste that is generated on the site or at other sites owned, controlled, or operated by the same person; or
   - stores or accumulates at any time more than 75,000 lbs (3400 kg) above ground, or more than 7,500 lbs (3400 kg) below ground, of any hazardous substances.

5. Potential Route. Abandoned and improperly plugged wells of all kinds, drainage wells, all injection wells, including closed loop heat pump wells, and any excavation for the discovery, development, or production of stone, sand, or gravel.

6. Potential Secondary Source. Any unit at a facility or a site not currently subject to a removal or remedial action, other than a potential primary source, that:

   - is used for the landfilling, land treating, or surface impounding of waste that is generated on the site or at other sites owned, controlled, or operated by the

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same person, other than livestock and landscape waste, and construction and demolition debris;

- stores or accumulates at any time more than 25,000 lbs (11.4 Mg) but not more than 75,000 lbs (34 Mg) above ground, or more than 2,500 lbs (11.4 Mg) but not more than 7,500 lbs (34 Mg) below ground, of any hazardous substance;
- stores or accumulates at any time more than 25,000 gallons (94 ML) above ground, or more than 500 gallons (2 ML) below ground, of petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance;
- stores or accumulates pesticides, fertilizers, or road oils for purposes of commercial application or for distribution to retail sales outlets;
- stores or accumulates at any time more than 50,000 lbs (22.8 Mg) of any de-icing agent; or
- is used for handling livestock waste or for treating domestic wastewaters other than private sewage disposal systems as defined in the *Private Sewage Disposal Licensing Act.*

7. Regulated Recharge Area. A compact geographic area, as determined by the Pollution Control Board, the geology of which renders a potable resource groundwater particularly susceptible to contamination.

8. Resource Groundwater. Groundwater that is presently being, or in the future is capable of being, put to beneficial use by reason of being of suitable quality.

9. Setback Zone. A designated geographic area containing a potable water supply well or a potential source or potential route having a continuous boundary, and within which certain prohibitions or regulations are applicable in order to protect groundwaters.

10. Sole Source Aquifer. An underground water supply designated by the US Environmental Protection Agency as the sole or principal source of drinking water for an area.

11. Special Resource Groundwater. Groundwater that is determined by the Illinois Pollution Control Board to be 1) demonstrably unique (e.g., irreplaceable sources of groundwater) and suitable for application of a water quality standard more stringent than the otherwise applicable water quality standard, or 2) vital for a particularly sensitive ecological system; or groundwater that contributes to a dedicated Nature Preserve listed by the Illinois Environmental Protection Agency (IEPA) in accordance with 35 Ill. Adm. Code 620.230(b).

12. Wellhead Protection Area. The surface and subsurface recharge area surrounding a community water supply well or well field, delineated outside of any applicable setback

zones pursuant to Illinois' Wellhead Protection Program, through which contaminants are reasonably likely to move toward such well or well field.

26-22.05(b) Analysis and Documentation

Nearly all surface water features (e.g., streams, lakes, wetlands) interact with groundwater resources to some extent. Consequently, pollution of surface waters can cause degradation of groundwater quality and vice versa. It is important to recognize and consider these interactions in analyzing and documenting the full extent of a proposed project's potential effects on groundwater resources. The following Sections provide guidance for addressing groundwater-related issues in project environmental documentation.

26-22.05(b)1 *Groundwater Resource Identification*

In areas where groundwater is determined to be the primary source of potable water, identify and characterize wellhead and groundwater protection areas, potable water supply wells, groundwater recharge zones, special resource groundwater, areas of karst topography, and the potential for contamination of shallow aquifers. If a Preliminary Environmental Site Assessment (PESA) is conducted for the project, the PESA report will identify these items. If a PESA is not conducted, the district should obtain this information through coordination with the IEPA and from Illinois State Geological Survey maps (e.g., potential for aquifer recharge and for contamination of shallow aquifers).

In areas where groundwater supports specialized biotic communities (e.g., seeps, bogs, fens, sedge meadows, spring runs, obligate cave inhabitants) the Environmental Survey Process will identify these features.

Karst topography is a landscape characterized by sinkholes, depressions, caves, and underground drainage, generally underlain by soluble rocks (e.g., limestone, dolomite). Most karst topography is restricted to northwestern Illinois (Jo Daviess and Carroll Counties), western Illinois (Adams, Pike, and Calhoun Counties), and southwestern Illinois (Madison, St. Clair, Monroe, and Randolph Counties). Projects occurring within these counties should be surveyed for karst features.

For groundwater resources identified in the area a project may affect, apply the guidance in the following sections to evaluate and document potential project impacts and measures for avoiding, minimizing, and mitigating adverse impacts.

26-22.05(b)2 *Potable Water Supply Wells*

If the project is in the vicinity of a potable water supply well, the district must determine whether or not the project will create any new potential routes for groundwater pollution (e.g., dry wells, borrow pits) or any new potential sources of groundwater pollution (e.g., storage facilities for bulk road oil or de-icing salt). If the project will not create any new potential routes for

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groundwater pollution or any new potential sources of groundwater pollution, include the following statement in the project environmental documentation:

> *This project will not create any new potential "routes" for groundwater pollution or any new potential "sources" of groundwater pollution as defined in the Illinois Environmental Protection Act (415 ILCS 5/3, et seq.). Accordingly, the project is not subject to compliance with the minimum setback requirements for community water supply wells or other potable water supply wells as set forth in 415 ILCS 5/14, et seq.)*

If the project will create a new potential route or source for groundwater pollution, describe the nature of the route or source and indicate whether it will be within a setback zone (minimum or maximum) for a potable water supply well. Indicate the type of well (i.e., community water supply or private water supply) and discuss any permits or mitigation measures that may be needed for the route or source to protect groundwater resources. For new community water supply wells, indicate if the new route or source of groundwater pollution will be within a wellhead protection area. The minimum setback distance for a potable water supply well is 200 ft (60 m) or 400 ft (130 m) for a community water supply well with high to moderate geologic susceptibility. Maximum setback zones for community water supply wells may be up to 1000 ft (300 m) from the wellhead or, in rare cases, up to 2500 ft (760 m). Indicate whether the project is within a regulated recharge area established through Illinois Pollution Control Board rulemaking and describe the extent of the regulated area.

26-22.05(b)3 *Groundwater Quality*

IEPA monitors groundwater quality from community water supplies in the State. This information is available in the IEPA "Integrated Water Quality Report and Section 303(d) List." For wells in the project area, identify the name of the facility, groundwater pollutant(s) and their concentrations, type of aquifer, and level of use support. Use support levels include the following:

1. Full Support. Water quality is Good. This rating indicates that no detections occurred in organic chemical monitoring data and inorganic constituents assessed were at or below background levels for the groundwater source being used.

2. Nonsupport.

    a. Water Quality is Fair. This rating indicates that organic chemicals were detected and, therefore, exceed the non-degradation standard. However, measured levels are less than the numerical Class I Groundwater Quality Standard and inorganic constituents assessed were above background level (non-degradation standard), but less than the numerical Class I Groundwater Quality Standard.

    b. Water Quality is Poor. This rating indicates that organic chemical monitoring data detections were greater than the Class I Groundwater Quality Standard and inorganic chemicals assessed were greater than both the background concentration and Class I Groundwater Quality Standard.

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26-22.05(b)4 *Special Resource Groundwater*

These resources will be identified through the Environmental Survey Process. Projects within the groundwater recharge area of a designated Special Resource Groundwater must be coordinated with the IDNR.

The Phase I engineering report, EA, or EIS will contain a map showing the recharge area in relation to the project. The project environmental documentation will also identify and describe the potential project impacts, describe the proposed mitigation measures and document the associated coordination with the IDNR and the Nature Preserves Commission.

26-22.05(b)5 *Karst Topography*

Karst areas are highly vulnerable to groundwater contamination. For projects that are processed as CEs, the Phase I engineering report should indicate if karst surface features (e.g., sinkholes, depressions) are within or adjacent to the highway right-of-way. If these features are present, construction BMPs for storm water pollution prevention should be strictly adhered to. Also, identify the features on the NPDES construction permit, as applicable.

For projects that are processed as environmental documents, the Groundwater Section should identify and depict the karst features (e.g., caves, sinkholes, springs) on an environmental inventory map. The sensitivity of the aquifer should be briefly discussed.

During the alternative analysis, consider the potential for hitting karst features in the underlying carbonate rocks. These potential impacts include instability from the increased loading on existing rock cavities or the removal of structurally sound overburden and rock cover over existing cavities. In addition, construction-related changes in the water table can induce subsidence and undermine the highway.

The environmental document should identify and discuss project impacts to karst features and the potential for groundwater contamination. Avoidance of the karst features and the use of storm water pollution prevention BMPs during construction and operation of the roadway should be discussed.

Karst areas may be protected under the Class III groundwater standards, may contain Federal and/or State listed endangered and threatened species, or may be listed as special lands (e.g., Natural Areas, Nature Preserves, Land and Water Reserves). If any of these attributes apply they should be identified in this Section. Further description and assessment of impacts to these features will occur under the appropriate resource headings of the environmental document.

26-22.05(b)6 *Seeps*

Seeps are areas found in sloping terrain where the groundwater is discharged to the surface. The groundwater typically flows year-round and has a relatively constant temperature. Seeps are essentially groundwater discharge wetlands. As wetlands, discuss in the wetlands section

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of an environmental document. Seeps are generally small in size, but may contain a high diversity of species including those that are endangered and/or threatened. Seeps are also habitats of preference for amphibians.

Generally, the discharge area (seep) can be avoided; however, construction and operation of the roadway may intersect the groundwater flow causing a decrease of water to the seep surface. In addition, operation of the roadway may allow surface runoff containing pollutants (including de-icing salts) to contaminate the discharge water. Analyzed and discuss the potential for these types of impacts in the environmental documentation, along with alternatives for avoiding, minimizing, and mitigating the impacts.

26-22.05(b)7 *Sole Source Aquifers*

There are no Sole Source Aquifers in Illinois. include the following statement in the Groundwater Section of the environmental documentation:

> *There are no Sole Source Aquifers, as designated under Section 1424(e) of the Safe Drinking Water Act, within the project area.*

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