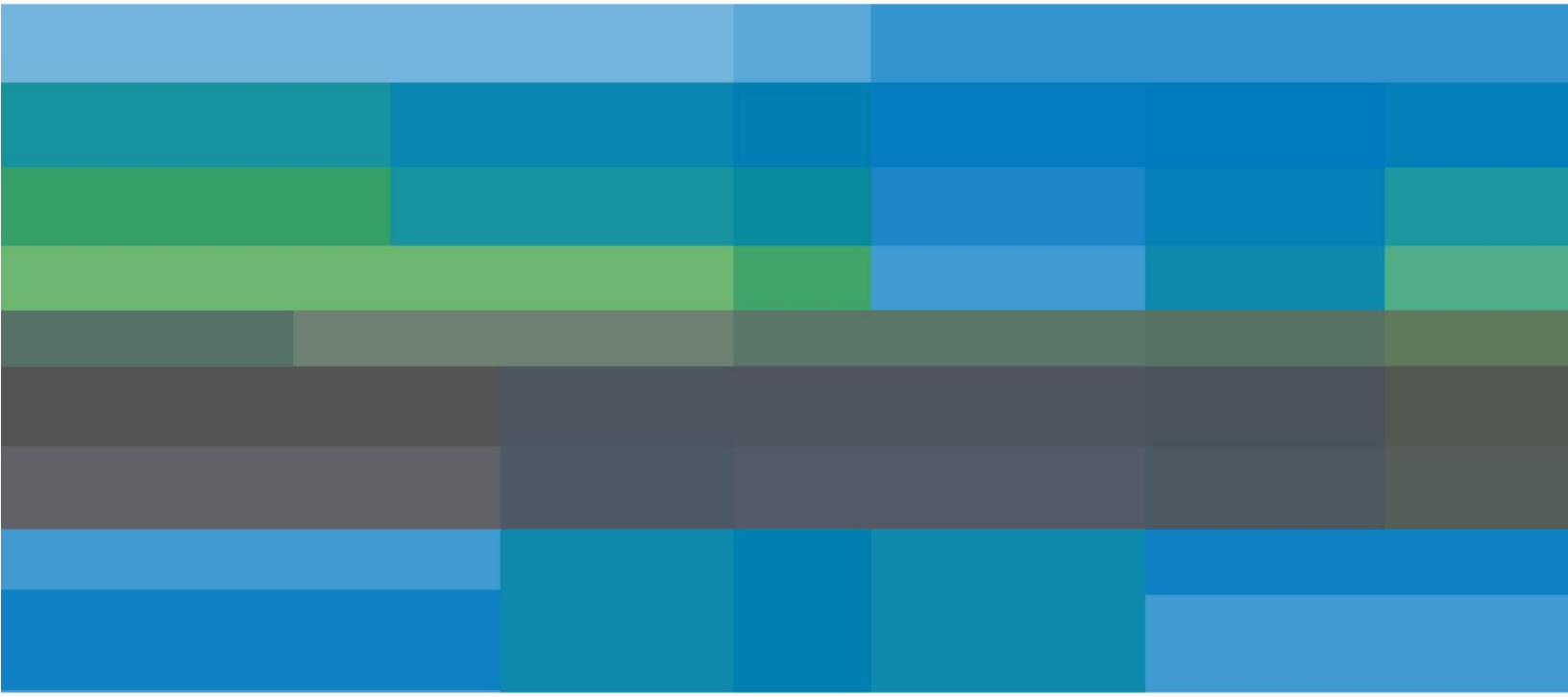
March 2024

Environmental Studies Manual

ILLINOIS STATE TOLL HIGHWAY AUTHORITY



Illinois Tollway

INTRODUCTION

Environmental Studies Manual

The Environmental Studies Manual provides guidance on the Illinois Tollway standards for project development in order to document and understand potential environmental effects of projects. The manual establishes the environmental review process in design. This process comprehensively addresses the environmental issues of the regional transportation system. Depending on the complexity of the project, potential impacts are documented in the Illinois Tollway Environmental Studies Inventory Sheet process, an Environmental Evaluation Document or through the National Environmental Policy Act process. If present, environmental resources are further investigated for impacts, avoidance, mitigation, permitting or policy requirements.

This Environmental Studies Manual, dated March 2024, replaces the March 2023 version.

This manual is for general guidance purposes. If a law, regulation, standard or agency guidance is not in agreement with this manual, the law, regulation or standard takes precedence. Conflicts between this manual and any agency guidances should be clarified with the Illinois Tollway Environmental Unit.

Projects shall be in compliance with all requirements of federal and state laws. As new regulations are adopted, compliance with new requirements is mandatory, even if not specifically mentioned in this document.

Major Highlight Revisions

Section 1.0 Introduction	
Article 1.1	Adds American Industrial Hygiene Association, Asbestos Containing Materials, Bulk Asbestos Proficiency Analytical Testing, National Emission Standard for Hazardous Air Pollutants, and Occupational Safety and Health Administration to Abbreviations and Acronyms.
Section 2.0 General Information	
Article 2.2	Add asbestos containing materials to Resources of Concern.
Section 3.0 Roles and Responsibilities	
Article 3.1.1	Includes asbestos as being under the jurisdiction of the United States Environmental Protection Agency.
Article 3.1.2	Added Illinois Department of Public Health to list of State Agencies.
Section 5.0 Documentation	
Article 5.4	Clarifies that wetland delineations shall be reevaluated, rather than expire, after two years.
Section 6.0: Guidance for Assessing Resources of Concern	
Article 6.6.4	Clarifies where engineered barriers are utilized.
Article 6.6.7	Clarifies earthwork submittal timing.
Article 6.6.8	Revised Table 6-1 and metals testing guidance for consistency with Table 6-2. Provides requirements for including underground storage tank removal in contract documents.

Article 6.6.9	Further standardizes the content of the subsurface findings table. Provides CADD requirements for the Phase II Environmental Site Assessment figures.
Article 6.11	New article to provide guidance on conducting asbestos assessments during design.
Appendices	
Appendix A	Clarified requirements to 1A, 2K, 2M, 3D, 4E, and 4H.
Appendix C	Provides subsurface findings table standard format.
Appendix D	Traffic Noise Study and Abatement Policy moved from Appendix C to Appendix D.

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

SECTION 1.0 INTRODUCTION

1.1 Purpose and Use

The *Environmental Studies Manual* provides guidance for project development in order to document and understand potential environmental effects of Illinois State Highway Authority (Illinois Tollway) projects. In adopting an environmental process, the Illinois Tollway can better satisfy resource and regulatory agency regulations and permitting requirements.

Abbreviations and Acronyms

ACM	Asbestos Containing Materials
ADID	Advanced Identification (wetland)
AIHA	American Industrial Hygiene Association
ASTM	American Society for Testing and Materials
BAPAT	Bulk Asbestos Proficiency Analytical Testing
BRM	Biological Resource Memorandum
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CCDD	Clean Construction or Demolition Debris
CE	Consulting Engineer
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CM	Construction Manager
CO	Carbon Monoxide
COC	Contaminant of Concern
DCM	Design Corridor Manager
DDM	Drainage Design Manual
DMR	Design Milestone Review
DSE	Design Section Engineer
EA	Environmental Assessment
EcoCAT	Ecological Compliance Assessment Tool
EED	Environmental Evaluation Document
EIS	Environmental Impact Statement
EL	Environmental Lead
ES	Environmental Specialist
ESA	Environmental Site Assessment
ESCSR	Erosion and Sediment Control Site Representative
ESIS	Environmental Studies Inventory Sheet
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration, Department of Transportation
FONSI	Finding of No Significant Impact
IDNR	Illinois Department of Natural Resources
IDNR-OWR	Illinois Department of Natural Resources, Office of Water Resources
IDOA	Illinois Department of Agriculture
IDOT	Illinois Department of Transportation
IEPA	Illinois Environmental Protection Agency
IHPA	Illinois Historic Preservation Agency
ILCS	Illinois Compiled Statutes
Illinois Tollway	Illinois State Toll Highway Authority
INAI	Illinois Natural Areas Inventory

LA	Landscape Architect
LPC	Land Pollution Control
LUST	Leaking Underground Storage Tank
LWCF	Land and Water Conservation Fund
MAC	Maximum Allowable Concentration
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Areas
MTBE	Methyl Tertiary Butyl Ether
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emission Standard for Hazardous Air Pollutants
NeT CGP	NPDES eReporting Tool Construction General Permit
NFR	No Further Remediation
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetland Inventory
OSHA	Occupational Safety and Health Administration
OSLAD	Open Space Lands Acquisition and Development Act
PCB	Polychlorinated Biphenyls
PE	Project Engineer
PG	Professional Geologist
PIPs	Potentially Impacted Properties
PM	Project Manager
PNAs	Polynuclear Aromatics
RCRA	Resource Conservation and Recovery Act
RE	Resident Engineer
RECs	Recognized Environmental Conditions
ROW	Right-of-Way
SPLP	Synthetic Precipitation Leaching Procedure
SRO	Soil Remediation Objective
SRP	Site Remediation Program
SVOC	Semi-Volatile Organic Compounds
TACO	IEPA Tiered Approach to Corrective Action Objectives
TCLP	Toxicity Characteristic Leaching Procedure
TMDL	Total Maximum Daily Load
TNM	Traffic Noise Model
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFO	Uncontaminated Soil Fill Operation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
US NRCS	United States Department of Agriculture, Natural Resource Conservation Service
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WBPM	Web-Based Project Management

Definitions

Bid Documents: All documents and agreements pertaining to the performance and construction of the Work, including the Contract Requirements which may include, but are not necessarily limited to, Advertisement for Bids, Instructions to Bidders, and the Proposal Form; the form of Contract; the recommended outline for preparing the Progress Schedule; the Plant and Equipment Questionnaire; the Statement of Experience and Financial Condition; the Plans; the Standard Specifications; the Supplemental Specifications, if any; the Special Provisions, if any; Addenda, if any; the form of Proposal Guaranty; the form of Certificates of Insurance; the form of Payment Bonds; the form of Incumbency Certificate; and form of Secretary's Certificate.

Categorical Exclusion: A category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect that neither an environmental assessment nor an environmental impact statement is required under the National Environmental Policy Act (NEPA) (40 CFR 1508.4).

Clean Construction or Demolition Debris (CCDD): Uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed asphalt pavement or soil generated from construction or demolition activities.

Construction Manager (CM): The Engineer or firm of engineers and their duly authorized employees, agents, and representatives retained by the Illinois Tollway to observe The Work to determine whether or not it is being performed and constructed in compliance with the Contract.

Consulting Engineer (CE): The Engineer or firm of engineers retained by the Illinois Tollway for the purpose of carrying out the duties imposed on the Consulting Engineer pursuant to the terms and conditions of the contract between the Consulting Engineer and the Illinois Tollway and any trust indenture entered into by or on behalf of the Illinois Tollway. Also referred to as the General Engineering Consultant (GEC).

Contract: The written agreement executed between the Illinois Tollway and the successful Bidder and any supplemental agreements duly executed, establishing the terms and conditions for the performance and construction of The Work and the furnishing of labor, materials and equipment by which the Contractor is bound to perform The Work and to furnish labor, equipment and materials, and by which the Illinois Tollway is obligated to compensate the Contractor at the established rate or price. The Contract also includes the Advertisement to Bidders, Instructions to Bidders, the Proposal, Bonds, the Standard Specifications, the Illinois Tollway Supplemental Specifications, the Contract Plans, the Special Provisions, and all Addenda and any Extra Work Order, Change Order or Supplemental Agreement after execution of the Agreement.

Contract Documents: All the documents mentioned under the definition of "Contract."

Design Corridor Manager: The Engineer or firm of engineers contracted by the Illinois Tollway to act as the duly authorized agent of the Chief Engineering Officer to manage other DSEs, in accordance with the scope of the particular duties delegated to them by the terms of their Agreement.

Design Section: Any one of the numerous divisions into which design of the roadway, facilities and appurtenances of the Illinois Tollway may be divided for the purposes of design.

Design Section Engineer (DSE): The Engineer or firm of Engineers and their duly authorized

employees, agents and representatives retained by the Illinois Tollway to prepare the Contract Plans for a Design Section.

Ditch: Constructed or excavated channel used to convey water. (Definition specific to wetland permitting. For definition related to drainage design, see *Illinois Tollway Drainage Design Manual.*)

Environmental Assessment (EA): A concise public document for which a federal agency is responsible that serves to briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact under NEPA (40 CFR 1508.9).

Environmental Evaluation Document (EED): An environmental assessment report which incorporates the level of detail required to adequately evaluate the anticipated impacts of a proposed action. This is similar to a NEPA environmental document but does not have the required federal funding or action requirements or commitments.

Environmental Impact Statement (EIS): A detailed written statement, prepared for major federal actions under NEPA for projects which will significantly affect the quality of the human environment, which discusses the environmental impact of the proposed action; any adverse environmental effects which cannot be avoided should the proposal be implemented; alternatives to the proposed action; the relationship between local short-term uses of man's environment and the maintenance and enhancement of long term productivity; and any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented [40 Code of Federal Regulations (CFR) 1502].

Environmental Lead (EL): The staff member from the DSE charged with coordinating the DSE team's environmental studies. This individual shall meet the IDOT Prequalification Guidelines for Environmental Studies.

Environmental Site Assessment (ESA): A study/report on the potential for environmental contamination which addresses the existing and prior uses of the property and adjacent properties. Typically subdivided into Phase I ESAs, which include database searches, interviews of knowledgeable persons and site visits; or Phase II ESAs, which include sampling and laboratory analysis. Governed by ASTM standards.

Environmental Specialist (ES): For purposes of Article 6.6 – Solid Waste, a Professional Engineer or Professional Geologist in the State of Illinois with three years' experience in special waste assessments, a bachelor's degree or above in civil, chemical, environmental engineering, or geology, and 40-hour Hazardous Waste Operations and Emergency Response training with a current 8-hour refresher certificate.

Environmental Studies Inventory Sheet (ESIS): An Illinois Tollway two-part process which provides information for assessing the potential for environmental impacts of a proposed action. Part I is submitted as part of the conceptual design submittal (30%). Part II is submitted twice, initially as part of the Preliminary Engineering (60%) submittal and again as part of the Pre-Final plans (95%). The ESIS process serves as a summary and checklist to ensure potential impacts to resources are not overlooked.

Finding of No Significant Impact (FONSI): A document by a federal agency briefly presenting the reasons why an action, not otherwise excluded, will not have a significant impact on the human environment and for which an environmental impact statement therefore will not be prepared

under NEPA (40 CFR 1508.13)

Illinois Natural Areas Inventory (INAI): State inventory that provides information about high-quality natural areas, habitats of endangered species and other important natural features. The INAI process allows the state to be thoroughly and systematically screened in order to find, evaluate, classify and map natural areas and prioritize conservation.

Impact: An effect to an object or resource due to the proposed action.

Land and Water Conservation Fund (LWCF): A federal program providing funds for the conservation of irreplaceable lands and improvement of outdoor recreation opportunities throughout the nation. LWCF grants funds to states in support of the acquisition and development of state and local parks and recreational facilities.

Letter of Permission: A type of individual permit issued through an abbreviated process which includes coordination with the federal and state fish and wildlife agencies and a public interest evaluation, but without the publishing of an individual public notice.

Level 1, 2, 3 or 4: Illinois Tollway levels of study for project actions. Generally, Level 1 would be considered more basic in nature and Level 4 studies would be more comprehensive. Section 4.0 of this manual describes the action types and their application.

Mitigation: The sequencing of the degree of the effects to a resource or receptor. This generally includes the avoidance, minimization and finally compensation for an impact. (Definition specific to the process to address impacts. For erosion control or drainage related issues, see the *Illinois Tollway Erosion Control and Landscape Manual* or the *Illinois Tollway Drainage Design Manual*, respectively.)

National Environmental Policy Act of 1969 (NEPA): A law that was signed into law on January 1, 1970, and is the basic national charter for protection of the environment. This Act was essentially a national declaration that established policy, set goals and provided a means to protect the environment. NEPA procedures ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect restore, and enhance the environment. The policy (40 CFR 1500.1(a) and 1500.2) for compliance with NEPA applies to all federally regulated or federally funded projects. As the Illinois Tollway is a privately funded agency, several factors may trigger NEPA involvement. The application for a Section 404 permit, applying for access to the federal interstate system, or co-funding IDOT studies may all initiate federal action, and therefore invoke the NEPA process.

National Pollutant Discharge Elimination System (NPDES) Permit: A permit from the USEPA as delegated to the IEPA for eliminating non-point pollution sources. For the purposes of Illinois Tollway projects this permit is for construction sites of one acre or larger and pertains primarily to stormwater runoff and sedimentation control.

Preparer: Can prepare all forms in NeT CGP on behalf of the Certifier at the facility but is not authorized by EPA's regulations to sign and submit any forms. Upon completion of a Notice of Intent, Low Erosivity Waiver, or Notice of Termination application, the Preparer will flag the form for certification.

Project Engineer (PE): A member of the DSE's staff responsible for the design of a singular discipline identified within the Contract Documents.

Project Manager (PM): The representative of the Chief Engineering Officer assigned to be the primary technical and administrative liaison between the Illinois Tollway and its various Contractors, Construction Managers, Designers of Record, Program Manager, and Consulting Engineers.

Qualified Environmental Staff: A person who meets IDOT's minimum requirements for pre-qualification as Qualified Environmental Staff in the specific environmental disciplines described by IDOT; i.e., Community Impacts, Ecology, Noise, Water and Public Involvement.

Section 404 Permit Application: An application to the USACE for authorization of activities that involve structures or work in or affecting navigable waters of the United States as defined by Section 10 of the Rivers and Harbors Act of 1899, and discharges of dredged or fill material into wetlands or waters of the United States as defined by the Clean Water Act. Permits are usually either Individual (greater impacts) or General (minor impacts). The project will have to be evaluated as to what type of permit is appropriate for the proposed action.

Signatory: Can prepare, sign, and submit all forms in the NeT CGP. This is the person who will certify, under penalty of law, that the information submitted was prepared under his or her direction and supervision in accordance with the system designed to ensure that qualified personnel properly gathered and evaluated the submitted information. The Certifier will electronically sign the Notice of Intent, Low Erosivity Waiver, or Notice of Termination. This role cannot be delegated.

Special Provisions: Special clauses, directions, and requirements supplemental to the Standard Specifications, setting forth requirements specific to The Work included in the Construction Contract.

Special Waste: Any potentially infectious medical waste, hazardous waste, pollution control waste or industrial process waste. The regulations which govern the proper generation, hauling and manifesting of these wastes can be found in 35 Ill. Adm. Code, Subtitle G: Waste Disposal.

Standard Specifications: The most recent edition of IDOT's "Standard Specifications for Road and Bridge Construction."

Supplemental Specifications: Additions and revisions to the Standard Specifications published by IDOT that are adopted subsequent to issuance of the Standard Specifications for Road and Bridge Construction.

Total Maximum Daily Load (TMDL): A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards.

Transaction Screen Process: A study/report for potential environmental contamination conducted as a limited environmental due diligence, in place of a Phase I ESA. Governed by ASTM standards.

Wetlands: Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions for growth and reproduction (i.e., swamps, marshes, sloughs, wet meadows, river overflows, mud flats and natural ponds).

Work: Work shall mean the furnishing of all labor, material, tools, equipment, and other incidentals necessary or convenient to the successful completion of the project and carrying out of all duties and obligations imposed by the contract. Work may also be used in context to describe, in whole or in part, the completed facilities to be constructed, altered or removed, as detailed in the Contract. The Engineer will have exclusive authority to determine the intent and meaning of the usage of this term whenever it appears in the Contract.

Note:

This manual follows the traditional definitions for **shall**, **should** and **may**. **Shall** is used to mean something that is required or mandatory, while **should** is used to mean something that is recommended, but not mandatory and **may** is used to mean that it is optional and carries no requirement or recommendation.

SECTION 2.0 GENERAL INFORMATION

2.1 Objectives

The *Environmental Studies Manual* establishes an environmental process that comprehensively addresses the environmental issues of our regional transportation system and development planning. The following four objectives provide a framework for the Illinois Tollway to execute that process:

- Documentation of environmental effects during all phases of project development
- Coordination with federal, state and local agencies with regulatory responsibility and jurisdictional authority
- Coordination with affected public
- Internal coordination at the Illinois Tollway

Illinois Tollway proposed system improvement studies and projects shall be subject to environmental documentation that is appropriate to its scope and scale. The Illinois Tollway's environmental process shall be applied to all studies and projects, except in those cases where a National Environmental Policy Act (NEPA) process would supersede.

Illinois Tollway coordination will:

- Be compliant with statutory and regulatory requirements
- Seek concurrence for the appropriate level of documentation
- Seek input regarding key environmental and other resource issues for example, methods of study, mitigation, data sources, etc.
- Be formalized by the use of interagency agreements, as appropriate

The Illinois Tollway will provide opportunities for public involvement, as appropriate, in the environmental process and shall inform the public of proposed system improvements, increase the public's transportation planning knowledge, establish a forum that seeks input, be sensitive to individual and group concerns and document public comments.

2.2 Resources of Concern

To achieve the environmental objectives, Illinois Tollway projects shall follow procedures for evaluating, documenting and coordinating the effects of Illinois Tollway projects and studies for the following environmental areas of concern:

<u>Wetlands</u>

Procedures developed and implemented shall be compliant with the coordination requirements and regulations of the United States Army Corps of Engineers (USACE), United States Environmental Protection Agency (USEPA), United States Fish and Wildlife Service (USFWS) and the Illinois Department of Natural Resources (IDNR).

Biological Resources

Nature Preserves; threatened and endangered species; aquatic, riparian, and upland habitats; migratory birds; trees; and associated buffer areas for all of the above. Procedures developed and implemented shall be compliant with the coordination requirements and regulations of the USACE, USEPA, USFWS and the IDNR.

Publicly Owned Recreational Properties

Illinois Tollway projects will avoid, to the extent practicable, the use and access of publicly owned properties. Where avoidance is not possible, efforts shall be undertaken to minimize use. Where the use of publicly owned property may occur, the Illinois Tollway will coordinate the project with the public entity having jurisdiction or ownership of the property.

Waters of the United States / Public Bodies of Water

Waters of the United States, public bodies of water and navigable waterways are those as defined by the USACE, the IDNR Office of Water Resources (IDNR-OWR) and the United States Coast Guard. Procedures developed and implemented shall be compliant with the coordination requirements and regulations of these three agencies, as well as the USEPA and the Illinois Environmental Protection Agency (IEPA).

Cultural, Historical and Archaeological Resources

Procedures developed and implemented shall be compliant with the coordination requirements and regulations of the Illinois Historic Preservation Agency (IHPA) and the State Historic Preservation Officer.

Solid Waste

Procedures developed and implemented for the screening, testing, evaluation, treatment and disposal of special waste and non-special waste shall be compliant with the coordination requirements and regulations of the USEPA and the IEPA.

Clean Construction and Demolition Debris

Procedures developed and implemented shall be compliant with the Illinois Pollution Control Board’s regulations and coordination requirements with the IEPA.

Noise

Procedures developed and implemented shall be consistent with the Federal Highway Administration (FHWA) criteria for evaluating traffic noise impacts and consideration of appropriate mitigation, as well as the Illinois Tollway’s *Traffic Noise Study and Abatement Policy.*

Air Quality

Procedures developed and implemented shall be in conformance with the requirements and regulations of the USEPA and the IEPA.

Agricultural Resources

Procedures developed and implemented shall be in conformance with the requirements and regulations of the Illinois Department of Agriculture (IDOA).

Landscape, Erosion and Sediment Control

Procedures developed and implemented shall be in conformance with the requirements of the IEPA and the Illinois Tollway Landscaping Design, Erosion and Sediment Control criteria.

Asbestos Containing Materials

Procedures developed and implemented shall be in conformance with the requirements and regulations of the USEPA, the Occupational Safety and Health Administration (OSHA), and the Illinois Department of Public Health.

SECTION 3.0 ROLES AND RESPONSIBILITIES

3.1 Resource and Regulatory Agencies

3.1.1 Federal Agencies and Responsibilities

The following description of coordinated work is not all inclusive and is provided as guidance as applied to Illinois Tollway projects only.

Advisory Council on Historic Preservation

Jurisdiction: Effects to properties included or eligible for inclusion in the National Register of Historic Places. Coordinated work includes projects on new right-of-way (ROW) potentially impacting culturally sensitive sites, prehistoric sites, historic sites and structures, cemeteries, etc.

United States Army Corps of Engineers

Jurisdiction: Work in waters of the United States, including rivers, streams and wetlands. Coordinated work includes bridge and culvert replacements and repairs, fill or dredging in wetlands, erosion control and scour protection.

United States Department of Agriculture, Natural Resource Conservation Service

Jurisdiction: Responsible for developing and executing federal laws related to farming, forestry and food. Coordinated work includes projects on new ROW involving the conversion of agricultural land-use areas.

United States Coast Guard

Jurisdiction: Work in navigable waterways. Coordinated work includes work in waterways which may affect navigation.

United States Department of the Interior, Fish and Wildlife Service

Jurisdiction: Federally listed threatened and endangered species. Coordinated work includes requesting review of Section 404 permit applications, review of field studies for threatened and endangered species and development of mitigation plans.

United States Department of the Interior, National Park Service

Jurisdiction: Work in Section 6(f) lands. These properties are lands which had Land and Water Conservation Funds (LWCFs) involved in their purchase. Coordinated work includes projects on new ROW involving the conversion or use of public lands purchased with these federal funds.

United States Department of Transportation, Federal Highway Administration

Jurisdiction: Work on FHWA ROW, federal interstate system access permission or involvement as the Environmental Lead (EL) on a NEPA project. Coordinated work includes interstate access permits and NEPA documentation guidance.

United States Environmental Protection Agency

Jurisdiction: Air quality, wetlands, special waste, water quality, urban land use, NEPA documentation, asbestos. Directly coordinated work includes review of NEPA documents. Of special note is the USEPA's authority to veto USACE Section 404 permits.

3.1.2 State Agencies and Responsibilities

The following description of coordinated work is not all inclusive and is provided as guidance as applied to Illinois Tollway projects only.

Illinois Department of Agriculture

Jurisdiction: Agricultural lands. Coordinated work includes projects on new ROW involving the conversion of agricultural land-use areas.

Illinois Department of Natural Resources

Jurisdiction: State listed threatened and endangered species, wetlands, INAI sites and Open Space Lands Acquisition and Development Act Lands (OSLAD). Coordinated work includes all work outside of existing ROW, work in streams and rivers, wetlands and OSLAD conversion requests.

Illinois Department of Natural Resources – Office of Water Resources

Jurisdiction: Waterways, floodplains and floodways. The primary coordinated work activity of the OWR is in urban flood reduction and issues permits for work in and along rivers, lakes and streams of the state and for activities in and along public waters.

Illinois Department of Public Health

Jurisdiction: Asbestos inspections and abatement. Coordinated work includes demolition of building/canopies.

Illinois Department of Transportation

Jurisdiction: Illinois Department of Transportation (IDOT) ROW. Coordinated work includes access permits to IDOT roadways and NEPA projects.

Illinois Environmental Protection Agency

Jurisdiction: Water quality, air quality, solid waste, special waste and non-special waste. Coordinated work includes Section 401 (water quality certification), review of Section 404 permits, stormwater runoff from construction sites (National Pollutant Discharge Elimination System [NPDES] permits), erosion control, air quality violations and leaking underground storage tanks.

Illinois Historic Preservation Agency

Jurisdiction: Historic and prehistoric resources, including buildings, bridges and archaeological resources. Coordinated work includes review of Section 404 permits, impacts to non-Illinois Tollway buildings and work outside of existing ROW.

3.1.3 Local Agencies and Responsibilities

This group generally consists of Metropolitan Planning Organizations (MPO), Regional Planning Commissions and County units of government. The MPO of northeast Illinois is the Policy Committee for the Chicago Metropolitan Agency for Planning (CMAP). Three other MPOs located in north central Illinois also intersect with the Illinois Tollway system: State Line Area Transportation Study (SLATS), Rockford Metro Agency for Planning (RMAP) and Dekalb/Sycamore Area Transportation Study (DSATS). County governments consist of Forest Preserve Districts, Stormwater Commissions, Highway Departments, municipalities, Park Districts, etc. The Illinois Tollway routinely coordinates with this level of government on a case-by-case as-needed basis.

3.1.4 Illinois Tollway Staff

Description of staff responsibilities can vary by contract; the following is for guidance only.

Illinois Tollway Project Engineer/Senior Project Engineer

The Project Engineer (PE) shall be the primary point of contact with the Design Section Engineer (DSE). The PE shall be responsible for ensuring that the DSE complies with the directives of this manual and for disseminating information and submittals to the appropriate individuals.

Illinois Tollway Environmental Planner/Senior Environmental Planner

The Environmental Planner (EP) shall be responsible for ensuring that the PE, and thus the DSE, is aware of how environmental concerns affect the project or study. The EP shall review all related environmental submittals to the Illinois Tollway by the DSE, and other reports and contract documents as necessary. The EP shall be the primary point of contact with state and federal resource and regulatory agencies.

Illinois Tollway Landscape Specialist/Senior Landscape Architect

The Landscape Architect (LA) shall review projects for their potential impact on permanent landscape and issues related to erosion control and review the DSE's recommended solutions for avoiding and minimizing impacts. The LA shall primarily assist in administering the Illinois Tollway policy and procedures for the application and planning of natural/constructed elements, vegetation impacts and erosion/sediment control with a concern for stewardship and conservation of natural resources.

Illinois Tollway Assistant Attorney General

The Assistant Attorney General shall review and comment on Level 3 and Level 4 documents to ensure compliance with regulatory statutes and the Toll Highway Act. (See Section 4.0 - Project Action Levels)

Consulting Engineer to Illinois Tollway

The Consulting Engineer (CE) is directed by the Illinois Tollway to review and comment on plans and procedures to ensure compliance with accepted engineering and planning practices.

3.1.5 Design Corridor Manager

The Engineer or firm of engineers contracted by the Illinois Tollway to act as the duly authorized agent of the Chief Engineering Officer to manage other DSEs, in accordance with the scope of the particular duties delegated to them by the terms of their agreement.

3.1.6 Design Section Engineer Staff

Description of staff responsibilities can vary by contract; the following is for guidance only.

Project Engineer

The Project Engineer (PE) is a member of the DSE's staff responsible for the design of a singular discipline identified within the Contract Documents.

Environmental Lead

The Environmental Lead (EL) is the staff member from the DSE charged with coordinating the DSE team's environmental studies. This individual shall meet the IDOT Prequalification Guidelines for Environmental Studies.

Environmental Specialist

The Environmental Specialist (ES) is needed if excess soil will be generated by the project which requires disposal. The ES is responsible for any needed Transaction Screen or Environmental Site Assessments (ESAs), preparing Land Pollution Control (LPC)-662 forms and/or preparing and signing LPC-663 forms.

3.1.7 Construction Manager Staff

Description of staff responsibilities can vary by contract; the following is for guidance only.

Resident Engineer

The Resident Engineer (RE) is responsible for the day-to-day duties associated with on-site activities of the construction of the proposed project. This would include the schedule, quantities, insurance of material testing and NPDES permit compliance.

Erosion and Sediment Control Site Representative

The Erosion and Sediment Control Site Representative (ESCSR) is responsible for the scheduling, inspection and maintenance of all sediment and erosion control measures. On small projects this shall be the RE. On large-scale projects, a separate ESCSR shall be assigned. See *Illinois Tollway Construction Manager's Manual* (latest edition) Article 4.1.2.2.9 for required qualifications.

SECTION 4.0 PROJECT ACTION LEVELS

4.1 Background

For projects where a NEPA documentation process has not superseded Illinois Tollway procedures, projects will be categorized as one of four potential Levels. The Level determines the depth of environmental documentation deemed necessary for the project. The Level itself is determined by the potential for adverse environmental impact, the potential for resource and regulatory agency involvement and public interest or controversy. The Illinois Tollway will determine the Level through a project scoping process prior to public advertising for professional services. The Level may be upgraded or downgraded during project development based on changes in the project scope, or through the results of technical and environmental studies, or as a result of coordination with environmental resource and regulatory agencies.

Where a project has been advertised for professional services as requiring an Environmental Impact Statement (EIS) or an Environmental Assessment (EA) under NEPA, the NEPA documentation shall supersede any Illinois Tollway-specific documentation and procedures.

When publicly advertised in a Professional Services Bulletin, Illinois Tollway projects will be equated with IDOT prequalification categories. Projects with a designation of Level 3 would require an Environmental Evaluation Document (EED). Projects with a designation of Level 4 would generally be categorized as EIS. Projects designated as Level 2 are generally managed with the Environmental Studies Inventory Sheet (ESIS) process but could at any time be elevated, therefore they will require IDOT EA prequalification. Projects designated as Level 1 can be managed with the ESIS process and are not expected to be elevated.

4.2 Project Levels

There are four action types for the purposes of documentation; i.e., Level 1, 2, 3 or 4. Placement of a study or project into one of these four Levels is dependent on the study or project conditions. The conditions are issues, requirements, or concerns that trigger a level of documentation to satisfy public and resource agency concerns.

Level Study or Project Conditions

Level 1. Generally, the project is not expected to have environmental issues; there is no new ROW; and no impacts to resources such as waters of the United States, wetlands, cultural resources, endangered species, etc. Examples include pavement patching or resurfacing, lighting improvements, or guardrail installation.

Level 2. Generally, study or project conditions may include any or all of the following: minor alternatives to the proposed course of action (limited to design or alignment variations), no notable ROW acquisition, limited potential for involvement with resource or regulatory issues.

Level 3. Generally, these projects may include any or all of the following: the study of major alternatives to the proposed course of action, projects that increase system capacity, potential for notable ROW acquisition, potential involvement with complex or multiple resource and regulatory issues.

Level 4. Generally, these projects may include any or all of the following: the study of major alternatives to a proposed course of action, projects that increase system capacity, notable ROW acquisition, known involvement with complex or multiple resource and regulatory issues.

SECTION 5.0 DOCUMENTATION

5.1 Purpose of Documentation of Studies, Engineering, and Environmental Issues

- Documentation for file
- To enhance agency coordination
- As a tool to identify and evaluate resource issues

5.2 Project Application of Document Action Types

5.2.1 Level 1

Level 1 is reserved for projects not expected to have environmental issues, where there is no new ROW and no impacts to resources such as waters of the United States, wetlands, cultural resources, endangered species, etc. Examples include pavement patching or resurfacing, lighting improvements or guardrail installation.

Level 1 projects require completion of the ESIS, Parts I (Concept Phase [30%] submittal) and Parts II (Preliminary Engineering [60%] submittal and Pre-Final Phase [95%] submittal). Level 1 projects are unlikely to but may require additional special studies, depending on findings of ESIS process. See Section 6.0 for guidance on assessing resources of concern. The exception is tree planting contracts. If the sum of the dense planting area is 1 acre or more of total disturbance, then an ESIS is required. If the total is less than 1 acre, then an ESIS is not required.

Level 1 generally does not require IDOT prequalification for preparation of environmental documents.

5.2.2 Level 2

Level 2 projects require completion of the ESIS, Parts I (Concept Phase [30%] submittal) and Parts II (Preliminary Engineering [60%] submittal and Pre-Final Phase [95%] submittal) and may require additional special studies, depending on findings of ESIS process. See Section 6.0 for guidance on assessing resources of concern.

Requires IDOT prequalification for EAs because it can be elevated to Level 3. Either the lead firm or an EL employed full time by the lead firm shall be prequalified by IDOT for the preparation of EAs. The IDOT Qualified Environmental Staff component requirement can be met by a subconsultant.

5.2.3 Level 3

Level 3 projects require completion of an EED accompanying a master plan (per *Illinois Tollway DSE's Manual*, Article 4.3).

Level 3 requires IDOT prequalification for EAs. Either the lead firm or a full-time EL employed by the lead firm shall be prequalified by IDOT for the preparation of EAs. Pre-qualified IDOT Qualified

Environmental Staff shall also be employed by the lead firm.

A project initiation meeting shall be required to identify environmental issues for special studies. This meeting shall be a staff level meeting addressing environmental studies and scoping.

5.2.4 Level 4

For Level 4 projects, the Illinois Tollway initiates the programing, planning, design and construction of a new roadway on new alignment. An EIS may be required.

A project initiation meeting shall be required to identify environmental issues for special studies. This meeting shall be a staff level meeting addressing environmental studies and scoping.

Level 4 requires IDOT prequalification for EIS. Either the lead firm or a full-time EL employed by the lead firm shall be prequalified by IDOT for the preparation of EISs. Pre-qualified IDOT Qualified Environmental Staff shall also be employed by the lead firm.

5.3 Types of Illinois Tollway Environmental Documents

The type of document is determined by the Level assigned to the project. The following only applies when a NEPA document is neither proposed nor applicable.

5.3.1 Environmental Studies Inventory Sheet

Part I: Concept Submittal (30%)

ESIS submittals are to be completed using the Illinois Tollway's Web-Based Project Management (WBPM) system (e-Builder). ESIS Part I shall be submitted with the 30% design submittal. The WBPM system will ask a series of questions related to environmental resources in the project vicinity and require the uploading of supporting documentation. Once submitted, the WBPM system will notify the Illinois Tollway Environmental Planner, who will review the ESIS submittal for completeness.

Part II: Preliminary Engineering 60% and Pre-Final (95%) submittals

ESIS submittals are to be completed using the Illinois Tollway's WBPM system (e-Builder). ESIS Part II shall be submitted with the 60% and 95% design submittals. The ESIS II submittal updates information developed for the earlier ESIS submittals and requires information that may not have been available at the 30% design milestone. Once submitted, the WBPM system will notify the Illinois Tollway Environmental Planner, who will review the ESIS submittal for completeness.

5.3.2 Environmental Evaluation Document

Purpose of the EED

The purpose of the EED is to provide an avenue for documenting environmental concerns, coordinating with the public and agencies, and providing groundwork for regulatory and permit issues. The EED provides environmental reporting when NEPA documents do not apply. It is ultimately intended to recommend the most prudent action by evaluating project alternatives and

minimizing or avoiding environmental impacts. The depth, scope and breadth will be dependent upon the scope of the project and the needs of the Illinois Tollway.

Scoping Process

Once the ESIS Form Part I is completed and other preliminary information is obtained, a scoping meeting should be held with the stakeholders (at the discretion of the Illinois Tollway) to ascertain potential project constraints and benefits. This meeting is intended to gather additional information, inform the appropriate parties of the project, provide a forum for information exchange, review preliminary alternatives, identify concerns and discuss scope and breadth of EED.

Preliminary EED

The preliminary document should be submitted to the Project Engineer for initial review. It may not be complete upon submittal; placeholders shall be inserted where information is missing. The preliminary EED will demonstrate the status of the project and identify areas that need additional work. Upon acceptance of the preliminary EED, the document will be circulated within the Illinois Tollway, including Legal Staff, for review.

EED Format

- Purpose of the Project: This shall be a description of the proposed project, including the project limits, identification and description of the problem and objective of the recommended action.
- Existing Conditions: This shall be a description of the site conditions, including adjacent land use, environmental concerns and overall existing conditions.
- Alternatives: This shall be a description of the alternatives considered, including the objective of each alternative, whether it meets the project objective, and a short list of alternatives that are feasible and prudent. The level of analysis shall be sufficient to adequately identify the impacts and appropriate mitigation measures, and address known or foreseeable public or agency concerns. Briefly describe the extent of these impacts.
- Environmental Impacts: This section shall be a discussion of the overall potential impacts of the alternatives considered. An environmental impact matrix shall be developed to show the comparisons. This section shall include the supporting information found in Section 6.0 - Guidance for Assessing Resources of Concern.
- Recommended Action: This section shall include a discussion of the recommended alternative and why it was considered to be the most practicable.
- Coordination: This section shall discuss the public, municipality and agency coordination that has occurred or might be needed. It shall summarize milestones and dates of coordination points and decisions. Meeting minutes and correspondence, as applicable, shall be included.
- Exhibits and Appendices (if any)/Technical Reports
    - Location map
    - Environmental constraints (existing conditions)
    - Feasible and prudent alternatives
    - Recommended alternative with impacts shown
    - Environmental impact matrix
    - The Appendices shall include any analytical information that substantiates an analysis that is important to the document [for example, a Biological Resource Memorandum

(BRM) for Threatened and Endangered species].

Public Availability/Circulation

All final documentation shall be available to the public. Requests for documents shall be routed through the Project Engineer or the Freedom of Information Officer.

5.4 Documentation Reevaluations

Reevaluation of environmental documentation may be warranted if the project has not progressed to construction or has not received permitting approvals five years after the environmental studies have been completed. The DSE shall coordinate with the Illinois Tollway Environmental Unit and reevaluation determinations and exceptions will be made at the discretion of the Illinois Tollway.

- Reevaluation may be warranted if environmental surveys completed for the project expire prior to applicable permitting approvals:
  - The applicability of wetland delineations shall be reevaluated after two years
  - Ecological Compliance Assessment Tool (EcoCAT) environmental information expires after two years
  - Environmental soil sampling expires after five years
- Reevaluation may be warranted if, prior to final design, changes have occurred in the study area that affect results of environmental studies, recommended mitigation, or permitting requirements.
- Reevaluation may be warranted if, prior to final design, modifications are made to the proposed design that will affect results of environmental studies, recommended mitigation, or permitting requirements.

Reevaluation of the environmental studies or permits shall be documented in the ESIS Part II submittal(s).

Additionally, if a project is not advertised for two or more years after the 95% Design Milestone Review (DMR), the DSE shall submit an ESIS Part II at 100% or prior to advertisement to ensure all environmental surveys and permits meet project requirements.

SECTION 6.0 GUIDANCE FOR ASSESSING RESOURCES OF CONCERN

6.1 Wetlands

6.1.1 Purpose and Introduction

This Article provides technical guidance for procedures for identifying, evaluating, documenting and coordinating the effects of Illinois Tollway projects and studies on wetland resources. In addition, this Article discusses procedures for interagency coordination and state and federal permitting. By following this guidance, compliance with applicable regulations and requirements will be ensured.

6.1.2 Applicable Regulations

The following regulations, policies or Memoranda of Understanding (MOU) regulate or influence procedures related to wetland resources.

Federal

- Executive Order 11990, Protection of Wetlands (42 FR 26961)
- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- Section 401 Water Quality Certification (33 U.S.C. 1341)
- Section 404 of the Clean Water Act (33 U.S.C. 1344)

State

- Interagency Wetland Policy Act of 1989 [Illinois Compiled Statues (ILCS) 830] and Administrative Rules [Illinois Administrative Code Title 17, Chapter 1, Part 1090; May 6, 1996], as Amended through October 24, 1997.
- MOU with the IDNR entitled “Natural Resource Review and Coordination Agreement between IDNR and ISTHA” (most current amendment).

6.1.3 Responsibilities

Illinois State Toll Highway Authority

The Illinois Tollway is to provide overall direction for the work, assess the findings of the DSE, determine regulatory applicability, make permit determinations, conduct all agency coordination and submit permit applications prepared by the DSE.

Design Section Engineer

The DSE is to determine the presence and extent of wetlands, perform quality assessments, determine potential impacts, identify agencies with jurisdictional responsibility and prepare permit application submittals when necessary. The DSE shall not contact the regulatory agencies directly unless directed by the Illinois Tollway.

6.1.4 Design Section Engineer Staff Qualifications

Wetland determinations and delineations shall be performed by a qualified wetland scientist. A qualified wetland scientist shall meet two or more of the following criteria:

- Hold a bachelor's degree or higher in a life science from an accredited institution.
- Have at least three years of wetland science experience.
- Have appropriate non-collegiate wetland science training including wetland delineations.
- Be a certified Professional Wetland Scientist by the Society of Wetland Scientists.

6.1.5 Submittals and Timing

Wetland issues shall be addressed at the earliest possible point in project development. The objective is to identify potential wetland impacts during the planning stage, rather than in the design stage. Since Level 1 and 2 projects would likely fall under the Design Department, the ESIS Part I submittal will serve as the primary indicator for the presence of wetlands. Addressing wetland issues during the planning stage is the best means possible of assuring compliance with the sequencing process of avoidance, minimization and mitigation of impacts. It also assures that the Illinois Tollway has the greatest amount of lead-time possible for coordinating and obtaining permits and approvals from agencies with jurisdictional responsibility. **Figure 6-1** summarizes the wetland coordination and submittal process.

ESIS Part I

The first step in project development is to conduct a field reconnaissance and submit the ESIS Part I. Article 6.1.6, entitled Methodology, describes this process. The ESIS submittal provides a foundation to assess the potential for environmental concerns on the project. It is to initiate an awareness of the environmental issues present. The ESIS Part I submittal shall be completed on the WBPM system.

Once the ESIS submittal is completed, the DSE project staff and the Illinois Tollway will evaluate the existing and proposed conditions, including potential impacts. The Illinois Tollway will then verify the current project Level and determine the need for special environmental study/studies. If potential impacts are greater than anticipated, the Level may be elevated. Factors or resource issues other than wetlands may affect this decision. One or two special studies would not necessarily affect a change in the project Level.

If a special wetland environmental study is determined necessary, a wetland delineation will be authorized. Article 6.1.6 outlines the methodology for wetland investigations.

Wetland Technical Memorandum and Report

In all instances when wetlands are present, a Technical Memorandum shall be produced. This memo is to document the wetland findings, anticipated impacts, if any, and propose the course of action as to any further wetland studies or permit actions.

If anticipated impacts are likely to be greater than two acres, or if the Illinois Tollway determines that unique features or habitat may be impacted, a *Wetland Technical Report* shall be produced. The report shall include the wetland delineation, photographs, a quality assessment of the wetlands present (utilizing Wilhelm and Rericha's floristic quality methods), avoidance and

minimization measures and the anticipated impact. The format for the memo and report are outlined in Article 6.1.7 Documentation. Two copies of any Wetland Determination Memorandums or Wetland Technical Reports shall be forwarded to the Project Engineer at the Illinois Tollway.

ESIS Part II

As part of the Preliminary Engineering (60%) design completion and again at the Pre-Final design (95%) submittal, Part II of the ESIS submittal shall be completed. The ESIS Part II submittals will enable the Illinois Tollway and the DSE to determine if the overall project design has changed since the earlier ESIS submittals were completed, thereby causing impacts that were not originally anticipated. The ESIS Part II submittals also document measures that were taken to avoid or minimize wetland impacts and discuss any mitigation that is required for unavoidable impacts. The ESIS Part II submittals shall be completed on the WBPM system.

The Pre-Final design shall have incorporated all of the sequencing measures to reduce potential impacts. These measures shall be shown on the contract plans as well as be described in the text. Article 6.1.7, entitled Documentation, describes how the contract documents, symbology, specifications and contract plans shall be incorporated.

Section 404 Permit Application

If wetland impacts are unavoidable, the DSE shall prepare permit application materials, including all necessary exhibits. For projects within the Chicago District, the relevant portions of the 404 Permit Application Checklist (see Appendix A) shall also be prepared. The permit application materials shall be forwarded to the Illinois Tollway for review and submittal. The Illinois Tollway will initiate project specific coordination with the appropriate regulatory and resource agencies. The DSE may be asked to provide additional information or exhibits for this coordination. The Illinois Tollway will then submit all application materials to the appropriate agencies.

The overall design of the project shall proceed with incorporation of design features in conformance with the *Illinois Tollway DSE's Manual*. The design process shall consider all intergovernmental agreements, agency and municipal coordination and any permit stipulations related to the project.

6.1.6 Methodology

The process for addressing wetland issues may require several transmittals and coordination points with the Illinois Tollway. Each of these is discussed below for the various types of projects. All coordination shall be documented with written responses.

ESIS Part I

Reconnaissance/field observations: Background research shall be conducted for a preliminary determination as to the potential for wetlands to exist within the vicinity of the project. Background research shall include examination of the following:

- National Wetland Inventory (NWI) mapping
- County wetland mapping, including Advanced Identification (ADID) maps, if available
- United States Department of Agriculture, Natural Resource Conservation Service (US NRCS) Soils mapping

- Aerial photographs
- U. S. Geological Survey (USGS) topographic maps
- EcoCAT search
- USFWS Section 7 Consultation Determination Memorandum
- Federal Emergency Management Agency (FEMA) Flood Insurance map

A site visit shall be made for the purpose of confirming the background research and determining the potential presence of wetlands that may not have been identified by the research. The field investigation shall identify areas that possess wetland plants; evidence of water ponding, saturation, or water flow; or water marks on trees, structures, or buildings. Photographs of known or suspected wetlands shall be taken.

At the time of the site visit, roadside ditches shall also be noted. Subject to ruling by the USACE, ditch wetlands are sometimes considered jurisdictional. If not jurisdictional under the Clean Water Act, IDNR may require replacement under the Interagency Wetland Policy Act.

The DSE shall complete and submit the ESIS Part I. The submittal shall include photographs of any potential wetlands. Based on the information provided in the ESIS, the Illinois Tollway will make a recommendation, in writing, of one of the following:

- There is no reason for further investigation, or
- Further investigation is required.

Generally, the Illinois Tollway would determine no further investigations are necessary when:

- There are no wetlands shown on the NWI maps
- There are no wetlands shown on County maps
- The area does not have hydric soils
- There is no field evidence of wetlands found during the site visit
- The project will not affect any vegetated ditches
- There are no protected species or species' habitat in the project area
- The project will not result in alterations in the floodplain/floodway

Wetland Determinations

If any one of the criteria previously listed is not true, further investigation may be required. The DSE shall wait for a written authorization from the Illinois Tollway before proceeding with any additional wetland studies.

For impacts to vegetated ditches, the DSE will be requested to determine if it is possible to replace the vegetated ditches on site at a 1:1 ratio with new vegetated ditches. If this is possible, the DSE shall document this information with rough quantities and appropriate attachments in a memo to the Illinois Tollway. If a 1:1 replacement is not possible, the DSE shall document in a memo the reason(s) that such replacement is not possible. The Illinois Tollway will then begin coordination with the USACE. The DSE shall not perform any coordination with resource agencies; all coordination will be performed by the Illinois Tollway. The Illinois Tollway may request additional exhibits from the DSE for use in these coordination efforts.

For impacts to suspected wetland areas other than ditches, the Illinois Tollway will request that the DSE perform a wetland determination or a delineation. If the suspected wetland areas are

likely to be impacted, the Illinois Tollway may authorize a wetland delineation. If impacts are unknown, the Illinois Tollway may authorize a wetland determination only. Wetland determinations are less comprehensive than delineations and serve to determine whether there is a wetland present at the site but do not identify the precise boundary. A delineation report shall be submitted in the form as described in Article 6.1.7 Documentation. The wetland determination memo will be in the form of a brief memo with appropriate photos and exhibits. Two copies of either document shall be sent to the attention of the Project Engineer.

If the DSE determines that a wetland may be present in the project area, they shall examine whether the project will avoid the wetland. A decision on wetland avoidance may not be possible at this point in project development, but avoidance opportunities shall be discussed in the determination memo. If the wetland determination does not result in the identification of a wetland, or if it is known that the project will avoid any wetland area that is encountered, the DSE's memo and the Illinois Tollway's written approval of the determination memo shall be placed in the project file and wetland studies will be terminated.

If the determination encounters a wetland and the project will impact the wetland or has the potential to do so, this shall be discussed in the determination memo. The Illinois Tollway will either recommend considering measures to avoid the wetland or determine that a wetland delineation will be necessary to continue coordination. If the Illinois Tollway determines that a wetland delineation is necessary, the DSE shall perform the delineation. The Illinois Tollway will provide guidance regarding delineations.

Wetland Delineation

The DSE shall perform any required wetland delineations in conformance with the most current methodology accepted by the USACE and the IDNR Administrative Rules. At the printing of this manual, the accepted methodology is as described in the 1987 *Corps of Engineers Delineation Manual* (Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, MS) and the *Midwest Region Supplement* (Environmental Laboratory. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual; Midwest Region (Version 2.0),* Technical Report TR-10-16, US Army Engineer Waterways Experiment Station, Vicksburg, MS).

When a wetland delineation is required for agricultural land, the DSE shall perform the delineation in accordance with wetland identification methods developed by the US NRCS. This method requires the use of Farm Security Agency aerial slides and follows the methodology of the National Food Security Act. The mapping conventions call for a comparison of at least five normal-rainfall years of aerial photos against aerial photos of one wet-rainfall year and one dry year, which are used as a reference to detect characteristic field signatures that indicate the presence of wetlands. The *National Food Security Act Manual* standards require an area to have wetland signatures present in three years out of the five normal years in order to be considered a wetland.

As with the wetland determination, once a delineation has been conducted, the DSE shall determine if the project can avoid wetland impacts. When a wetland is identified and anticipated to be impacted by a project, sequencing shall be initiated. A wetland is first to be avoided. This can be accomplished through a design change, structural modification, or no action. If the project cannot avoid wetland impacts, the DSE shall discuss in the Technical Memorandum why avoidance is not possible and how the project will minimize impacts. The report shall discuss specific methods for avoiding and/or minimizing impacts, as well as a description of the acreage

of impacts which are unavoidable. Note: Impacts due to necessary utility relocations or placements shall be included in project documentation.

6.1.7 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental issues are not overlooked. When it is determined there is reason for wetland investigations, these forms serve as the preliminary documentation.

Wetland Determination Memorandum

Wetland determinations shall be documented in a memorandum. The memorandum shall state if a wetland is present, its approximate size, its location and whether the proposed project is expected to impact it.

Wetland Delineation Technical Report

Wetland delineations shall be documented in a technical memorandum. The report shall include all information required by USACE, IDNR and/or IEPA for permitting purposes (for example, floristic quality assessments, hydrologic connections, etc.). The format for this document shall follow the organization below.

- Title
- Location of Delineation
- Methodology
- Results
- Table listing the number of wetland(s) and acreage
- Exhibits
    - Location Map
    - NWI Map(s)
    - US NRCS Soils Map(s)
    - Aerial Photograph with wetland(s) shown
    - ADID Wetland Map (if available or applicable)
    - Photographs
    - Data Sheets

Wetland Technical Report

Wetland Technical Reports shall be standalone reports and are required when two or more acres are anticipated to be impacted, or if the Illinois Tollway determines that unique features or habitat may be impacted. The format for these reports shall follow the organization below.

- Title
- Project Description
- Delineation
- Avoidance and Minimization Measures
- Mitigation

- Summary of Wetland Quality, Impacts and Mitigation
- Agency Coordination (if any)

Endangered Species Coordination

All coordination shall follow the procedures and submittals as outlined in the Illinois Tollway's MOU with the IDNR (see Appendix B). The Illinois Tollway will be the point of contact with the IDNR, however, the DSE shall develop any documentation necessary for this coordination. The DSE shall obtain a report from the IDNR's on-line EcoCAT) program. EcoCAT reports shall be reviewed for the purpose of obtaining information on Illinois threatened and endangered species or INAI sites for **project planning** (second button on EcoCAT website). The DSE shall provide appropriate documents to the Illinois Tollway Environmental Unit, and shall include determinations of impacts to protected species or INAI sites, streams, forests/trees, prairie/savannas or IDNR properties; the results of biological surveys or wetland delineations (if directed by the Illinois Tollway); and measures to avoid, minimize or mitigate potential adverse effects.

If there is a potential need for a Section 404 Clean Water Act permit, the DSE shall obtain information on the potential for the presence of federally protected species through the USFWS Section 7 Compliance Tool website. The DSE shall obtain information on what species are present in the county where the project will occur, determine the habitat and/or life cycle requirements of the species and verify whether or not the habitat is present or conditions necessary for the life cycle of the protected species are present. The DSE shall document this information in a Memorandum of Findings. Coordination or consultation with USFWS shall not be initiated by the DSE. The Illinois Tollway will be the point of contact with USFWS.

Section 404 Permit Application

All permit applications shall include the current required information as requested by the USACE. This includes the 404 Permit Application Checklist (see Appendix A) for projects within the Chicago District.

Mitigation and sequencing shall be discussed in the Permit Application. If compensatory mitigation is required, the type, ratio, total amount and location shall be discussed. The mitigation could take place in an approved wetland mitigation bank unless otherwise directed by the Illinois Tollway.

Contract Documents

Contract Documents shall make note of any special environmental issues. Contract plans which may require environmental notations include, but are not limited to, site plans, erosion and sediment control plans, landscape plans, mitigation plans and specifications.

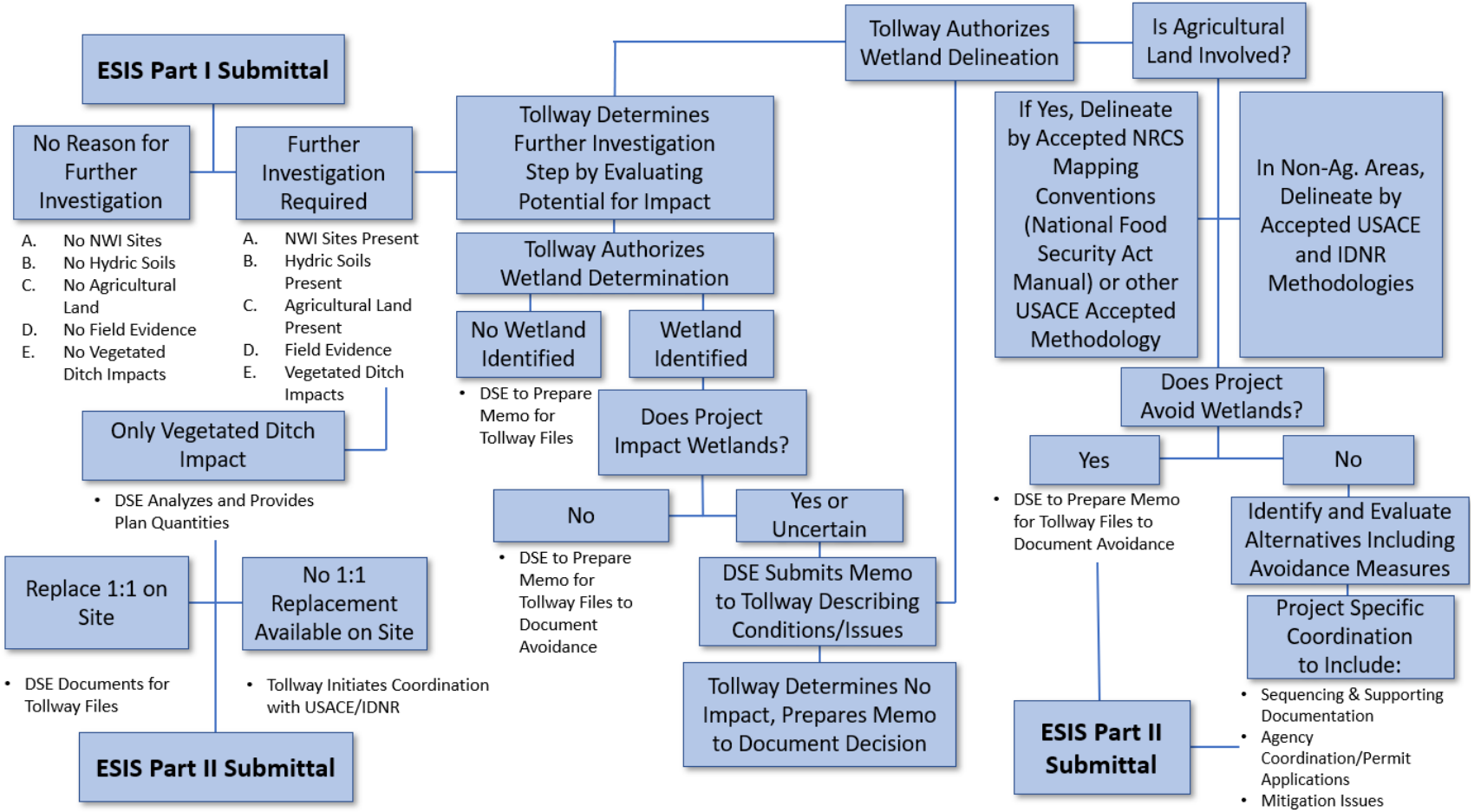
Contract documents shall follow all appropriate guidance in the *Illinois Tollway DSE's Manual*. Special requirements by any of the resource agencies shall be noted on the contract plans. Special requirements may include avoidance measures such as retaining walls, non-standard sediment and erosion control measures, or the placement of access matting to minimize soil disturbance from heavy equipment. Wetland locations and impacts which result from utility locations or placements shall also be identified and clearly labeled.

Wetlands shall be shown on all applicable contract plans. The boundary shall be in bold font with the interior of the polygon showing the standard Microstation "grass" symbol. Any impacts, such

as fill, shall be shown with cross-hatched shading. The size of the wetland (in acres) shall be clearly labeled.

Any wetlands within the construction zone which will not be directly impacted by the project shall be shown on the contract plans. They are to have “no intrusion” fencing, as well as appropriate sediment and erosion control methods to be applied and shown on the contract plans. This will reduce the overall project impacts to the resource.

Figure 6-1 Illinois Tollway Wetland Coordination Process



6.2 Biological Resources

6.2.1 Purpose and Introduction

This Article provides technical guidance for procedures for identifying, evaluating and documenting the effects of Illinois Tollway projects and studies on biological resources, including projects affecting INAI sites; nature preserves; threatened and endangered species; aquatic, riparian and upland habitats; trees; and their associated buffer areas. In addition, this Article provides guidance regarding state and federal regulations.

6.2.2 Applicable Regulations

The following regulations and policies regulate, or influence procedures related to biological resources.

Federal

- National Environmental Policy Act (NEPA) of 1969
- Wild and Scenic Rivers Act of 1968
- United States Endangered Species Protection Act of 1972
- The Fish and Wildlife Coordination Act
- Migratory Bird Treaty Act of 1918
- Section 6(f) of the Land and Water Conservation Fund Act (LAWCON)

State

- Illinois Natural Areas Preservation Act of 1981
- Illinois Executive Order No. 7, Protection of Endangered Species and Natural Areas, 1985
- Illinois Endangered Species Protection Act of 1972
- MOU with the IDNR entitled “Natural Resource Review and Coordination Agreement Between IDNR and the Illinois Tollway” (most current version).

6.2.3 Responsibilities

Illinois State Toll Highway Authority

The Illinois Tollway is to provide overall direction for the work, assess the findings of the DSE, determine regulatory applicability, make permit determinations, conduct all agency coordination and submit permit applications prepared by the DSE.

Design Section Engineer

The DSE shall determine the presence of biological or natural resources within the project area based upon background research and field observations. The DSE shall examine land use in the project area for:

- Grasslands or prairies
- Savannas
- Woodlands

- Ponds/lakes/wetlands
- Streams
- Ditches
- Windrows/hedgerows
- Greenways
- Biologically Significant Streams
- Impaired Waters under Section 303(d) of the Clean Water Act
- Waterways with developed total maximum daily loads (TMDLs)

Review by IDNR and/or USFWS may be required for any of the following:

- Projects which require additional ROW
- Projects which are on new alignment and cross a stream segment
- Projects which cross a Biologically Significant Stream or its riparian corridor, even if the project is not on a new alignment
- Projects which change the existing drainage characteristics or sedimentation adjacent to an INAI site or wetland
- Projects which include application of chemicals adjacent to a Class 1 stream or a wetland
- Projects which bisect or fragment a forest of ten acres or more in size
- Projects which require the removal of trees
- Projects which are located within the vicinity of a nature preserve, Park District designated open space, or Forest Preserve District property
- Projects with the potential to impact any waters
- Projects otherwise covered by regulations or laws

The DSE shall determine the presence and extent of any biological resources, determine potential impacts, propose avoidance measures and identify agencies with jurisdictional responsibility. The DSE shall not contact the regulatory agencies directly unless directed by the Illinois Tollway. The Illinois Tollway will assess the findings of the DSE, make review and permit determinations, request all agency reviews and conduct all agency coordination. Should agency coordination result in the necessity for further environmental studies, the DSE will be directed to conduct any special studies as needed.

6.2.4 Design Section Engineer Staff Qualifications

DSE biological resource evaluations shall be performed by a qualified biologist. A qualified biologist shall meet all three of the following criteria:

- Hold a bachelor’s degree or above in a Life Science from an accredited institution.
- Have at least three years of environmental evaluation experience.
- Have appropriate non-college training and/or experience in habitat assessment for the individual species/habitat in question.

6.2.5 Submittals and Timing

Biological resources shall be addressed at the earliest possible point in project development. The objective is to identify potential impacts during the planning stage, rather than in the design stage. Since Level 1 and 2 projects would likely fall under the Design Department, the ESIS Part I submittal would serve as the primary indicator for the presence of biological resources.

Addressing biological issues during the planning stage is the best means possible of avoiding unnecessary impacts, assuring compliance with the regulations and assuring that the Illinois Tollway has the greatest amount of lead time possible for coordinating with the various jurisdictional agencies. **Figure 6-2** summarizes the biological resource coordination and submittal process.

ESIS Part I

The first step in project development is to conduct background research and perform a field reconnaissance, and then submit the ESIS Part I. The ESIS submittal provides a foundation to assess the environmental concerns (if any) on the project. It allows the project staff to have an awareness of all of the environmental issues, where there may be some issues of concern, and which issues can be eliminated from further consideration. The ESIS Part I submittal shall be completed on the WBPM system.

Once the ESIS submittal is completed and submitted, the DSE project staff and the Illinois Tollway will evaluate the existing and proposed conditions, including potential resource impacts. The Illinois Tollway will then verify current project Level and determine the need for special environmental study/studies. If potential impacts are greater than anticipated, the Level may be elevated. Factors or resource issues other than biological resources may affect this decision. One or two special studies would not necessarily affect a change in the project Level.

If at this point the Illinois Tollway determines that a special environmental study is necessary, a BRM may be authorized.

Memorandum of Findings

The DSE shall make a preliminary determination as to the potential for there to be a biological resource present, and whether or not the project will avoid the resource. The DSE shall issue a memorandum discussing these findings. Two copies of the Memorandum of Findings shall be forwarded to the Project Engineer at the Illinois Tollway.

Endangered Species Determination

All coordination shall follow the procedures and submittals as outlined in the Illinois Tollway's MOU with the IDNR (see Appendix B). The Illinois Tollway will be the point of contact with the IDNR, however, the DSE shall develop any documentation necessary for this coordination. The DSE shall obtain a report from the IDNR's on-line EcoCAT program. EcoCAT reports shall be reviewed for the purpose of obtaining information on Illinois threatened or endangered species or INAI sites for **project planning** (second button on EcoCAT website). The DSE shall provide appropriate documents to the Illinois Tollway Environmental Unit, and shall include determinations of impacts to protected species or INAI sites, streams, forests/trees, prairie/savannas, migratory bird habitat or IDNR properties; the results of biological surveys or wetland delineations (if directed by the Illinois Tollway); and measures to avoid, minimize or mitigate potential adverse effects.

If there is a potential need for a Section 404 Clean Water Act permit, the DSE shall obtain information on the potential for the presence of federally protected species through the USFWS Compliance Tool website. The DSE shall obtain information on what species are present in the county where the project will occur, determine the habitat and/or life cycle requirements of the species, and verify whether or not the habitat is present or conditions necessary for the life cycle of the protected species are present. The DSE shall document this information in a Memorandum

of Findings. Coordination or consultation with USFWS shall not be initiated by the DSE. The Illinois Tollway will be the point of contact with USFWS.

Special Environmental Studies - The Biological Resource Memorandum

Either upon review of the ESIS Part I submittal, the EcoCAT report or the USFWS website results, special environmental studies may be required. The nature of these studies and required techniques will depend on the type of resource present in the project area. Examples of the types of projects which could require special environmental studies include, but are not limited to:

- Projects which are located within the vicinity of an INAI site or Nature Preserve
- Projects which are located within the vicinity of an IDNR property
- Projects which are located near any site registered with the Register of Land and Water Resources
- Projects which are located in the vicinity of threatened or endangered species
- Projects which cross a Biologically Significant Stream or its riparian corridor
- ADID wetlands or high-quality aquatic resources (as defined by the USACE)
- Projects which change the existing drainage characteristics or sedimentation adjacent to an INAI site or wetland
- Projects which bisect or fragment a forest of 10 acres or more in size

Information on the requested study/studies will be provided on a case by case basis as requested by the Illinois Tollway. The type of special environmental study that will be required will be dependent on the type of resource that could be impacted. All special environmental studies shall be documented in a BRM document.

The BRM shall be completed upon the conclusion of any special environmental study/studies. The BRM shall indicate the results of the field work and describe efforts made to avoid or minimize adverse impacts to the resource. If translocation of a species is proposed for minimization, enough information shall be provided to evaluate the likelihood of success. Two copies of the BRM shall be forwarded to the Project Engineer at the Illinois Tollway.

Plan development shall proceed with incorporation of design features in conformance with the *Illinois Tollway DSE's Manual*. The design shall consider all intergovernmental agreements, agency and municipal coordination, and any stipulations related to the biological resource impacts from the project.

ESIS Part II

As part of the Preliminary Engineering (60%) and Pre-Final design (95%) submittals, Part II of the ESIS submittal shall be completed. The ESIS Part II will enable the Illinois Tollway and the DSE to determine if the overall project design has changed since earlier ESIS submittals were completed, thereby causing impacts that were not originally anticipated. The ESIS Part II submittals also document measures that were taken to avoid or minimize impacts to biological resources, as well as discuss any mitigation that is required for unavoidable impacts. The ESIS Part II submittals shall be completed on the WBPM system.

The Pre-Final Design shall have incorporated all of the measures to reduce potential impacts. These measures shall be shown on the contract plans, where appropriate, as well as be described

in the text. Below is a description as to how the contract documents, specifications and contract plans shall have biological resources incorporated.

6.2.6 Methodology

The process for addressing biological resource issues may require several transmittals and coordination points with the Illinois Tollway. Each of these is discussed below. All coordination shall be documented with written responses.

ESIS Part I

Reconnaissance/field observations: Background research shall be conducted for a preliminary determination as to the potential for biological resources to exist within the vicinity of the project. Background research shall include examination of the following, where available and appropriate:

- Aerial photographs
- Hydrologic atlas maps
- USGS topographic maps
- US NRCS soil maps
- Plat atlases
- Large scale community maps which indicate parks and preserves
- Forest Preserve maps
- NWI and County ADID maps
- Directory of Illinois Nature Preserves
- Review of IDNR's Biologically Significant Stream database
- Review of IEPA's impaired waters and TMDL status database
- Potential for protected species (EcoCAT and USFWS website)
- Potential for historic or cultural resources
- Potential for floodplain or floodway impacts
- Records search and site visits as part of Phase I ESA

A site visit shall be made for the purpose of confirming the background research and determining the potential presence of biological resources which may not have been identified by the research. The field investigation shall identify areas that possess grasslands, prairies, savannas, woodlands, ponds, streams, wetlands, ditches and areas which have the potential to be INAI sites, IDNR properties, nature preserves, etc. Photographs and other applicable documentation of these resources shall be taken and documented with date, resource and location.

The DSE shall complete and submit ESIS Part I. The submittal shall include photographs taken during the site visit of all undeveloped land. Based on the information provided in the ESIS, the Illinois Tollway will make a recommendation, in writing, of one of the following:

- There is no reason for further investigation, or
- Further investigation is required.

Generally, the Illinois Tollway would determine no further investigations are necessary if all of the following criteria are true:

- Additional ROW is not required for the project
- There are no resources indicated on the available maps

- There are no streams within 500 feet of the project boundaries
- There are no forested areas located within 500 feet of the project boundaries
- There is no field evidence of grasslands, prairie, wetlands or savannas located within 500 feet of the project boundaries

Memorandum of Findings

If the DSE determines that a biological resource may be present, the DSE shall examine whether the project will avoid the resource. A decision on avoidance may not be possible at this point in project development, but avoidance possibilities shall be examined. If the background research or site visit do not result in the identification of a biological resource, or if it is known that the project will avoid any resources that are encountered, the DSE shall issue a Memorandum of Findings documenting this determination. The memo and the Illinois Tollway's written approval of the determination made in the DSE memo shall be placed in the project file and biological resource studies will be terminated.

If it is determined that the project will impact a biological resource, or has the potential to do so, this shall be discussed in the Memorandum of Findings. The Illinois Tollway will either recommend considering measures to avoid the resource or recommend that further environmental studies will be necessary to continue coordination. If the Illinois Tollway determines that further environmental studies are necessary, the DSE shall be responsible for their performance.

Special Environmental Studies - The Biological Resource Memorandum

Special environmental studies may be required once a determination has been made that biological resources are present or potentially present in the project area. Depending on the type of biological resource present, the DSE shall perform studies in conformance with procedures acceptable to the Illinois Tollway and the resource agency reviewing the project. These studies may include field surveys to determine resource presence and/or delineate the resources' boundaries, whatever is appropriate. An assessment will be made as to the quality of the resource utilizing professional judgment; standard, accepted ecological survey methods; standard, accepted sampling methods; Wilhelm & Rericha's floristic quality methodology (Wilhelm & Rericha [2017]); or any other methods determined to be appropriate by the Illinois Tollway and/or the resource agency reviewing the project.

The DSE shall evaluate the potential for impacting the biological resource both directly (primary effects) and indirectly (secondary effects). The DSE shall also provide a recommendation of the applicability of state and federal regulations and policies. The Illinois Tollway will make the final determination of that applicability.

Considerations for Threatened and Endangered Bat Species

Federally threatened and endangered bat species in Northern Illinois receive multiple protections under the Endangered Species Act. To minimize regulatory issues, tree removal activities are restricted by the Illinois Tollway depending on the project location and coordination with regulatory agencies. This ensures the Illinois Tollway is compliant with tree removal restrictions during the active season for the bats, while reducing the time and cost associated with agency consultation on this issue.

The timing of tree removal should be considered early as possible during project development such that there is adequate time to address potential regulatory issues and minimize risk of project delay. The following presents the Illinois Tollway's tree removal guidance.

Endangered Bat Protection on Projects Including Tree Removal

Is the project part of a corridor?

1) Yes, Central Tri-State
    a. Is the tree removal between 31st Street and Ogden Avenue?
        i. If yes, tree removal shall not occur in June and July, adjust project schedule if necessary.
        ii. If no, no further action required.
2) Yes, Elgin O'Hare Western Access
    a. Can tree removal be completed between November 1st and March 31st?
        i. If yes, proceed with advanced tree removal between November 1st and March 31st.
        ii. If no, determine if trees can be removed in an advanced contract.
            1. If yes, proceed with advanced tree removal between November 1st and March 31st.
            2. If no, determine whether or not trees can be removed August 1st to October 31st or April 1st to May 31st and coordinate with DCM on removal restrictions.
3) No, not part of the Central Tri-State or Elgin O'Hare Western Access.
    a. Can tree removal be completed between November 1st and March 31st?
        i. If yes, adjust project schedule if necessary and restrict dates in Tree Removal Special Provision.
        ii. If no, can trees be removed in an advanced contract?
            1. If yes, proceed with advanced tree removal between November 1st and March 31st.
            2. If no, follow USFWS and IDNR requirements and coordinate through Tollway.

6.2.7 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental issues are not overlooked. When it is determined there is reason for resource investigations, these forms serve as the preliminary documentation.

Memorandum of Findings

This memorandum shall document the DSE's initial determination as to the presence/absence of a biological resource, and whether or not the project will avoid the resource. Two copies of shall be sent to the attention of the Project Engineer at the Illinois Tollway.

Biological Resource Memorandum

Any special environmental studies shall be documented by issuing a BRM report. The format for this document shall follow the organization below.

- Title
- Purpose and Introduction
- Methodology
- Results
- Discussion/Recommendations
- Exhibits

Two copies of the report shall be sent to the attention of the Project Engineer.

Biological resources that can be avoided shall be discussed in the report. If the project cannot avoid resource impacts, the DSE shall discuss in the report why avoidance is not possible and how the project will minimize impacts. Note: Impacts due to utility relocations or placements shall be included in project documentation.

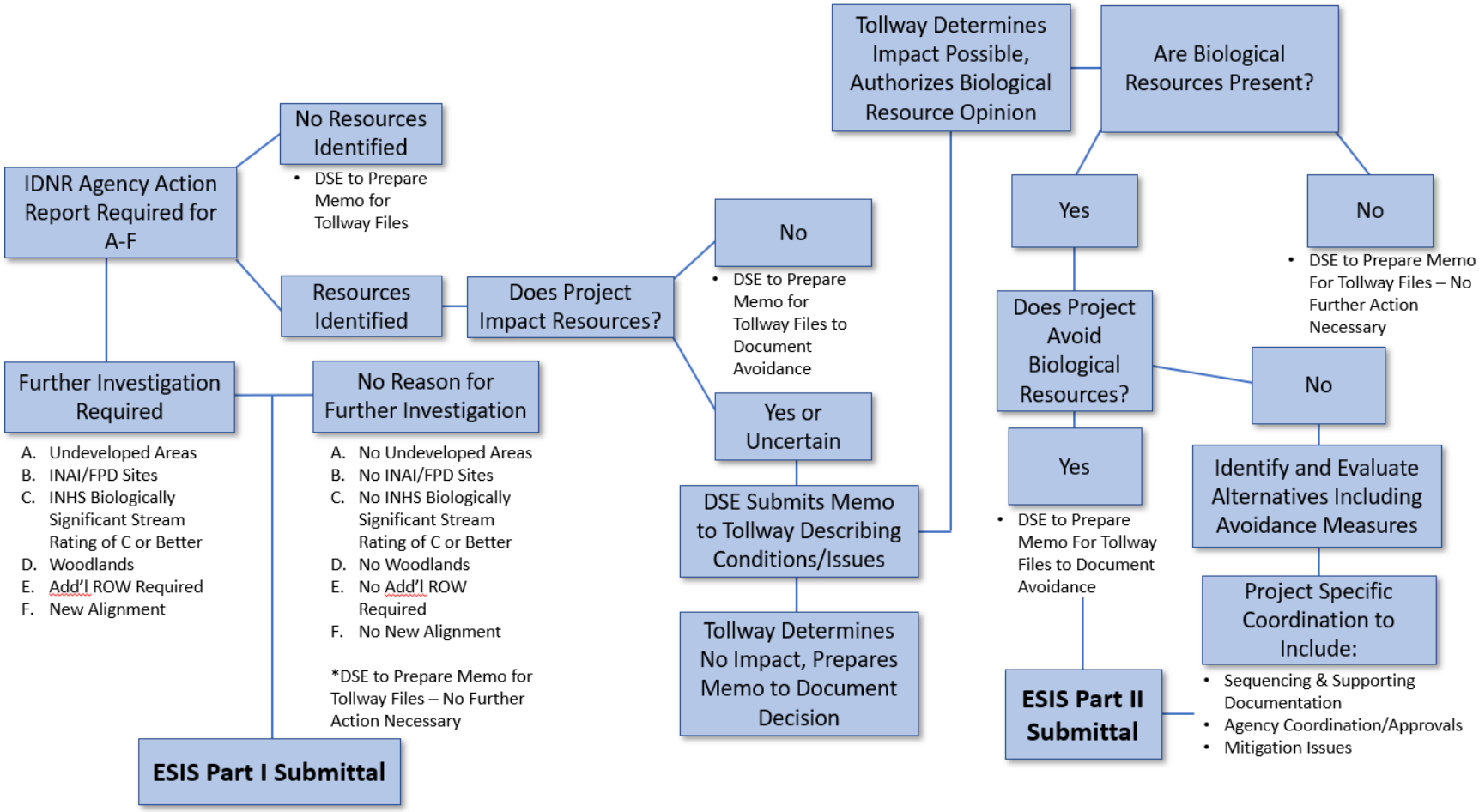
Contract Documents

Any special requirements made by any resource agency or the Illinois Tollway shall be incorporated into the design and duly noted on the contract documents. Contract documents which require environmental incorporations include, but are not limited to, site plans, erosion and sediment control plans, landscape plans, mitigation plans and specifications. Special requirements shall include avoidance measures such as retaining walls, enhanced sediment and erosion control measures, no intrusion fencing and/or signage or the placement of access matting to minimize soil disturbance from heavy equipment. Impacts which result from utility relocations or placements shall also be identified and clearly labeled. Formatting for any special environmental issues shall be done as instructed in the *Illinois Tollway DSE's Manual*. Any special requirements made by any resource agency shall be noted.

Special biological resources shall be shown on all applicable contract plans. The boundary shall be in bold font. Any impacts, such as clearing, shall be shown with cross-hatched shading. The size of the impact and total size of the resource, where applicable, shall be clearly labeled.

Any biological resources located within the construction zone which are not to be directly impacted by the project shall be shown on the contract plans. They are to have "no intrusion" fencing as well as appropriate sediment and erosion control methods to be applied shown on the contract plans. This will reduce the overall project impacts to the resource.

Figure 6-2 Illinois Tollway Biological Resource Coordination Process



6.3 Publicly Owned Recreational Properties or Natural Lands

6.3.1 Purpose and Introduction

This Article provides technical guidance for identifying, evaluating, documenting and coordinating the effects of Illinois Tollway projects and studies on the conversion of publicly owned recreational properties or natural areas supporting wildlife or waterfowl to transportation-related uses. For purposes of this Article, publicly owned recreational or natural lands will be referred to as publicly owned recreational properties, and include, but are not limited to:

- State, county or city-owned parks
- County forest preserve district properties
- School-owned or community recreational facilities, such as sports parks
- Publicly owned golf courses
- Bicycle, walking, nature or multi-use trails
- Publicly owned wildlife viewing sites
- INAI sites
- Illinois Nature Preserves

In addition, this Article provides guidance for interagency coordination and state and federal regulations.

6.3.2 Applicable Regulations

The MOU entitled “Natural Resource Review and Coordination Agreement between IDNR and ISTHA,” (most current amendment), has additional requirements for any publicly owned properties that are listed as an INAI site or an Illinois Nature Preserve. See Appendix B.

6.3.3 Responsibilities

Illinois State Toll Highway Authority

The Illinois Tollway is to provide overall direction for the work, assess the findings of the DSE, determine regulatory applicability, perform reviews and conduct agency coordination.

Design Section Engineer

The DSE shall determine the presence of publicly owned recreational properties in the project area based upon background research and field observations and determine the amount, if any, of land use conversions.

6.3.4 Design Section Engineer Staff Qualifications

Publicly owned recreational property evaluations shall be performed by a staff member familiar with land use, land use conversions and land acquisition requirements.

6.3.5 Submittals and Timing

Publicly owned recreational properties shall be addressed at the earliest possible point in project development. The objective is to realize potential impacts during the planning stage, rather than

in the design stage. Since Level 1 and 2 projects would likely fall under the Design Department, the ESIS Part I submittal would serve as the primary indicator for the presence of publicly owned recreational properties. Addressing issues during the planning stage is the best possible means of avoiding unnecessary impacts, assuring compliance with the regulations and assuring that the Illinois Tollway has the greatest amount of lead time possible for coordinating with the various resource or municipal agencies. **Figure 6-3** summarizes the public lands coordination and submittal process.

ESIS Part I

The first step in project development is to conduct a field reconnaissance and submit the ESIS Part I. Article 6.3.6, entitled Methodology, describes this process. The ESIS submittal provides a foundation to assess the publicly owned recreation property impacts (if any) of the project. It allows the project staff to have an awareness of all of the publicly owned recreational properties where there may be some issues of concern, and which issues can be eliminated from further consideration. The ESIS Part I submittal shall be completed on the WBPM system.

Once the ESIS submittal is completed and submitted, the DSE project staff and the Illinois Tollway will evaluate the existing and proposed conditions, including potential publicly owned recreational properties impacts. The Illinois Tollway will then verify the current project Level and determine the need for special environmental study/studies. If at this point the Illinois Tollway determines that further research is necessary, appropriate actions will be authorized. If potential impacts are greater than anticipated, the Level may be elevated. Factors or resource issues other than publicly owned recreational properties may affect this decision. One or two special studies would not necessarily affect a change in the project Level.

Publicly Owned Recreational Properties Memorandum

If publicly owned recreational properties investigations are required, the DSE shall prepare a memorandum and all necessary exhibits (including a project location map) documenting the area of concern. The memorandum shall indicate the results of a site evaluation and describe efforts made to avoid or minimize adverse impacts to publicly owned recreational properties. Article 6.3.6 describes the methodology for developing this memorandum. The memorandum shall be forwarded the Illinois Tollway for review. The Illinois Tollway will use the memorandum to begin project specific coordination with the affected property owner. The DSE may be asked to provide additional information or exhibits for this coordination.

The design shall proceed with incorporation of design features in conformance with the *Illinois Tollway DSE's Manual*. The design shall consider all intergovernmental agreements, agency and municipal coordination, and any stipulations related to the public recreation impacts from the project.

ESIS Part II

As part of the Preliminary Engineering (60%) and Pre-Final Design (95%) submittals, Part II of ESIS shall be completed. The ESIS Part II submittals will enable the Illinois Tollway and the DSE to determine if the overall project design has changed since earlier ESIS submittals were completed, thereby causing impacts that were not originally anticipated. The ESIS Part II also documents measures that were taken to avoid or minimize impacts to publicly owned recreational properties. The ESIS Part II submittals shall be completed on the WBPM system.

The Pre-Final Design will have incorporated all of the measures to reduce potential impacts. These measures shall be shown on the contract plans as well as described in the text. Article 6.3.7 below describes how the contract documents, symbology, specifications and contract plans shall be incorporated.

6.3.6 Methodology

The process for addressing publicly owned recreational property issues may require several transmittals and coordination points. Each of these is discussed below. All coordination shall be documented with written memoranda.

ESIS Part I

Reconnaissance/field observations: Background research shall be conducted for a preliminary determination as to the potential for publicly owned recreational properties to exist within the vicinity of the project. Background research shall include examination of the following:

- Aerial photographs
- Zoning maps
- Adopted municipal plans
- Plat atlases
- Regional council plans
- Active Transportation Alliance maps
- Park District or Forest Preserve maps

A site visit shall be made for the purpose of confirming the background research and determining the potential presence of publicly owned recreational properties that may not have been identified by the research.

The DSE shall complete and submit the ESIS Part I to the Illinois Tollway, including photographs of all potential publicly owned recreational properties taken during the site visit. Based on the information provided in the ESIS, the Illinois Tollway will make a recommendation, in writing, of one of the following:

- There is no reason for further investigation, or
- Further investigation is required.

Generally, the Illinois Tollway will determine no further investigations are necessary if no publicly owned recreational properties are located within 100 feet of the proposed project limits.

Publicly Owned Recreational Properties Memorandum

The DSE shall prepare a Public Lands Memorandum that includes a precise location map, a brief description of the property, what the public property use is, and how the public recreation could be impacted by the proposed project. Total area (in acres) which will be impacted, percent area impacted of the total parcel, and identification of the types of impacts (including access or parking) shall be discussed.

In addition, the DSE shall examine and discuss whether the project can avoid or minimize impacts to the property. A decision on avoidance may not be possible at this point in project development, but avoidance possibilities shall be examined.

6.3.7 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental issues are not overlooked. When it is determined there is reason for public recreation land investigations, these forms serve as the preliminary documentation.

Publicly Owned Recreational Properties Memorandum

The DSE shall provide a written memorandum to the Illinois Tollway discussing the findings. The Illinois Tollway will either recommend considering additional measures to avoid the resource or determine that it will be necessary to continue coordination. Mitigation options shall be discussed. The Illinois Tollway will initiate coordination with the appropriate agency or municipality. All meetings and coordination are to be documented in the Memorandum. The DSE shall await instructions from the Illinois Tollway before proceeding with any additional coordination or studies.

If it is determined that there will be no impacts, the memo and the Illinois Tollway's written approval of no further action required shall be placed in the project file.

Any special environmental studies shall be documented by issuing a Publicly Owned Recreational Properties Memorandum. The format for this document should follow the organization below.

- Title
- Purpose and Introduction
- Methodology
- Evaluation of Alternatives
- Results
- Discussion/Recommendations
- Exhibits

Two copies of the report shall be sent to the attention of the Project Engineer.

Publicly owned recreational properties that can be avoided shall be discussed in the report. If the project cannot avoid resource impacts, the DSE shall discuss in the report why avoidance is not possible and how the project will minimize impacts. Note: Impacts due to utility relocations or placements shall be included in project documentation.

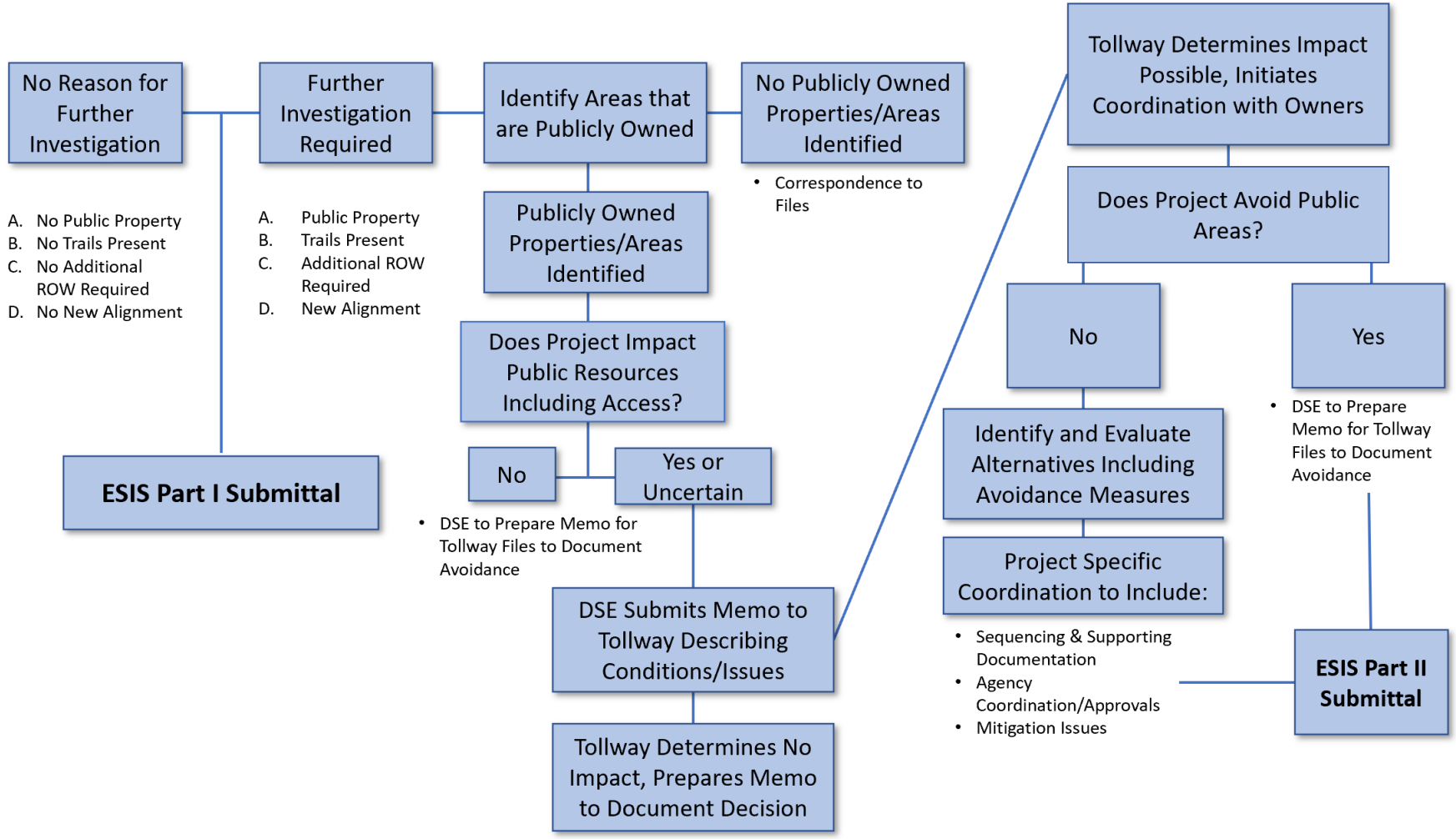
Contract Documents

Any special requirements agreed to by the Illinois Tollway to any resource agency or property owner shall be incorporated into the design and noted on the contract documents. Contract documents which may require public property incorporations include, but are not limited to, noise abatement, mitigation plans, erosion and sediment control plans, landscape plans, access and specifications. Special requirements may include avoidance measures such as retaining walls,

enhanced sediment and erosion control measures, or the placement of access matting to minimize soil disturbance from heavy equipment. Contract documents are to follow the *Illinois Tollway DSE's Manual*.

Any publicly owned recreational properties located within the construction zone which are not to be directly impacted by the project shall be shown on the contract plans. They are to have "no intrusion" fencing as well as appropriate sediment and erosion control methods applied. This will reduce the overall project impacts to publicly owned recreational properties.

Figure 6-3 Illinois Tollway Public Lands Coordination Process



6.4 Hydraulics and Hydrology

6.4.1 Purpose and Introduction

This Article provides technical guidance for the identification, evaluation and documentation on the effects of Illinois Tollway projects and studies on streams, lakes and waterways in accordance with the *Illinois Tollway Drainage Design Manual* (DDM) and applicable regulations. It discusses coordination of Illinois Tollway projects and studies with the federal, state and local agency requirements regarding drainage issues related to the streams, lakes or waterways.

6.4.2 Applicable Regulations

The requirements contained in the following federal and state acts, regulations and policies pertaining to the streams, lakes and waterways shall be considered in environmental and design analyses:

Federal

- Rivers and Harbors Act of 1899
- National Flood Insurance Act of 1968 / National Flood Insurance Program
- National Wild and Scenic Rivers Act of 1968
- Flood Disaster Protection Act of 1973, as amended
- Clean Water Act

State

- Illinois' Rivers, Lakes and Streams Act, administered by the IDNR-OWR, regulates construction activities in floodways. It is administered through two regulatory programs:
  - "The Northeastern Illinois Regulatory Program" for six metropolitan counties in northeastern Illinois (Cook, DuPage, Kane, Lake, McHenry and Will), excluding the City of Chicago, requires permits be issued for construction in designated floodways of streams draining an area of one square mile or greater in an urban area or ten square miles or greater in a rural area.
  - "The Downstate Illinois Program" for the rest of Illinois, requires permits for construction in the floodway of any stream with a tributary area of one square mile or more in urban areas, or ten square miles or more in rural areas. If a floodway has not been previously delineated, a permit is required for work anywhere in the floodplain.
- Illinois Tollway - DDM (current revision) outlines the general policies and procedures regarding the design of drainage facilities for Illinois Tollway projects.
- Illinois Tollway - standard specifications and standard drawings.
- Other bulletins and publications, as directed by the Illinois Tollway.

6.4.3 Responsibilities

The Illinois Tollway

The Illinois Tollway provides overall direction and coordination of the study, assesses the findings of the DSE, determines regulatory applicability, reviews and evaluates submittals and conducts agency coordination. A special situation occurs for projects that are under the jurisdiction of both

the Illinois Tollway and IDOT. These two authorities have specific and separate stormwater management requirements that require coordinated through various phases of the study preparation.

The Design Section Engineer

The DSE shall delineate the presence and extent of streams, lakes or waterways affected by Illinois Tollway projects. The DSE shall establish the potential for impacts related to floodplain encroachment; bridge and culvert hydraulics; stormwater detention storage; water quality; and determine and design mitigation measures taking into account Illinois Tollway current practices and the federal, state, local, and other specific agency requirements, as necessary. The DSE shall perform the special studies, as necessary, and prepare and submit IDNR-OWR permit applications, as directed by the Illinois Tollway.

6.4.4 Design Section Engineer Staff Qualifications

Studies related to drainage, streams, lakes or waterways shall be performed by staff members that are familiar with the application of the Illinois Tollway DDM and the related federal, state and local stormwater regulations. It is the responsibility of the DSE to be knowledgeable in the current practices of hydrology, hydraulics, and highway drainage design, and to provide cost-effective solutions for handling the stormwater runoff from Illinois Tollway facilities. An Illinois Professional Engineer with at least three years' experience in drainage design shall certify the study.

6.4.5 Submittals and Timing

The main drainage issues related to streams, lakes and waterways shall be investigated and addressed at the beginning of the project. A first step in project development is to perform a detailed field inspection and to submit the ESIS Part I. This provides the basis for assessing the environmental issues related to streams, lakes and waterways so that the DSE can address adequate measures to mitigate the potential impacts of the proposed project. The ESIS Part I submittal shall be completed on the WBPM system.

If the project involves bridges, culverts or other crossing structures over existing streams, lakes or waterways, special analysis shall be performed in order to determine the existing and proposed flow conditions upstream and downstream of the crossing areas. Preliminary sizing of the cross-structures shall be performed, taking into account the allowable increase of the water surface elevations and the encroachment of floodplain area.

Water quality issues related to surface and ground waters shall be addressed in accordance with their designated uses. Generally, an IEPA NPDES stormwater permit is required if more than one acre will be disturbed during construction of the project. In these cases, the DSE shall prepare the necessary documentation for a permit application. The permit application shall follow the instructions provided in the Illinois Tollway's Special Provision 111 and the NPDES ILR10 permit. DSE's shall register as a 'preparer' for access to the USEPA's electronic reporting site Central Data Exchange (CDX) to view/edit/manage NPDES permit documents in the (new) IEPA tool NPDES eReporting Tool (NeT). For assistance registering contact the Illinois Tollway Environmental Unit. Water quality shall also be addressed with respect to impaired waters and rivers/waterbodies for which TMDLs have been designated. The DSE shall determine if receiving waters are impaired and if TMDLs have been developed to address the impairment/s. Additionally, the DSE shall determine if the project is located within a watershed which has an approved watershed plan that has requirements for stormwater management. The DSE shall design to

minimize the runoff of any of the contaminants from stormwater that are contributing to the impairment of the receiving water and/or in compliance with watershed plan stormwater requirements. Designs shall address impacts during both construction and operations.

Based upon the extent of the impacts, the Illinois Tollway will determine if special environmental studies would be necessary for the project.

Figure 6-4 summarizes the streams, lakes and waterways coordination and submittal process.

6.4.6 Methodology

The methodology for addressing the issues related to streams, lakes and waterways shall include the following:

- Methodology consistent with regulatory agencies requirements (FEMA, NPDES, IDNR-OWR, USACE).
- Methodology for impact determinations shall use the same computation method for the analysis of the existing and proposed conditions.
- Methodology for mitigation measures shall be consistent with the DDM and Design Standards, with special consideration given to the following Illinois Tollway general drainage policies:
  - Existing drainage pattern and drainage area boundaries should generally be maintained.
  - Increases in runoff discharge rates as compared to the existing conditions are not permitted. The need for stormwater detention with attenuated release rates shall be considered in all projects where additional impervious areas are proposed.
  - Ponding of runoff resulting from the Illinois Tollway facilities is not permitted on the adjacent properties located outside of the Illinois Tollway ROW.
  - All aspects related to the drainage issues for the proposed project shall be included in a Drainage Report, as indicated in the DDM.
- Implement green infrastructure stormwater management techniques where appropriate and practicable. These techniques include stormwater infiltration, reuse and evapotranspiration.
- Include the following measures where appropriate and practicable, in order of preference:
  1. Preservation of natural features, including storage and infiltration characteristics
  2. Preservation of existing natural streams, channels and drainage ways
  3. Minimization of impervious surfaces
  4. Conveyance of stormwater in open vegetated channels
  5. Incorporation of structures that provide both water quantity and quality control
- Design shall include measures to prevent erosion on the Illinois Tollway, as well as on the outside adjacent areas which receive water from Illinois Tollway facilities (for erosion control, see also Article 6.10 of this manual).
- Any work that needs to be performed outside of the existing ROW requires obtaining permanent or construction easements from the owner(s) of the affected property.
- Design shall take into consideration the future maintenance of the proposed drainage system and shall reduce the possibility of future damage to adjacent drainage systems during maintenance operations.
- If the proposed measures for mitigation of the impacts of Illinois Tollway projects on streams, lakes or waterways would require acquisition of additional properties outside of the existing ROW, the DSE shall investigate the new property/properties for all

environmental concerns outlined in this manual.
- Generally, construction projects in Illinois floodplains, lakes, waterways or those involving wetlands require both State and Federal authorization. The permit application is a joint application process which simplifies the process and unifies the procedures for project authorization from the USACE, IDNR-OWR and IEPA.

6.4.7 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental issues are not overlooked. When it is determined there is reason for special investigations, these forms serve as the preliminary documentation.

Streams, Lakes and Waterways Memorandum

Findings shall be documented in a technical memorandum. The format for this document should follow the organization below.

- Title
- Purpose and Executive Summary
- Site Location Map
- Methodology
- Results
- Discussion/Recommendations/Conclusions
- Exhibits

Contract Documents

Contract documents shall reference any issue or special concern related to streams, lakes or waterways, including but not limited to the site plans, mitigation plans and project specifications. Contract documents shall follow the *Illinois Tollway DSE's Manual*, the DDM, and the other resource agency requirements, as necessary. They shall include the following:

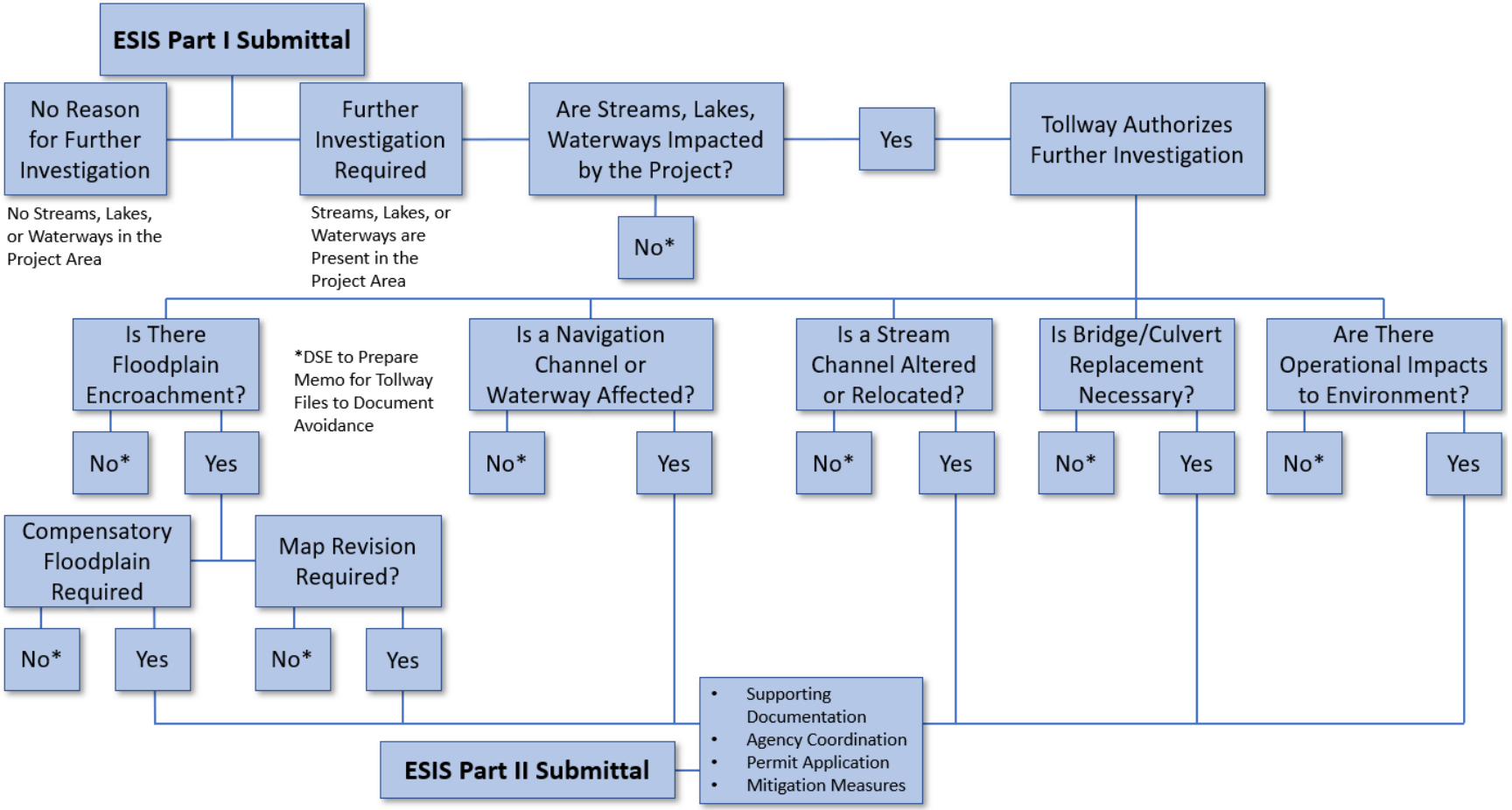
- Plan notes
- Symbols, specifications and special provisions
- Standard drawings

NPDES Notice of Intent

The DSE shall begin the NPDES Permit ILR10 (Stormwater Discharges from Construction Sites) Notice of Intent (NOI) if the project will disturb a land area of one acre or larger. The DSE shall complete the portions of the form that include Owner Information (Illinois Tollway), Construction Site Information, Type of Construction, Historic Preservation and Endangered Species Compliance, and Receiving Water Information. Documentation of historic preservation and endangered species coordination shall be provided and attached to the NOI. An example NOI is included as Appendix A of the *Illinois Tollway Erosion Control and Landscape Manual.*

The NOI including supporting documentation, shall be prepared electronically by the DSE for the CM and submitted to the Tollway Certifier (Signatory). The NOI shall be submitted electronically to the CM. The NOI shall be submitted to the IEPA at least 30 days prior to the start of construction. Therefore, the DSE shall provide this form to the CM within a time frame that will allow the Contractor to complete the form and the Illinois Tollway to meet the 30-day requirement.

Figure 6-4 Illinois Tollway Streams, Lakes and Waterways Coordination Process



6.5 Architectural, Cultural, Historical and Archaeological Resources

6.5.1 Purpose and Introduction

This Article provides technical guidance procedures for evaluating, documenting and coordinating the effects of Illinois Tollway projects and studies on cultural, historical and archaeological resources. These resources include, but are not limited to, either public or private architecturally important features or structures, historical landmarks, historic and prehistoric features, as well as archaeologically important sites or other objects on or eligible for listing on the National Register of Historic Places.

6.5.2 Applicable Regulations

The following Policies and Acts regulate or influence procedures related to architectural, cultural, historical and archaeological resources.

Federal

- Section 106 of the National Historic Preservation Act
- Section 404 of the Clean Water Act

State

- Illinois State Agency Historic Resources Preservation Act
- Illinois State Archaeological & Paleontological Resources Protection Act (1989) Illinois State Human Skeletal Remains Protection Act

6.5.3 Responsibilities

Illinois State Toll Highway Authority

The Illinois Tollway is to provide overall direction for the work, assess the findings of the DSE, determine regulatory applicability, perform reviews and conduct agency coordination.

Design Section Engineer

The DSE shall determine the location and extent, if any, of public or private architectural, cultural, historical and archaeological resources within the project area based upon background research and field observations and determine the amount, if any, of potential land use conversions. Land use in the project area shall be examined for:

- Historic or pre-historic settlement/structures
- Proximity to rivers and lakes
- Cemeteries/headstones
- Plaques or landmarks
- Structure foundations

The DSE shall note any public or private architectural, cultural, historical or archaeological resources, describe potential impacts and propose avoidance measures. Consideration shall be given to alternatives that would minimize impacts to those resources. Should agency coordination

result in the necessity for further studies, the DSE shall conduct any special studies as directed by the Illinois Tollway.

6.5.4 Design Section Engineer Staff Qualifications

Staff shall be prequalified by IDOT to conduct Phase I archaeological reconnaissance surveys and Historical Structure Reconnaissance. Staff shall have at least three years' experience in field methods and surveys in accordance with the *Illinois Historic Preservation Office Guidelines for Archaeological Reconnaissance Surveys/Report* or professional qualifications as defined by the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation.*

6.5.5 Submittals and Timing

Architectural, cultural, historical and archaeological resources shall be addressed at the earliest possible point in project development. The objective is to realize potential impacts during the planning stage, rather than in the design stage. Since Level 1 and 2 projects would likely fall under the Design Department, the ESIS Part I submittal would serve as the primary indicator for the presence of structures or undeveloped land. Addressing architectural, cultural, historical and archaeological issues during the planning stage is the best possible means of avoiding unnecessary impacts, assuring compliance with the regulations and assuring that the Illinois Tollway has the greatest amount of lead time possible for coordinating with the various jurisdictional agencies. **Figure 6-5** summarizes the cultural, historical and archaeological coordination and submittal process.

ESIS Part I

The first step in project development is to conduct background research, conduct a field reconnaissance and submit the ESIS Part I. Article 6.5.6, entitled Methodology, describes this process. The ESIS submittal provides a foundation to assess the cultural, historical and archaeological impacts (if any) of the project. It allows the project staff to have an awareness of potential impacts, where there may be some issues of concern, and which issues can be eliminated from further consideration. The ESIS Part I submittal shall be completed on the WBPM system.

Once the ESIS submittal is completed and submitted, the DSE project staff and the Illinois Tollway will evaluate the existing and proposed conditions, including potential cultural, historical and archaeological resource impacts. The Illinois Tollway will then verify the current project Level and determine the need for special environmental study/studies. If at this point the Illinois Tollway determines that further research is necessary, appropriate actions will be authorized. If potential impacts are greater than anticipated, the Level may be elevated. Factors or resource issues other than cultural, historical or archaeological may affect this decision. One or two special studies would not necessarily affect a change in the project Level.

Cultural Resource Memorandum

If cultural resource investigations are required, the DSE shall prepare a memorandum and all appropriate and necessary exhibits (including a project location map) documenting the area of concern, along with its pertinent features. The memorandum shall indicate the results of the evaluation and describe efforts made to avoid or minimize adverse impacts to cultural resources. Article 6.5.6 describes the methodology for submitting this memorandum. The memorandum shall be forwarded to the Illinois Tollway for review. The Illinois Tollway will submit the memorandum

to the IHPA to begin project specific coordination. The DSE may be asked to provide additional information or exhibits for this coordination.

The design shall proceed with incorporation of design features in conformance with the *Illinois Tollway DSE's Manual*. The design shall consider all intergovernmental agreements, agency and municipal coordination and any stipulations related to the architectural, archaeological or cultural resource impacts from the project.

ESIS Part II

As part of the Preliminary Engineering (60%) design and Pre-Final Design (95%) submittals, Part II of the ESIS submittal shall be completed. The ESIS Part II will enable the Illinois Tollway and the DSE to determine if the overall project design has changed since earlier ESIS submittals were completed, thereby causing impacts that were not originally anticipated. The ESIS Part II submittals also document measures that were taken to avoid or minimize impacts to cultural resources. The ESIS Part II submittals shall be completed on the WBPM system.

The Pre-Final Design will have incorporated all of the measures to reduce potential impacts. These measures shall be shown on the contract plans as well as be described in the text. Article 6.5.7 below describes how the contract documents, symbology, specifications and contract plans shall be incorporated.

6.5.6 Methodology

The process for addressing cultural resource issues may require several transmittals and coordination points. Each of these is discussed below. All coordination shall be documented with written memoranda.

ESIS Part I

Reconnaissance/field observations: Background research shall be conducted for a preliminary determination as to the potential for cultural resources to exist within the vicinity of the project. Background research shall include, but not be limited to, examination of the following:

- Aerial photographs
- Plat atlases
- Cultural resource database such as Historic Architectural and Archaeology Resources Geographic Information System (HAARGIS)

A site visit shall be made for the purpose of confirming the background research and determining the potential for the presence of structures, burial sites or undeveloped land that may not have been identified by the research. Photographs of the following structures need to be taken:

- Within existing Illinois Tollway ROW, all structures that will be impacted
- For new ROW acquisitions, all structures located on the original, contiguous or adjacent parcels
- Any other potentially important resource

Photographs shall be documented with date, resource and location.

The DSE shall complete and submit the ESIS Part I to the Illinois Tollway, including photographs of all potential cultural resource areas taken during the site visit. Based on the information provided in the ESIS, the Illinois Tollway will make a recommendation, in writing, of one of the following:

- There is no reason for further investigation, or
- Further investigation is required.

Further investigation and coordination with the IHPA may be required for any of the following:

- ROW required
- Presence of potentially eligible structures/features
- Work in the vicinity of cemeteries or burial sites
- Project involves work on undisturbed lands
- Work in vicinity of river of known/high probability historic or pre-historic settlement site

Cultural Resource Memorandum

The DSE shall prepare a Cultural Resource Memorandum that shall include a precise location map and a brief description of the cultural resource that could be impacted by the proposed project. In addition, the DSE shall examine and discuss whether the project can avoid or minimize impacts to the cultural resource. A decision on avoidance may not be possible at this point in project development, but avoidance possibilities shall be examined.

6.5.7 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental issues are not overlooked. When it is determined there is reason for cultural resource investigations, these forms serve as the preliminary documentation.

Cultural Resource Memorandum

The DSE shall provide a written memorandum to the Illinois Tollway discussing the findings. Mitigation options shall be discussed, and all meetings and coordination are to be documented in the Memorandum. The Illinois Tollway will either recommend considering additional measures to avoid the resource or determine that it is necessary to continue coordination. If determined to be necessary, the Illinois Tollway will initiate coordination with IHPA. The DSE shall await instructions from The Illinois Tollway before proceeding with any additional coordination or studies.

The memo and the Illinois Tollway's written determination shall be placed in the project file. If the Illinois Tollway determines no further studies are needed, the cultural resource studies will be terminated.

If additional studies are needed, any special studies shall be documented by issuing a Cultural Resources Memorandum. The format for this document should follow the organization below.

- Title
- Purpose and Introduction
- Methodology
- Evaluation of Alternatives
- Results
- Mitigation, if any
- Discussions/Recommendations
- Exhibits

Two copies of the report shall be sent to the Project Engineer at the Illinois Tollway.

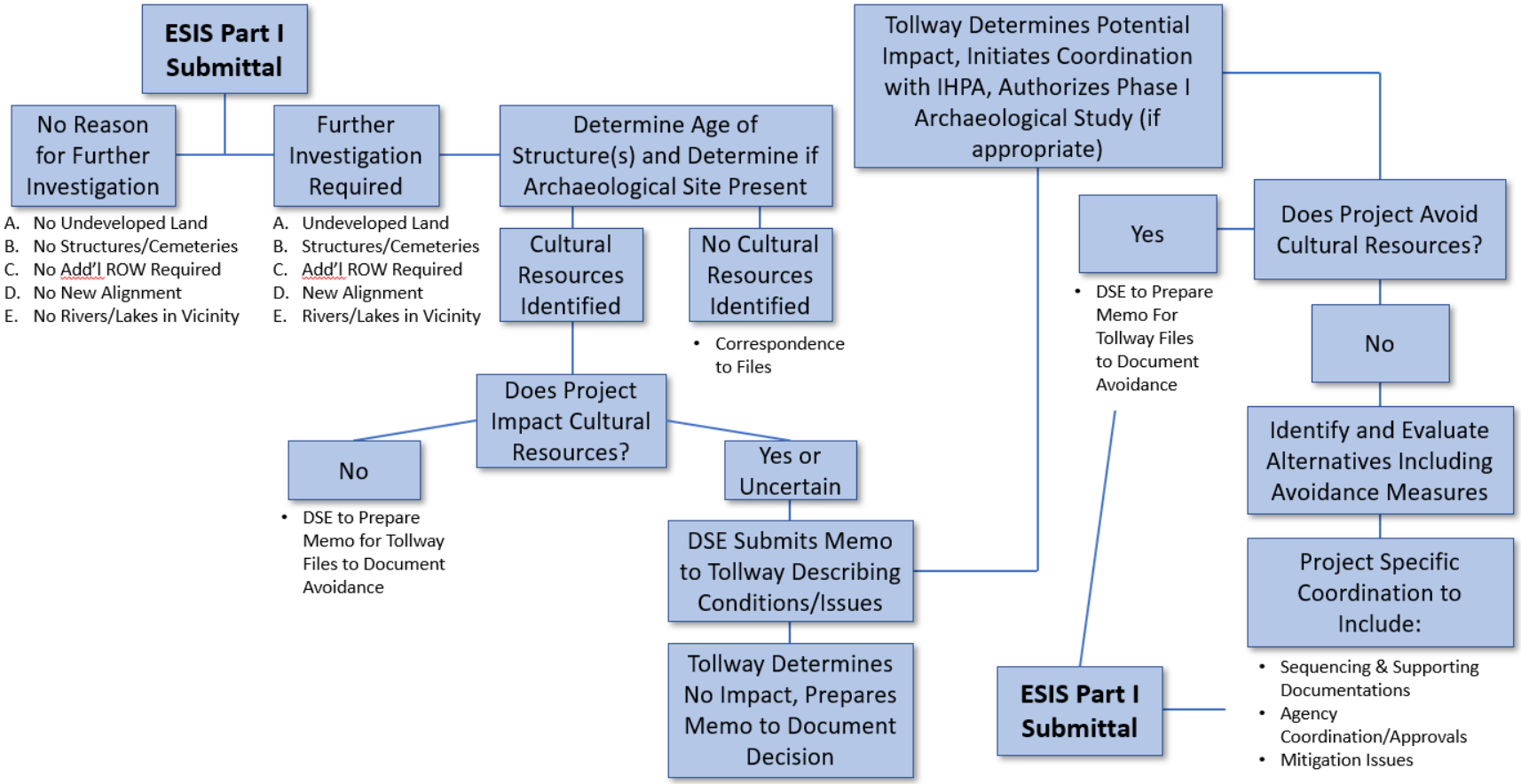
Cultural resources that can be avoided shall be discussed in the report. If the project cannot avoid resource impacts, the DSE shall discuss in the report why avoidance is not possible and how the project will minimize impacts. Note: Impacts due to utility relocations or placements shall be included in the project documentation.

Contract Documents

Any special requirements agreed to by the Illinois Tollway with any resource agency shall be incorporated into the design and noted on the contract documents. Contract documents which may require cultural resource protection incorporations include, but are not limited to, site plans, erosion and sediment control plans, landscape plans and specifications. Special requirements shall include avoidance measures such as retaining walls, enhanced sediment and erosion control measures or the placement of access matting to minimize soil disturbance from heavy equipment. Contract documents are to follow the *Illinois Tollway DSE's Manual*.

Any special cultural resources located within the construction zone which are not to be directly impacted by the project shall be shown on the contract plans. They are to have "no intrusion" fencing as well as appropriate sediment and erosion control methods applied. This will reduce the overall project impacts to cultural resources.

Figure 6-5 Illinois Tollway Cultural, Historical and Archaeological Coordination Process



6.6 Solid Waste

The disposal of excess soils is a large cost to the Illinois Tollway. The Illinois Tollway's goal is to minimize off-site soil disposal on all projects, in an environmentally responsible manner, by developing a soil management strategy that maximizes soil reuse.

Each project along the Illinois Tollway's system has the potential to encounter soils that have been impacted by historical releases. The Illinois Tollway's goal is to identify such soils prior to construction (to the extent possible) to ensure worker precaution during construction, avoid construction delays and avoid cost overruns.

6.6.1 Purpose and Introduction

This Article provides technical guidance for procedures for identifying, evaluating, documenting, and coordinating the effects of Illinois Tollway projects on soils management. This Article outlines a consistent, industry-accepted method for assessing the presence or absence of hazardous or special waste on properties affected by Illinois Tollway projects and the disposal of excess soils in compliance with 35 Ill. Adm. Code 1100.

This Article provides the procedures, responsibilities and documentation for environmental due diligence associated with soils management and disposal. Sampling, evaluation and management of soils shall be limited to locations excavated during construction. The guidance is not intended to, nor sufficient to, delineate and remediate contaminated soils on site.

6.6.2 Applicable Regulations

The following regulations or policies apply:

Federal

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Resource Conservation and Recovery Act (RCRA)

State

- IEPA, Tiered Approach to Corrective Action Objectives, as presented in Title 35 Ill. Adm. Code 742.
- IEPA, Clean Construction or Demolition Debris Fill Operations and Uncontaminated Soil Fill Operations, as presented in Title 35 Ill. Adm. Code 1100.

Other

- American Society for Testing Materials (ASTM) Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (Designation E1528)
- ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (Designation E1527)
- ASTM Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process (Designation E1903)

6.6.3 Definitions

Clean Construction or Demolition Debris (CCDD)

Clean construction or demolition debris (CCDD) is uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed or other asphalt pavement, or soil generated from construction or demolition activities. For purposes of this Article, CCDD may include materials that have been painted, as long as the painted materials are used as fill material at a CCDD fill operation in accordance with 35 Ill. Adm. Code 1100.212.

Clean construction or demolition debris includes uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads provided the uncontaminated soil is not commingled with any clean construction or demolition debris or other waste. Uncontaminated soil may include incidental amounts of stone, clay, rock, sand, gravel, roots and other vegetation. [415 ILCS 5/3.160(b)]

Maximum Allowable Concentration (MAC)

The maximum allowable concentration (MAC) is the highest concentration for any contaminant at or below which the soil can be considered uncontaminated soil for purposes of disposal at CCDD and Uncontaminated Soil Fill Operations (USFO) disposal facilities. The MAC values developed by the IEPA are defined in 35 Ill. Adm. Code 1100.605.

Phase I Environmental Site Assessment (ESA)

A study to determine the potential for a range of pollutants, from both recent and historical activities, that might be present on a property. This practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner or bona fide prospective purchaser limitations under federal law (CERCLA). The Illinois Tollway requires that the Phase I Environmental Site Assessment (ESA) constitute all appropriate inquiries into the previous ownerships and uses of the property consistent with ASTM E1527 standards. A Phase I ESA shall always be conducted on new ROW unless the acquisition is less than 0.4 acres of farmland.

Potentially Impacted Properties (PIPs)

Potentially impacted properties (PIPs) are assessed to identify possible concerns from properties that have the potential for contamination and in need of professional evaluation and certification before placement in a fill site. The following shall be considered when determining whether property is “potentially impacted property”: the current use of the property, prior uses of the property, and the uses of adjoining property. For example, the following shall be considered for transportation rights-of-way or utility easements: the current use of the property as a ROW or easement, the uses of the property prior to its use as ROW or easement, and the uses of adjoining property.

Recognized Environmental Conditions (RECs)

A recognized environmental condition (REC) is (1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances

or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment. De minimis conditions, or conditions that generally do not present a threat to human health or the environment, are not RECs. The Illinois Tollway will always consider a PIP a REC.

Special Waste

Under 35 Ill. Adm. Code 808.110, special waste includes any hazardous waste, potentially infectious medical waste, industrial process waste or pollution control waste which has not been declassified.

Tiered Approach to Corrective Action Objectives (TACO)

Illinois regulations (35 Ill. Adm. Code 742) for evaluating the risk to human health posed by environmental conditions and developing remediation objectives that achieve acceptable risk levels.

Tier 1 Remediation Objective

Look-up tables in 35 Ill. Adm. Code 742 for default clean up objectives based on conservative assumptions. There are tables for inhalation, ingestion, vapor intrusion, soil migration to groundwater and groundwater.

Transaction Screen Process (Transaction Screen)

A limited study to determine the potential for a property to be impacted from recent or historical activities. The Transaction Screen Process (Transaction Screen) should be used for Illinois Tollway-owned property where there is limited potential for potentially impacted properties. The Illinois Tollway requires that any Transaction Screen Process be conducted in accordance with ASTM E1528 standards.

6.6.4 Soils Classification

The Illinois Tollway evaluates soil from an environmental perspective for three general purposes: disposal type, reuse options and construction worker precaution.

Soil Disposal

Soil disposed off-site requires chemical analysis. The Illinois Tollway categorizes soil for disposal as hazardous waste, Type 1, Type 2, Type 3 or Type 4. The soil disposal type indicates which facilities can accept the soil.

Hazardous Waste: Both IEPA and the USEPA regulate waste that poses a threat to human health and the environment as hazardous waste. The federal regulations are found in 40 Code of Federal Regulations (CFR) 260 to 268 and the equivalent Illinois regulations are found in 35 Ill. Adm. Code 721 to 729. Hazardous waste occasionally found on Illinois Tollway construction projects includes buried chemical drums or soils contaminated with chlorinated solvents. For industrial property acquisitions, drum storage areas, underground tanks and residue in aboveground tanks are potentially associated with hazardous materials. Contractors engaged in the removal of hazardous material shall have specialized Occupational Safety and Health Administration training in this area in accordance with 29 CFR 1910.120.

Type 1: Non-Special Waste. This material does not meet the requirements for disposal at a CCDD or USFO facility. Any material that cannot be reused shall be disposed of as non-special waste. Unlike hazardous waste which requires a waste manifest, a load ticket can be used for transport of non-special waste. A waste is considered a non-special waste as long as it is not:

- A potentially infectious medical waste;
- A hazardous waste as defined in 35 Ill. Adm. Code 721;
- An industrial process waste or pollution control waste that contains liquids, as determined using the paint filter test set forth in subdivision (3)(A) of subsection (m) of 35 Ill. Adm. Code 811.107;
- A regulated asbestos-containing waste material, as defined under the National Emission Standards for Hazardous Air Pollutants in 40 CFR 61.141;
- A material containing polychlorinated biphenyls (PCB's) regulated pursuant to 40 CFR Part 761;
- A material subject to the waste analysis and recordkeeping requirements of 35 Ill. Adm. Code 728.107 under land disposal restrictions of 35 Ill. Adm. Code 728;
- A waste material generated by processing recyclable metals by shredding and required to be managed as a special waste under Section 22.29 of the Environmental Protection Act; or
- An empty portable device or container in which a special or hazardous waste has been stored, transported, treated, disposed of or otherwise handled.

Uncontaminated Soil: Illinois has adopted regulations on excavated soil that will be disposed of in quarries accepting CCDD and uncontaminated soil. Unique to the uncontaminated soil regulations is an expectation that only contaminants associated with a PIP require testing. The regulations, found in 35 Ill. Adm. Code 1100, specify that such soil cannot exceed any MAC. Section 1100.205(b)(1)(A) of the regulations provide inspection requirements for the receiving facilities. The MACs are established by the IEPA and listed in the Summary of Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations provided on the IEPA website. Background concentrations from 35 Ill. Adm. Code 742 Appendix A, Tables G and H may be used in accordance with the requirements of 35 Ill. Adm. Code 1100. The applicable background value must be established based on the location of the fill operation where the soil is placed. Based on the background values and the Illinois Tollway conditionally pre-approved CCDD and USFO facilities, the Illinois Tollway utilizes three classifications for uncontaminated soil. Soil that meets the requirements of 35 Ill. Adm. Code 1100, including Section 1100.205(b)(1)(A), shall be classified as follows for Illinois Tollway projects:

- Type 2: Polynuclear aromatic hydrocarbon analytical results exceed the most stringent MACs but do not exceed the MACs for a populated area[1] in a Metropolitan Statistical Area (MSA) county[2] excluding Chicago AND inorganic results do not exceed the MACs for an

[1] A populated area, as defined by 35 Ill. Adm. Code 742.200, is an area within the boundaries of a municipality that has a population of 10,000 or greater based on the year 2000 or most recent census; or an area less than three miles from the boundary of a municipality that has a population of 10,000 or greater based on the year 2000 or most recent census.

[2] MSA counties as defined by 35 Ill. Adm. Code 742 Appendix A, Table G are: Boone, Champaign, Clinton,

MSA county AND all other analytical results do not exceed the most stringent MACs AND the pH is between 6.25 and 9.0, inclusive. Any material that cannot be reused shall be disposed of at a CCDD or USFO facility within a populated area in an MSA county excluding Chicago.

- Type 3: Inorganic analytical results exceed the most stringent MACs but do not exceed the MACs for an MSA County AND all other analytical results do not exceed the most stringent MACs AND the pH is between 6.25 and 9.0, inclusive. Any material that cannot be reused shall be disposed of at a CCDD or USFO facility in an MSA county.
- Type 4: Soil analytical results do not exceed most stringent MACs and the pH is between 6.25 and 9.0, inclusive. Any material that cannot be reused shall be disposed of at a CCDD or USFO facility.

Soil Reuse

The Illinois Tollway's goal of balancing all soils on projects allows for the movement of excess soil from one area to another area. Soils that achieve the Tier 1 remediation objectives under 35 Ill. Adm. Code 742 (TACO) or soils that can be managed such that there is no risk to human health or the environment can be classified as *Soils for Reuse.* As guidance, the Illinois Tollway utilizes the TACO Tier 1 remediation objectives for industrial/commercial properties and groundwater use restrictions in municipalities where the soils will be placed. Engineered barriers are only utilized where an existing No Further Remediation (NFR) letter from the IEPA is in place. All excavated soils shall then be classified as one of the following:

- Type A: Soils Not Approved. Contaminants of concern (COCs) exceed the TACO Tier 1 Soil Remediation Objectives (SROs) for the Industrial Commercial Ingestion or Inhalation Exposure Routes. Soil shall not be reused on the Illinois Tollway system.
- Type B: Soils Approved with Restrictions. COCs do not exceed the TACO Tier 1 SROs for the Industrial Commercial Ingestion and Inhalation Exposure Routes but exceed the TACO Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route (Class I).
- The material shall be reused within a municipality with an existing IEPA approved groundwater ordinance upon award of contract.
- Type C: Soils Approved for Reuse. COCs do not exceed the TACO Tier 1 SROs for the Industrial Commercial Ingestion and Inhalation Exposure Routes, AND COCs do not exceed the TACO Tier 1 SROs for the Soil Component of the Groundwater Ingestion Exposure Route (Class I).

When projects include construction on the rights-of-way of others, the reuse policy of the ROW owner shall be followed.

Please note that the Earthwork Schedule of Quantities (M-RDY-407) and the Environmental Soil Classification Plan (M-RDY-416) describe soil with the naming convention of "NumberLetter"; for example, Type 1A is Disposal Type 1 Reuse Type A, Type 1B is Disposal Type 1 Reuse Type B, etc.

Cook, DuPage, Grundy, Henry, Jersey, Kane, Kankakee, Kendall, Lake, Macon, Madison, McHenry, McLean, Menard, Monroe, Peoria, Rock Island, Sangamon, St. Clair, Tazewell, Will, Winnebago, and Woodford.

Construction Worker Precaution

Identify soils above the TACO Tier 1 Construction Worker Ingestion and Inhalation SROs as construction worker precaution areas.

6.6.5 Responsibilities

Illinois State Toll Highway Authority

The Illinois Tollway is to provide overall direction for the work, assess the findings of the DSE, determine regulatory applicability and conduct all agency coordination.

The Illinois Tollway's DCM shall work with the DSE to identify locations where excess soil can be used and temporarily stored, if necessary.

The Illinois Tollway Environmental Unit will screen each proposed soil stockpile area to identify any environmental issues prior to the DCM's approval.

If no PIPs are identified by the ES (as defined in Article 6.6.6) and based on a protocol outlined in Article 6.6.8 below, and soil pH values achieve the pH requirements for CCDD or USFO disposal (between 6.25 and 9.0), the Illinois Tollway will sign the completed LPC-662 Source Site Certification form developed by the DSE.

The Illinois Tollway Environmental Unit will supply the CM with the Illinois Tollway's signed LPC-662 forms and any LPC-663 forms signed by the DSE's ES.

Design Section Engineer

For all construction projects, the DSE shall be responsible for identifying all areas where cuts are necessary and all areas where fill will be necessary, with the goal of balancing the project's soil to the maximum extent practicable.

DSE Environmental Specialist

The ES shall follow the environmental due diligence outlined herein. The ES shall determine if there are PIPs within or adjacent to the project area. If PIPs are identified, the ES is to conduct the required number of soil borings to the anticipated depth of soil disturbance during the construction phase. The ES shall be responsible for evaluating the soil analytical results, classifying soil, preparing a Phase II ESA, LPC-662 and/or LPC-663 form, and signing the LPC-663 form.

6.6.6 Design Section Engineer Staff Qualifications

All environmental services outlined herein are to be performed by a qualified ES. A qualified ES shall meet all of the following criteria:

- Hold a bachelor's degree or above in civil, chemical, environmental engineering or geology.
- Have at least three years' experience in special waste assessments, including Phase I assessments and/or Transaction Screening Analyses.
- Have been 40-hour Hazardous Waste Operations and Emergency Response

(HAZWOPER) trained and hold a current 8-hour refresher certificate.
- Be a registered Professional Engineer or Professional Geologist in the State of Illinois.

6.6.7 Submittals and Timing

The identification of excavated soil and the potential for said soil to be impacted shall be addressed at the earliest possible point in project development. Submittals shall meet the timing outlined in this Article at a minimum. Earlier submittals may be required to meet the 60% or 95% deadlines. Identification of excavated areas shall include locations where excavation volume is determined during construction, including performance based retaining walls or other performance-based areas. The objective is to evaluate soils for three purposes:

- Disposal
- Reuse
- Construction Worker Precaution

For excavated soil volumes of less than 300 cubic yards, the savings associated with CCDD/USFO disposal are not offset by the sampling costs. Therefore, any projects with less than 300 cubic yards of excavation shall not be evaluated for CCDD/USFO disposal but rather all excavated soil shall be managed as Type 1C, and either be reused as part of the project or be considered non-special waste and disposed of off-site at a landfill. Please note, there is separate guidance for managing larger quantities of soil that were not sampled during design (unclassified soil) in Article 6.6.9 under Contract Documents.

The identification of RECs, or PIPs as the term is used in the uncontaminated soils regulations (35 Ill. Adm. Code 1100)[3], shall occur during the planning stage, rather than the design stage. The Phase I ESA or Transaction Screen shall be submitted as part of the 30% design submittal. Based on the findings of the Phase I ESA or Transaction Screen and the locations of planned excavation, a sampling plan shall be prepared and submitted as part of the 60% design submittal. The Illinois Tollway sampling protocol, including chemical analysis and boring frequency, is presented below in Article 6.6.8. At the 95% design submittal, the DSE shall include a copy of the Phase II ESA, the LPC-662 and/or LPC-663 form with supporting information, and show waste disposal type, reuse options and construction worker precaution areas in the Environmental Soil Classification Plans (M-RDY-416). Waste disposal type and reuse options shall also be included in Earthwork Schedule of Quantities (M-RDY-407). If a specific site is selected by the DSE for sourcing fill soils from outside the project limits, then that location shall be included in the sampling plan, but only evaluated for reuse options and construction worker precaution. Contractor selected sites are governed by the Illinois Tollway's Source Requirements for Furnished Excavation Special Provision.

6.6.8 Methodology

For projects involving Illinois Tollway ROW, the methodology is described herein. For projects that include construction on the rights-of-way of others, the methodology shall be in accordance with the applicable agency's policies and procedures where such procedures exist (for example, the *IDOT Bureau of Design and Environment Manual*).

[3] For the Illinois Tollway's purposes RECs and PIPs are the same thing. PIPs will be used throughout the remainder of this document.

Database Search and Site Reconnaissance

For projects with an estimated 300 cubic yards or more of excavation, the material shall be assessed for disposal, reuse and construction worker precaution areas. While the volume of excavation is typically not calculated until 60%, projects with a large earthwork component shall identify PIPs at 30%. If this work is not completed at 30% the DSE shall submit at 60% along with the sampling plan.

A database search shall be conducted as the first step, followed by a site reconnaissance. At the time of the site reconnaissance, special note shall be made to identify any indications of PIPs. This could include signs of contamination (either within the ROW or adjacent to it) or adjacent property uses that could cause contamination. Particular attention shall be paid to properties and issues identified by the database search noting the following:

- Actual separation distances from the project to each of the record search items
- Ground slopes between each identified area and the Illinois Tollway project
- Current use of the properties if different than listed in the database search
- Presence of groundwater monitoring wells
- Location of dumpsters or solid waste storage areas
- Condition of pavement
- Condition of buildings on site

30% Design Submittal

For projects which will occur entirely within existing Illinois Tollway ROW and for which there are no indications of PIPs in the database search and site reconnaissance, the ES is to complete a Transaction Screen in accordance with the latest ASTM standard.

For full or partial property acquisitions, the ES is to complete a Phase I ESA in accordance with the latest ASTM standard for Phase I ESAs. If the acquisition is less than 0.4 acres of farmland, however, a Transaction Screen in accordance with the latest ASTM standard shall be completed, with records search, in lieu of the Phase I ESA.

At a minimum, a review of the following is required to identify PIPs:

- A database search as outlined in the ASTM Standard
- Historical aerial photographs
- Sanborn maps (if they exist at that location)
- Historical USGS topographic maps
- The IEPA document explorer (https://external.epa.illinois.gov/DocumentExplorer/)
- City directories

Based on the findings, Freedom of Information Act requests to the USEPA, IEPA, Office of the State Fire Marshall or local municipalities may be warranted.

While the location, regulatory history and professional judgement will determine PIPs, **Table 6-1** shall be consulted to provide consistency throughout the Illinois Tollway. If a Phase I ESA or Transaction Screen deviates from this guidance, the ES shall document the reasoning behind the determination.

Table 6-1 PIP Identification Guidance

Site Type	PIP Determination
Leaking Underground Storage Tank (LUST) and Spills	PIP unless No Further Remediation (NFR) letter documents all contamination removed in accordance with current SROs/MACs.
Gas Station	PIP
Dry Cleaner	PIP, exceptions include storefront dry cleaners where all cleaning is shipped off-site.
RCRA Generator	Consider sites with violations PIPs. Sites without violations are not considered PIPs unless other sources of contamination or potential contamination are observed.
Industrial Properties	PIP
Railroads	PIP
Auto body	PIP
Site Remediation Program (SRP)	PIP unless NFR letter documents all contamination removed in accordance with current SROs/MACs.
Transformers	Generally considered *de minimis*. Transformers with evidence of leaking, staining or stressed vegetation considered a PIP.
Golf Courses	PIP
Orchard	PIP

If a UST within Illinois Tollway ROW is within the project limits, then the DSE shall consult the Illinois Tollway to determine if the UST will remain in use or be removed. Include any USTs to be removed in the contract documents.

The DSE shall submit a copy of the Phase I ESA or Transaction Screen as part of the 30% DMR submittal and complete and submit the ESIS Part I on the WBPM system. The ESIS submittal provides a foundation to assess the potential for environmental concerns on the project. It is to initiate an awareness of any environmental issues present.

60% Design Submittal

At this point, the DSE is to complete the initial assessment of where cuts will be necessary, where soil fill will be necessary and the overall soil balance. For projects within a larger corridor the DSE shall coordinate with the DCM. A copy of this assessment shall be provided to the DCM, with mile posts indicated, depths provided for each area and estimated volume in each area. For system-wide projects, DSEs shall strive to balance the individual projects. If it is determined that the material does not balance, the DSE shall contact the Illinois Tollway PM and the GEC Systemwide Corridor Manager for in-system material management options.

Initial Sampling Plan

Once the above tasks are completed, if the excavation quantity is over 300 cubic yards, then soil sampling shall be undertaken to investigate all soils for disposal type, reuse options and construction worker precaution. Any fill soils sourced from outside the project limits shall be sampled to determine if they meet the Illinois Tollway reuse requirements and if construction worker precaution is warranted. Illinois Tollway is aware of potential soil management and disposal concerns that may be unrelated to identified PIPs. These additional Illinois Tollway-specific considerations are:

- Fill soils at ramps or elevated roadways
- Roadway ditches associated with drainage of greater than one square mile of roadway
- Bridges constructed prior to 1988

The Illinois Tollway, with consultation from CCDD and USFO facilities, has established the minimum number of soil borings to characterize soils based on several general site types. These minimum numbers are displayed in **Table 6-2**. As appropriate, soil boring locations shall be chosen based on proximity to specific environmental concerns and preferentially placed in proximity of individual PIPs. For example, soil borings conducted to characterize a gas station shall be placed based on the location of the UST(s). For large PIPs, such as railroad tracks running parallel to a roadway or an adjacent golf course, samples are to be collected at the lowest points near drainage paths.

Minimum sampling parameters shall be determined by the nature of incidents at the identified sites. Illinois Tollway understands that assessment of select metals may be considered sufficient to address concerns associated with certain PIPs; however, with the exception of lead sampling at bridges, arsenic sampling at golf courses and lead and arsenic sampling at orchards, the ES shall test for all eight of the RCRA metals where any of the eight RCRA metals are considered to be a concern. The Illinois Tollway's guideline is to initially analyze for TOTAL METALS, with the one exception being chromium, where toxicity characteristic leaching procedure (TCLP) chromium shall be run instead of total chromium. If samples fail to achieve the MACs for only total metals, those samples shall be re-analyzed via the TCLP or synthetic precipitation leaching procedure (SPLP) method[4] for just the metal(s) that fail to achieve the total MAC, with the exception of arsenic, which shall not be analyzed with the TCLP or SPLP method.

The sampling protocol for common PIP sites and the Illinois Tollway-specific considerations are displayed in **Table 6-2**. Additional concerns requiring sampling may be identified, requiring further review on a case-by-case basis.

[4] Either the SPLP or TCLP tests are suitable for achieving the MAC if total fails; however, landfills typically ask for TCLP metal results, so TCLP testing should be preferred as it may be required for landfill disposal if the sample does not achieve the MAC via total or TCLP testing. As stated above, with the exception of chromium, only run TCLP or SPLP tests when the total metals fail to achieve the MACs.

Table 6-2 Soil Sampling Plan Boring Frequency and Analysis

Site Type	Minimum Number of Borings	Analysis
Leaking Underground Storage Tank (LUST) and Spills	Gasoline (2 borings) Diesel (2 borings) Fuel Oil / Heating Oil (1 boring) Used Oil (2 borings) Other Petroleum (2 borings)	BTEX[1]+MTBE[2], PNAs[3], RCRA Metals[4], pH BTEX, PNAs, pH BTEX, PNAs, pH VOCs[5], SVOCs[6], RCRA Metals, PCBs[7], pH VOCs, SVOCs, RCRA Metals, PCBs, pH
Gas Station	2 borings	BTEX+MTBE, PNAs, RCRA Metals, pH
Dry Cleaner	1 boring per 200 feet	VOCs, pH
RCRA Generator (with Violations) / Industrial Property	1 boring per 200 feet	VOCs, SVOCs, RCRA Metals, pH or site specific[8]
Railroads	2 borings (one each side)[9]	BTEX, PNAs, RCRA Metals, Pesticides, Herbicides, pH
Auto body	1 boring per 200 feet	VOCs, SVOCs, RCRA Metals, pH
SRP	1 boring per 200 feet	VOCs, SVOCs, RCRA Metals, pH or site specific[8]
Pad Mounted Transformer (with release)	1 boring	PCBs, pH
Golf Course	1 boring per 200 feet	Arsenic, pesticides, herbicides, pH
Orchard	1 boring per 200 feet	Lead, arsenic, pesticides, herbicides, pH
Other Sites (Buildings or dumping areas)	1 boring per 200 feet	Site specific[8]
Fill Soils at Ramps and Elevated Roadways	1 sample per 2,000 cy soil	VOCs, SVOCs, RCRA Metals, PCBs, pH
Roadway Ditches Draining > 1 sq mi	1 sample per 500 linear feet with a minimum of two samples from centerline for the final 1,000 feet of drainage area.	PNAs, RCRA Metals, PCBs, pH
Bridges Constructed Before 1988	1 sample each side of roadway	Lead, pH
Fill soils sourced from outside the project limits	1 sample per 5,000 cy soil	35 Ill. Adm. Code 740 Appendix A Tables A through D Target Compound List (TCL) parameters and herbicides

[1] BTEX: Benzene, Toluene, Ethylbenzene and Xylenes; a subset of VOCs.
[2] MTBE: Methyl tert-butyl ether (not required for LUST incidents prior to 1979).
[3] PNA: Polynuclear aromatic hydrocarbons (also referred to as PAHs – polycyclic aromatic hydrocarbons), a subset of SVOCs.
[4] The eight RCRA metals include: arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver. With exception of chromium, metals analyses shall be performed first using totals analyses, then leaching procedures as appropriate. Chromium analyses shall first be performed using TCLP leaching procedures.
[5] VOCs: Volatile Organic Compounds
[6] SVOCs: Semi-Volatile Organic Compounds
[7] PCBs: Polychlorinated Biphenyls
[8] Site specific chemicals associated with site or SRP listing

[9] Adjacent railroad tracks running parallel to Illinois Tollway ROW require 1 boring per 500 linear feet.

Illinois Tollway projects generating greater than 2,000 cubic yards of soil require a minimum of at least one sample per 2,000 cubic yards. Soils shall be screened from near the ground surface to the overall anticipated depth of excavation. Samples selected for laboratory analysis shall be chosen based on field observations and consideration of type of PIP or Illinois Tollway-specific consideration.

Regardless of PIP status and/or identification of Illinois Tollway-specific considerations, pH sampling is necessary along the Project Corridor. The minimum sampling frequency for pH is one soil pH sample per every 1,000 linear feet (urban areas) or one sample per mile (in rural areas). Each sample shall be representative and taken to the depth of the project excavation limits. Soil samples shall not be collected near the gravel/soil interface as the limestone fines can result in soil pH values above the acceptable soil pH. This practice is consistent with ASTM Phase II protocols (E1903). Additionally, soil volume must be considered, with a minimum of one pH sample collected per 2,000 cubic yards of soil. Otherwise, sampling conducted at identified PIPs for CCDD purposes shall also include pH sampling.

Sampling for fill soils at ramps and elevated roadways and for fill soils sourced from outside the project limits shall be evenly distributed. For all other site types, minimum vertical sampling frequency is one sample for every five feet of boring depth. The boring terminal depth shall be consistent with the proposed depth of improvements at a given location.

As part of the 60% DMR submittal, the ES shall prepare and submit a sampling plan for Illinois Tollway approval. The sampling plan shall include the following:

- Horizontal and vertical extents of the planned excavation areas[5]
- Estimated volume of soil resulting from the planned improvements
- Proposed boring locations
- Number of samples per boring
- PIP(s) and/or Illinois Tollway-specific considerations at each boring location
- Parameters to be tested in each sample

Based on the nature of the sites identified by the Phase I ESA, additional Illinois Tollway-specific considerations, and any proposed locations of fill soils sourced from outside the project limits, the number and locations of soil borings shall be determined. The Illinois Tollway can also assist with sites that may require additional review or site-specific testing.

After the Illinois Tollway or designated representative has reviewed the plan to confirm it meets the minimum requirements outlined above, and any unique situations have been addressed, the Illinois Tollway will provide approval of the sampling plan.

[5] Include locations where excavation volume is determined during construction, specifically performance based retaining walls or other performance-based areas. Sample based on the potential maximum volume removed.

Supplemental Sampling Plan

If, after initial samples have been collected and analyzed, additional areas of excavation are identified, the ES shall prepare and submit through the DMR process a supplemental sampling plan for Illinois Tollway approval.

The supplemental sampling plan shall include:

- Horizontal and vertical extents of the additional areas of excavation
- Estimated volume of soil resulting from the additional areas of excavation
- Proposed boring locations
- Number of samples per boring
- PIP(s) and/or Illinois Tollway-specific considerations at each boring location
- Parameters to be tested in each sample
- Relevant data from the initial sampling in the vicinity of the supplemental sampling
    - Horizontal and vertical extents of the planned excavation areas
    - Estimated volume of soil resulting from the planned improvements
    - Boring locations
    - Number of samples per boring
    - Parameters tested in each sample

The supplemental sampling plan shall note any locations where additional excavation was identified, but sufficient data was collected in the initial sampling to characterize that area.

Secondary Sampling Plan

After initial samples have been collected and analyzed, a second round of sampling to delineate exceedances may provide additional cost savings in construction. When there is sufficient time and budget during design the ES shall prepare and submit through the DMR process a secondary sampling plan for Illinois Tollway for approval. The secondary sampling plan shall include:

- Exceedances tables from initial and supplemental (if applicable) sampling analytical results
- Initial boring logs
- Initial boring location being delineated
- Provide the estimated volume of soil to be delineated
- Secondary sample locations and depths
- Secondary hold samples
- Number of samples per boring
- PIP(s) and/or Illinois Tollway-specific considerations at each boring location
- Testing parameters for each proposed sample

Secondary sample results shall be evaluated for reuse and construction worker precaution, regardless of the purpose for collection.

The secondary sampling plan shall consider the following:

- Collect samples only in locations that have a potential to reduce the volume of material classified as hazardous waste, non-special waste, soils not approved for reuse and soils approved for reuse with restrictions.

- For non-special waste, only collect samples when there is the potential to reduce the volume of non-special waste disposal by more than 300 cubic yards at each sample location.
- For soil reuse, only collect secondary samples on projects requiring furnished or borrow material; only collect samples when the cost to delineate the material is less than the cost to import material per cubic yard (estimated to be 100 cubic yards); and do not delineate for reuse in known locations of geotechnically unsuitable soil.
- Collecting secondary samples specifically to delineate construction worker precaution areas is not required.
- For all secondary sampling, only analyze samples for exceedances identified during the first round of sampling.

95% Design Submittal

Once sampling has taken place and analytical results have been received, the ES shall prepare a Phase II ESA report and an LPC-662 and/or LPC-663 form. The Phase II ESA report shall classify soil disposal and reuse as defined in Article 6.4.4.

The DSE shall submit a copy of the Phase II ESA, LPC form(s) with supporting information, Environmental Soil Classification Plan (M-RDY-416), and Earthwork Schedule of Quantities (M-RDY-407) as part of the 95% DMR submittal. As required in Article 4.6.31 of the *Illinois Tollway DSE's Manual*, the cross sections shall show the disposal type, reuse options and construction worker precaution areas. The ES shall sign and seal LPC-663 forms, and the Illinois Tollway shall sign LPC-662 forms. The DSE shall upload a copy of the Phase I and the II ESAs to the WBPM system. The DSE shall also complete the ESIS Part II and submit the ESIS Part II on the WBPM system.

6.6.9 Documentation

Phase I ESA

The outline for a Phase I ESA shall include the following:

- Title
- Overview of Assessment or Executive Summary
- Site Location, including:
  - Location Map
  - Vicinity Description
  - Hydrologic, Geologic and Topographic Description of Property and Surroundings
- Findings, including:
  - Property Use History
  - Site Investigation Observations
  - Review of Database Search
  - Review of Environmental Risks from Off-site Facilities
- Conclusions

Phase II ESA

The Phase II ESA report shall include the following:

- Title Page
- Introduction
  - Project Location, Description, with stations and/or mile posts
- Summary of Phase I ESA with PIPs and Tollway-specific considerations identified
- Subsurface findings. Using the template in Appendix C, provide an excel file with the following information:
  - Boring name
  - Boring surface elevation
  - Sample name
  - Sample depth
  - Bottom elevation of soil type in mean sea level
  - Soil type (disposal, reuse)
  - Construction worker precaution
  - Contaminants of concern
- Any hazardous or special waste identified, including extent and management options
- Conclusions
- Figures showing boring locations and locations of soils by waste disposal type, reuse options, construction worker precaution areas, and the location of municipalities with IEPA approved groundwater ordinances. The figures shall be created and submitted in CADD in addition to being included in the Phase II ESA. The boring name shall appear entirely within the shape in CADD. See *Illinois Tollway CADD Standards Manual* for software requirements.
- Summary tables comparing the analytical results to the appropriate MAC and SRO values
- Laboratory analytical reports
- Boring Logs

LPC-662/663

The LPC form shall include the following supporting information:

- A cover letter summarizing the findings
- Narrative discussing due diligence
- Identification of PIPs/RECs (LPC-663 only)
- Narrative summary of results with comparison to appropriate MAC value
- Identification of exclusion area(s)
- Figures showing boring locations and soil disposal types
- Summary tables comparing the analytical results to the appropriate MAC values
- Laboratory analytical report(s)

Contract Documents

Contract documents shall follow all appropriate guidance in the *Illinois Tollway DSE's Manual*. Special requirements shall be noted on the contract plans. Special provisions may need to be developed for the project specifications. These special provisions could include, but are not limited to, special provisions requiring monitoring for worker precaution; or for moving, managing or disposing of solid waste.

Waste disposal type, reuse options, construction worker precaution areas and the location of IEPA approved groundwater ordinances shall be included in the contract Environmental Soil Classification Plans (M-RDY-416). While soil sampling shall occur only in excavation areas, the

full extent of identified disposal type, reuse options and construction worker precaution areas within the construction zone shall also be shown on the contract plans, i.e. the extent of non-special waste identified in a utility trench shall be defined by the next clean sample and not shown as ending at the limits of the trench. Waste disposal type and reuse options shall also be included in the Earthwork Schedule of Quantities (M-RDY-407).

Due to the distance between borings, the horizontal extent of soil types shall be based on the judgement of the ES, considering the analytical results (including if exceedances were analyzed in the adjacent samples), proximity to PIPs or Tollway-specific considerations, elevation, and other relevant features. Methodology for determining horizonal extent shall be noted in the Phase II ESA. Vertical extent of the soil types shall vary within the borings based on the analytical results. Conservatively assume the most restrictive soil type extends to the nearest “cleaner” sample (i.e. do not assume the boundary between soil types is halfway between samples). If, based on site conditions, an alternative method for determining vertical extent is warranted, discuss with the Illinois Tollway Environmental Unit prior to creating plan set. If the soil classification varies vertically, the Environmental Soil Classification Plan (M-RDY-416) shall show the most restrictive disposal and reuse hatch pattern, not the pattern for the soil at the surface.

If the soil classification was conducted but includes significant data gaps, including locations that were not sampled during design, then the unclassified soil shall be managed as Type 1A by default and the Contractor may classify the soil during construction. The DSE shall provide the following:

- Location of the unclassified soil shall be included in the Environmental Soil Classification Plan (M-RDY-416).
- The unclassified soil shall be calculated as part of the Type 1A volume. A separate volume of unclassified soil shall also be included for the Contractor in the Earthwork Schedule of Quantities (M-RDY-407).

Contract documents shall make note of the location(s) where soil from cuts will be used as fill within the project limits. If soil must be stockpiled because it cannot be used immediately, the location of the stockpile(s) and required erosion and sediment control shall be noted on the plans.

Document Updates

If more than a year has elapsed from the preparation of the LPC-662 or LPC-663 form to the beginning of construction, then an update will be required. To update the CCDD document, a property screening report consisting of an updated database search and property reconnaissance shall be conducted. The results of the new property screening shall be compared with the original property screening. If no new sites are identified along the project corridor, then the LPC-662 or LPC-663 form shall be updated to reflect the recent property screening. If new sites are identified, then additional sampling at these locations shall be conducted.

If more than five years have passed since the original sampling, collection of new samples is necessary. In this case, a new Phase I ESA or Transaction Screen shall be written, and a new sampling plan prepared and executed for the project.

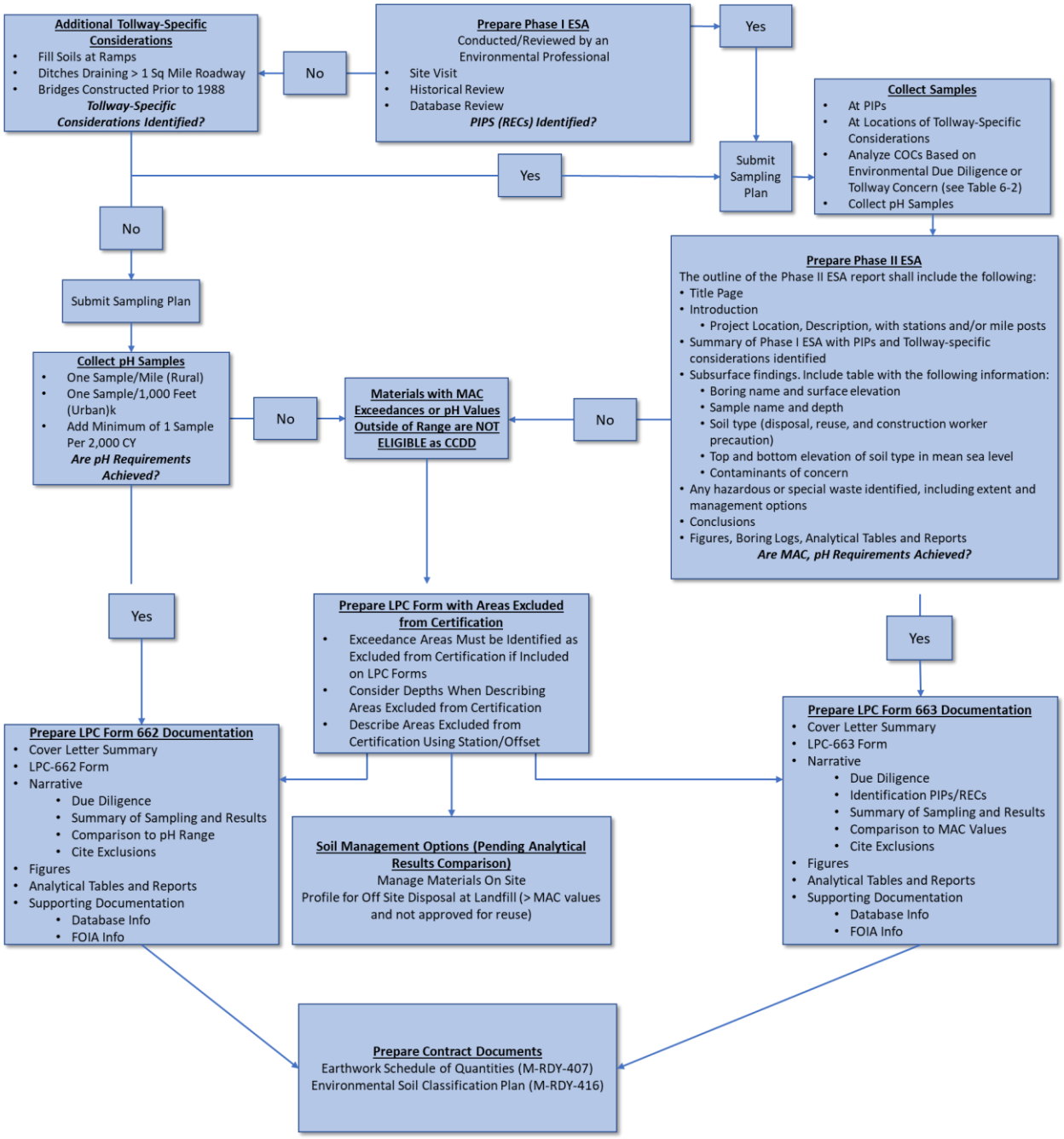
Table 6-3 Soils Management Steps

Step	Responsibility	Task[6]	
		Projects Completely within Illinois Tollway Existing ROW	**Property Acquisitions by the Illinois Tollway**
1	ES	Complete Records Search	
2	ES	Site Visit	Complete site visit and interview property owner representative
3	ES	Identify all PIPs Complete Transaction Screen and ESIS Part I and submit at 30%	Identify all PIPs Complete Phase I ESA[7] and ESIS Part I and submit at 30%
4	DSE and ES	Attempt to balance earthwork to avoid or minimize the need to dispose of soil off-site. Identify cuts and fills, with estimated soil volumes Identify cuts for off-site disposal and maximum depths Identify all temporary soil storage locations Submit Sampling Plan for PIPs and Tollway-specific considerations and ESIS Part II at 60%	
5	ES	Collect and analyze soil samples Submit Secondary or Supplemental Sampling Plans as needed	
6	ES	Submit Phase II ESA, LPC-662 or 633 forms and ESIS Part II at 95%. Include Environmental Soil Classification Plan (M-RDY-416) and Earthwork Schedule of Quantities (M-RDY-407) in contract documents.	

[6] Authorized by the Illinois Tollway where indicated in Figure 6-6

[7] If acquisition is less than 0.4 acres of farmland, a transaction screening analysis shall be completed, with records search, in lieu of Phase I ESA

Figure 6-6 Illinois Tollway Solid Waste Coordination Process



6.7 Traffic Noise

6.7.1 Purpose and Introduction

This Article provides process guidance for identifying, evaluating, documenting and coordinating Illinois Tollway projects and studies on traffic generated noise as described by the Illinois Tollway's Traffic Noise Study and Abatement Policy (current version) (see Appendix D). This policy establishes criteria and guidelines for initiating traffic noise studies and considering traffic noise abatement. The policy first establishes the eligibility of a site for a traffic noise study. The policy then establishes when traffic noise abatement shall be considered.

This Article relates to the determination of when and where noise abatement is to be used along the Illinois Tollway system. Information and guidance with respect to currently accepted noise wall types and design is provided in Section 23 of the *Illinois Tollway Structure Design Manual*.

6.7.2 Applicable Regulations

The following Policies and Acts regulate or influence procedures related to noise.

- Illinois Tollway Traffic Noise Study and Abatement Policy (current version)

6.7.3 Responsibilities

The Illinois State Toll Highway Authority

The Illinois Tollway is to provide overall direction for the work, assess the findings of the DSE, determine policy and abatement applicability and conduct agency coordination as necessary.

Design Section Engineer

The DSE is to identify and describe adjacent land uses, determine traffic noise impacts using the current version of the Traffic Noise Model (TNM), evaluate and incorporate reasonable and feasible traffic noise mitigation measures into the project, and design noise abatement structures using TNM, if necessary.

6.7.4 Design Section Engineer Staff Qualifications

Staff conducting traffic noise analysis shall hold a bachelor's degree or higher in civil, acoustic, or environmental engineering, environmental technology, or physics, and have two years' experience in noise modeling such as TNM.

6.7.5 Submittals and Timing

The potential for traffic noise impacts to residential or outdoor recreational properties shall be addressed as early as possible in project development. The objective is to identify potential impacts during the planning stage, rather than in the design stage. Since Level 1 and 2 projects would likely fall under the Design Department, the ESIS Part I submittal serves as the primary indicator for the adjacent land use type. Addressing traffic noise issues during the planning stage assures that the Illinois Tollway has the greatest amount of lead-time possible for coordinating

with local agencies and the public. **Figure 6-7** summarizes the traffic noise coordination and submittal process.

ESIS Part I

The first step in project development is to conduct a field reconnaissance and submit the ESIS Part I. Article 6.7.6, entitled Methodology, describes this process. The ESIS submittal provides a foundation to assess the potential for environmental concerns on the project. It is to initiate an awareness of the environmental issues present. The ESIS Part I submittal shall be completed on the WBPM system.

Once the ESIS submittal is completed and submitted, the DSE project staff and the Illinois Tollway will evaluate the existing and proposed conditions, including adjacent land uses and potential impacts. The Illinois Tollway will then verify the current project Level and determine the need for special environmental study/studies. If potential impacts are greater than anticipated, the Level may be elevated. Factors or issues other than traffic noise impacts may affect this decision. One or two special studies would not necessarily affect a change in the project Level.

If a special traffic noise study is determined necessary, it will be authorized by the Illinois Tollway. Article 6.7.6 outlines the methodology for traffic noise studies and abatement investigations.

Traffic Noise Technical Memorandum and Report

In all instances, when the appropriate adjacent land uses are present and there is a potential for traffic noise impact, a Technical Memorandum shall be produced. This internal memo is to document the findings, anticipated impacts, if any, and recommend a course of action as to any further traffic noise studies or abatement considerations.

The format for the memo and report are outlined in Article 6.7.7, entitled Documentation. Two copies of the Technical Memorandum shall be forwarded to the Project Engineer at the Illinois Tollway.

ESIS Part II

As part of the Preliminary Engineering (60%) and Pre-Final Design (95%) submittals, Part II of the ESIS shall be completed. The ESIS Part II submittals will enable the Illinois Tollway and the DSE to determine if the overall project design has changed since earlier ESIS submittals were completed, thereby causing impacts that were not originally anticipated. The ESIS Part II submittals also document abatement measures that were incorporated into the design. The ESIS Part II submittals shall be completed on the WBPM system.

The Pre-Final Design will have incorporated all of the identified abatement measures to reduce potential impacts. These measures shall be shown on the contract plans as well as be described in the text. Article 6.7.7, entitled Documentation, describes how the contract documents, symbology, specifications and contract plans shall be incorporated.

6.7.6 Methodology

The process for addressing traffic noise issues may require several transmittals and coordination points with the Illinois Tollway. Each of these is discussed below for the various types of projects. All coordination will be documented with written responses.

ESIS Part I

Reconnaissance/field observations: Observation of current aerial photography shall be conducted for a preliminary determination of the adjacent land use. A site visit shall be made for the purpose of confirming the land use depicted in the aerial photos or determining land use differences that may not have been identified or visible on the aerials.

The DSE will complete and submit the ESIS Part I. Based on the information provided in the ESIS, the Illinois Tollway will make a recommendation, in writing, of one of the following:

- There is no reason for further investigation, or
- Further investigation is required.

This decision will be made based on the Illinois Tollway Traffic Noise Study and Abatement Policy which is included in Appendix D.

6.7.7 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental issues are not overlooked. When it is determined there is reason for traffic noise studies, these forms serve as the preliminary documentation.

Traffic Noise and Abatement Memorandum

Traffic noise and abatement (if any) shall be documented in a memorandum. The format for this document should follow the organization below.

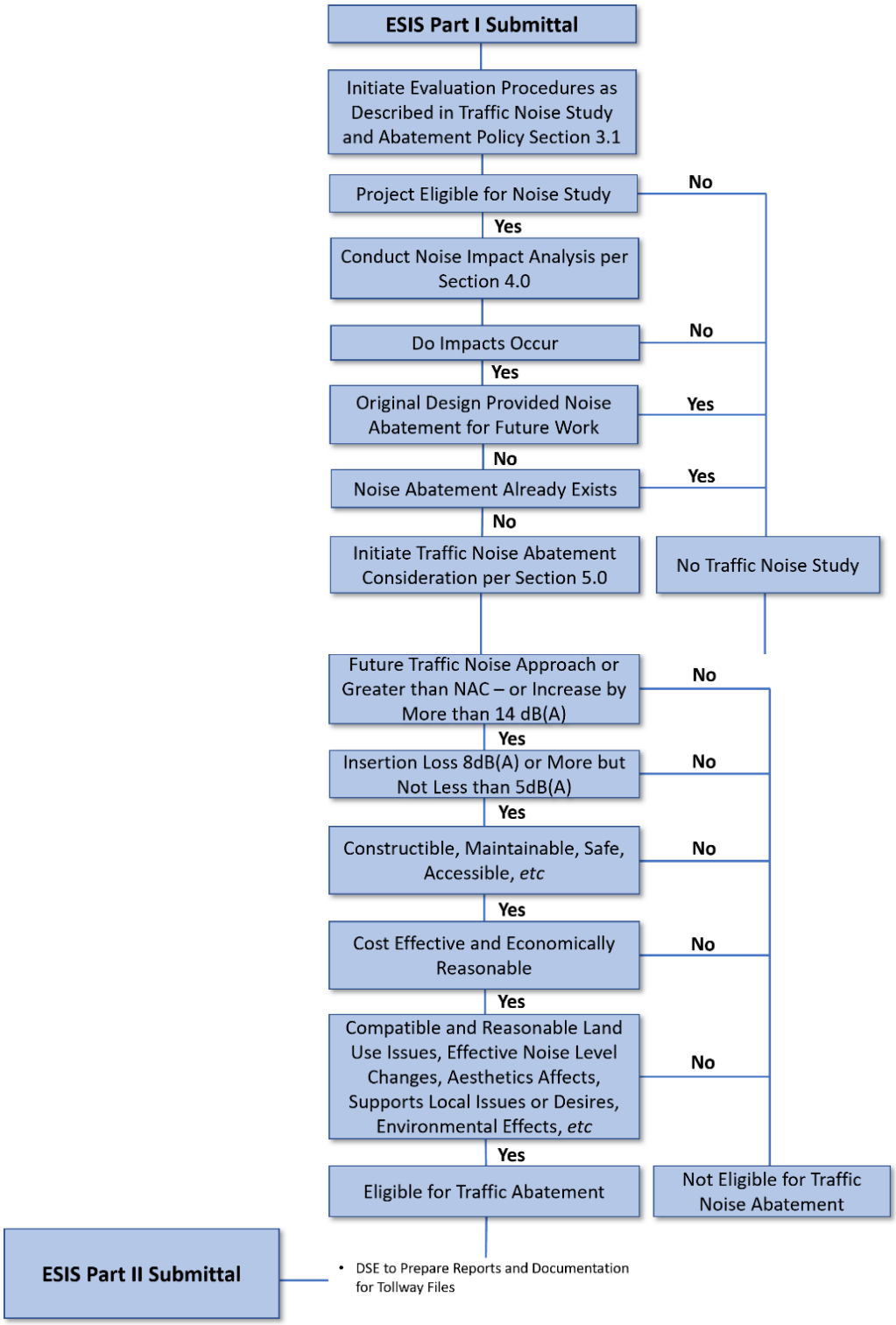
- Title
- Location of Study
- Methodology
- Results
- Abatement measures (if any)
- Summary of land use present, potential impacts, model results, abatement measures if applicable, municipal or agency coordination.
- Conclusion
- Exhibits
  - Location Map
  - Aerial Photograph with Receptors Shown
  - Ground Photographs of Receptors
  - Output from TNM
  - Abatement measure locations, if any

Contract Documents

Contract Documents shall also make note of any special environmental issues. Contract plans that may require environmental notations include, but are not limited to, site plans, erosion and sediment control plans, landscape plans, mitigation plans and specifications.

Contract documents shall follow all appropriate guidance in the *Illinois Tollway DSE's Manual*. Special requirements identified during the traffic noise study shall be noted on the contract plans. Special requirements shall include noise walls, landscaping or other features determined necessary during the study.

Figure 6-7 Illinois Tollway Traffic Noise Coordination Process



6.8 Air Quality

6.8.1 Purpose and Introduction

This Article provides technical guidance procedures for identifying, evaluating, documenting and coordinating the influence of Illinois Tollway projects on air quality.

6.8.2 Applicable Regulations

The following Policies and Acts regulate or influence procedures related to air quality.

Federal

- Clean Air Act and Amendment
- National Ambient Air Quality Standards (NAAQS)
- Intermodal Surface Transportation Efficiency Act

6.8.3 Responsibilities

Illinois State Toll Highway Authority

The Illinois Tollway is to provide overall direction for the work, assess the findings of the DSE, determine regulatory applicability and conduct all agency coordination.

Design Section Engineer

The DSE is to assess existing air quality, determine potential impacts and initiate or perform any special environmental studies.

6.8.4 Design Section Engineer Staff Qualifications

Staff conducting the air quality analysis shall hold a bachelor's degree or higher in engineering, science, or planning or have non-college training and two years' experience in air quality analysis, vehicle emissions and traffic analysis.

6.8.5 Submittals and Timing

Air quality issues shall be addressed at the earliest possible point in project development. The objective is to realize potential impacts during the planning and preliminary engineering stage, rather than in the design stage. Since Level 1 and 2 projects would likely fall under the Design Department, the ESIS Part I submittal would serve as one of the primary indicators for the presence of air quality issues. Addressing air quality issues during the planning stage is the best possible means of avoiding unnecessary impacts, assuring compliance with the regulations and assuring that the Illinois Tollway has the greatest amount of lead time possible for coordinating with the applicable jurisdictional agencies. **Figure 6-8** summarizes the air quality coordination and submittal process.

ESIS Part I

The first step in project development is to conduct a field reconnaissance and submit the ESIS Part I. Article 6.8.6, entitled Methodology, describes this process. The ESIS submittal provides a foundation to identify the air quality issues (if any) of the project. It allows the project staff to have an awareness of adjacent residential properties, and which issues can be eliminated from further consideration. The ESIS Part I submittal shall be completed on the WBPM system.

Once the ESIS submittal is completed and submitted, the DSE project staff and the Illinois Tollway will evaluate the existing and proposed conditions, including the existence of potential air quality issues. The Illinois Tollway will then verify the current project Level and determine the need for special environmental study/studies. If at this point the Illinois Tollway determines that further study is necessary, appropriate actions will be authorized. If potential for impacts is greater than anticipated, the Level may be elevated. Factors or resource issues other than air quality may affect this decision. One or two special studies would not necessarily affect a change in the project Level.

Air Quality Memorandum

If air quality investigations are required, the DSE will prepare a memorandum and all necessary exhibits (including a project location map) documenting the area of concern. The memorandum shall indicate the results of the evaluation and describe efforts made to identify and avoid, minimize or abate impacts. Article 6.8.6 describes the methodology for submitting this memorandum. If the NAAQS for carbon monoxide (CO) is violated, the Illinois Tollway will submit this memorandum to the IEPA in order to begin project specific coordination.

The design shall proceed with incorporation of design features in conformance with the *Illinois Tollway DSE's Manual*. The design shall consider all intergovernmental agreements, agency and municipal coordination, and any stipulations related to the air quality from the project.

ESIS Part II

As part of the Preliminary Engineering (60%) and Pre-Final Design (95%) submittals, Part II of the ESIS shall be completed. The ESIS Part II submittals will enable the Illinois Tollway and the DSE to determine if the overall project design has changed since the earlier ESIS submittals were completed, thereby identifying new issues or impacts that were not originally anticipated. The ESIS Part II submittals also document measures that are anticipated to be taken to identify, minimize or abate impacts to air quality. The ESIS Part II submittals shall be completed on the WBPM system.

The Pre-Final Design will have incorporated all of the measures to reduce and/or avoid potential impacts. These measures, if appropriate, shall be shown on the contract plans as well as be described in the text. Article 6.8.7 below describes how the contract documents, symbology, specifications and contract plans shall be incorporated.

6.8.6 Methodology

The process for addressing air quality issues may require several transmittals and coordination points. Each of these is discussed below. All coordination will be documented with written memoranda.

ESIS Part I

Background studies shall be conducted for determination of adjacent residential land use. This shall include examination of the most recent available aerial photography. A site visit shall be made for the purpose of confirming the background studies and determining the presence of conditions consistent with NAAQS criteria and the selection of a worst-case receptor for CO that may not have been identified previously.

The DSE will complete and submit the ESIS Part I to the Illinois Tollway, including photographs of all residential areas taken during the site visit. Based on the information provided in the ESIS, the Illinois Tollway will make a recommendation, in writing, of one of the following:

- There is no identified reason for further investigation, or
- Further investigation is required.

Illinois Carbon Monoxide Screen for Intersection Modeling (COSIM 4 version)[8]

COSIM is an intersection screening tool for CO specific to intersection projects. It is applicable for intersecting roadways and ramp termini with cross roadways that add additional through traffic or turn lanes, or for a signalized intersection having a "sensitive receptor" within 1,000 feet of the signalized intersection. It is used to determine if a detailed analysis for CO concentrations is necessary or if a project may cause a NAAQS violation. The screening model uses readily available data to make a conservative worst-case estimate of a project's impact potential. If the project passes the worst-case screening analyses, then no further analysis is necessary. COSIM analysis will be conducted by IDOT environmental specialists; paperwork for submittal (Illinois COSIM Input Worksheets to be provided by IDOT) will be filled out by the DSE. The Illinois Tollway will initiate coordination with IDOT. IMPORTANT NOTE: In accordance with IDOT-IEPA *Agreement on Microscale Air Quality Assessments for IDOT Sponsored Transportation Projects*, projects are **exempt** from project level CO air quality analysis if the highest design year approach volume on the busiest leg of the intersection is less than 5,000 vehicles per hour or 62,500 ADT.[9]

For mainline and toll plaza locations, detailed microscale analysis for CO concentrations using modeling software utilizing USEPA MOVES 2014a (or most recent) shall be conducted.

[8] COSIM was originally developed by researchers at the University of Illinois, Urbana-Champaign UIUC). The model is the product of research sponsored by the Illinois Transportation Research center (ITRC) and (UIUC). Principal researchers were Larson, Susan M., Coleman, III, Fred, Peters, Scott, Gollapalli, Padmini K., Schnapp, Angela, and Melcher, Lee. Titled *Carbon Monoxide Analysis for Highway Projects*, Illinois Transportation Research Center, Illinois Department of Transportation, Project IIIA H1, FY97, Report No. ITRC FR 97-2 (October 1999).

[9] IDOT Department Policy D&E-9: Carbon Monoxide Screen for Intersection Modeling Manual, effective June 10, 2013.

Microscale Carbon Monoxide Analysis[10,11]

USEPA MOVES2010b or the most current in a series of mobile source emission models released by the USEPA, along with CALINE3, and/or CAL3QHC v 2.0 (or the most current) are the air quality analysis tools for detailed analysis. The model is useful to estimate national, state and county level inventories of criteria pollutants, emissions of greenhouse gases and some air toxics emitted from highway vehicles. The model can be used as appropriate, and most likely for mainline roadways and/or mainline toll collection facilities for microscale analysis to fulfill any conformity requirements of the 1990 Clean Air Act Amendments. The microscale analysis utilizing the COSIM model will determine if a project will cause a NAAQS violation of the CO criteria. If the project passes the worst-case CO micro analyses, then there is no impact. IMPORTANT NOTE: There are presently no CO nonattainment or maintenance areas in Illinois. The COSIM model is specific with microscale intersection analysis and only utilizes MOVES2010b's ability to predict CO emissions.

Air Quality Memorandum

The DSE will prepare an Air Quality Memorandum that will include a precise location map, receptor location(s), intersection and traffic data, microscale analyses and/or the COSIM results (if applicable), and whether air quality could be impacted by the proposed project. In addition, the DSE shall consider ways the project can avoid, minimize or abate potential impacts to the air quality.

6.8.7 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental concerns and issues are not overlooked.

Air Quality Memorandum

The DSE will provide documentation in a written memorandum to the Illinois Tollway discussing the detailed microscale analyses and/or COSIM findings or exemptions, if applicable. The Illinois Tollway may recommend considering additional CO microscale modeling and coordination with IEPA for measures that avoid, minimize or abate identified air quality impacts. The DSE shall await instructions from the Illinois Tollway before proceeding with any additional coordination, studies or microscale modeling.

The memo and the Illinois Tollway's written approval of the determination made in the memo, along with supporting documentation (for example, modeling data, calculations and results), will be placed in the project file.

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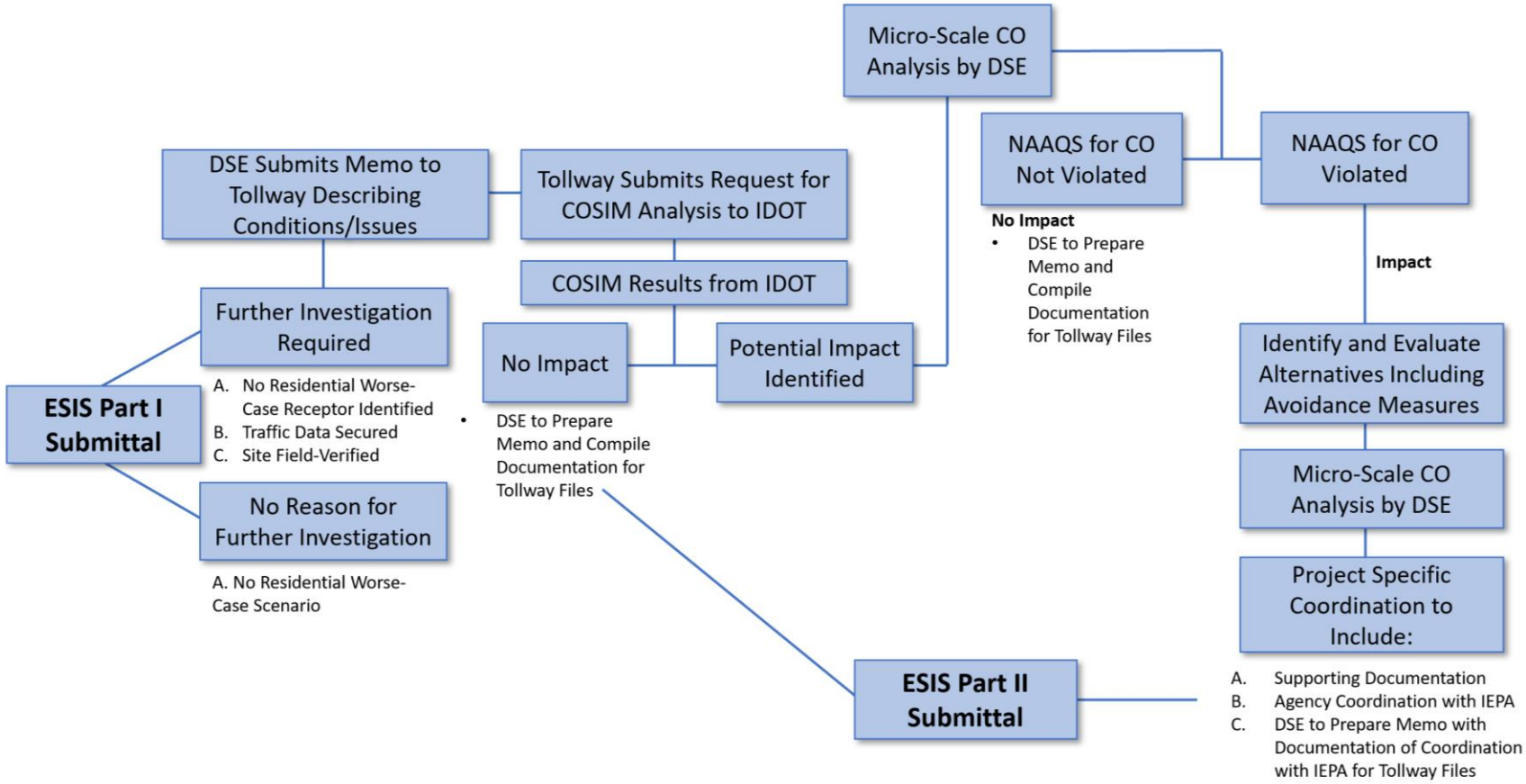
[10] United States Environmental Protection Agency, User's Guide to MOBILE5 (Mobile Source Emissions Factor Model), USEPA, Ann Arbor, Michigan, EPA-AA-AQBA-94-01, May (1994).

[11] United States Environmental Protection Agency, User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations Near Roadway Intersections, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina. EPA-454/R-92-006, Sept. (1995)

Contract Documents

Standard specifications currently require dust control by watering. Any additional air quality related incorporations to construction documents would be unlikely. However, any special requirements by any regulatory agency shall be incorporated into the contract design plans and shall be noted on the contract specification documents.

Figure 6-8 Air Quality Coordination Process



6.9 Agricultural Resources

6.9.1 Purpose and Introduction

This Article provides technical guidance for identifying, evaluating, documenting, and coordinating the effects of Illinois Tollway projects and studies on conversion of farmland to non-farm uses. In addition, this Article provides guidance for interagency coordination and state and federal regulations.

6.9.2 Applicable Regulations

The following policies regulate or influence procedures related to agricultural resources.

Federal

- Farmland Protection Policy Act of 1981

State

- Farmland Preservation Act (Title 8, Ill. Adm. Code 700)
- State Executive Order No. 4 (1980), Preservation of Illinois Farmland

6.9.3 Responsibilities

Illinois State Toll Highway Authority

The Illinois Tollway is to provide overall direction for the work, assess the findings of the DSE, determine regulatory applicability, perform reviews, and conduct agency coordination.

Design Section Engineer

The DSE is to determine the presence of agricultural resources within the project area based upon field observations and determine the amount, if any, of land use conversions. Land use in the project area shall be examined for:

- Cropland
- Hayland
- Pasture
- Forests
- Corrals
- Orchards
- Farmsteads
- Livestock areas

The DSE shall note any agricultural resources, describe potential impacts, and propose avoidance measures. Consideration shall be given to alternatives that would minimize impacts to farmland or farm operations. Should agency coordination result in the necessity for further studies, the DSE will conduct any special studies as needed.

6.9.4 Design Section Engineer Staff Qualifications

Agricultural resource evaluations shall be performed by a staff member familiar with land use, land use conversions and land acquisition requirements.

6.9.5 Submittals and Timing

Agricultural resources shall be addressed at the earliest possible point in project development. The objective is to realize potential impacts during the planning stage, rather than in the design stage. Since Level 1 and 2 projects would likely fall under the Design Department, the ESIS Part I submittal serves as the primary indicator for the presence of farmland. Addressing agricultural issues during the planning stage is the best possible means of avoiding unnecessary impacts, assuring compliance with the regulations and assuring that the Illinois Tollway has the greatest amount of lead time possible for coordinating with the various jurisdictional agencies. **Figure 6-9** summarizes the agricultural coordination and submittal process.

ESIS Part I

The first step in project development is to conduct a field reconnaissance and submit the ESIS Part I. Article 6.9.6, entitled Methodology, describes this process. The ESIS submittal provides a foundation to assess the agricultural impacts (if any) of the project. It allows the project staff to have an awareness of all of the agricultural properties, where there may be some issues of concern, and which issues can be eliminated from further consideration. The ESIS Part I submittal shall be completed on the WBPM system.

Once the ESIS submittal is completed and submitted, the DSE project staff and the Illinois Tollway will evaluate the existing and proposed conditions, including potential agricultural resource impacts. The Illinois Tollway will then verify the current project Level and determine the need for special environmental study/studies. If at this point the Illinois Tollway determines that further research is necessary, appropriate actions will be authorized. If potential impacts area greater than anticipated, the Level may be elevated. Factors or resource issues other than agriculture may affect this decision. One or two special studies would not necessarily affect a change in the project Level.

Agricultural Resource Memorandum

If agricultural resource investigations are required, the DSE will prepare a memorandum and all necessary exhibits (including a project location map) documenting the area of concern. The memorandum shall indicate the results of the evaluation and describe efforts made to avoid or minimize adverse impacts to agricultural lands. Article 6.9.6 describes the methodology for submitting this memorandum. The memorandum shall be forwarded to the Illinois Tollway for review. The Illinois Tollway will submit the memorandum to the IDOA to begin project specific coordination. The DSE may be asked to provide additional information or exhibits for this coordination.

The design shall proceed with incorporation of design features in conformance with the *Illinois Tollway DSE's Manual*. The design shall consider all intergovernmental agreements, agency and municipal coordination, and any stipulations related to the agricultural resource impacts from the project.

ESIS Part II

As part of the Preliminary Engineering (60%) and Pre-Final Design (95%) submittals, Part II of the ESIS shall be completed. The ESIS Part II submittals will enable the Illinois Tollway and the DSE to determine if the overall project design has changed since the earlier ESIS submittals were completed, thereby causing impacts that were not originally anticipated. The ESIS Part II submittals also document measures that were taken to avoid or minimize impacts to agricultural resources. The ESIS Part II submittals shall be completed on the WBPM system.

The Pre-Final Design will have incorporated all of the measures to reduce potential impacts. These measures shall be shown on the contract plans as well as be described in the text. Article 6.9.7 below describes how the contract documents, symbology, specifications and contract plans shall be incorporated.

6.9.6 Methodology

The process for addressing agricultural resource issues may require several transmittals and coordination points. Each of these is discussed below. All coordination will be documented with written memoranda.

ESIS Part I

Reconnaissance/field observations: Background research shall be conducted for a preliminary determination as to the potential for agricultural resources to exist within the vicinity of the project. Background research shall include examination of the following:

- Aerial photographs
- US NRCS soil maps
- Plat atlases

A site visit shall be made for the purpose of confirming the background research and determining the presence of agricultural resources that may not have been identified by the research. Photographs of these resources shall be taken and documented with date, resource and location.

The DSE will complete and submit the ESIS Part I to the Illinois Tollway, including photographs of all potential agricultural areas taken during the site visit. Based on the information provided in the ESIS, the Illinois Tollway will make a recommendation, in writing, of one of the following:

- There is no reason for further investigation, or
- Further investigation is required.

Further investigation and coordination with the IDOA may be required for any of the following:

- Projects which are located outside the boundaries of an incorporated municipality
- Projects outside of the 1.5 mile planning area of an incorporated municipality
- Nonlinear projects such as interchanges or bridges that require more than 10 acres total of land (including approaches, frontage roads, borrow areas, etc.)
- Linear projects that require more than three acres total of land per mile of improvement (including approaches, frontage roads, borrow areas, etc.)

Agricultural Resource Memorandum

The DSE will prepare an Agricultural Resource Memorandum that will include a precise location map, a brief description of the resource, a description of soil types located in the project vicinity (obtained from soil surveys), and how the agricultural resource could be impacted by the proposed project. Total farmland area (in acres) which will be impacted, and identification of the following impacts shall be discussed.

- Number of farms affected
- Number of farm parcels severed
- Number of landlocked parcels created
- Number of miles of adverse travel created
- Number of acres of each USDA Land Capability Classification (Land Classes I – VIII) from the county soil survey
- Number of acres of each US NRCS soil type
- Effects on existing farm drainage systems (surface and subsurface)
- Amount (acres) of farmland required for borrow
- Techniques for erosion and sediment control adjacent to farmland

In addition, the DSE shall examine and discuss whether the project can avoid or minimize impacts to the agricultural resource. A decision on avoidance may not be possible at this point in project development, but avoidance possibilities shall be examined.

6.9.7 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental issues are not overlooked. When it is determined there is reason for agricultural investigations, these forms serve as the preliminary documentation.

Agricultural Resource Memorandum

The DSE will provide a written memorandum to the Illinois Tollway discussing the findings. The Illinois Tollway will either recommend considering additional measures to avoid the resource or recommend that it will be necessary to continue coordination. The Illinois Tollway will initiate coordination with IDOA. The DSE shall await instructions from the Illinois Tollway before proceeding with any additional coordination or studies.

The memo and the Illinois Tollway's written approval of the determination made in the DSE memo shall be placed in the project file.

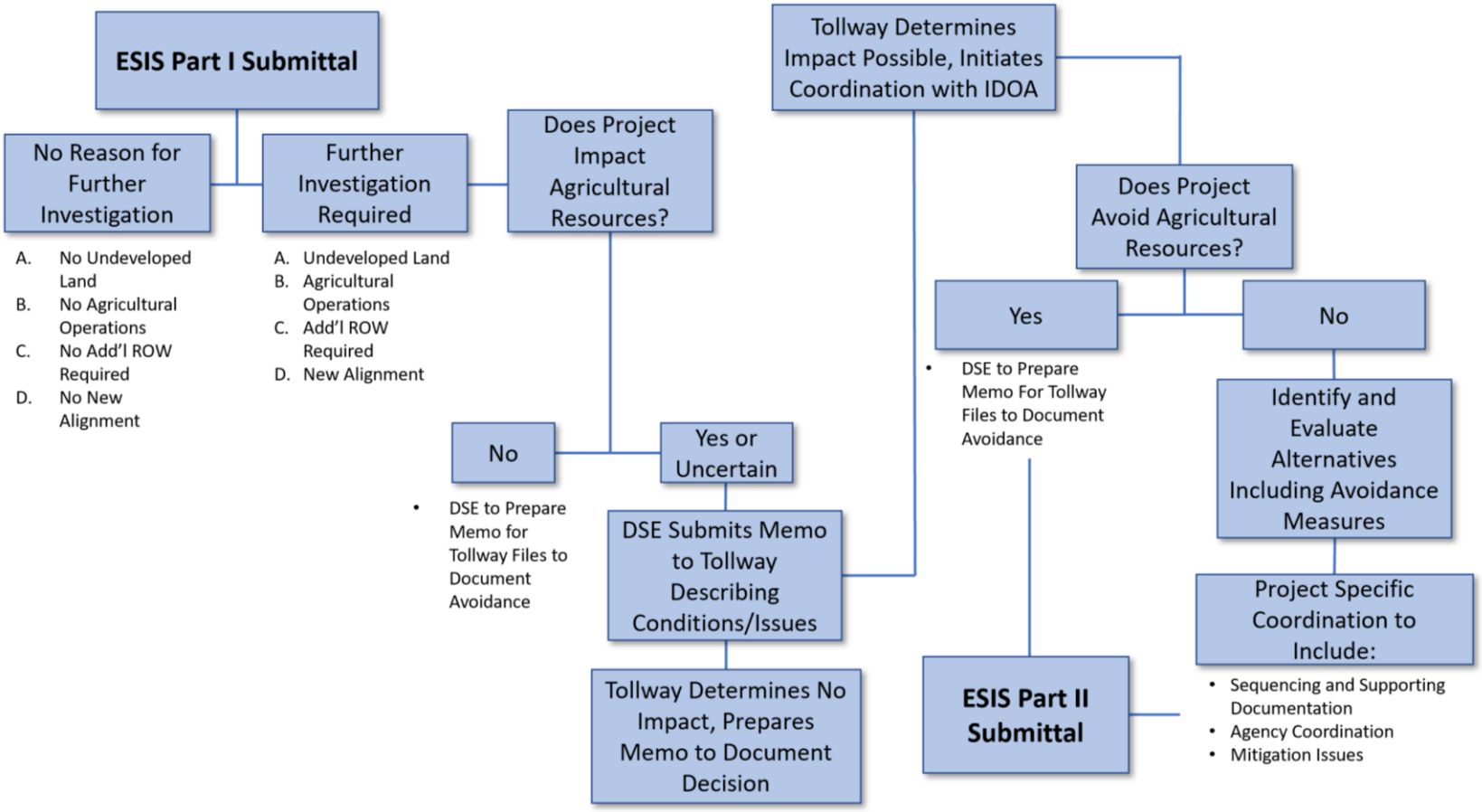
Contract Documents

Any special requirements by any resource agency agreed to by the Illinois Tollway shall be incorporated into the design and noted on the contract documents. Contract documents which may require agricultural incorporations include, but are not limited to, site plans, erosion and sediment control plans, landscape plans and specifications. Special requirements shall include avoidance measures such as retaining walls, enhanced sediment and erosion control measures,

or the placement of access matting to minimize soil disturbance from heavy equipment. Contract documents are to follow the *Illinois Tollway DSE's Manual*.

Any special agricultural resources located within the construction zone which are not to be directly impacted by the project shall be shown on the contract plans. They are to have "no intrusion" fencing as well as appropriate sediment and erosion control methods applied. This will reduce the overall project impacts to agricultural resources.

Figure 6-9 Illinois Tollway Agricultural Coordination Process



6.10 Landscape, Erosion and Sediment Control

6.10.1 Purpose and Introduction

This Article provides technical guidance for the identification of appropriate landscape design and soil erosion/sedimentation control measures necessary to ensure the visual aesthetic and environmental stewardship components of Illinois Tollway projects, and to protect the construction site, adjacent properties and any nearby sensitive environmental resources that could be impacted by the soil erosion and sedimentation processes. It provides for the identification of the aesthetic and environmental effects in the early stages of Illinois Tollway projects, in order to adopt the most efficient, aesthetically pleasing and environmentally beneficial design alternative. This Article also provides for the identification of the most efficient and cost-effective measures for soil erosion control, in relation to the specifics of Illinois Tollway projects. Lastly, it provides a mechanism for the coordination of Illinois Tollway projects and studies addressing landscape and soil erosion/sedimentation control issues with the federal, state and local agency requirements, including municipalities.

6.10.2 Applicable Regulations

The following regulations, policies and standards regulate and influence procedures related to landscape and soil erosion/sediment control:

Federal

- Clean Water Act (33 U.S.C. 1251): Sections 309, 319, 401, 402, and 404
- Phase II Stormwater Rule (64 FR 68722)
- National Wild and Scenic Rivers Act of 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.)
- USEPA, Office of Water: “Controlling Nonpoint Source Runoff Pollution from Roads, Highways and Bridges”
- USACE Chicago District: “Soil Erosion and Sediment Control Guidelines”
- 23 CFR Part 650, Subpart B (Erosion and Sediment Control on Highway Construction Projects)
- 23 CFR Part 752 (Landscape and Roadside Development)
- 40 CFR 450 (Effluent Limitation Guidelines and Standards for the Construction and Development Point Source Category)
- 23 U.S.C. 319 (Landscaping and Scenic Enhancement)

State

- Illinois Environmental Protection Act (415 ILCS 5/1 et seq)
- Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter I)
- Soil and Water Conservation Districts Act (70 ILCS 405)
- Rivers, Lakes, and Streams (Act 615 ILCS 5)
- IEPA, General NPDES Permit No. ILR10

Other

- AASHTO: Guide for Transportation Landscape and Environmental Design

- AASHTO: A Guide for Achieving Flexibility in Highway Design
- AASHTO: Roadside Design Guide
- Illinois Tollway: Drainage Design Criteria
- Illinois Tollway: Erosion Control and Landscape Manual
- Illinois Tollway: Supplemental Specifications to the IDOT Standard Specifications for Road and Bridge Construction
- Illinois Tollway: Standard K Drawings and Section M Base Sheets
- Illinois Tollway: Criteria for Removal and Replacement of Trees
- Illinois Tollway: Roadside Mowing Policy
- IDOT: Bureau of Design and Environmental Manual, Chapter 41 - Construction Site
- Storm Water Pollution Control
- IDOT: Bureau of Design and Environmental Manual, Chapter 59 - Landscape Design
- IDOT: Standard Specifications for Road and Bridge Construction
- IDOT: Erosion and Sediment Control Field Guide for Construction Inspection
- Association of Illinois Soil and Water Conservation Districts: Illinois Urban Manual, An Erosion and Sediment Control Best Management Practice Manual
- American Association of State Highway and Transportation Officials: Guide for Transportation Landscape and Environmental Design
- Local government requirements

6.10.3 Submittals and Timing

Landscape and soil erosion/sediment control shall be considered in the planning and the preliminary design phases of the project and shall be based on the environmental design principles needed to protect the environment and mitigate adverse impacts.

The ESIS Part I submittal will serve as the primary indicator for the presence of landscape and soil erosion/sediment control impacts. Addressing issues during the planning stage is the best means possible of assuring compliance with the sequencing process of avoidance, minimization, and mitigation of impacts. It also assures that the Illinois Tollway has the greatest amount of lead-time possible for coordinating with local stakeholders and obtaining permits and approvals from agencies with jurisdictional responsibility.

The ESIS Part II submittals at the Preliminary Engineering (60%) design and again at the Pre-Final (95%) design shall focus on the mitigation measures and details of the proposed landscape and soil erosion/sediment control plans, in conjunction with the plans related to the roadway, drainage system, support facilities, and associated structures.

Figure 6-10 summarizes the landscape and soil erosion/sedimentation control coordination and submittal process.

ESIS Part I

The first step in project development is to conduct a field reconnaissance and submit the ESIS Part I. The ESIS submittal provides a foundation to assess the environmental concerns (if any) on the project. It allows the project staff to have an awareness of all the environmental issues, where there may be some issues of concern, and which potential issues can be eliminated from further consideration. The background research and information gained through the field reconnaissance will assist the planners in identifying critical physical features of the project site

which would impact landscape and soil erosion/sediment control. The ESIS Part I submittal shall be completed on the Illinois Tollway WBPM system.

Once the ESIS submittal is completed and submitted, the Illinois Tollway will evaluate the existing conditions and proposed conceptual construction activities, including potential resource impacts. The Illinois Tollway will then verify the current Project Level and determine the need for special environmental studies. If potential impacts are greater than anticipated, the Project Level may be elevated. Factors or resource issues other than landscape or sediment erosion/sediment control may affect this decision. One or two special studies would not necessarily affect a change in the Project Level.

Memorandum of Findings

The DSE shall make a preliminary determination as to the potential for potential landscape and soil erosion/sediment control impacts. The identification of work that impacts the visual landscape, requires the use of temporary erosion and sediment control measures, and/or has the reasonable potential for non-sediment related impacts to stormwater due to the project scope shall be determined at the earliest possible point in project development.

Illinois Tollway projects that will impact the existing landscape or expose areas of soil to potential displacement which could adversely affect traffic or could be conveyed into stormwater systems or receiving waters, could affect adjacent properties, or could affect sensitive environmental areas require further investigation. Projects that have a reasonable potential to impact stormwater quality due to non-sediment related contaminants require further study. Refer to the *Illinois Tollway Erosion Control and Landscape Manual* for additional information.

- If the project will not result in any landscape impacts, the DSE shall issue a Memorandum of Findings documenting this determination. The memo and the Illinois Tollway's written approval of the determination made in the DSE memo shall be placed in the project file and landscape resource studies will be terminated.
- If the project will not require the use of any temporary soils erosion/sediment controls nor does a reasonable potential for stormwater impacts exist due to the anticipated construction activities, the DSE shall issue a Memorandum of Findings documenting this determination. The memo and the Illinois Tollway's written approval of the determination made in the DSE memo shall be placed in the project file and soil erosion/sediment control resource studies will be terminated.

If the potential for landscape and/or soil erosion/sediment control impacts exists or if the DSE is uncertain of the potential for impacts, the next steps in project development are to conduct a Project Site Evaluation (background research and field reconnaissance) in accordance with the requirements specified in the *Illinois Tollway Erosion Control and Landscape Manual* and then submit a Landscape, Erosion & Sediment Control Technical Memorandum.

Landscape, Erosion & Sediment Control Technical Memorandum

In all instances when landscape and/or soil erosion/sediment control impacts will occur, the DSE will prepare a Landscape, Erosion & Sediment Control Technical Memorandum including all necessary exhibits. This technical memorandum shall be prepared in accordance with the requirement of the *Illinois Tollway Erosion Control and Landscape Manual*.

The project design shall proceed with incorporation of design features in conformance with the Erosion & Sediment Control Technical Memorandum, the *Illinois Tollway DSE's Manual* and the *Illinois Tollway Erosion Control and Landscape Manual*.

Once the ESIS Part I is completed and other preliminary information is obtained, a scoping meeting should be held with local project stakeholders (at the discretion of the Tollway). This meeting is intended to gather additional information, inform the appropriate parties of the project, provide a forum for information exchange, review conceptual plans, and identify concerns. The Illinois Tollway will initiate coordination with the appropriate project stakeholders. The DSE may be asked to provide additional information or exhibits for this coordination. All coordination shall be documented by the DSE with written memoranda.

ESIS Part II

As part of the Preliminary Engineering (60%) and Pre-Final design (95%) submittals, Part II of the ESIS submittal shall be completed. The ESIS Part II will enable the Illinois Tollway and the DSE to determine if the overall project design has changed since earlier ESIS submittals were completed, thereby resulting in impacts that were not originally anticipated. The ESIS Part II submittals also document measures that were taken to avoid or minimize impacts, as well as discuss any mitigation that is required for unavoidable impacts. The ESIS Part II submittals shall be completed on the Illinois Tollway WBPM System.

The Pre-Final Design shall have incorporated all the measures to reduce and mitigate potential impacts. These measures shall be shown on the Contract Plans and documents.

NPDES Notice of Intent

The DSE shall begin the NPDES Permit ILR10 (Stormwater Discharges from Construction Sites) NOI if the project will disturb a land area of one acre or larger. The DSE shall complete the portions of the form that include Owner Information (Illinois Tollway), Construction Site Information, Type of Construction, Historic Preservation and Endangered Species Compliance, and Receiving Water Information. Documentation of historic preservation and endangered species coordination shall be provided and attached to the NOI. An example NOI is included as Appendix A of the *Illinois Tollway Erosion Control and Landscape Manual.*

The NOI including supporting documentation, shall be prepared electronically by the DSE for the CM and submitted to the Tollway Certifier (Signatory). The NOI shall be submitted to the IEPA at least 30 days prior to the start of construction. Therefore, the DSE shall provide this form to the CM within a time frame that will allow the Contractor to complete the form and the Illinois Tollway to meet the 30-day requirement.

6.10.4 Methodology

The methodology for addressing the issues related to landscape and soil erosion/sedimentation control are described in detail in the *Illinois Tollway Erosion Control and Landscape Manual*.

6.10.5 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental issues are not overlooked. When it is determined there is reason for special investigations, these forms serve as the preliminary documentation.

Memorandum of Findings

This memorandum shall document the DSE's basis for a no-impact determination of potential landscape and soil erosion/sediment control impacts. Two copies of this memorandum shall be sent to the attention of the Illinois Tollway Project Manager and a copy uploaded to the Illinois Tollway WBPM System.

Landscape, Erosion and Sediment Control Technical Memorandum

Findings shall be documented in a technical memorandum. The format for this document should follow the organization below:

- Title
- Introduction and Project Summary
- Policies and Regulations
- Methodology
- Results
- Discussion/Recommendations/Conclusions
- Exhibits

Two copies of this memorandum shall be sent to the attention of the Illinois Tollway Project Manager and a copy uploaded to the Illinois Tollway WBPM System.

Special Studies

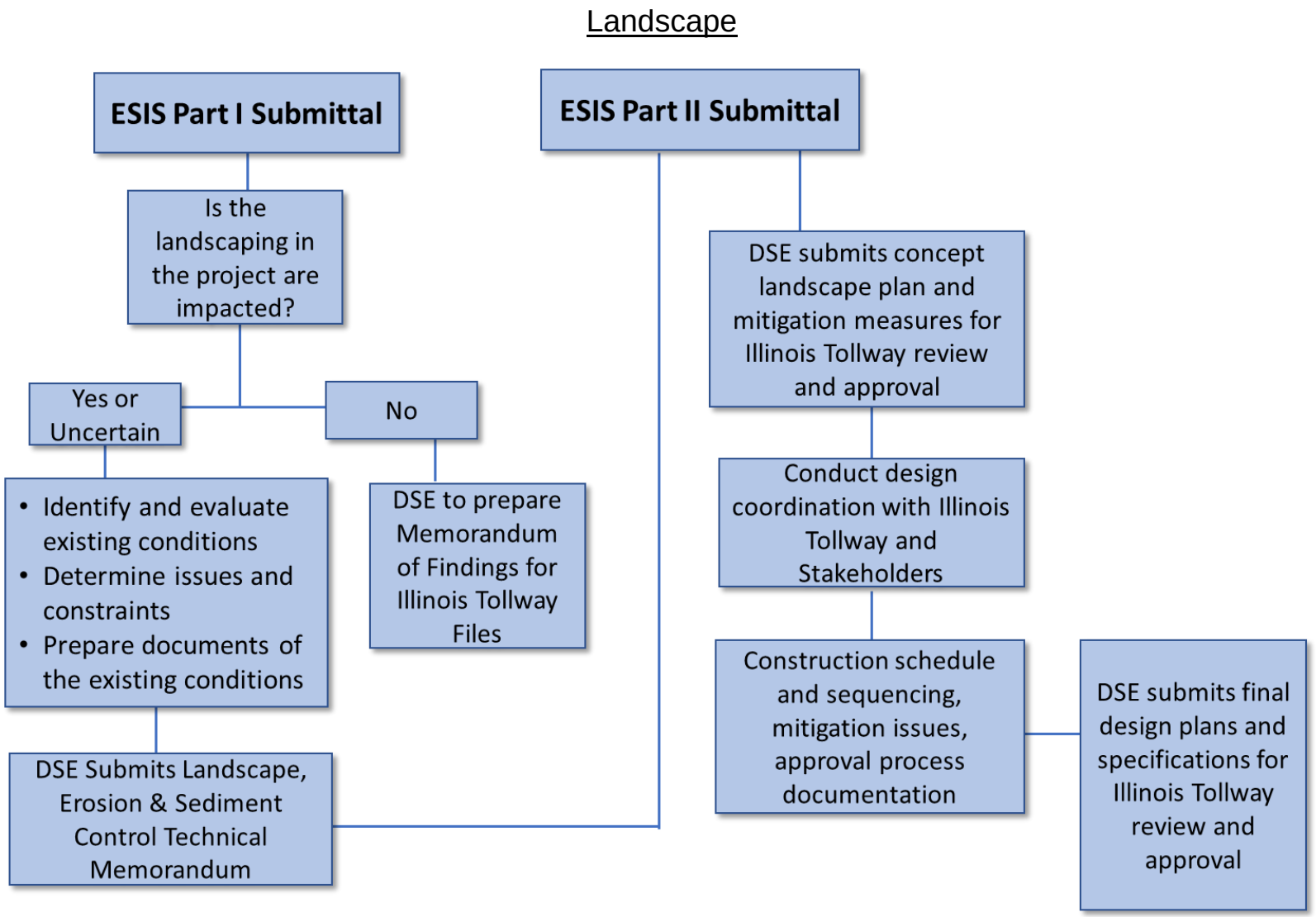
The following criteria shall be used to determine when special studies are needed:

- Whenever working near an area identified as a sensitive area in NEPA documents or EEDs, by local governments, or by local citizens, it is very important that all background information on why the area is sensitive be collected and considered in the development of the Erosion and Sediment Control Plan, Storm Water Pollution Prevention Plan, and Permanent Landscape Plan.
- If a temporary soil erosion/sediment control is proposed that is not currently included in the Illinois Tollway K-Standard Drawings, it will be necessary for the DSE to provide the Illinois Tollway with background data on how the proposed measure works, its effectiveness, the required maintenance for consideration prior to incorporation into the contract documents.

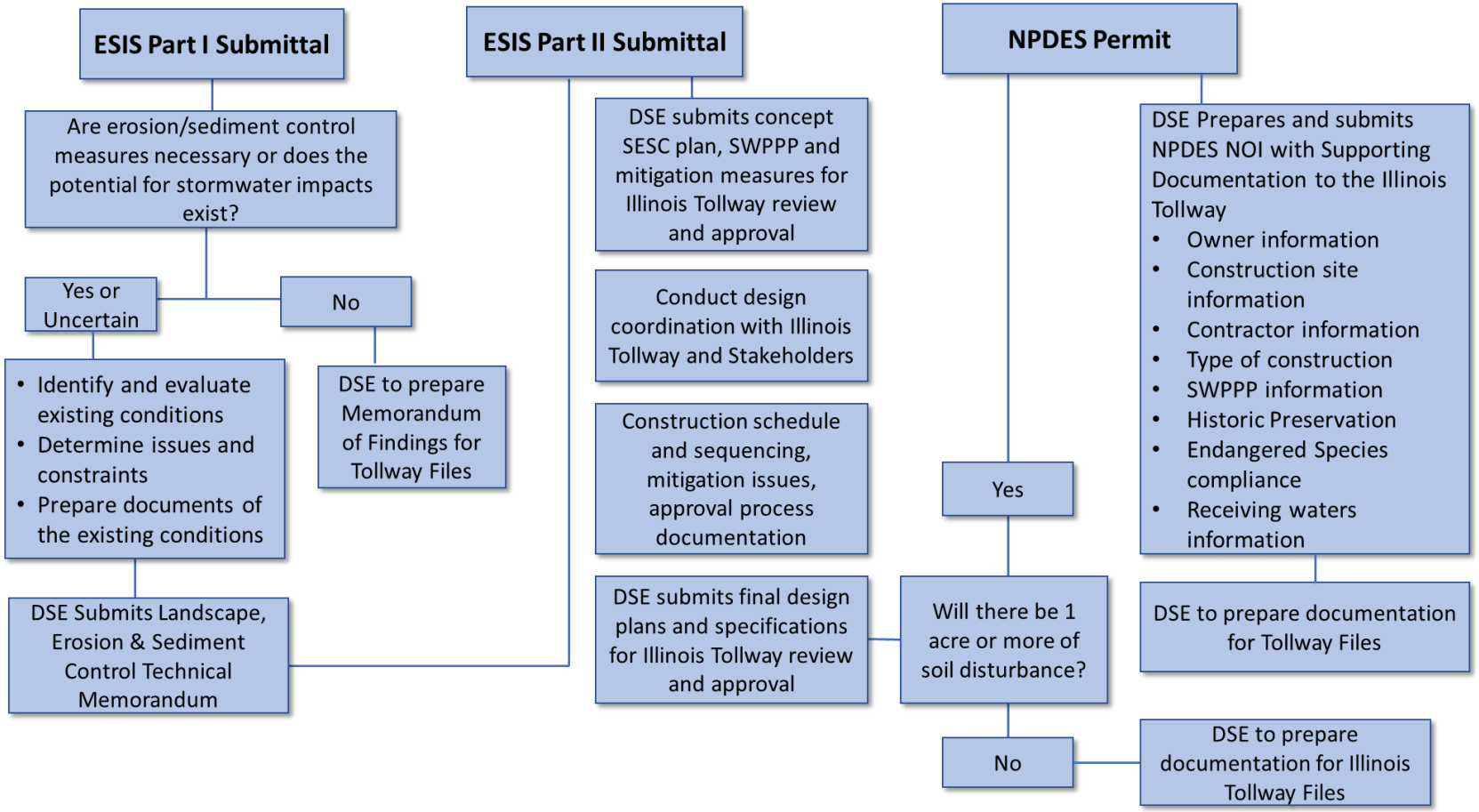
Contract Documents

Any special requirements agreed to by the Illinois Tollway with any resource agency or local stakeholder shall be incorporated into the design and noted on the contract documents. Contract documents which may require resource protection incorporations include, but are not limited to, site plans, erosion and sediment control plans, landscape plans and specifications. Special requirements shall include avoidance measures such as retaining walls, enhanced sediment and erosion control measures, or the placement of mats to minimize soil disturbance from heavy equipment. Contract documents are to follow the *Illinois Tollway DSE's Manual* and the *Illinois Tollway Erosion Control and Landscape Manual*.

Figure 6-10 Illinois Tollway Landscape Plan and Soil Erosion / Sedimentation Control Coordination Process



Soil Erosion/Sediment Control



6.11 Asbestos Containing Materials

6.11.1 Purpose and Introduction

This Article provides technical guidance and procedures to identify, evaluate, document, and coordinate the testing of suspect asbestos containing materials that will be disturbed on Illinois Tollway projects.

6.11.2 Applicable Regulations

The following regulations and acts regulate or influence procedures related to asbestos inspections.

Federal

- 29 CFR 1926.1101 (Asbestos)
- 40 CFR 61, Subpart M (National Emissions Standards for Asbestos)
- Subchapter II of the Toxic Substances Control Act: Asbestos Hazard Emergency Response Act (15 U.S.C. § 2641-2656)

State

- 225 ILCS 207/1 (Commercial and Public Building Asbestos Abatement Act)

6.11.3 Responsibilities

Illinois State Toll Highway Authority

The Illinois Tollway is to provide overall direction for the work, assess the findings of the DSE, determine regulatory applicability, perform reviews and conduct agency coordination.

Design Section Engineer

The DSE shall determine the presence of ACM, if any, in buildings or canopies within the project area based upon field inspection and laboratory results.

6.11.4 Design Section Engineer Staff Qualifications

ACM inspections shall be performed by an insured, Illinois Department of Public Health licensed asbestos inspector.

6.11.5 Submittals and Timing

ESIS Part I

The first step in project development is to conduct background research and perform a field reconnaissance, and then submit the ESIS Part I. The ESIS submittal provides a foundation to assess the environmental concerns (if any) on the project. It allows the project staff to have an awareness of all of the environmental issues, where there may be some issues of concern, and

which issues can be eliminated from further consideration. The ESIS Part I submittal shall be completed on the WBPM system.

Asbestos Assessment Report

For accessible Illinois Tollway owned properties, if suspect ACM is present at the site that has the potential to be disturbed as part of the project, the DSE shall prepare an Asbestos Assessment Report. Article 6.11.6 describes the methodology for conducting an asbestos survey. The report shall be forwarded to the Illinois Tollway for review at 60%.

ESIS Part II

As part of the Preliminary Engineering (60%) and Pre-Final Design (95%) submittals, Part II of the ESIS shall be completed. The ESIS Part II submittals will enable the Illinois Tollway and the DSE to determine if the overall project design has changed since the earlier ESIS submittals were completed, thereby causing impacts that were not originally anticipated. The ESIS Part II submittals also document measures that were taken to identify asbestos during design and plans to manage asbestos during construction. The ESIS Part II submittals shall be completed on the WBPM system.

The Pre-Final Design will have incorporated all of the measures to reduce potential impacts. These measures shall be shown on the contract plans and described in the text. Article 6.11.7 below describes how the contract documents and specifications shall be incorporated.

6.11.6 Methodology

The methodology for asbestos surveys shall include the following:

The DSE shall perform an asbestos survey in accordance with the National Emission Standard for Hazardous Air Pollutants (NESHAP) and develop a comprehensive report for review by the Engineer. All NESHAP preliminary asbestos assessments shall be performed by a Licensed Asbestos Inspector and laboratory analysis of suspect asbestos containing building materials shall be performed by a laboratory that successfully participates in the American Industrial Hygiene Association (AIHA) Bulk Asbestos Proficiency Analytical Testing (BAPAT) Program and the National Voluntary Laboratory Accreditation Program. The AIHA BAPAT participant directory can be accessed here: https:/online.aihapat.org/patssa. Representative samples of each homogenous suspect material shall be conducted in all physically accessible/visible areas of the Site. All representative samples of a homogenous type of material do not have to be sampled if the first sample demonstrates that the material contains greater than 1% asbestos according to OSHA 29 CFR 1910.120. At least the minimum number of samples specified by NESHAP and Asbestos Hazard Emergency Response Act requirements must be taken of each homogenous material based on quantity to ensure sampling compliance. If a positive result is achieved duplicate samples do not need to be analyzed.

6.11.7 Documentation

ESIS Parts I and II

These submittals serve to document and summarize overall site constraints and conditions at the project site. They act as a checklist to ensure environmental issues are not overlooked. When it

is determined there is reason for asbestos inspections, these forms serve as the preliminary documentation.

Asbestos Assessment Report

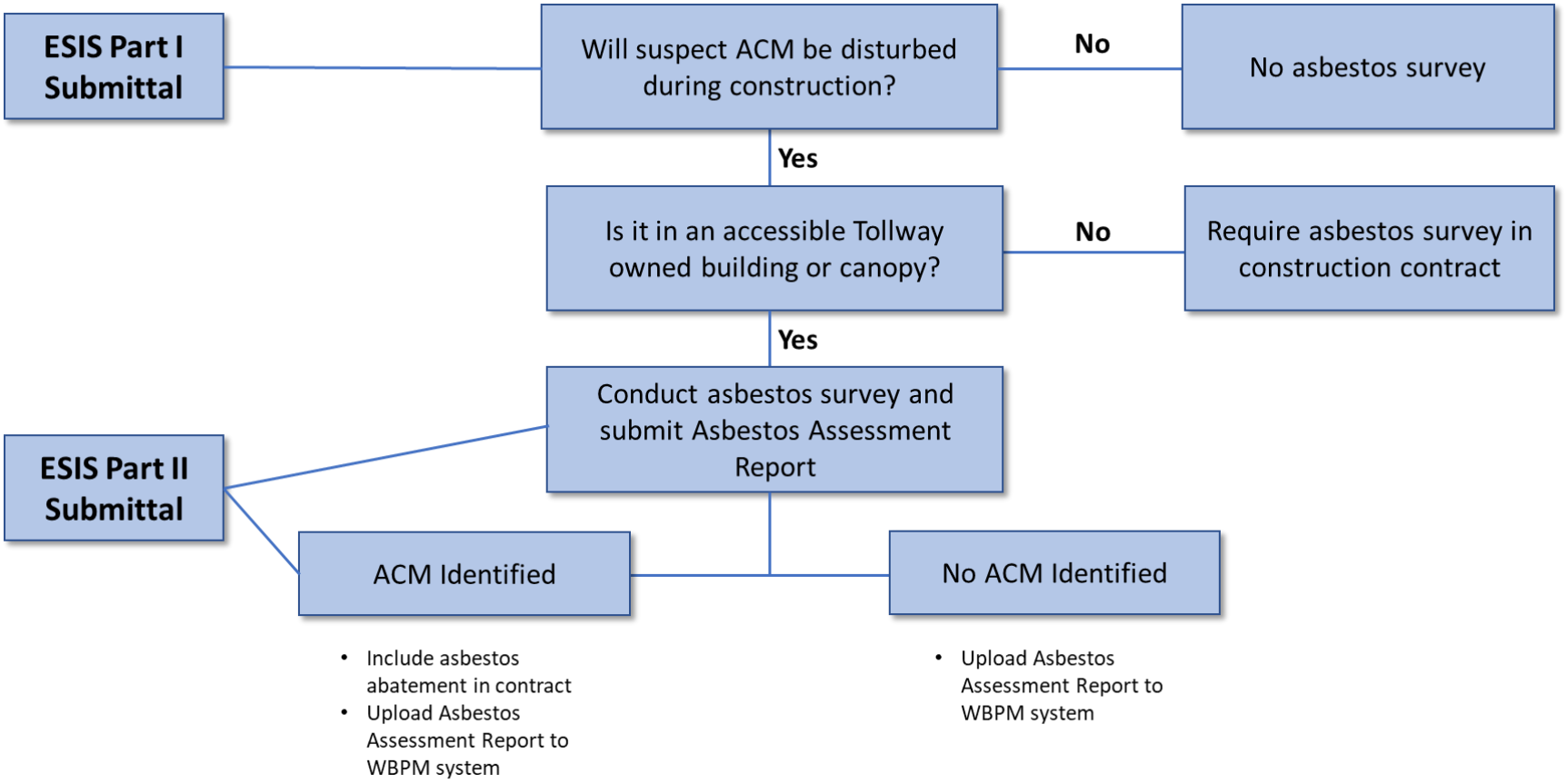
Asbestos survey results shall be documented in a report. The following criteria specify how Asbestos Assessment Reports shall be formatted and what information should be presented within.

- Site photographs containing a representative image of the Site along with a description of where the picture was taken and what is shown in the image.
- Inspector name(s) and license number(s)
- Laboratory name and address
- Laboratory testing methods used (polarized light microscopy, point count analysis)
- Sample ID's with descriptions of what testing methods were performed on which samples
- All analytical data including a percentage and type of asbestos present
- Photographs of sampling locations with a description of the sampled material
- All Chain of Custodies
- Measured quantities of the material that has been sampled throughout the Site. If measurements cannot be taken, educated estimates shall be accepted. All estimates and any reasoning for estimate values should be noted.
- A breakdown of the condition of the material, applicable regulations, and the intended scope of work at the time of the inspection report preparation.
- Data shall be broken down stating which material is "Category I Non-Friable, Category II Non-Friable, Friable, and/or Non Asbestos Containing"

Contract Documents

Contract documents shall follow all appropriate guidance in the *Illinois Tollway DSE's Manual*. Special requirements shall be noted on the contract plans. Special provisions may need to be developed for the project specifications. These special provisions could include, but are not limited to, special provisions requiring asbestos abatement and air clearance monitoring. The DSE shall upload a copy of the Asbestos Assessment Report to the WBPM system.

Figure 6-11 Illinois Tollway Asbestos Containing Materials Coordination Process



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APPENDIX A 404 PERMIT APPLICATION CHECKLIST

Chicago District
404 Permit Application Checklist

Project: _____

Contract Number: _____

Expected NTP Date: _____

DSE: _____

DSE Environmental Specialist: _____

Date: _____

Corps Reviewer: _____

Date: _____

Items are to be checked off by the DSE and the form shall be submitted to the Illinois Tollway with the draft application.

DSE to indicate:
P = Provided
NA = Not Applicable

Corps reviewer to indicate:
C = Complies
D = Deficient
NA = Not Applicable

DSE	Corps	
		1. Cover Letter (limited to 1 page)
☐	☐	A. Tollway Letterhead (obtain from Tollway Environmental Unit)
☐	☐	B. Provide a detailed description of the proposed activity from the perspective of the need for the permit
☐	☐	C. Signed by Environmental Policy & Program Manager
		2. 404 Joint Application Form
☐	☐	A. Box 3a: Environmental Policy & Program Manager Contact Information
☐	☐	B. Box 3b: Complete, if needed
☐	☐	C. Box 4: Not required
☐	☐	D. Box 5: If applicable, list adjoining property owners – Separate table may be used
☐	☐	E. Box 6: Project Title
☐	☐	F. Box 7: A brief narrative description of the project location (Address/Intersection/Township, County). If the project only includes 1 area of impact, then the project location should only reference the area of the impact.
☐	☐	i. Lat/Long should be in decimal degrees to the 5th place after the decimal
☐	☐	ii. The Lat/Long should be location of the Waters of the U.S. (WOUS) impact, if possible

DSE	Corps	
☐	☐	iii. If a corridor with multiple WOUS impacts, the Lat/Long should include the mid-point of the project area and then reference an exhibit
☐	☐	G. Box 8: A clear description of the project, specifically describing the temporary impact/permanent fill to wetlands and waterways which prompted the need for a permit.
☐	☐	H. Box 9: A clear project purpose and need statement – this is not the need for the Tollway's project, but the need for the permit as it directly relates to a WOUS impact
☐	☐	I. Box 10: A clear description of the reason discharge of fill material is necessary (i.e.: roadway widening/culvert repair/access).
☐	☐	J. Box 11: Type(s) of material being discharged and the amount of each type in cubic yards (i.e.: rock, ACB matting, embankment or general clay fill). (Separate temporary impact/permanent fill) (A coffer dam is a temporary impact)
☐	☐	K. Box 12: Surface area of wetlands to be impacted or filled in acres; or linear feet of WOUS impacts for each stream reach
☐	☐	L. Box 13: A brief discussion of measures taken to avoid and/or minimize impacts to aquatic resources on the project site
☐	☐	M. Box 14: Anticipated project start/end dates (NWPs are reissued every 5 years, but verification letters expire within 2 years)
☐	☐	N. Box 15: If a new project, select "No", If this project is an extension/continuation of work from another permit, possibly select "Yes" (consult Environmental Policy & Program Manager, if uncertain)
☐	☐	O. Signed by Environmental Policy & Program Manager
		P. Replace page 3 with a location map
☐	☐	i. Include project location with bold or red outline
☐	☐	ii. Zoomed out to include the nearest major roads or intersection and the nearest blue line waterway
		3. Project Narrative
☐	☐	A. Consultant cover letter including Tollway contract number
☐	☐	B. Table of Contents
☐	☐	C. Narrative project description including the purpose for impact, need, and minimization of impacts to wetlands or WOUS

Chicago District
404 Permit Application Checklist

DSE	Corps	
☐	☐	D. The specific Nationwide Permit(s) to be used for the activity; if known
☐	☐	E. Scheduling of the activity. Indicate any completed portions and future phases.
☐	☐	F. WOUS Impact Table including Feature ID, size, description, location, jurisdiction, and impact quantified
☐	☐	G. A determination of the presence or absence of any state threatened or endangered species utilizing the IDNR's Ecological Compliance Assessment Tool (EcoCAT)
☐	☐	H. A Section 7 species list for the project area using the on-line application at the U.S. Fish & Wildlife Service website
☐	☐	I. Independent Soil Erosion and Sediment Control Inspector form
☐	☐	J. Hydrologic Atlas with Quad Title included
☐	☐	K. If required, a compensatory mitigation plan for all impacts to WOUS.
☐	☐	L. A written narrative addressing all items listed under the specific Regional or Nationwide Permit. Responses should be more specific than "noted" or "see plans". For smaller projects, a simple statement that all permit conditions will be adhered to is sufficient
		4. Appendices
☐	☐	A. NWI map
☐	☐	B. Hydric soils map
☐	☐	C. NRCS wetland map
☐	☐	D. Floodplain map
☐	☐	E. Wetland Delineation Report or Memo. All photo sizes should be reducedbefore inserting into the report in order to keep the electronic file size to a minimum. (< 10 mb preferred)
☐	☐	F. A farmed wetland determination (if the property has been farmed within the last 5 years).
☐	☐	G. Photographs of the site and all wetland areas or waters. Please include a description of what is shown in each photo, where it was taken on the property and the direction the photo was taken; (if this is already included in the Wetland Delineation Report then there is no need to include more photos).

DSE	Corps	
		H. Civil plans including
☐	☐	i. Grading, erosion control, and/or landscape sheets including the Erosion Control General Notes
☐	☐	ii. The Title page of plans should be included with the permit application so that the P.E. stamp with date is provided. This date and plan set will be referenced in the executed permit.
☐	☐	iii. WOUS impacts shown using symbols and acreage call outs in order to clearly see where the proposed impacts will occur.
☐	☐	a. The impacts shown on the plan sheets, must match the WOUS Impact Table within the application

APPENDIX B ILLINOIS DEPARTMENT OF NATURAL RESOURCES MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING
BY AND BETWEEN
THE ILLINOIS DEPARTMENT OF NATURAL RESOURCES
AND
THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY

Pursuant to Title 17 Part 1075.30(d) of the Illinois Administrative Code, this Memorandum of Understanding (MOU) between the Illinois Department of Natural Resources (IDNR) and the Illinois State Toll Highway Authority (ISTHA) sets forth the framework for an expedited review process for compliance with Section 11(b) of the Illinois Endangered Species Protection Act (520 ILCS 10/11(b)), Section 17 of the Illinois Natural Areas Preservation Act (525 ILCS 30/17), and administrative rules promulgated thereunder (17 Ill. Adm. Code Part 1075). The parties enter into this MOU pursuant to the provisions of the Intergovernmental Cooperation Act (5 ILCS 220/1-16). This MOU shall for recording purposes be known as #002013-20. This MOU supersedes the MOU which is no longer in effect dated 12/16/97.

General Principles of Coordination

The review processes required under the Illinois Endangered Species Act and the Illinois Natural Areas Preservation Act, and provisions of the Interagency Wetland Policy Act of 1989, are designed to examine potential impacts to protected natural resources. The IDNR Division of Ecosystems and Environment (E&E) and the ISTHA Environment Unit will be the points of contact for processing of all proposed projects. All official comments, recommendations, and responses made by either IDNR or ISTHA shall be made via email or letter, except in emergency situations as defined in 17 Ill. Admin. Code 1075.60.

The ISTHA agrees to:

1. Ensure that proposed projects funded or performed by ISTHA comply with the Interagency Wetland Policy Act of 1989 and the ISTHA Environmental Studies Manual.
2. Review proposed projects that will be funded or performed by ISTHA to determine if they could have an adverse effect on a State-listed threatened or endangered species (T&E species), or a site listed on the Illinois Natural Areas Inventory (INAI site), which include Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, and registered Land and Water Reserves.
3. Submit to the IDNR EcoCAT website consultation requests for proposed actions that could have an adverse effect, that are adjacent to a Nature Preserve or Land and Water Reserve, or that entail excavation outside of an existing right-of-way and are within one mile of a Nature Preserve or Land and Water Reserve.
4. Determine if proposed projects funded or performed by ISTHA could adversely affect additional natural resources (listed below). Submit to IDNR for review those actions that could have an adverse effect on these resources.
    a. Streams
    b. Forest/trees
        i. Alignment bisects or fragments a block of trees $\geq$ 20 acres
        ii. New alignment on any stream segment
        iii. Existing alignment in a riparian corridor
    c. Prairie/savanna areas
    d. Properties owned, leased, or managed by IDNR

5. Conduct biological surveys at ISTHA's discretion or when recommended by IDNR. Provide copies of the survey results to IDNR or a written explanation if recommended surveys are not conducted.

6. Develop measures to avoid, minimize or mitigate potential adverse effects to T&E species, INAI sites, or the natural resources listed in Paragraph 4. Submit the measures to IDNR for concurrence.

7. Implement and monitor mitigation measures per IDNR 3(b).

8. By February 1st of each year that this MOU is in effect, report to IDNR the total number of proposed actions that were reviewed by ISTHA the previous year and not submitted for consultation because there were no protected resources in the vicinity or ISTHA determined that the actions were unlikely to have an adverse effect. Provide copies of a random 2% of those reviews to IDNR.

9. Take all reasonable precautions to protect and maintain the confidentiality of protected natural resource data consistent with the use intended by this MOU.

The IDNR agrees to:

1. Review ISTHA Eco CAT reports within 30 days of receipt. After review, IDNR will either:
   a. Terminate consultation because adverse effects are unlikely, or
   b. Request additional information and/or request a biological survey.

2. Review mitigation measures submitted by ISTHA and coordinate with appropriate IDNR staff to determine whether further analysis or recommendations are required.

3. Within 90 days of receipt of ISTHA-proposed mitigation measures, IDNR will either:
   a. Recommend additional measures to avoid or minimize adverse effects, or
   b. Concur with proposed mitigation measures and terminate consultation.

Both parties have 45 days to resolve any differences that may remain. If resolution is not reached within this time, both parties can agree to: terminate consultation, elevate the issue within each party, or continue negotiations.

TERMS OF THE MOU

The term of this MOU shall be a period of three (3) years from the date this MOU is executed by all parties. This MOU shall automatically be renewed for an additional three (3) year period unless terminated per the terms of this agreement. Either party shall have the right to terminate this MOU at any time by providing at least ninety (90) days written notice to the other party.

(This space intentionally left blank)

IN WITNESS WHEREOF, the Parties have entered into this MOU as of the date written below.

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

By: _____
Marc Miller, Director

Date: 12-10-13

ILLINOIS STATE TOLL HIGHWAY AUTHORITY

By: _____
Kristi Lafleur, Executive Director

Date: 11-8-13

Approved as to Form and Constitutionality

_____ 11/7/13
Tiffany Bohn, Assistant Attorney General, State of Illinois

THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY

TO: Eileen Cosgriff, CIS

FROM: Tiffany I. Bohn, Assistant Attorney General

DATE: December 16, 2013

SUBJECT: ***Memorandum of Understanding between the Illinois Department of Natural Resources (IDNR) and the Illinois State Toll Highway Authority.***

Attached please find one (1) fully executed original Memorandum of Understanding between the Illinois Department of Natural Resources (IDNR) and the Illinois State Toll Highway Authority.

This document is transmitted to your attention for the Department's records.

This Memorandum of Understanding does not require a Board Resolution.

RTL:mw
Attachment

cc:
E. Ajami
V. Avila
T. Bohn
K. Kell
P. Kovacs
D. Manetti
M. Molliconi
R. Panther
P. Pearn
J. Romano
S. Talaber
B. Wagner
V. Yee
G. Zimmer
R. Zucchero

APPENDIX C PHASE II ESA SUBSURFACE FINDINGS TABLE TEMPLATE

INSTRUCTIONS

Use this table format to present the results of Illinois Tollway Phase II Environmental Site Assessments (ESA). Data shown in rows 2 and 3 are an example, delete prior to submitting. Submit a copy in excel with the Phase II ESA.

Boring Name/Key Indicator (Must be entirely within the shape in CADD)	Surface Elevation (MSL)	Sample Name	Sample Depth (in feet below ground surface)	Soil Type Bottom Elevation (MSL)	Environmental Soil Type (Disposal and Reuse)	Construction Worker Precaution (Y/N)	Contaminants of Concern
SB-2	585	SB-2 -1	3-5	580	1c	Y	PNAs
SB-2		SB-2 -2	5-7	575	3c	N	Arsenic

APPENDIX D TRAFFIC NOISE STUDY AND ABATEMENT POLICY

TRAFFIC NOISE STUDY AND ABATEMENT POLICY
ILLINOIS STATE TOLL HIGHWAY AUTHORITY

1.0 PURPOSE AND OVERVIEW

The Illinois Tollway's (Tollway's) Traffic Noise Study and Abatement Policy update provides an opportunity to evaluate traffic noise throughout the implementation of projects proposed as part of the Tollway's capital improvement programs.

The Tollway's current policy addresses guidelines and procedures for initiating traffic noise studies and considering traffic noise abatement. The policy first establishes the eligibility requirements for a Traffic Noise Study. The policy then establishes the requirements for considering the construction of traffic noise abatement structures and when traffic noise abatement is feasible and reasonable.

The traffic noise analysis guidance provided in this policy is based largely on the regulatory material found in Title 23 Code of Federal Regulations Part 772 (23 CFR Part 772) entitled "Procedures for Abatement of Highway Traffic Noise and Construction Noise."

If initial traffic noise impact screening assessments indicate the possibility of future traffic noise impacts, then a Traffic Noise Study will be performed. A detailed technical memorandum will be prepared to document the assumptions, data, procedures, results and traffic noise abatement considerations and recommendations from the Traffic Noise Study.

2.0 DEFINITIONS

Adjacent Land Use – The land use that is within 500 feet of the Tollway highway proposed edge of pavement.

Approach - For the purpose of this policy, approaching means within 1 decibel (dB(A)) of the appropriate Federal Highway Administration (FHWA) Noise Abatement Criteria (NAC) as adopted by the Tollway.

dB(A) – A weighted decibel. The decibel is a unit of measurement on a logarithmic scale that describes the relative magnitude of sound levels with respect to a standard reference value. Decibels are defined as ten times the base-10 logarithm of the square of the ratio of the mean-square sound pressure to the reference mean-square sound pressure of 20 micro-Pascals, the threshold of human hearing. The A-weighting network is an electronic filter defined by the American National Standards Institute (ANSI) and the International Organization for Standardization (ISO) that closely simulates the relative response of the human ear.

Date of Public Knowledge – This is the date that the Tollway's capital improvement program from which the project is funded received Board approval for project construction. This date establishes the "Date of Public Knowledge" and determines when the Tollway is no longer

responsible for providing noise abatement for new developments adjacent to projects included in the capital improvement program.

Exterior Traffic-Generated Noise – This is traffic-generated noise that is measured on the exterior of the receptor as opposed to the interior. The noise model (TNM®) and Policy generally refer to exterior noise only.

L_{eq} – The Equivalent Sound Level, denoted by L_{eq}, is the steady-state sound having the same A-weighted sound energy as that contained in the time-varying sound over a specific period of time. The L_{eq} correlates reasonably well the effects of noise on people.

$L_{eq(h)}$ – The Equivalent Sound Level over a one-hour period.

Noise Abatement Criteria – Noise impact thresholds for considering abatement. (Abatement must be considered when predicted traffic noise levels for the design year approach [i.e., are within 1 decibel of], equal to, or exceed the noise abatement criteria, or when the predicted traffic noise levels are substantially higher [i.e., are 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 a substantial reduction in future noise levels. The reductions may or may not result in future noise levels at or below the Noise Abatement Criteria.

Noise Abatement – A structure, land configuration, object or other measure that attenuates or is intended to attenuate traffic noise. Generally considered to be a barrier or wall, abatement could also be in the form of earth berms, landscaping, or any combination of the aforementioned.

Noise Sensitive Receptor – Receptor locations with identified outdoor human activity including: residences, picnic areas, recreation areas, playgrounds, active sports areas, parks, motels, hotels, schools, churches, libraries, hospitals and other land uses detailed in Table 1.

Receptor – A point used in a traffic noise study for which the traffic-generated noise level is determined. A receptor is generally placed in an area of active outdoor human use. Normally, the areas of active outdoor human use include areas such as patios, swimming pools, porches, balconies, etc. Sites considered include homes, condominiums, apartments, permanent mobile home communities and parks. The associated type of outdoor human activity and the sensitivity to traffic noise will define which parks are considered receptors.

Substantial Increase – Traffic noise levels that are predicted to be more than 14 dB(A) over existing traffic noise levels.

Traffic Noise – Noise generated from vehicles traveling on the roadway. Noise is usually generated at the tire/pavement interface, from vehicle/truck engines, and from heavy truck exhaust systems.

Traffic Noise Study – A study of traffic-generated noise to determine: the existing traffic noise level conditions at receptors representative of normal outside human use; potential future traffic noise levels; an assessment of traffic noise impacts; and consideration of potential, feasible and effective economically reasonable traffic noise abatement. The study is conducted through the use of computer modeling. These studies would utilize the FHWA Traffic Noise Model (TNM® 2.5) or the most recent version. The methodology is consistent with 23 CFR 772 which explains processes to be followed in noise analyses and studies.

Type I Projects – A proposed project for the construction of a roadway in a new location or the physical alteration of an existing roadway which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. The following is obtained from the FHWA *"Procedures for Abatement of Highway Traffic Noise and Construction Noise,"* (23 CFR Part 772).

1. The construction of a highway on new location; or,

2. The physical alteration of an existing highway where there is either:

    a. *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,

    b. *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,

3. 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,

4. The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,

5. The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,

6. Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,

7. 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 environmental documentation, is a Type I project.

Type II Projects – A Community Noise Abatement Project proposed for traffic noise abatement on an existing roadway which is not associated with any Type I improvement.

Type III Projects – A project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

Undeveloped Properties – Property that is currently vacant or is likely to be redeveloped into an approved-for-construction land use by the local governmental body having jurisdiction. To be considered eligible for a traffic noise analysis and noise abatement, the undeveloped property must have secured permits for construction by a governing body prior to the Date of Public Knowledge.

3.0 PROCESS FOR DETERMINING WHEN A TRAFFIC NOISE STUDY AND ABATEMENT WILL BE CONSIDERED

3.1. Projects Eligible for a Traffic Noise Study

A Traffic Noise Study is warranted when **all** of the following conditions are present:

3.1.1. When the Tollway undertakes engineering studies or projects that meet the definition of a Type I project, ***or*** project locations that meet two criteria: 1)the initial roadway construction did not consider the effect of traffic noise **and** 2) the traffic volumes have, or are projected to at least double from the initial construction.

3.1.2. When the adjacent land use consists of identified outdoor human activity that are identified within Activity Category A, B, C, D or E, detailed in Table 1. Also considered are locations where undeveloped adjacent properties have secured permits for construction of the above outdoor human activity land uses by the jurisdiction or municipality having permit and zoning authority prior to the Date of Public Knowledge.

3.1.3. When the location of noise sensitive receptors is within 500 feet from the proposed or existing edge of shoulder, as highway traffic noise impacts are not typical for receptors more than 500 feet from heavily traveled roadways.

3.1.4. The considerations for Type II projects are discussed in Section 6.0.

3.2. Projects Not Eligible for Traffic Impact Analysis

A Traffic Noise Study is not warranted for Type III projects.

4.0 TRAFFIC NOISE IMPACT ANALYSIS

- **Cursory Review:** The initial traffic noise impact assessment for all projects will be a cursory review. This assessment would determine if noise sensitive receptors are within the project limits' adjacent land use, if traffic noise impacts are already present, and if future traffic noise levels are likely to increase. This review would include assessment of existing and proposed land use plans, review of aerial photography, and a review of prior studies.

- **Identifying Noise Sensitive Receptors:** Receptors shall be identified based on the activity categories and described land use listed in Table 1.

Table 1
Noise Abatement Criteria
[Hourly A-Weighted Sound Level-decibels (dB(A))]

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.

***** Title 23 Code of Federal Regulations Part 772 (*23 CFR Part 772*)

****** Use of interior noise levels shall be limited (on a case-by-case basis) to land uses within Activity Category D where exterior noise levels are not applicable, i.e., where there are no exterior activities to be affected by traffic noise, or where exterior activities are far from or physically shielded from the roadway in a manner that prevents an impact on exterior activities.

Note: *The Noise Abatement Criteria (NAC) are noise* ***impact*** *thresholds for considering abatement. (Abatement must be considered when predicted traffic noise levels for the design year approach [i.e., are within 1 decibel of] or exceed the noise abatement criteria, or when the predicted traffic noise levels are substantially higher [i.e., are 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 a substantial reduction in future noise levels. The reductions may or may not result in future noise levels at or below the Noise Abatement Criteria.*

- **Field Noise Monitoring:** A representative number of short-term 10-minute to 15-minute L_{eq} field monitoring traffic noise measurements shall be taken. The existing scenario traffic noise model shall be validated through a comparison of the field measured noise levels and the TNM predicted noise levels.

- **Determination of Traffic Noise Levels:** All viable alternatives for all study years (existing and design) will be examined using approved procedures incorporating the best available information and current professional judgment. Existing noise levels at noise sensitive receptor locations shall be determined by using modeling using the most current version of the FHWA-approved TNM (TNM) and/or field measurements. TNM modeling may not be representative of existing conditions if the roadway project is the construction

of a new roadway on new alignment and there is no existing traffic noise contribution. Traffic noise monitoring results should be used to represent existing noise levels in these scenarios. Future condition noise levels shall be predicted using TNM for both the build and no-build conditions. Existing noise levels predicted by TNM shall be validated through comparison of the field noise monitored noise levels and the predicted noise levels. Traffic noise levels should be predicted based on the traffic characteristics that yield the worst traffic noise, typically peak-hour traffic levels or level of service C. The $L_{eq(h)}$ noise metric shall be used to quantify the measurements of both existing and predicted noise levels.

- **Determination of Traffic Noise Impacts:** When determining traffic noise impacts, primary consideration shall be given to exterior areas of frequent human use. Noise impacts occur when the predicted build scenario traffic noise levels approach, meet, or exceed the Noise Abatement Criteria (NAC) provided in Table 1. The other potential noise impact occurs when predicted build year traffic noise levels substantially increase (increase by more than 14 dB(A)) over the predicted existing traffic noise levels. Some Tollway locations will involve existing traffic noise levels that already approach or exceed the NAC. Under these conditions, even if the proposed project will not cause the traffic noise levels to increase above existing levels, traffic noise abatement will be considered. If, after preparing a computerized traffic noise modeling and the corresponding Traffic Noise Study, it is determined that traffic noise levels will approach or exceed the NAC or the project will cause a substantial traffic noise increase, then traffic noise abatement measures will be considered. The feasibility and reasonableness factors for noise abatement consideration are outlined in Section 5.

5.0 Traffic Noise Abatement Considerations

Once a traffic noise impact has been determined at a noise sensitive receptor, the following feasibility and reasonableness factors will be evaluated and considered in order to determine if traffic noise abatement is warranted.

5.1. Feasibility

- **Noise Reduction Design Goal**: The traffic noise reduction design goal will be 8 dB(A) or more at a minimum of one receptor location. However, the minimum acceptable noise reduction on the first row of receptors will be 5 dB(A) at a minimum of one receptor location. The more noise reduction achieved the better the traffic noise abatement, as long as the cost, visual impact, etc., do not become excessive. If a minimum 5 dB(A) noise reduction cannot be achieved, a noise barrier will not be considered to be feasible.
- **Constructability**: The noise barrier conceived could actually be constructed using routine standard construction methods and techniques. Factors affecting this will include terrain, utilities, safety, bridges, overpasses, and similar difficulties.
- **Maintainability**: The noise barrier cannot be constructed in a location that inhibits or complicates proper maintenance.
- **Safety**: A critical factor in determining whether abatement is viable is the impact it may have on safety.

- **Utilities**: The impact of noise barriers on utilities and the reverse must be addressed early in the process. Overhead power lines, underground water, sewer, gas, oil, fiber optics, etc. can have a significant impact on costs and design options.
- **Drainage**: One of the most important elements in the physical location and design of noise abatement is drainage. Directing water along, under, or away from a noise abatement structure can be expensive and cause construction and long-term maintenance problems.

5.2. Reasonableness

5.2.1. Cost Effectiveness Evaluation: Cost factors will include the cost of construction (material and labor), the cost of the right-of-way (ROW) (including easements, etc.), and any other associated costs. The estimated cost of $30 per square foot of noise barrier will be used for the cost of construction for noise barriers. This unit cost value will be re-evaluated at least every 5 years by the Tollway. Traffic noise abatement must be cost-effective. The Traffic Noise Study will include a cost per benefited residence analysis that will be used to assist in the final determination of traffic noise abatement recommendations. If traffic noise abatement cannot be achieved in a cost effective and economically reasonable manner, traffic noise abatement will not be included in the project. ROW impacts can include the cost to obtain access rights, easements and land. It also includes the consideration of purchase, donation, etc. If access rights and easements are required, these will typically be by donation. This is in consideration of the construction of the traffic noise abatement wall being for the benefit of the property owners.

The consideration of the reasonableness factors, including the relationship of future noise levels to abatement criterion, noise level change from the existing condition to the future build condition, and antiquity are factors within the cost-effective evaluation. The cost-effective evaluation will be based on a base value of $30,000 per benefited receptor. In addition, each of the following factors can be considered in the cost-effective evaluation to increase the base value up to a maximum value of $45,000.

- **Relationship of Future Levels to Abatement Criterion**: Is the predicted future noise level from the project approaching or above 67 dB(A) $L_{eq(h)}$? Will it be within 1 dB(A) of the NAC or is it more on the order of 5 dB(A) or more above the NAC?

- **Noise Level Change from the Existing Condition to the Future Build Condition**: Is the future noise level substantially higher than the existing condition? Would the noise level be considered an impact by approaching the NAC or by increasing by greater than 14 dB(A)?

- **Antiquity**: Who was there first, the noise sensitive receptor or the roadway? How long has the noise sensitive receptor been there relative to elevated traffic noise levels? Is the Tollway dealing with original owners or recent purchasers? This implies that someone who builds or buys at a noise sensitive receptor location along

an existing roadway (or within the corridor where a roadway is planned for construction) probably doesn't consider traffic noise a significant factor in their selection of the location

Tables 2, 3, and 4 provide factors that allow for increases to be added to the base value for each of the three factors identified.

Table 2
Relationship of Future Noise Levels to Noise Abatement Criterion

Predicted Build Noise Level Above Noise Abatement Criterion	Dollars Added to Base Value Cost per Benefited Receptor
Less than 3 dB(A)	$0
4 to 5 dB(A)	$1,000
6 to 8 dB(A)	$2,000
Greater than 8 dB(A)	$5,000

Table 3
Noise Level Change from the Existing Noise Condition to the Future Build Noise Condition

Increase in Noise Levels from the Existing Condition to the Future Build Condition	Dollars Added to Base Value Cost per Benefited Receptor
Less than 3 dB(A)	$0
4 to 5 dB(A)	$1,000
6 to 8 dB(A)	$2,000
Greater than 8 dB(A)	$5,000

Table 4
Antiquity 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

***Example:** There is a residential receptor that existed prior to the original construction of the roadway. The receptor's Existing Condition noise level is 63 dB(A) and the Future Build Condition noise level is 71 dB(A). This receptor's adjustment factors are $1,000 from Table 2, $2,000 from Table 3, and $5,000 from Table 4, for a total adjustment of $8,000. This value of $8,000 is added to the base value of $30,000 for a total allowable cost of $38,000 for this receptor.

One adjustment value from each of the three factor tables can be added to the base value to increase the cost per benefited receptor value up to an increase of $15,000, or a total cost of $45,000. This adjustment procedure allows for extra consideration of these factors in order to determine a reasonable cost basis. If the actual build cost is less than the adjusted allowable cost per benefited receptor, and the noise abatement measure is determined to feasible, it would be considered for construction as part of the proposed project.

Noise abatement measures that are considered feasible and reasonable to implement into the project will be reviewed with the public through the public involvement process. The community desire for the noise wall will be considered as part of the final noise abatement measure implementation.

5.2.2. Community Desires: Important in determining if traffic noise abatement should be built at any location is whether the affected community really desires abatement. This may require that a survey or community outreach effort be conducted to assess the community desires. If the community is not in favor of the noise abatement, the Tollway may choose not to build traffic noise abatement features. If access rights are required, the Tollway will attempt to determine if the affected property owners are willing to trade those rights for the abatement without any exchange of money.

5.2.3. Views of Local Officials: Consideration should be given to the views of the local representative authorities who may be asked to represent the views of the citizens.

5.2.4. Other Considerations:

- **Seasonal Usage**: Some receptors are not occupied or utilized year round. The evaluation will consider usage rates throughout the year.
- **Land Use Stability**: Sometimes the land use for the area expected to change in the future. An example of this is the fact that commercial land uses or other land uses where visual exposure is integral to their existence and vitality may not warrant traffic noise abatement.
- **Local Controls**: In some instances, the local governing or jurisdictional body has not done anything to control noise sensitive land uses from building adjacent to the Tollway corridor or ROW. This implies that if no controls are used, traffic noise abatement is not a very high priority within the community.
- **Aesthetics**: This refers to the physical appearance of the wall from both the roadway side and the community side. It also incorporates the landscaping concept, the opinions of the property owners and the local community desires.
- **Other Environmental Issues**: This refers to impacts of traffic noise abatement installation that should be considered on a site-by-site basis. Examples include but not limited to unwanted reflection of sound, pedestrian, bicycle and trail disruption, wetland destruction, groundwater or surface water impacts, animal migration/flight paths, air quality, shading of vegetation, snow accumulation, etc.

6.0 Community Cost-Sharing Noise Abatement Projects

6.1. Type II Projects:

The following establishes a cost-shared policy to consider requests for retrofitting noise abatement for projects that are not associated with any Type I improvement. Retrofit projects are subject to available funding and will be evaluated for their merits on a case-by-case basis.

In order for a retrofit project to be considered for Type II funding, the project must have a state or local government sponsor, i.e., a unit of government with the authority to levy taxes. This includes general-purpose units of local governments (e.g., cities, counties and townships) as well as specialized governing districts (e.g., sanitary districts, school districts, forest preserve districts, park districts, airport authorities and publicly owned universities or colleges).

For a project to be considered for Type II funding, the local agency sponsor must prepare documentation in accordance with the traffic noise impact analysis and Traffic Noise Study requirements outlined in Section 4.0. The local agency sponsor must pass local zoning ordinances regarding land use, provide all necessary ROW, demonstrate the ability and commitment to provide a minimum of 50% of the funding for the project, and agree to maintain the traffic noise abatement structure and ROW on the community side of the structure.

The Tollway will give priority consideration to those communities where the roadway was constructed through an existing neighborhood and where 75 percent or more of the existing noise sensitive receptors within 500 feet of the edge of pavement preceded the roadway. Developments platted or approved after the date of public knowledge will not be eligible for Type II funding consideration.

6.2. Receptor Locations Not Achieving Cost Effectiveness Criterion

The following establishes a cost-sharing policy for receptor locations that did not meet the cost effectiveness criterion within a Tollway Type I project Traffic Noise analysis. Cost-share opportunities are subject to available funding and will be evaluated for their merits on a case-by-case basis. For noise abatement to be considered for cost-sharing, the receptor location needs to have been determined to be impacted by traffic noise, as determined by a completed Traffic Noise Analysis.

In order for cost-sharing to be considered, the project must have a state or local government sponsor, i.e., a unit of government with the authority to levy taxes. This includes general-purpose units of local governments (e.g. cities, counties and townships) as well as specialized governing districts (e.g. sanitary districts, school districts, forest preserve districts, park districts, airport authorities and publicly owned universities or colleges). The local agency sponsor must commit to providing, at a minimum, the difference between the adjusted allowable cost for noise abatement and the actual barrier cost for the respective receptor location (e.g. if the adjusted allowable cost is $35,000 per benefited receptor and the actual barrier cost is $40,000 per benefited receptor, the local agency sponsor would be responsible for $5,000 per benefited receptor).

7.0 Traffic Noise Abatement Techniques

Means and methods for implementation of traffic noise abatement shall be considered based on effectiveness of traffic noise attenuation and reasonableness of cost.

- **Noise Walls**: Noise walls are solid structures built between the highway and the noise sensitive receptors along the roadway. Noise walls are typically constructed of precast concrete panels, cast-in-place concrete, concrete masonry blocks, masonry or wood. Absorptive surfaces will also be considered in areas where noise sensitive receptors may be affected by reflected noise on either side of the wall, or in instances where wall heights can be reduced to provide comparable effectiveness. Noise walls can reduce traffic noise levels effectively.
- **Earth Berms**: Traffic noise barriers can be formed from earth mounds along the road typically called earth berms. Earth berms have a natural appearance and offer opportunities for landscaping; however, earth berms can require a considerable width across land to accommodate the height necessary to provide the amount of noise reduction required.
- **Vegetation**: If high enough, wide enough, deep enough and dense enough (cannot be seen through), vegetation can decrease the highway traffic noise at a noise sensitive receptor. A 200-foot thickness of effective dense vegetation can reduce noise by 10 dB(A), which can cut the noise volume in half. It is often impractical to plant enough dense vegetation along a road to achieve such reductions; however, if dense vegetation is already present, possibilities exist where it could be saved with some noise reductions achieved.
- **Encouraging Compatible Adjacent Land Use**: Traffic noise compatible land use planning is a community planning method and proactive responsibility that helps reduce or eliminate traffic noise levels at noise sensitive receptors along roadways. This type of planning means considering land use options and traffic noise issues more effectively so that compatible developments are set up next to the Tollway. Municipalities and counties have the power to encourage traffic noise compatible land use planning by developing effective land use plans, zoning or other legal means (such as subdivision or development standards, building or housing regulations), land or easement purchases and community education to inform citizens, developers and local planners about traffic noise compatible land use planning.
- **Promote Tollway Policy and Encourage Local Governments**: The Tollway encourages those who plan and develop land, and local governments controlling development or planning land use near existing or planned Tollway locations, to exercise their powers and responsibility to minimize the effect of roadway traffic noise on future sensitive receptors through appropriate land use control. Where such land use controls are not in place, municipalities, townships and counties may not be eligible for traffic noise abatement consideration for sensitive receptors by the Tollway.
- **Reduction of Traffic Noise at the Source**: Reduction of traffic noise impacts by design or treatment of the road surface is the most cost-effective traffic noise control available to the Tollway. Within the group of traffic noise abatement methods that are feasible and reasonable, and after life-cycle cost analysis have selected a pavement type and other technical and financial constraints, the Tollway will use the quietest surface texture available when repaving or reconstructing a roadway in traffic noise sensitive areas.

- **Traffic Noise Abatement by Others**: All future planned developments adjacent to the Tollway should include a provision in the Subdivision Plat approval requirements that mandates the developer to place a covenant running with the land notifying perspective purchasers that traffic noise abatement will not be provided by the Tollway. The Tollway encourages developers and local governments to coordinate their efforts to mitigate roadway traffic noise. This must be done without encroachment on the Tollway ROW, unless it is determined to be necessary, and authority is granted to permit others to construct a sound barrier, berm or landscape in the Tollway's ROW. The design must meet the Tollway's geometric, structural, safety and maintenance standards. The Tollway shall assume no liability review authority or responsibility of any kind for the structural integrity or acoustical effectiveness of traffic noise abatement sound barriers constructed by others.