State of Illinois
Illinois Department of Transportation

Illinois Department of Transportation
Bureau of Freight Rail Management

CREATE* Program Rail Projects

Phase I Project Reports and Design Approval Procedures

July 2016

***C**hicago **R**egion **E**nvironmental **A**nd **T**ransportation **E**fficiency

Illinois Department of Transportation

CREATE
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Illinois Department of Transportation
Office of Intermodal Project Implementation
69 West Washington Street / Suite 2100 / Chicago, Illinois 60602

September 30, 2016

MEMORANDUM TO ALL CREATE PROGRAM PHASE I CONSULTANTS

SUBJECT: Updated CREATE Phase I Manual

Effective immediately, the Illinois Department of Transportation Bureau of Freight Rail Management and a partner with the Chicago Region Environmental and Transportation Efficiency (CREATE) Program prepared the CREATE Program Rail Projects, Phase I Project Reports and Design Approval Procedures manual July 2016 for implementation on Phase I CREATE Program rail projects.

The purpose of preparing Phase I project reports for the CREATE projects is to document the coordinated efforts of the Illinois Department of Transportation (IDOT) and other involved parties as to why IDOT is proposing an improvement and how the improvement will be designed to satisfy the project's purpose and need. The size of the Phase I project reports will vary depending on the magnitude, complexity, and type of improvement proposed. The general work flow process of Phase I studies related to CREATE Program rail projects is shown on the CREATE Phase I Work Flow Process chart.

These reports ensure that a proposed improvement is consistent with federal, state and local goals and objectives, has been carefully evaluated and uses appropriate policies and criteria. The process used to develop these reports helps to confirm that the design reflects an assessment of environmental issues and, if required, that public involvement has occurred. These reports document all major design decisions and exceptions to policy.

The updates reflected herein are effective immediately.

Thank you.

Samuel Tuck III, P.E., M.S.
Bureau Chief Freight Rail Management
Office of Intermodal Project Implementation

DOCUMENT CONTROL AND REVISION HISTORY

The CREATE Program Phase I Manual and attachments is reviewed during use for adequacy and updated by the Bureau of Freight Management, as necessary. The approval process for changes to this manual is conducted in accordance with the procedures outlined in the CREATE Program Joint Statement of Understandings and subsequent amendments.

An archived version of this manual is available to examine in the Policy & Research Center, Room 320 of the Hanley Building.

Electronic

Portable Document Format (PDF) has been selected as the primary distribution format, and the official version of the manual and attachments is available on the Policy & Research Center Library site on InsideIDOT and from the Bureau of Freight Management.

Hard Copy

This manual is no longer distributed in hard copy format. Consultants who choose to print a copy of the manual and attachments are responsible for ensuring use of the most current version.

Revision History

Revision Date	Description	Approval
April 2009	Issued	CREATE Program Partners
July 2016	Revisions to incorporate updated Phase I Work Flow Process Flow Chart; updated CREATE Program public involvement guidelines; updated noise and vibration assessment methodology; updated air quality analysis methodology; updated special waste assessment requirements to address changes in ASTM standards; newly-adopted environmental justice policy; clarifications regarding development process and technical requirements for schematics, geometrics, PTS&Ls, preliminary drainage studies, and cost estimating; clarifications regarding Phase I document validity guidelines; and clarifications regarding reevaluations of approved NEPA environmental documents.	CREATE Program Partners

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CREATE Program Rail Projects
Phase I Project Reports and
Design Approval Procedures
July 2016

Prepared by: **Illinois Department of Transportation**
Bureau of Freight Rail Management

By signing below, you acknowledge receipt of this document.

IDOT Bureau of Freight Rail Management: _____ 7/19/16
Accepted — Samuel Tuck III – Bureau Chief — Date

Chicago Department of Transportation: _____ 7/20/16
Accepted — Jeffrey Sriver – Director of Transportation Planning & Programming — Date

Association of American Railroads: _____ 7/20/16
Accepted — William C. Thompson – Chief Engineer, CREATE Program — Date

Federal Highway Administration: _____ 7/20/16
Accepted — Michael Kowalczyk – CREATE Program Manager — Date

Metra: _____ 07/22/16
Accepted — Pete Zwolfer – Deputy Executive Director – Operations — Date

PHASE I PROJECT REPORTS AND DESIGN APPROVAL

Table of Contents

Attachments Table of Contents……iii

Section 1. General ……1

1.1. Purpose of Phase I Project Reports for CREATE Projects……1

1.2. Phase I Project Report Types……1

1.3. Phase I Project Report Functions……2

1.4. Phase I Project Report Objectives……2

1.5. Phase I Project Report Content…… 3

Section 2. Phase I Project Reports……4

2.1. Abbreviated Project Reports…… 4

2.1.1. Abbreviated Project Report Rationale…… 4

2.1.2. Project Types Applicable to Abbreviated Project Reports……..4

2.1.3. Abbreviated Project Report Format…… 5

2.2. Project Reports……..9

2.2.1. Project Report Rationale…… 9

2.2.2. Project Types Applicable to Project Report…… 9

2.2.3. Project Report Format…… 9

2.2.4. Project Report Format……10

I. PROJECT LOCATION…… 10

II. PURPOSE AND NEED FOR THE IMPROVEMENT……..11

III. LISTING OF PRIOR STUDIES……..11

IV. DESCRIPTION OF PROPOSED IMPROVEMENT……11

V. ESTIMATE OF TOTAL PROJECT COSTS AND PHASE III SCHEDULE…..14

VI. ENVIRONMENTAL COMMITMENTS……..17

VII. COORDINATION/DOCUMENTATION……18

VIII. EXHIBITS……..19

A. Location Maps……19

B. Existing Schematics……20

C. Preliminary Proposed Schematics……21

D. Typical Cross Sections and Railroad/Highway Crossing Exhibits……23

E. Final Initial Geometrics……24

F. Proposed ROW acquisition and easements……26

G. Environmental Commitments.....26
H. Cost Estimate and Schedule Form 3.1 26
IX. APPENDICES…….. 27
A. NEPA Environmental Document.....27
B. Street Closure Report(s).....49
C. Bridge Condition Report(s) 49
D. Structure Preliminary Type, Size and Location (PTS&L) Drawings.....50
E. Preliminary Drainage Study.....50
F. Geotechnical Survey 51
G. Intersection/Interchange Design Studies 52
H. CREATE Coordination Meeting Minutes.....52
I. Other Appendices.....52
Section 3. Cost Estimates and Schedule.....53
3.1. CREATE Design Approval Cost Estimate and Schedule Form 3.1…….53
3.2. Abbreviated Project Report Cost Estimates and Schedule…….. 55
3.3. Project Report Cost Estimates and Schedule……55
Section 4. Processing of Phase I Project Reports and Design Approval…….56
4.1. Design Approval…….. 56
4.2. Revisions to the CREATE Program……..56
Attachments Table of Contents……...58

List of Figures

Figure 1 - Abbreviated Project Design Approval Form 4.2..... 7
Figure 2 - Abbreviated Project Report Cost Estimate Form 3.1 8
Figure 3 - CREATE Design Approval Cost Estimate and Schedule Form 3.1.....16
Figure 4 - Project Report Cost Estimate & Schedule Section V Form.....17

PHASE I PROJECT REPORTS AND DESIGN APPROVAL PROCEDURES

Attachments Table of Contents

The following documents are included as Project Report Sample and Reference documents to assist in the preparation of Phase I Project Reports. These documents are located in separate Project Report Attachment Folders that can be accessed either directly from the folders or via hyperlinks placed within the various sections of the Procedures Manual. The Table of Contents below also includes hyperlinks to access each document.

ATTACHMENT SECTION 1 – SAMPLE PHASE I PROJECT REPORT DOCUMENTS

Attachment 1	CREATE Phase I Work Flow Process Flow Chart
Attachment 2	Sample Phase I Abbreviated Project Report Document
Attachment 3	Sample Phase I Project Report Document

ATTACHMENT SECTION 2 – PROJECT REPORT FORMS AND SAMPLE DOCUMENTS

Attachment 4	CREATE Abbreviated Project Report Cost Estimate Form 3.1 & Design Approval Form 4.2
Attachment 5	Phase I Project Report Design Approval Form 4.3
Attachment 6	CREATE Project Report Design Approval Cost Estimate and Schedule Form 3.1
Attachment 7	CREATE Map
Attachment 8	CREATE Map – Project Location Sample
Attachment 9	Project Limit Map Sample
Attachment 10	Existing Schematic Sample
Attachment 11	Preliminary Proposed Schematic Sample
Attachment 12	Typical Cross Section Sample
Attachment 13	Railroad/Highway Grade Crossing Detail Sample
Attachment 14	Final Initial Geometrics Sample
Attachment 15	CREATE IDOT Environmental Survey Request
Attachment 16	Air Quality & Emissions Analysis Sample
Attachment 17	Air Quality Hot-Spot Analysis Sample
Attachment 18	Noise and Vibration Analysis Sample
Attachment 19	CREATE Railroad Property Special Waste Screening Form
Attachment 20	Preliminary Site Investigation (PSI) Waiver Sample
Attachment 21	Environmental Technical Memorandum Sample
Attachment 22	Street Closure Report Sample
Attachment 23	Existing Bridge Inspection Report Sample
Attachment 24	BCR Certification Letter Sample
Attachment 25	Bridge PTS&L Format Sample
Attachment 26	Retaining Wall PTS&L Format Sample
Attachment 27	Pedestrian Underpass PTS&L Format Sample

ATTACHMENT SECTION 3 – PROJECT REPORT REFERENCES

Attachment 28	Project Report Section II – Purpose & Need Part A Statement
Attachment 29	CREATE SPEED Strategy & Flowchart Reference
Attachment 30	CREATE Program Phase I Document Validity ("Shelf life") Considerations
Attachment 31	CREATE Environmental Justice Policy
Attachment 32	Methodology for Determining if CREATE Passenger Rail Projects are "Projects of Air Quality Concern"
Attachment 33	CREATE Program Guidance for Analyzing Mobile Air Source Toxics (MSATs)
Attachment 34	CREATE Railroad Property Special Waste Procedures
Attachment 35	Public Involvement Guidelines for CREATE Program Rail Projects
Attachment 36	CREATE Noise and Vibration Assessment Methodology
Attachment 37	Railroad-Highway Grade Crossing Handbook
Attachment 38	U.S. DOT Procedures for Revising the CREATE Program

ATTACHMENT SECTION 4 – BDE MANUAL CHAPTER REFERENCES

Attachment 39	Chapter 14: Intersection Design Studies
Attachment 40	Chapter 15: Interchange Type and Design Studies
Attachment 41	Chapter 19: Public Involvement Guidelines
Attachment 42	Chapter 24: Environmental Assessments
Attachment 43	Chapter 25: Environmental Impact Statements
Attachment 44	Chapter 26: Special Environmental Analyses
Attachment 45	Chapter 27: Environmental Surveys
Attachment 46	Chapter 59: Landscape Design

CREATE

PHASE I PROJECT REPORTS AND DESIGN APPROVAL PROCEDURES

Section 1. General

1.1. Purpose of Phase I Project Reports for CREATE Projects

The purpose of preparing Phase I project reports for the CREATE projects is to document the coordinated efforts of the Illinois Department of Transportation (IDOT) and other involved parties as to why IDOT is proposing an improvement and how the improvement will be designed to satisfy the project's purpose and need. The size of the Phase I project reports will vary depending on the magnitude, complexity, and type of improvement proposed. The general work flow process of Phase I studies related to CREATE Program rail projects is shown in Attachment 1.

These reports ensure that a proposed improvement is consistent with federal, state and local goals and objectives, has been carefully evaluated and uses appropriate policies and criteria. The process used to develop these reports helps to confirm that the design reflects an assessment of environmental issues and, if required, that public involvement has occurred. These reports document all major design decisions and exceptions to policy.

1.2. Phase I Project Report Types

There are two types of CREATE Phase I project reports. Further, the preparation effort for CREATE Phase I project reports is divided into two parts, "A" and "B". Parts A and B are not always prepared by the same entity. The types of reports are summarized below, and further explained in Sections 2.1 and 2.2 of this document.

1. Abbreviated Project Report

   An Abbreviated Project Report (APR) is typically sufficient for a project having construction limits within the current railroad template, and that involves no right-of-way acquisitions and relocations. A completed sample Abbreviated Project Report is included in Attachment 2.

   A. Environmental – CREATE Projects typically are processed under the National Environmental Policy Act (NEPA) as Categorical Exclusions. Part A of an APR consists of preparation of an Environmental Class of Action Determination (ECAD) document, an Environmental Assessment (EA), or an Environmental Impact Statement (EIS).

   B. Engineering – In general, the level of engineering design to be developed during the Phase I project report is that required to support the Part A - Environmental effort. Additional engineering elements also may be required to provide an adequate

description of the project's non-environmental issues, and to assure an acceptable level of understanding of the project.

2. Project Report

A Project Report (PR) is typically required for a project having construction limits that extend beyond the current railroad template and that may involve right-of-way acquisition and relocations. A completed sample Project Report is included in Attachment 3.

A. Environmental – Depending upon the environmental issues involved, the project's NEPA environmental documentation could be a Categorical Exclusion (CE), an Environmental Assessment (EA), or an Environmental Impact Statement (EIS). Part A of a Phase I project report typically consists of preparation of an Environmental Class of Action Determination (ECAD) document; in some cases an EA or EIS will be processed.

B. Engineering – In general, the level of design effort for Part B of a PR is that which is sufficient to support the Part A - Environmental effort. Additional engineering may be required to define railroad track alignment and signal work with respect to the existing railroad infrastructure, plus the necessary engineering to define work outside of the existing railroad template, which may include right-of-way acquisition and roadway impacts.

1.3. Phase I Project Report Functions

The Phase I project report documents the systematic methodology for identifying and evaluating location, design, and environmental issues. The report provides a medium for documenting the decision-making process and communicating the reasoning for the proposed improvement need. In this capacity, the report fulfills many functions, including:

1. Project Summary – Phase I project reports summarize the coordinated efforts of IDOT in determining the need for a project and how it will be designed.

2. Public Involvement – Phase I project reports provide an organized document that can be used by IDOT to discuss improvements with the public and to ensure that the proposed project has been planned consistent with safety and cost-effective objectives.

3. Plan Preparation Guide – A Phase I project report provides a reference guide for preparing construction plans and ensures that certain prerequisite design and environmental requirements have been met. This aids and expedites construction contract plan preparation, scheduling, environmental coordination, and construction.

1.4. Phase I Project Report Objectives

All Phase I project reports shall meet the following general objectives:

- Present the study findings in clear, unambiguous language. As practical, the writing shall be understandable to the general public.
- Ensure all relevant information is included or referenced in the report so that the reader can understand the reasons for the design decisions.

- Ensure the level of detail in the report is commensurate with the conceptual objective of a Phase I study (i.e., limit the information to that needed to make major decisions in an informed and methodical manner).

1.5. Phase I Project Report Content

A Phase I project report shall document the following, as applicable:

1. Project Purpose and Need – Include all the necessary information, technical reports, and other materials to clearly demonstrate the study has adequately demonstrated the purpose and need for the improvement.

2. Improvement Alternative(s) – Describe the alternative(s) considered including the no-build alternative and discuss the anticipated social, economic, and environmental effects of the alternative(s). If more than one alternative is considered, emphasize the significant differences and the supporting reasons for the proposed location or design.

3. Environmental Issues – Summarize or reference the discussion in the environmental document on the anticipated social, economic, and environmental impacts. Identify the adverse effects and develop appropriate measures to eliminate or minimize these effects.

4. Policy and Design Exceptions – List any major design exceptions from applicable policies and design criteria (e.g., engineering) together with supporting reasons, pertinent minutes of coordination meetings, and relevant documentation of Bureau of Design and Environment (BDE) and Bureau of Freight Rail Management coordination with the Federal Highway Administration (FHWA), as appropriate.

5. Maps and Drawings – Include the appropriate maps or drawings of the location or preliminary engineering design for which approval is requested.

6. Summary of Public Involvement – Provide a summary and analysis of the comments received from the public involvement process (see Public Involvement Guidelines for CREATE Program Rail Projects and BDE Chapter 19), which includes feedback received through the Context Sensitive Solutions (CSS) process (see IDOT Department Policy D&E-21), as well as from the environmental analyses based on:

   - Coordination with the State's natural resource, planning, and historic agencies; and
   - Those Federal and local agencies, public officials, and public advisory groups that IDOT knows or believes are interested in and/or affected by the proposed action.

   As part of the public involvement summary, include those solutions and relevant design coordination and commitments that will be carried forward into Phase II and Phase III of the project. Due to the nature of the CREATE Program, these items shall generally be identified as environmental commitments.

7. Costs and Schedules – Estimate costs and tentative schedules for design, right-of-way acquisition and construction.

Section 2. Phase I Project Reports

2.1. Abbreviated Project Reports

2.1.1. Abbreviated Project Report Rationale

There are certain projects that are not complex from an engineering standpoint, have limited ground disturbance from construction activities and do not have significant environmental impacts. For these projects Categorical Exclusion (CE) determinations can be made by IDOT and FHWA (see Section 2.2.4.IX.A) and minimal engineering can be completed to provide adequate information to issue Phase I Design Approval. In these cases, Abbreviated Project Reports are prepared.

2.1.2. Project Types Applicable to Abbreviated Project Reports

The following project types (and combinations thereof) allow the Phase I Design Approval to be expedited through preparing an Abbreviated Project Report:

1. Railroad signal modifications and installations of new railroad signals

2. Bridge repairs, which do not require traffic detours or runarounds, including:
   A. bridge rail replacement
   B. bridge deck overlay and waterproofing
   C. expansion joint replacement
   D. bearing replacement
   E. repairs to deck, partial or full depth
   F. repairs to damaged rails, corroded or damaged structural steel members, and deteriorated areas of concrete elements including sidewalks, curbs, water tables, girders, and portions of the substructure above ground or water
   G. painting of structural steel
   H. individual stringer replacement for a portion of a superstructure

> *Note: All items under Section 2.1.2-2 require coordination with the Bureau of Bridges and Structures prior to preparation of final plans if they involve public roads.*

3. Implementation of erosion control measures within existing right-of-way, including:
   A. slope repair
   B. ditch and culvert cleaning
   C. miscellaneous storm sewer work to eliminate a ditch (which does not reduce necessary urban runoff storage/retention)

4. The following restoration projects:
   A. retaining wall repair (coordinate with Bureau of Bridges and Structures)
   B. fencing
   C. guardrail repair
   D. pavement and shoulder patching/sealing
   E. intermittent resurfacing, and repairs to drainage structures not requiring traffic detours or runarounds

5. The installation of noise abatement barriers

6. Replacement or reconfiguration of existing track structure (e.g., tie, rail, diamond crossing, crossover, turnout installation/replacement) generally within the existing footprint

7. Installation of noise barriers on existing railroad ROW

8. Disposal of excess right-of-way (coordination with FHWA required if originally purchased with Federal funds)

9. Surface, line and dress

10. Undercutting and re-ballasting and/or sub-ballasting on existing right-of-way

11. Rail lubricator installation/replacement

12. Switch heater installation/replacement

13. Highway and railroad signal installation/replacement and ancillary improvements

14. Railroad/Highway Grade-crossing warning device replacement/installation

15. Railroad related cable installation/replacement

16. Lighting replacement/installation

17. Communication equipment replacement/installation

18. Other work activities which disturb only the ballast and/or the sub-ballast

2.1.3. Abbreviated Project Report Format

All CREATE Phase I Abbreviated Project Reports shall follow the format specified in this section. For guidance, a completed sample APR is included as Attachment 2.

1. Abbreviated Project Design Approval Form 4.2

   All APRs will include an APR Design Approval Form 4.2 (see Figure 1). This form is based on an Excel spreadsheet that is linked to APR Cost Estimate and Schedule Form 3.1 (see Figure 2), also required to be completed for an APR. The Excel file that includes both of these APR forms is located in Attachment 4.

   Since some of the fields in APR Form 4.2 are linked to APR Form 3.1, APR Form 3.1 must be completed first. Detailed procedures for completion of APR Form 3.1 are located in Section 3.1. The remaining fields within APR Form 4.2 that must be manually entered are highlighted in yellow.

   The information required in APR Form 4.2 includes the following:

   A. CREATE Program Project Number (e.g., WA3) – Entered from APR Form 3.1

B. Prime Railroad – Entered from APR Form 3.1
C. Project Scope as included in the Phase I APR
D. Relevant Section 2.1.2 Project Types
E. Cost Estimate Determination date
F. Location where environmental commitments can be found in approved ECAD/CE Determination
G. Date the Initial Geometrics were approved
H. Construction Cost Estimate – Entered from APR Form 3.1
I. Construction Schedule – Entered from APR Form 3.1

2. Approved Existing and Proposed Schematics – Refer to instructions for Existing and Proposed Schematics provided for Project Reports in Section 2.2.4.VIII.B – Existing Schematics and Section 2.2.4.VIII.C – Preliminary Proposed Schematics.

3. Approved Initial Geometrics – Refer to instructions for Final Initial Geometrics provided for Project Reports in Section VIII.E – Final Initial Geometrics.

4. Approved ECAD/CE Determination – Refer to instructions for the NEPA Environmental Document provided for Project Reports in Section 2.2.4.IX.A – NEPA Environmental Document.

5. Cost Estimate and Schedule Form 3.1 for Abbreviated Projects – The instructions for preparation of the APR Cost Estimate and Schedule Form 3.1 are located in Section 3.1 – CREATE Design Approval Cost Estimates and Schedule – Form 3.1.

Figure 1 - Abbreviated Project Design Approval Form 4.2

A functional Excel version of this form is included in the Reference Folder, as Attachment 4 – Abbreviated Project Report Cost and Design Approval Form, spreadsheet tab "APR Form 4.2". Note that the yellow shaded areas indicate where user input is required.

Illinois Department of Transportation

ABBREVIATED PROJECT REPORT (APR) DESIGN APPROVAL FORM 4.2

CREATE Program Project #:	0
Prime Railroad:	0
Project Scope:	
Relevant Section 2.1.2 Project Types	
CE Determination Date:	
Environmental Commitments:	See ECAD Section 1, Class of Action Determination Document
Final Initial Geometrics Approval Date:	
Construction Cost Estimate (Phase III):	$0
Construction Schedule:	
Start Phase III	Jan-00
End Phase III	Jan-00

Page 1

IDOT Office of Intermodal Project Implementation Design Approval

Bureau Chief, Freight Rail Management Date

Federal Highway Administration Design Approval

FHWA CREATE Program Manager Date

Attachments:
1. Form 3.1 Cost & Schedule
2. Approved Final Initial Geometrics
3. Approved Existing and Preliminary Proposed Schematics
4. Approved NEPA environmental review documentation (ECAD/CE Determination Document, EA, EIS)

Figure 2 - Abbreviated Project Report Cost Estimate Form 3.1

A functional Excel version of this form is included in the Reference Folder, as Attachment 4 – Abbreviated Project Report Cost and Design Approval Form, spreadsheet tab "Design Approval Form 3.1". Note that the yellow shaded areas indicate where user input is required.

CREATE Design Approval Cost Estimate and Schedule Form 3.1				
CREATE Project Number				
Prime Railroad				
Date of Report (Month, Day, Year)				
Project Schedule Section				**Notes**
Year Estimate was compiled				
Begin Phase III (mm/yyyy)				
End Phase III (mm/yyyy)				
Total duration of Phase III		0	Year(s)	
		0	Month(s)	
Inflation rate			4.50%	
Project Cost Estimate Section			**Costs**	**Notes**
Phase I Costs				
Part A	IDOT			
Part A	RR/AAR			
Part A	CDOT			
Part B	IDOT			
Part B	RR/AAR			
Part B	RR In Kind			
Part B	FHWA			
Part B	CDOT			
		Total Phase I Costs	$0	
Phase II Costs				
PSI	IDOT			
PSI	RR/AAR			
PSI	FHWA			
PSI	CDOT			
PS&E Costs	IDOT			
PS&E Costs	RR/AAR			
PS&E Costs	RR In Kind			
PS&E Costs	FHWA			
PS&E Costs	CDOT			
Utility Negotiation Costs			$0	
		Total Phase II Costs	$0	
ROW Costs				
ROW	IDOT			
ROW	RR/AAR			
ROW	RR In Kind			
ROW	FHWA			
ROW	CDOT			
		Total ROW Costs	$0	
Phase III Costs				
Construction Estimate				
"Confidence of Estimate" contingency used	15.00%			
Total Current Construction Estimate	$0			
2008 Construction Costs With Inflation	% of Total		$0	
2009 Construction Costs With Inflation	% of Total		$0	
2010 Construction Costs With Inflation	% of Total		$0	
2011 Construction Costs With Inflation	% of Total		$0	
2012 Construction Costs With Inflation	% of Total		$0	
		0.00%	$0	
Construction Management Costs	$0		$0	
Project's Management Reserve	$0	5.00%	$0	
		Total Phase III Costs	$0	
		Total Project Cost	$0	

2.2. Project Reports

2.2.1. Project Report Rationale

There are certain projects that are more complex from an engineering standpoint and/or projects whose impacts extend beyond the current railroad template. Accordingly, more comprehensive environmental and engineering analyses are required to select the preferred alternative. In this case, a Project Report is prepared.

2.2.2. Project Types Applicable to Project Report

All construction projects that include project types other than those described in Section 2.1.1 require the preparation of a Project Report.

2.2.3. Project Report Format

Use the following format when developing a Phase I Project Report.

SECTION NUMBER	SECTION TITLE
Title Sheet	
Section i	Phase I Project Report Design Approval Form 4.3
Section ii	Table of Contents
Section I	**Project Location**
Section II	**Purpose and Need for the Improvement**
Section III	**Listing of Prior Studies**
Section IV	**Description of Proposed Improvement**
Section V	**Estimate of Phase II, ROW and Construction Costs and Schedules**
Section VI	**Environmental Commitments**
Section VII	**Coordination/Documentation**
Section VIII	**Exhibits**
Exhibit A	Location Maps
Exhibit B	Existing Schematics
Exhibit C	Preliminary Proposed Schematics
Exhibit D	Typical Cross Sections
Exhibit E	Final Initial Geometrics
Exhibit F	Proposed ROW Acquisition/Easements
Exhibit G	Environmental Commitments
Exhibit H	Cost Estimate and Schedule Form 3.1 and Back-up Documentation
Section IX	**Appendices**
Appendix A	Environmental Document
Appendix B	Street Closure Report(s)
Appendix C	Bridge Condition Report(s) (BCR)
Appendix D	Structure Type, Size and Location (TS&L) Drawings
Appendix E	Preliminary Drainage Study
Appendix F	Geotechnical Survey
Appendix G	Intersection/Interchange Design Studies
Appendix H	CREATE Coordination Meeting Minutes
Appendix I	Other (if required)

2.2.4. Project Report Format

Complete all sections of the report and include the following information. If a section or subsection of the report is not directly applicable to the project, include a statement to that effect. Refer to the Project Report Sample Document (Attachment 3) for a sample of a completed project report for Sections i, ii and I through VII.

Title Sheet – Include the CREATE Project Number (e.g., WA3)

i. Phase I Project Report Design Approval Form 4.3 – Refer to Section 4 - Processing of Phase I Project Reports and Design Approval, for instructions on completing this form. A completed Sample Project Report Design Approval Form 4.3 (Attachment 5) that can be used as a template is provided.

ii. Table of Contents – Follow the format provided in Section 2.2.3 above. Include page numbers for each section of the report. The Table of Contents may be modified as necessary depending on the proposed improvement.

I. PROJECT LOCATION

The project location shall be described in this section in sufficient detail for a reader not familiar with the project or geographical area to locate the project site. This information shall be derived from that provided in the *CREATE Preliminary Screening Document – Component Project Preliminary Screening Worksheet,* or the project's purpose and need. Maps shall be included within Exhibit A to visually define the project location (refer to requirements for maps in Exhibit A procedures).

At a minimum, the Project Location section of the Phase I project report shall include the following:

A. Owner – The owner(s) of the railroad(s) associated with the project.

B. Route/Line – The proper designation of the railroad routes, lines or branches associated with the project. If the project railroad also is commonly known or identified by a historical name (e.g. Illinois Central RR), then that identifier also shall be referenced to aid in route/line identification.

C. Project Limits – The project limits shall be defined in terms of railroad mileposts. Major railroad infrastructure elements such as Yards, Interlockings, Control Points, Junctions, etc., also shall be identified. As applicable, the nearest street/highway names associated with the project milepost limits also shall be identified. If the project limit extends beyond railroad ROW, then street names, highways, waterways or other applicable identifiers shall be used to define the project limits.

D. Local Community – All communities within the project area shall be identified, including cities, towns, villages or other municipalities. If applicable, local neighborhood or community designations for larger cities (e.g. Morgan Park or West Pullman in Chicago) shall also be identified within the project area.

E. County/State – The county (or counties) and state(s) in which the project is located shall be identified.

II. PURPOSE AND NEED FOR THE IMPROVEMENT

The purpose of and need for the improvement shall be included in Section II. The purpose and need (P&N) statement provides the basis and rationale for the proposed improvement. It defines the problem or issue that has been identified and the transportation needs the project will address.

The purpose and need statement for Section II shall include two (2) sections:

A. CREATE Program Goals Statement – This statement shall be consistent for all Phase I project reports. Refer to the Section II – P&N Part A document (Attachment 28) for the specific text to be used.

B. Project specific purpose and need summary based on the complete P&N as provided in the Environmental Class of Action Determination (ECAD) document (included as PR Appendix A), or EA or EIS.

III. LISTING OF PRIOR STUDIES

List prior studies performed that may provide a historical perspective, background information, previous work and/or justification for the proposed improvement. The studies may have been performed by the governmental agencies, local municipalities, associated railroads or the CREATE Program (e.g., CREATE Feasibility Study and Preliminary Screening, August 2005). Coordinate which references are to be listed with the Bureau of Freight Rail Management prior to inclusion.

With each study listed, include the following:

- The name of the study and the date of issue
- The issuing agency for the study
- A brief summary of the purpose, goals and conclusions or recommendations from the study, as applicable to the CREATE Program improvement under consideration
- References for obtaining copies of the study, whether hard copy or if available electronically, the website location or link

IV. DESCRIPTION OF PROPOSED IMPROVEMENT

Include all parts of this section listed below. If, in a particular part, there is nothing that is directly applicable to the project (such as no design exceptions), include a statement to that effect.

A. Scope

Use the description of the selected alternative from the approved Environmental Class of Action Determination document, EA or EIS. If needed, refer to the CREATE Program Feasibility Plan document available from the CREATE website at:

http://www.createprogram.org/feasibility.htm.

B. Build Alternative Description

Use the description from the approved Environmental Class of Action Determination document, EA or EIS.

C. Design Criteria Utilized

List all criteria applicable to the project. For example: railroad design standards, AREMA standards, IDOT highway design standards, etc.

D. Design Exceptions

Include all design exceptions and waivers as approved by the lead railroad and/or the Bureau Freight Rail Management and FHWA. Typically, these are discussed and concurrence is received at coordination meetings between the participating railroads, the Bureau of Freight Rail Management and FHWA.

E. Right-of-Way

Make reference to Exhibit F procedures as required. List each of the four categories below, and the descriptive information for each.

1. Acquisition required
    a. Total parcels
    b. Land use summary
    c. Total area (acres)
2. Permanent easements required
    a. Total parcels
    b. Land use summary
    c. Total area (acres)
3. Temporary easements required
    a. Total parcels
    b. Land use summary
    c. Total area (acres)
4. Residential/business displacement

F. Street Closures

1. Identify recommended street closure location(s).
2. Reference Street Closure Report(s) included in Appendix B.

3. Reference approved Interchange/Intersection Design Studies (IDSs) included in Appendix G.

G. Structures

1. List structures included in project improvements.
2. Reference Bridge Condition Report(s) in Appendix C.
3. Reference Preliminary Type, Size and Location (PTS&L) plans included in Appendix D.

H. Sidewalks/ADA Requirements

1. Existing conditions (e.g., width, continuous, location).
2. Proposed improvement (e.g., new, repair, width, location, local coordination, accessible for disabled persons).
3. Local participation.

I. Pedestrian Overpass or Underpass/Subways/Other Facilities

1. Existing — Describe pedestrian generators, crashes, and other features that would necessitate a grade separated pedestrian facility.
2. Proposed — Discuss proposed work and how it will accommodate pedestrians and provide benefits (e.g., safe access to parks/schools/public facilities/ commuter stations/bus stops, aesthetics, safety).

J. Mass Transportation

1. Describe existing services; for example note Metra and Amtrak trains, CTA bus and rail lines (include route names/numbers) both on the rail line and crossing the rail line.
2. Describe existing facilities (e.g., pedestrian accessible, park and ride lots, kiss and ride locations, commuter stations, bus stops [near side/far side])
3. Describe whether project will improve access to and function of mass transportation (e.g., bus turnouts, bus pads, shelters, signal work).
4. Describe temporary (during construction) and permanent impacts to mass transit systems, including issues such as service interruptions, delays to scheduled service, lane closures impacting bus routes, reroutes, loss of facilities.

K. Utility Conflicts

1. Identify utilities that were contacted and those that responded to having facilities within the project limits.
2. Describe conflicts with these utilities due to the proposed improvement (e.g., changes in horizontal and vertical alignment, widening, replacement of bridge deck or superstructure, trenching, boring for conduits, storm sewer).

L. Encroachments

1. Existing (e.g., temporary construction, illegal parking, ROW infringements).

2. Proposed remediation of encroachments.
3. Reference letters sent to property owner(s) about encroachments in Section 2.2.4.VII.C.1.

M. Landscape/Roadside Development

1. Note all areas to be landscaped due to track removal, etc.
2. Note all areas disturbed by construction to be restored to turf cover.
3. Note all tree and other plants removed for construction and which will be replaced; see IDOT BDE Manual Chapter 59 (Attachment 46).
4. Summarize the results of the vegetation assessment survey.
5. Reference Exhibit G that identifies landscaped locations.

N. Erosion Control

If soil is exposed to displacement, include proposed erosion control strategies. See IDOT BDE Manual Chapter 59 (Attachment 46).

O. At-Grade Railroad/Highway Crossings

1. List location, railroad name, rail line and AAR crossing number for each at-grade railroad/highway crossing within project limits.
2. Reference Exhibit D that identifies at-grade railroad/highway crossings.

P. Retaining Walls

1. Identify existing retaining walls affected by the proposed improvement. Describe location and purpose of walls.
2. Identify retaining walls that are required as a result of the proposed improvement. Describe location and purpose of walls.
3. Reference Exhibit E that identifies proposed retaining walls and Preliminary Type, Size and Location (PTS&L) plans.

Q. Noise or sound barriers

1. List proposed noise barriers that are required as a result of the proposed improvement.
2 Reference Exhibit G that identifies proposed noise or sound barriers and Preliminary Type, Size and Location (PTS&L) plans.

V. ESTIMATE OF TOTAL PROJECT COSTS AND PHASE III SCHEDULE

Within this section, include a summary of the Phase I, Phase II, right-of-way (ROW) and Phase III costs, as well as the Phase III schedule using the format shown below. The cost estimate and schedule information shall be derived using detailed supporting information (e.g., design quantities, unit costs, detailed project schedule) that is developed near the conclusion of the Phase I study process. This information shall be

summarized in the CREATE Design Approval Cost Estimate and Schedule Form 3.1 (see Figure 3). Form 3.1 is available as an Excel file in Attachment 6 in the tab "Design Approval Form 3.1". Refer to Section 3 for complete instructions on completing Form 3.1.

A cost and schedule summary form also is required for inclusion in this section (see Figure 4). This summary form is contained within the Form 3.1 Excel file (Attachment 6) in the tab labeled "PR Section V", and will be automatically completed via Excel data links when Form 3.1 is completed.

Include the completed CREATE Design Approval Cost Estimate and Schedule Form 3.1 as well as appropriate detailed supporting information in Exhibit H of the Phase I project report.

For projects identified by FHWA as Major Projects, the completion of Form 3.1 shall be coordinated with the Cost Estimate Review (CER) process. A Major Project is defined by FHWA as a project with a total estimated cost of $500 million or more that is receiving federal-aid. However, at the discretion of FHWA, other projects may be designated as Major Projects. These instances usually involve projects that require a high commitment of resources, are unusually complex, have a high level of public or congressional interest, or have extraordinary implications for the national transportation system.

Figure 3 - CREATE Design Approval Cost Estimate and Schedule Form 3.1

A functional Excel version of this form is included in the Reference Folder, as Attachment 6 – CREATE Project Report Design Approval Cost Estimate and Schedule Form 3.1, spreadsheet tab "Design Approval Form 3.1".

CREATE Design Approval Cost Estimate and Schedule Form 3.1				
CREATE Project Number				
Prime Railroad				
Date of Report (Month, Day, Year)				
Project Schedule Section				**Notes**
Year Estimate was compiled				
Begin Phase III (mm/yyyy)				
End Phase III (mm/yyyy)				
Total duration of Phase III		0	Year(s)	
		0	Month(s)	
Inflation rate			4.50%	
Project Cost Estimate Section			**Costs**	**Notes**
Phase I Costs				
Part A	IDOT			
Part A	RR/AAR			
Part A	CDOT			
Part B	IDOT			
Part B	RR/AAR			
Part B	RR In Kind			
Part B	FHWA			
Part B	CDOT			
	Total Phase I Costs		$0	
Phase II Costs				
PSI	IDOT			
PSI	RR/AAR			
PSI	FHWA			
PSI	CDOT			
PS&E Costs	IDOT			
PS&E Costs	RR/AAR			
PS&E Costs	RR In Kind			
PS&E Costs	FHWA			
PS&E Costs	CDOT			
Utility Negotiation Costs			$0	
	Total Phase II Costs		$0	
ROW Costs				
ROW	IDOT			
ROW	RR/AAR			
ROW	RR In Kind			
ROW	FHWA			
ROW	CDOT			
	Total ROW Costs		$0	
Phase III Costs				
Construction Estimate				
"Confidence of Estimate" contingency used	15.00%			
Total Current Construction Estimate	$0			
2008 Construction Costs With Inflation	% of Total		$0	
2009 Construction Costs With Inflation	% of Total		$0	
2010 Construction Costs With Inflation	% of Total		$0	
2011 Construction Costs With Inflation	% of Total		$0	
2012 Construction Costs With Inflation	% of Total		$0	
		0.00%	$0	
Construction Management Costs	$0		$0	
Project's Management Reserve	$0	5.00%	$0	
	Total Phase III Costs		$0	
	Total Project Cost		$0	

Figure 4 - Project Report Cost Estimate & Schedule Section V Form

A functional Excel version of this form is included in the Reference Folder, as Attachment 6 – CREATE Project Report Design Approval Cost Estimate and Schedule Form 3.1, spreadsheet tab "PR Section V".

Cost Estimate & Schedule Section V		
CREATE Project Number		**Corridor Letters w/#**
Prime Railroad		**AAR Designation**
Date of Report		**Month-day-year**
Begin Phase III (month/year)		**Month-Year**
End Phase III (month/year)		**Month-Year**
Total duration of Phase III	**0**	Year(s)
	0	Month(s)
Total Phase I Costs		**$0**
Total Phase II Costs		**$0**
Total ROW Costs		**$0**
Total Phase III Costs		**$0**
Total Project Cost		**$0**

VI. ENVIRONMENTAL COMMITMENTS

A. Provide a list of commitments made during the public involvement process and/or interagency coordination and identified in the NEPA environmental document (e.g., permits, restricted areas, tree cutting, wetland mitigation, noise and vibration mitigation or abatement). The environmental commitments identified in the approved NEPA environmental document also will be incorporated into the Phase I environmental commitment tracking system to allow for monitoring of commitment implementation through completion of project (i.e., through Phase II and Phase III). See Section 2.2.4.IX.A for further discussion regarding NEPA environmental documents.

B. Reference Exhibit G - Environmental Commitments, as needed, for supporting documentation.

VII. COORDINATION/DOCUMENTATION

This section will include a summary of the Phase I project-related municipality, public or agency coordination and documentation efforts. The information to be provided shall include, but not be limited to, all relevant project correspondence, documentation of coordination efforts with outside municipalities or agencies, and public involvement activities and documentation.

Location references shall be provided for documents included as part of the Phase I project report. For documents not included within the Phase I project report, additional detail shall be provided to describe the document(s) including the title of the document, its date of issue, the issuing agency and a brief summary of the document contents and conclusions.

The specific following documentation is required to be included within Section VII – COORDINATION/DOCUMENTATION of the Phase I project report, using the format provided for the sequence of inclusion within the report:

A. Permits Required

Provide a brief summary of the environmental permits identified in the Phase I study and include location references for the environmental documents included within the Phase I project report (generally in Appendix A).

B. Coordination/Environmental Correspondence

Provide a listing of the communication and coordination efforts and documentation between the CREATE Project and governmental, municipalities or agencies during the course of the Phase I study. Include a brief synopsis of each substantial communication/coordination effort and the results. Itemize the documentation and results in the following sequence and provide Phase I project report location references, as applicable:

1. Municipalities/counties;
2. Resource Agencies (e.g., U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Illinois Department of Natural Resources, including NEPA/404 coordination meetings);
3. Mass transit agencies; and
4. Other agencies, including utilities, railroads, etc.

C. Public Involvement

Provide a listing and brief description of public involvement communication, coordination and activities performed during the course of the Phase I study. Summarize the information in the following sequence and provide Phase I project report location references, as applicable:

1. Property owner letters or contacts that may be directly affected by the Project;

2. Solicitation of benefited receptor viewpoints where noise mitigation measures are feasible, meet the economic reasonability policy value or are considered practicable under the CREATE Program Environmental Justice Policy (Attachment 31);
3. Other correspondence received from businesses, churches, schools or other interested parties;
4. Summary of Informational Meetings/Public Hearings; and
5. IDOT's responses to emails, website inquiries, letters or written/verbal comments received on the project.

On large, complex projects where multiple public involvement activities are completed and/or a considerable volume of letters and project-related input may be received from the public and different agencies concerning the need for the project and the possible impacts, it may be appropriate to include a summary of the public involvement activities—including questions and comments concerning the project, its potential impacts, and responses generated by the Project Team—together in a separate volume (e.g., public meeting summary, etc.). This separate volume—which will organize this information and to make it more useful for future reference—shall be included an attachment to the Phase I project report if it is not included with the approved NEPA environmental document. When a large number of similar comments are received, it may be advantageous to prepare a newsletter and mail to public meeting participants.

Further guidance on public involvement activities can be found in the Public Involvement Guidelines for CREATE Program Rail Projects (Attachment 35).

VIII. EXHIBITS

Exhibits shall be included within the Phase I project report to provide detailed information that describes the proposed improvements and supports the project summary information contained within Sections I through VII. Each exhibit section shall be separated by an exhibit coversheet, as shown in the Sample Phase I Project Report Document (Attachment 3).

The specific exhibits to be included in the Phase I project report shall be as follows:

A. Location Maps

Location maps shall be included to geographically show the location of the proposed improvement. A minimum of two types of maps shall be included:

1. CREATE Map – The standard CREATE Map (Attachment 7) shall be included with the proposed project site identified by a circle, as shown in the CREATE Map Project Location Map (Attachment 8).
2. Project Limits Map – A Project Limits Map shall be included that shows the location of the proposed improvement and the surrounding area, and clearly defines the project limits. The map shall be in sufficient scale and detail to discern key physical features of the project site and surrounding area. Map labeling shall include associated county and municipal boundaries, railroads, key

streets and highways, parks, schools and other features of importance. More than one Project Limit Map may be required, depending upon the specific project. Typically, the Project Limits Map can be the same as is used in the NEPA environmental document. Refer to the Project Limits Map Sample (Attachment 9).

B. Existing Schematics

Prepare a schematic showing existing conditions relevant to the railroad infrastructure and surrounding area. Refer to the Existing Schematic Sample (Attachment 10). The schematic shall be on one page, with a printed paper height of 11 inches. The paper length shall be chosen to clearly display the information on the schematic. The schematic shall be black and white. The schematic shall present a simplified, clear overview of the existing conditions of the railroad right-of-way and adjacent project area. The schematic does not have to be to scale, although features shall be shown proportionally to their actual locations. This is especially important for signal and turnout locations in order for relative distances to be clearly depicted in Exhibit C – Preliminary Proposed Schematics. While the basis for the schematic can be created new, other possible starting points the consultant shall review include:

- Schematics previously prepared by the owner railroad;
- Schematics in the Chicago Operating Guide; and
- Aerial photography.

The information described below shall be shown on the existing schematic. Individual projects may require more information to describe unique conditions or to satisfy specific requirements of the owner railroad.

Title Block – Include owner railroad name and logo, project name, milepost limits, control points, railroad division and subdivision, and any other information required by the owner railroad. Include boxes for Scale, Date, Drawing Number, “Drawn By”, “Checked By” and revisions. The revision box shall accommodate the revision number and date. Include other information as required by owner railroad.

Approval Signature Block – Include date of CREATE Implementation Committee approval.

Legend – Use standard Legend as shown in the example.

North Arrow

Existing Track – Show all railroad tracks in the project area including turnouts. Label track owner names (abbreviated) and track numbers or names. Use symbols for the turnout control method (power operated, electric lock or hand throw) per standard Legend. Label turnout frog numbers. Stationing for existing signals shall not be shown; however, the existing schematic shall be prepared so that when new information, including signal stationing, is added to create the proposed schematic, the information is shown proportionally.

Railroad Mileposts – Use symbols as shown in the example. Show milepost stationing.

Project Limits – Show project limits in all directions, including all connecting tracks. Note: Project limits shall include infrastructure directly changed by the proposed improvements and shall extend 100 feet beyond the nearest constructed item.

Railroad/Highway Grade Crossings – Show roadway name, DOT identification number, type of protection (abbreviated) and symbols representing type of protection. Use the following abbreviations:

- FL = Flashing Lights;
- G = Gates;
- XB = Crossbucks only; and
- C = Cantilever structures for lights.

Local Streets – Show names.

Local, State and Federal Highways – Show numbers/names.

Undergrade and Overhead Railroad Bridges – Use symbols as shown in the example.

Control Point Information – Place a box around the information listed as follows:

- Owner Railroad (Note: may be different from controlling railroad);
- Control Point Name;
- Milepost; and
- Under the box, show the name of the railroad that controls the CP, if different from the owner railroad.

Signals – Use appropriate graphics for ground-mounted signals, cantilever signal structures and signal bridges. Stationing for existing signals shallould not be shown; however, the existing schematic shallould be prepared so that when new information, including signal stationing, is added to create the proposed schematic, the information is shown proportionally.

C. Preliminary Proposed Schematics

Refer to the Preliminary Proposed Schematic Sample (Attachment 11). Using the existing schematic from Exhibit B as a basis, prepare a schematic showing proposed conditions relevant to the railroad infrastructure and surrounding area. The proposed schematic shall be the same size as the existing schematic. The schematic shall be black and white. The schematic shall present a simplified, clear overview of the proposed conditions of the railroad right-of-way and adjacent project area. The schematic does not have to be to scale, although features shall be shown proportionally to their actual locations. Required stationing shall have a tolerance (such as +/- 100 feet) to account for uncertainty with respect to final design. Include a note explaining this tolerance.

Once the Preliminary Proposed Schematics are approved by the CREATE Implementation Committee, no further changes or edits are required to them. All work efforts shall focus on reflecting the proposed design on the Final Initial Geometrics.

The information described below shall be shown on the Preliminary Proposed Schematics. Individual projects may require more information to describe unique conditions or to satisfy specific requirements of the owner railroad.

Title Block – Include owner railroad name and logo, project name, milepost limits, control points, railroad division and subdivision, and any other information required by the owner railroad. Include boxes for Scale, Date, Drawing Number, "Drawn By", "Checked By" and revisions. The revision box shall accommodate the revision number and date. Include other information as required by owner railroad.

Approval Signature Block – Include date of CREATE Implementation Committee approval.

Legend – Use standard Legend as shown in example.

North Arrow

Track – Show all railroad tracks in the project area, including turnouts, as they will be arranged in the proposed condition. Label track owner names (abbreviated) and track numbers or names. Use symbols for the turnout control method (power operated, electric lock or hand throw) per legend in example. Label turnout frog numbers. Show point of switch stationing for all proposed turnouts. Do not show track that will be removed.

Railroad Mileposts – Show mileposts per the existing schematic. Show milepost stationing.

Project Limits – Show project limits in all directions, including all connecting tracks. Note: Project limits shall include infrastructure directly changed by the proposed improvements and shall extend 100 feet beyond the nearest constructed item.

Railroad/Highway Grade Crossings – Show roadway name, DOT identification number, type of protection (abbreviated) and symbols representing type of protection. Use the following abbreviations:

- FL = Flashing Lights;
- G = Gates;
- XB = Crossbucks only; and
- C = Cantilever structures for lights.

Local Streets – Show names. Show modifications to streets graphically. Show cul-de-sacs per the example.

Local, State and Federal Highways – Show numbers/names.

Undergrade and Overhead Railroad Bridges – Use symbols as shown in the example.

Control Point Information – Place a box around the information listed as follows:

- Owner Railroad (Note: may be different from controlling railroad);
- Control Point Name;
- Milepost; and
- Under the box, show the name of the railroad that controls the CP, if different from the owner railroad.

Signals – Use appropriate graphics for ground-mounted signals, cantilever signal structures and signal bridges. Show stationing for all proposed signals. Show proposed signals per legend on Proposed Schematic Example.

D. Typical Cross Sections and Railroad/Highway Crossing Exhibits

Typical Cross Sections – Refer to the Typical Cross Section Sample (Attachment 12). Prepare scaled, typical cross sections showing the relationship of proposed work to existing conditions. Show typical cross sections at each change in track configuration and at other locations where useful to illustrate significant features of the project, such as right-of-way acquisition or retaining walls. Cross sections shall be prepared to the owner railroad's graphical standards. Cross sections shall, at a minimum, include:

- Existing tracks;
- Centerlines and top of rail (TOR) elevation of existing and proposed tracks;
- New track;
- Shifted track;
- Track numbers and names;
- Dimensions required and otherwise useful to demonstrate how the proposed changes interface with existing conditions;
- Existing and proposed ground lines;
- Slopes of proposed ballast, sub-ballast, ditches, excavation and fill;
- Existing and proposed retaining walls within the railroad right-of-way;
- Existing right-of-way lines;
- Proposed right-of-way or temporary easement lines;
- Horizontal distances among adjacent tracks and right-of-way lines; and
- Station limits for each cross section.

Clearly distinguish between existing and new features by means of different line weights (heavier for new work) or colors, depending on the preference of the owner railroad. Include the standard title block for the owner railroad at the lower right hand corner of each sheet of typical cross sections.

Railroad/Highway Grade Crossings (see Exhibit D) – Refer to the Railroad/Highway Grade Crossing Detail Sample (Attachment 13). Include one grade crossing plan and profile drawing for each grade crossing where new work is proposed. Grade crossing exhibits shall include, at a minimum:

- North arrow;
- Title block per owner railroad standard;
- Legend per example or as required by owner railroad standards;
- Plan view of crossing area;
- Track centers for existing and proposed tracks;
- Centerlines of existing and proposed tracks;
- Roadway edges of pavement and centerlines;
- Track numbers and names;
- Existing and proposed crossing protection. Use symbols as described in Exhibit B, Existing Schematics;
- Roadway names;
- Physical features in the vicinity of the grade crossing, including utilities, railroad signal houses and railroad and other structures;
- Intersection and other traffic signals;
- Sidewalks and pedestrian crosswalks;
- New grade crossing material type and dimensions;
- Location where existing roadway surface matches proposed; and
- Roadway Profile - Show the existing and proposed vertical profile of the roadway centerline through the grade crossing. Show existing and proposed track top of rail elevations. Call out the roadway vertical curve geometry and grade percentages.

Grade crossing design shall conform with the guidelines in the FHWA Railroad-Highway Grade Crossing Handbook (Attachment 37).

E. Final Initial Geometrics

Refer to the Final Initial Geometrics Sample (Attachment 14). The geometric design exhibits shall be prepared using 11 in. x 17 in. sheets showing the track plan and profile for the improvement. In cases where the improvements are made to existing tracks where the profile is not significantly changing, a track profile may not be required. The base mapping for the geometrics plan view shall be CREATE aerial photography provided by the Association of American Railroads (AAR). AAR aerial photography is available on a hard drive for download. This information shall be shall be obtained from the AAR for review and/or use on CREATE Program rail projects.

In the event that the project requires aerial photography beyond the limits of the AAR photography, new photography shall be obtained to supplement the available photography.

A field check shall be performed to determine if the actual conditions have significantly changed from the conditions at the time of the AAR photography. If it is determined that significant changes have taken place such that the project design and costs will be impacted, then updated aerial photography or field survey may be required to show the conditions on the base drawing.

The geometric design will be based on existing concept layouts and schematics provided by the owner railroad and IDOT. Once the Preliminary Proposed Schematics are approved by the CREATE Implementation Team and work begins on

the Final Initial Geometrics, no further changes or edits are required to the Preliminary Proposed Schematics.

Include the following information on the final initial geometrics exhibit:

Title Block – Include owner railroad name and logo, project name, milepost limits, control points, railroad division and subdivision, and any other information required by the owner railroad. Include boxes for Scale, Date, Drawing Number, "Drawn By", "Checked By" and revisions. The revision box shall accommodate the revision number and date. Include other information as required by owner railroad.

Approval Signature Block – Include date of CREATE Implementation Committee approval.

Legend

North Arrow

Drawing Scale

Environmental Survey Report (ESR) Boundary

Track centerlines – Show proposed track centerline as a heavy, black line. If existing track is to be shown, then use a smaller line weight. Different colors may be used if required by the owner railroad to differentiate between existing and proposed track; however, consideration shall be given to using different line weights and styles to maintain readability in the event that drawings are reproduced in black and white. Show track center distances between adjacent tracks.

Turnouts – Use the appropriate standard turnout geometry from the owner railroad(s).

Track Stationing – Show station tic marks at 100 foot intervals and call out stations at 500 foot intervals. Call out stations for TS, SC, CS and ST locations for each curve.

Curve Data – List geometric information for each curve as shown in the example. A separate curve data table may be used if there is insufficient room in the plan view to show the curve data.

Railroad Mileposts

Horizontal Clearances – Show dimensions from center of proposed track to face of retaining walls and bridge structures.

Signals – Show existing and proposed signals

Structures

Railroad/Highway Grade Crossings

Streets and Highways

Waterways and Bodies of Water

Right-of-Way Lines

Cut and Fill Limits

Track Profile – Show the vertical profile for proposed track below the plan view. Show existing ground where new track is proposed. Call out vertical curve geometry and grade percentages.

Railroad Staging Plans – Basic staging plans shall be included when appropriate and as agreed upon with the owning or operating railroad.

F. Proposed ROW acquisition and easements

Provide an indication of the right-of-way to be acquired or easement in sufficient detail to inform an individual of the effect on his or her property. Include information such as maps, existing property limits and proposed acquisitions and easements. This is usually shown on topographic mapping for the project. Also, discuss the resolution of any encroachment or utility adjustment problems.

G. Environmental Commitments

Include aerial photography or other appropriate supporting documentation that identifies the type(s) of commitment (e.g., PESA or PSI areas, noise wall, tree plantings). Coordinate this exhibit with the environmental commitments in other sections of the Phase I project report.

H. Cost Estimate and Schedule Form 3.1

The CREATE Design Approval Cost Estimate and Schedule Form 3.1 (see Attachment 6) and detailed back-up or support information shall be included in the Phase I project report as Exhibit H. Refer to Section 3 – Cost Estimates and Schedule for instructions to complete the form.

IX. APPENDICES

A. NEPA Environmental Document

A.1 INTRODUCTION

All CREATE projects must meet applicable federal and state regulations requiring identification and evaluation of the project's environmental impacts. In particular, under the National Environmental Policy Act (NEPA) of 1969, project effects on natural, socioeconomic, and other factors must be taken into account in order to make decisions regarding whether and how the project shall proceed. For each project, the product of this identification and evaluation process is an environmental document.

The level of environmental documentation for a given project varies according to the likelihood that significant impacts will result from project implementation. As outlined in the CREATE Systematic Project Expediting, Environmental Decision-making (SPEED) Strategy Reference (Attachment 29), each CREATE project is processed first as an Environmental Class of Action Determination (ECAD) document, and, depending on the project's impacts and whether project issues are likely to be controversial, may be elevated to another NEPA environmental document as the project progresses. During the preparation of the ECAD, an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) may be warranted. The FHWA Illinois Division typically makes the determination as to what level of environmental document is necessary for the project. All three levels of environmental documentation are discussed in Section A.2, Types of Environmental Documents.

The environmental document ECAD, EA, or EIS is included in Appendix A of the project Phase I project report. The SPEED Strategy Reference (Attachment 29), includes a flow chart depicting the environmental decision-making process for CREATE projects. The FHWA decides which type of environmental document is required.

All NEPA environmental documents must discuss potential project impacts on the following resources and issues:

- Socioeconomic issues;
- Agricultural resources;
- Cultural resources;
- Air quality;
- Noise and vibration;
- Energy;
- Natural resources;
- Water quality/resources;
- Wetlands and floodplains;
- Special waste;

- Special lands, including those designated by Section 4(f) of the Department of Transportation (DOT) Act of 1966; Section 6(f) of the Land and Water Conservation (LAWCON) Fund Act of 1965; and Open Space Lands Acquisition and Development (OSLAD) Act lands; and
- Other issues as applicable (e.g., aesthetics, public involvement).

Impact analysis and documentation for each of these resources are discussed in further detail under Section A.2. See Section 24-3.02 of the BDE Manual (Attachment 42) for an explanation of each of these categories.

Each type of NEPA environmental document presents the resources that could be affected directly or indirectly by the project, analyzes how these resources would be affected, discusses avoidance or minimization of impacts to these resources, and proposes mitigation measures to address unavoidable impacts. The document contains a comparison of affected resources and environmental consequences for the following project alternatives:

No-Build Alternative – This alternative assumes the "status quo," i.e. proposed CREATE project improvements, such as track realignments and upgrades, would not be implemented. This alternative serves as a benchmark against which the impacts of other alternatives are compared.

Build Alternative(s) – Build alternatives assume the implementation of proposed project improvements. Each build alternative represents a different scenario or alignment incorporating project improvements.

The evaluation of impacts is associated with the Preferred Alternative. Note: The Preferred Alternative can be a combination of alternates that are expected to be the most advantageous option for freight and rail operations, and meeting the project Purpose and Need. Any measures required to mitigate the adverse impacts of the preferred alternative are listed under the Environmental Commitments section of the NEPA environmental document, and regulatory permits needed for project implementation are identified.

A.2 TYPES OF NEPA ENVIRONMENTAL DOCUMENTS

A.2.1 Environmental Class of Action Determination (ECAD)

The ECAD represents the first level of environmental analysis and documentation for a CREATE project. The ECAD process evaluates and documents the proposed action's impacts, and allows the FHWA to determine whether the project shall be processed as a Categorical Exclusion, EA, or EIS. In the ECAD, generally, the impacts of one Build Alternative are compared to the No-Build Alternative. The ECAD consists of the seven sections listed below, followed by the Class of Action Determination Record.

Introduction

This section contains a review of the overall goals and rationale of the CREATE Program.

Purpose and Need

The purpose and needs of the proposed action are summarized in this section. Examples of needs include improved capacity, increased train speeds, reduced congestion, improved passenger rail service, reduced freight transit times and increased safety.

Project Alternatives

Environmental Consequences

Environmental Commitments

Public Involvement

Conclusion

Class of Action Determination Record

“Journal" entries summarizing key findings and decisions regarding project impacts on resources are made on an ECAD Record Form.

The Record Form includes the following sections:

- Resources and Issues (first column on form);
- Potential Involvement (second column);
- Analysis and Results (third column);
- Impacts Present (fourth column); and
- Status (fifth column).

Each resource and issue listed on the ECAD Record Form is considered under the ECAD. When it is determined that a particular resource may be affected by the proposed project, the date of the determination is entered under "Yes" in the Potential Involvement column.

The Analysis and Results column contains a record of key milestones in the process of deciding whether a particular resource or issue will be affected by the project. Each succeeding entry in this column supplements or revises the information given in the previous entries. The date of each entry is recorded under Date, and, under Use Journal Type of Description, the following information is summarized: information analyzed, conclusions drawn, and supporting data, including the results of environmental surveys, final coordination contacts with resource agencies, and environmental impact/mitigation analyses. The initials of the author are entered after each journal entry.

Examples of entries in the Analysis and Results column are as follows:

Date	Use Journal Type of Description
5/7/06	No groups or large tracts of minority or low income populations were identified in the project area.
8/18/06	Noise and vibration assessments were completed for the project. The noise assessment indicates that there will be noise impacts to three receptors located adjacent to the project.
10/20/06	An Environmental Survey Request was submitted on May 2, 2006. Cultural resource clearance was received from IDOT's Cultural Resource Unit on October 20, 2006.

For each resource with a date under "Yes" in the Potential Involvement column, a date is entered under "Yes" or "No" in the Impacts Present column. This is the date when it was determined that adverse impacts to the resource will or will not occur.

When closure on an issue has been achieved, a "C" for "completed" is entered in the Status column.

Environmental Surveys

Resource-specific environmental surveys such as a cultural resources survey or natural resources surveys may be required in order to fully assess impacts of specific projects. All CREATE projects require that an Environmental Survey Request (ESR) be submitted to IDOT by means of an ESR form at project initiation. The most current ESR form for CREATE Program projects can be found on IDOT's website or by contacting IDOT Bureau of Freight Rail Management. Upon approval from IDOT Bureau of Freight Rail Management, ESR packets shall be coordinated with IDOT BDE for processing. If paper copies are required, the ESR form and supporting documentation shall be sent to IDOT BDE, 2300 S. Dirksen Parkway, Room 330, Springfield, IL 62764. See Attachment 15 for an example of a completed ESR form, including attachments. A table summarizing the validity ("shelf life") considerations of Phase I documents, including ESR clearances, can be found in Attachment 30.

The following is a more detailed discussion of resources to be considered during the ECAD, along with guidelines for analyzing each resource. The resources are listed in the same order as on the Record Form.

I. Social/Economic Resources

Evaluate the project's impact on the surrounding community and land use. Topics to address are listed below:

1. Relocation of Businesses and Residences – If project improvements will cause displacement of residential, commercial, or agricultural properties,

describe the affected properties and associated buildings, along with the general location and availability of replacement properties.

2. Changes in Travel Patterns – Discuss road closures, detours, and other anticipated disruptions of vehicular or other traffic due to project construction.

3. Economic Impacts – If project improvements will displace or otherwise impact area businesses, evaluate these impacts (including loss of access or revenue, number of employees affected, etc.).

4. Change in Land Use and Economic Development – Discuss potential conflicts with local or regional land use plans, as well as whether the project will provide new access to undeveloped areas, impact existing points of access, or affect economic development in the area.

5. Community Cohesion – Identify municipalities and neighborhoods adjacent to the project area (by name and population), and address the possibility that project implementation will divide or isolate a community.

6. Public Facilities and Services – Discuss the potential effects of the project on schools, hospitals, and other public facilities, as well as its effects on public emergency services such as fire and police response time.

7. Title VI and Other Protected Groups – Evaluate anticipated project impacts on racial, ethnic, religious, elderly, or handicapped groups or individuals. Include a statement that the project will comply with the Americans with Disabilities Act (ADA).

8. Environmental Justice – All analysis shall be completed in accordance with the CREATE Program Environmental Justice Policy (Attachment 31). If the project is expected to have disproportionately high and adverse non-noise effects on minority or low-income groups, discuss these effects, as well as the need for intensified public involvement activities to ensure local participation. If needed, evaluate other practicable mitigation and transportation enhancement measures with merit and support to provide offsetting benefits and opportunities to enhance communities, neighborhoods, and individuals. If the project has predicted noise impacts, then apply the CREATE Program Environmental Justice Policy as part of the noise analysis process.

9. Pedestrian and Bicycle Facilities – If the project will lead to disruption or changes in pedestrian or bicycle access (i.e. sidewalks, bicycle paths, etc.), or if project implementation will be inconsistent with local plans, describe these effects.

II. Agricultural Resources

Discuss the project's anticipated effects on agricultural land, especially prime and important farmland and protected agricultural areas. Also, summarize the

results of coordination with either the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) or the Illinois Department of Agriculture (IDOA). If no agency coordination is required, provide an explanation.

III. Cultural Resources

In response to the submittal of an ESR, the IDOT Cultural Resources Unit will verify the presence of cultural resources in the project area, usually by conducting a cultural resources survey and coordinating with the IHPA. For buildings over 50 years old or of uncertain age, submit photographs of these buildings to the Cultural Resources Unit as part of the ESR process and record the submittal date.

If the project involves impacts to a historic structure or district on or eligible for the National Register of Historic Places (NRHP), compliance with Section 106 of the National Historic Preservation Act of 1966 is required. The culmination of Section 106 process is either a Finding of No Adverse Effect, or an Adverse Effect finding and a Memorandum of Agreement (MOA) to accept or mitigate the adverse effects.

A Section 4(f) evaluation may be required as well (See XII, Special Lands).

1. Archaeological Sites – Include ESR submittal date and results of any cultural resources survey (i.e., project clearance by the Cultural Resources Unit), or the type and number of potentially significant resources found during the survey. If additional field evaluations are required (Phase II or Phase III), record the outcome, including sign-off by the IHPA or concurrence by the ACHP, and associated dates.

2. Historic Bridges – If project improvements will affect a bridge listed on the Illinois Historic Bridge Survey, record the date of final approval of the Statement of No Adverse Effect, or the date of the Memorandum of Agreement (MOA) and summary of required mitigation of adverse effects.

3. Historic Districts and Buildings – Record the ESR submittal date and results of any cultural resources survey (i.e., project clearance by the Cultural Resources Unit). If the project is located within a historic district on the NRHP or designated by local ordinance, coordination with the IHPA is required. Include the date of final approval of the Statement of No Adverse Effect, or the date of the MOA and summary of required mitigation. Enter Cultural Resources Unit or IHPA sign-off dates.

If noise and vibration impacts to potential historic buildings (i.e., over 50 years old) are identified but mitigation is determined not to be feasible and reasonable or there are still noise and vibration impacts after mitigation is proposed, then an ESR addendum will be required to determine if the resource is potentially eligible for the NRHP.

IV. Air Quality

1. Attainment/Nonattainment Status – If the project is located wholly or partially in a U.S. Environmental Protection Agency (USEPA) designated nonattainment area for transportation-related criteria pollutants, state this fact, and list the criteria pollutants. Criteria pollutants include ozone, carbon monoxide, nitrogen dioxide, particulate matter 10 microns or 2.5 microns (PM_{10} or $PM_{2.5}$), and nitrogen oxides. Projects in nonattainment areas, unless exempt from USEPA conformity requirements (see BDE Manual Section 26-11.03(b)), must conform to Clean Air Act of 1990 (CAA) regulations. Conformity is achieved either by being included in a conforming transportation plan and Transportation Improvement Program, or through a General Conformity emissions analysis. Summarize the project's conformity status.

   If a General Conformity emissions analysis is performed, tabulate the results and compare them against Illinois General Conformity *de minimis* threshold levels. If emissions levels are less than these thresholds, the project is considered to satisfy conformity rules, i.e. it will not cause or contribute to any new localized violations of CAA standards, nor increase the frequency or severity of any existing violations within the project area. Summarize results of the emissions analysis. See the General Conformity section of the Air Quality & Emissions Analysis Sample (Attachment 16).

   For passenger rail projects in nonattainment areas, make a determination regarding whether the project meets the definition of an air quality concern, i.e. causes or contributes to any new localized violations of the CAA particulate matter standards, or increases the frequency or severity of any existing particulate matter violations within the project area. Use the procedures outlined in the Methodology for Determining if CREATE Passenger Rail Projects are "Projects of Air Quality Concern" in PM2.5 and PM10 Nonattainment and Maintenance Areas (Attachment 32) to make this determination.

   If a passenger rail project meets the definition of an air quality concern, complete a qualitative Hot-Spot analysis for the project. Attachment 17 contains an example of a Hot-Spot analysis.

2. Microscale Analysis – Generally, CREATE projects typically do not involve roadway work, and are therefore exempt from requirements to perform a microscale analysis for carbon monoxide (CO). If roadway work or road closures are included with the proposed improvement, a CO analysis may be warranted. An air quality analysis based on estimated air emissions from locomotives shall be performed, and the results tabulated and summarized. Attachment 16 contains an example of a Locomotive Air Emissions Analysis, in which annual emissions of hydrocarbons, CO, nitrogen oxide, particulate matter, and sulfur dioxide are tabulated and compared for existing conditions versus the Build Alternative and the No-Build Alternative.

3. Construction-Related Particulate Matter: Insert the following language:

   Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in an around the project area. (Equipment-related particulate emissions can be minimized if the equipment is well maintained.) The potential air quality impacts will be short-term, occurring only while demolition and construction work is in progress and local conditions appropriate.

   The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, and transportation of materials. The potential is greatest during dry periods, periods of intense construction activity, and during high wind conditions.

   The contractor shall maintain the construction site to minimize dust conditions that would adversely affect construction or railroad operations, including equipment operation and worker safety.

   The contractor shall maintain the construction site to minimize spreading of dust to adjacent land and property owners including homes and businesses. The contractor shall also ensure the operating safety of adjacent highways and roadways is not adversely affected by spreading of dust from the construction site.

   Dust or dirt from a construction site, which accumulates on adjacent public or private streets, highways, or roads, shall be swept or washed off the roadway surface. Special care shall be taken during sweeping or washing of the roadway surface to adequately expose traffic markings and striping.

   The contractor shall immediately advise the railroad project engineer of any pending or at actual exceptions taken by inspectors, citations issued or legal action taken by government agencies concerning cleanliness, sweeping and dust control. Complaints made directly to contractor by neighbors, businesses and others in vicinity of construction shall be handled in the same manner.

   Water shall not be used to limit the spread of dust or dirt when it may create a hazardous or objectionable condition such as electrification, ice, flooding, or pollution, or contribute to inferior quality construction.

4. Mobile Source Air Toxics Analysis – Analysis of mobile source air toxics for CREATE Program projects is to be conducted in accordance with the CREATE Program Guidance for Analyzing Mobile Source Air Toxics (MSATs) (Attachment 33). FHWA, in coordination with IDOT,

has determined that the CREATE Program Tower projects qualify for exclusion from project-level MSAT analysis because they would not result in meaningful impacts to train and vehicular traffic volumes. In general, IDOT and FHWA have determined that the types of actions associated with CREATE Program rail infrastructure improvement projects will generally qualify as projects with low potential for MSAT effects due to their ability to influence train traffic volumes. Based on this characterization, MSAT analysis for CREATE Program projects will consist of a qualitative analysis.

An MSAT analysis based on estimated fuel consumption data provided from the Chicago Transportation Coordination Office (CTCO) train model shall be performed and the results tabulated and summarized in the NEPA environmental document. MSAT emissions trends for Cook County also have been developed to supplement the national-level trends presented in FHWA's Interim MSAT Guidance. The Cook County data also shall be used as part of the MSAT analyses conducted for CREATE Program projects. Attachment 33 contains more detailed guidance on how to complete the analysis and present the MSAT analysis results. Attachment 16 contains an example of an MSAT analysis.

V. Noise and Vibration

Conduct noise and vibration assessments using the CREATE Noise and Vibration Assessment Methodology (June 2014) (Attachment 36). (Contact the Bureau of Freight Rail Management to confirm the latest noise and vibration methodology to use.) This methodology requires the following steps:

- Perform screening for sensitive receptors.
- If warranted by the proximity of sensitive receptors to the project corridor, conduct general noise and vibration assessments to identify potential impacts to receptors. The assessments shall include analyses of noise and vibration levels for existing conditions versus the Build and No-Build Alternatives.
- If potential noise and vibration impacts are identified during the general assessments, conduct detailed analyses to further define impacts.
- If the detailed analyses identify noise and vibration impacts, perform an abatement evaluation to determine whether reasonable measures can be implemented to mitigate these impacts identified.
- If mitigation of predicted impacts is feasible, solicit viewpoints of benefited receptors to confirm if they desire implementation of recommended mitigation measures.

Tabulate and summarize the results of the noise and vibration assessments and analyses. A noise and vibration analysis sample is included in Attachment 18.

VI. Energy

This section shall contain the following language from the BDE Manual:

> *Construction of the proposed improvement will require indirect consumption of energy for processing materials, construction activities and maintenance for the track to be added within the project limits.*
>
> *Construction of the proposed improvement will reduce rail congestion and delays thereby reducing idling and slowing conditions. In the long term, post-construction operational energy requirements should offset construction and maintenance energy requirements and result in a net savings in energy usage*

Add the following language regarding non-motorized transportation when applicable:

> *The project includes provisions for improving bicycling and walking conditions, thereby encouraging travel by these non-motorized and thus non-energy consuming modes of transportation.*

VII. Natural Resources

In response to the submittal of an ESR, the IDOT Natural Resources Unit will review and identify any wetlands, state threatened and endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, registered Land and Water Reserves, and federal threatened and endangered species (Section 7 of the Endangered Species Act) in the vicinity of the project. For CREATE Program projects, the review and closure of the Section 7 process, is usually completed by IDOT BDE during the ESR process. For projects with no effect to the resources listed above, IDOT BDE will complete a Natural Resources review memo that state the no effect determinations. For projects with potential effects, IDOT BDE will coordinate with the appropriate resource agency or agencies.

Record the ESR submittal date, the Natural Resource Review memo date and the results of natural resource surveys that were conducted. Also, summarize results of coordination with agencies including the Illinois Department of Natural Resources (IDNR), U.S. Fish and Wildlife Service (USFWS), along with key coordination dates. Show natural resources in the project area on a map.

Discuss the project's anticipated impacts to natural resources, as well as measures to be taken to minimize unavoidable adverse impacts. This discussion shall include existing conditions (e.g., location, species, general size) with respect to trees in addition to the anticipated impacts. If the project involves threatened and endangered species, state the rationale for the effect determination along with mitigation measures. If there will be an incidental taking of a species, include a summary of the Biological Assessment and Biological Opinion (if appropriate) and the Conservation Plan.

If the project is not coordinated with IDNR, provide an explanation.

VIII. Water Quality/Resources

Evaluate the project's impact on surface water and ground water resources. Topics to address are listed below:

1. Surface Water Resources/Quality – Identify streams, lakes, and other bodies of water in the project area, and include the following information for each water resource: flow regime, upstream watershed area, availability of water quality data, and Illinois Water Quality Report classification. Identify any resource that is a wild and scenic river, a candidate for classification as a wild and scenic river (refer to the Nationwide Rivers Inventory located at http://www.nps.gov/ncrc/programs/rtca/nri/states/il.html), Illinois Natural Area Inventory (INAI) site, Illinois Nature Preserves, threatened or endangered species habitat, or public water supply.

   Discuss the project's anticipated impacts to water resources, as well as erosion control and other mitigation measures.

2. Permits – List and discuss permit requirements for project implementation. These permits may include, but may not be limited to, the following:

   - Section 404 of the Clean Water Act for discharge of dredge or fill material into waters of the United States (U.S.), including wetlands (individual or nationwide permits);
   - Section 401 of the Clean Water Act requires water quality certification from IEPA as part of obtaining a Section 404 permit (i.e., the IEPA must either approve or waive the water quality certification as a condition for issuance of an individual Section 404 permit or for use of a nationwide or regional Section 404 permit);
   - Sections 9 and 10 of the Rivers and Harbors Act of 1899 for structures or work affecting navigable waters of the United States; and
   - National Pollutant Discharge Elimination System permits (if the project will result in the disturbance of one or more acres of total land area).

3. Groundwater Resources/Quality – If the project will create any new potential groundwater pollution route or source, such as leakage from an underground storage tank, describe this route/source. Discuss the location of the route/source with respect to the setback zone of a water supply well**,** the type of well (if within the setback zone), permits required, possible groundwater quality violations due to project implementation, and mitigation measures.

   If the project will not create any new potential groundwater pollution route/source, include the following paragraph:

This project will not create any new potential "routes" for groundwater pollution or any new potential "sources" of groundwater pollution as defined in the Illinois Environmental Protection Act (415 ILCS 5/3, et seq.). Accordingly, the project is not subject to compliance with the minimum setback requirements for community water supply wells or other potable water supply wells, as set forth in 415 ILCS 5/14, et seq.

IX. Flood Plains

1. 100-Year Flood Plain – A Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) shall be consulted to determine whether the project will encroach on any 100-year floodplains. If so, include a dated copy of the map, showing the project location. Describe encroachments as transverse or longitudinal. All impacts shall be assessed and documented. Document whether there will be a significant encroachment on the floodplain. If an encroachment is anticipated to be significant, an "Only Practicable Alternative Finding" is required.

2. Regulatory Floodway – If the project will encroach on a regulatory floodway and mitigation is required, describe mitigation measures.

X. Wetlands

If a wetland survey is performed in response to the submittal of the ESR, summarize information regarding wetlands identified during the survey. Wetland information includes the presence of jurisdictional wetlands in the project area, the wetlands' location, type, size, Floristic Quality Index (FQI), and their functional values. A Wetlands Impact/Waters of the U.S. (WOUS) Impact Evaluation form is required if Waters of the U.S., including wetlands, are identified in the project area. Discuss the outcome of the WOUS/wetlands analysis, including anticipated wetland impacts, and, where applicable, the reason that adverse impacts cannot be avoided and the type and amount of planned compensatory mitigation. The impact evaluation form shall be submitted for all WOUS and wetlands regardless of whether or not an impact will occur. Also, discuss any required mitigation measures (e.g., protective fencing and signage).

Summarize the results of agency coordination (e.g., Natural Resource Review memo). Describe the type of wetland involvement (i.e., programmatic or standard).

XI. Special Waste

Special waste is defined in accordance with the Illinois Environmental Protection Act (415 ILCS 5/3.475) as a potential infectious medicine; industrial process waste or pollution control waste; and any container which stored special waste. In addition to the above listed wastes, CREATE special waste investigations include petroleum products and hazardous substances or waste (i.e. regulated substances) pursuant to Resource Conservation and Recovery

Act (RCRA) or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulations.

The CREATE Phase I study process for special waste investigations is conducted in accordance with the CREATE Railroad Property Special Waste Procedures (FHWA and Federal Railroad Administration) (See Attachment 34), which include the Special Waste Assessment (SWA) Screening Criteria Flowchart. Prior to beginning a special waste investigation, the most current CREATE special waste procedures shall be obtained from IDOT Bureau of Freight Rail Management. These special waste procedures apply only to CREATE work conducted on existing railroad property. Special waste investigations conducted on new street and road improvements ancillary to CREATE rail projects shall follow the applicable BDE Manual procedures; local roads procedures may be acceptable on a case-by-case basis. Special waste investigations conducted for public sector land acquisition are addressed using Chapter 27 of the BDE Manual (Attachment 45) or on a case-by-case basis.

The Special Waste Procedures define terms, applicability, and the screening process to reach a determination of No Further Action Necessary or Further Assessment Determined Necessary. If further assessment is needed, a Preliminary Environmental Site Assessment (PESA) is conducted.

IDOT or their designated representatives shall contact each participating railroad's designated representative to obtain site access and environmental records for each work area. These environmental records shall include open or unresolved spills, present or historic railroad shop maintenance activities, fueling facilities or high risk land uses.

Environmental due diligence is required for each work area. Railroad representatives shall accompany the environmental professional(s) during the site visit, identify the location of work areas, and provide written notification of spills near or within proposed work areas. A "work area" is defined as the anticipated construction limits and adjacent area. In general, this area shall be contained within the Environmental Survey Request (ESR) boundary.

NOTE: If the environmental due diligence records reveal evidence of contamination, dumping or unresolved spills for the work area, a PESA is required.

A CREATE Railroad Property Special Waste Screening Form (Attachment 19) is completed for each CREATE project, which may represent multiple work areas within one CREATE project. When performing the environmental due diligence, complete only as many Special Waste Screening Form steps as necessary to reach a final determination. If a decision is made to complete further steps, the final determination must be clearly stated in the Comment column. An incomplete form may result in schedule delays and no final determination for the work area.

The environmental professional's opinion is necessary for completing the Special Waste Screening Form. The environmental professional must both

identify special waste issues and evaluate the potential of the special waste to impact all work areas. All potential impacts must be identified before the Form can be completed.

For example, a special waste assessment may identify an open LUST site near one work area and UST piping observed near a second work area. If the form is completed only to the point of requiring a PESA for the LUST area, then the UST in the second area may not be reported. If additional research determined that the LUST was resolved through remediation, the Form could erroneously determine No Further Action Necessary for both work areas. A complete form will result in further environmental due diligence of both items concurrently.

If the work area consists of only the following work types and no other, then a Determination of No Further Action is applicable: replacement or reconfiguration of existing track structure (e.g., tie, rail, crossover, turnout installation/replacement), undercutting and re-ballasting on existing right-of-way, rail lubricator installation/replacement, switch heater installation/ replacement, highway and railroad signal installation/replacement, lighting replacement/installation, communication equipment replacement/installation or other work activities which disturb only the ballast, and there are no obvious signs of contamination, evidence of open dumping or records of unresolved spills.

If the work area is outside of the railroad ballast and is not limited to the above work types, continue to Step 2 in the Special Waste Assessment Screening Criteria. In Step 2, if the following types of work are not part of the project, a Determination of No Further Action may be warranted. If the following types of work are identified for the project, continue to Step 3:

- Building demolition.
- Construction and/or modification of buildings with occupants (for workers or passengers).
- Excavation resulting in more than 7 cubic yards of soil.

For these types of work, Step 3 involves a records search for federal - registered CERCLIS sites and state-registered Leaking Underground Storage Tank (LUST) sites within 500 feet of the project construction limits, and Underground Storage Tank (UST) sites or RCRA sites within the construction limits. An environmental professional's opinion and comments shall be noted in the comment box at each Step. If response to Step 3 Box A is yes, or do not know; the result is PESA required. If response to Step 3 Box A is no, continue to Step 3 Box B.

If the work area includes buildings or materials containing special waste other than asbestos, a PESA is required (Box B). Special waste may be identified during the site inspection or records review. If no special waste is identified, continue to Box C. Step 3 Box C addresses previous land use type at or directly adjacent to the work area. Land use type may include railroad shop maintenance activities, fueling facilities or high risk land uses. If these types of

land use are identified, continue to Step 4, for identification of unlisted underground storage tanks within the limits of construction or noticeable contamination in the form of discolored soil, seeping liquids, vegetation damage from other than vegetative control activities, dead animals, suspect odors, oil sheen, dead-end pipes, or abnormal grading, fills or depressions within the limits of construction. If the response to Box C is no, continue to Box D. Box D involves review of aerial photographs and web-based Geographical Information Systems (GIS) aerials to identify special waste in the form of storage tanks, drums, pits, ponds, lagoons, landfills, incinerators, or piping. If the response for Box D is no, then a Determination of No Further Action may be warranted. If the response for Box D is yes or do not know, continue to Step 4. Step 4 includes the identification of unlisted underground storage tanks within the limits of construction or noticeable contamination in the form of discolored soil, seeping liquids, vegetation damage from other than vegetative control activities, dead animals, suspect odors, oil sheen, dead-end pipes, or abnormal grading, fills or depressions within the limits of construction. If the response to Step 4 is no, a Determination of No Further Action is necessary. If the response to Step 4 is "yes" or "do not know", a PESA would be required.

When completing Step 3 of the Form, if it is determined that all CERCLIS/ LUST sites within 500 feet are at a sufficiently lower elevation relative to the work area construction limits, so that contamination is unlikely to migrate into the construction limits, it is acceptable to respond "No" on the Form, with an explanation in the Comment column. The same may be true if the LUST site is separated by a valley or other physical gap that would preclude migration. This decision must be approved by IDOT and FHWA on a case by case basis.

A No Further Action Determination shall have a completed Special Waste Screening Form and report documenting the survey, due diligence methods, and observations made. Alternately, if it is determined that further assessment is required, this may be limited to the impacted work area(s), rather than the entire CREATE Project.

If a design change is made after the completion of the Special Waste Assessment which extends the construction limits beyond the environmental survey limits, these areas must be addressed in a separate Special Waste Assessment for the ESR Addendum area, incorporating the full Screening Flowchart and Form.

Preliminary Environmental Site Assessment (PESA): If the Special Waste Assessment concludes with a Further Assessment determination, then a PESA is required for the project or impacted work areas. PESAs are conducted in accordance with the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessments (ESA) Process Standard E 1527-13, and/or with USEPA's All Appropriate Inquiries (AAI) Final Rule 40 CFR Part 312. The USEPA AAI ruling from 2005 coincided with the updated ASTM E 1527-05 Standard and remains in force today even though the ASTM E-1527 Standard was updated in 2013. The four components of a PESA, as it is for a Phase I ESA, are historical records research, site reconnaissance, interviews with persons

knowledgeable about the property and agencies, and an environmental database search of regulatory activity. The PESA must be conducted by or supervised by an environmental professional, as defined in 40 CFR 312.10. The PESA shall identify Recognized Environmental Conditions (RECs) for the project, as defined in the ASTM Standard. Review section 5.1 of the Special Waste Procedures for further information.

The definition of a REC is taken from the ASTM E 1527-13 Standard (promulgated in November 2013) that includes creation of a new REC standard, Controlled REC (CREC), as well as a revised definition for Historical REC (HREC). Preparation of a Phase I ESA under the ASTM E 1527-13 guideline defines good commercial and customary practice in the U.S. for conducting an ESA of a parcel of commercial real estate with respect to the range of contaminants within the scope of CERCLA and petroleum products – and permits the user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations under CERCLA liability.

The objective of the PESA is to conduct a risk assessment of the construction work area, which shall be contained within the Environmental Survey Request (ESR) boundary. The risk assessment must classify each recognized environmental condition and the project within one of the following categories: No Risk, Low Risk, Moderate Risk, to High Risk. Review section 5.2 of the Special Waste Procedures for further information. A No Risk or Low Risk finding indicates a low potential for special waste or regulated substance to impact the work area, resulting in a No Further Action determination. If the risk assessment results in a Moderate or High Risk finding, the depth stipulation must be calculated. This depth is defined as the maximum excavation depth possible without encountering contaminated soils from the Recognized Environmental Condition.

Moderate or High Risk work areas include sites adjacent or near to the work area from which, in the opinion of the Environmental Professional, it is reasonably likely that contaminated subsurface vapors, soils and/or groundwater may be encountered. These may include sites with a long history of environmental activity; a LUST site, or sites where previous soil sampling data or monitoring wells indicate special or hazardous waste subsurface impacts that do not meet IEPA soil objectives.

For Moderate or High Risk sites, IDOT queries the involved railroad as to whether avoidance is possible or not possible by modifying plans. If it is concluded that avoidance is not possible, then a Preliminary Site Investigation (PSI) is required.

A PESA for CREATE projects on rail property does not automatically include subsurface vapor, soil and/or groundwater sampling. However, sampling may be considered on a site-specific basis to address data gaps, and/or if a time or cost benefit exists. If, due to these reasons, environmental media sampling is advisable, prepare a brief proposal outlining the need for sampling and the

benefit for IDOT Bureau of Freight Rail Management. This proposal shall be submitted prior to preparation of a subsurface investigation plan.

Preliminary Site Investigation (PSI): The PSI is a soil investigation that involves sampling, and includes recommended actions and cost estimates for remediation. The PSI report identifies areas impacted by special waste or regulated substances. The recommended actions and cost estimates address two alternatives: clean-up within the limits of construction and cleanup beyond construction limits to meet regulatory objectives. Review section 5.3 of the Special Waste Procedures for further information.

In August 2012, the Illinois Pollution Control Board under the Illinois Environmental Protection Agency (IEPA), passed rules for the Clean Construction or Demolition Debris (CCDD) Fill Operations to allow for use of uncontaminated CCDD and uncontaminated soil to be used as fill at quarries, mines and other excavations. Where it applies, this ruling shall be adhered to when performing a PSI in determining whether soil testing data of fill materials comply with the maximum allowable concentrations (MACs) when the soil is from a "potentially impacted property (PIP)."

IEPA current remedial objectives are outlined in the IAC Title 35 Part 742 Tiered Approach to Corrective Action Objectives (TACO). These objectives or alternative objectives shall be referenced in the PSI. Tiered remediation approaches shall be considered. Remediation objectives shall include the contaminant background concentrations in soil. Railroad property use corresponds to industrial-commercial objectives. Residential remedial objectives shall not be used.

PSI Waivers: IDOT Bureau of Freight Rail Management may authorize a PSI waiver that allows the ECAD and/or other NEPA environmental documents to be signed prior to the accomplishment of a required PSI. If a waiver is granted, the ECAD and/or other NEPA environmental documents can be approved prior to the completion of the PSI, provided that an environmental commitment is identified in the NEPA environmental document for fulfilling the PSI requirements including any remediation, if appropriate, by the primary responsible Participating Railroad prior to construction. Review section 5.4 of the Special Waste Procedures for further information. A sample PSI waiver can be found in Attachment 20.

Property Access Requests: Property access is required for PESAs and PSIs and is requested by IDOT or their designated representatives to the Participating Railroads. Railroads shall provide the requirements for access (e.g., execution of an access agreement).

Inability to Complete the Railroad Property Special Waste Procedures for Properties to be Acquired by the Participating Railroads: If the Railroad Property Special Waste Procedures cannot be completed on properties to be acquired by the Participating Railroads because IDOT or their designated representatives are not provided access to the property by the property owners, the Special Waste Procedures will be put on hold until the property is

acquired by the Participating Railroads. Review section 7.0 of the Special Waste Procedures for further information. When the property is acquired by the Participating Railroads, IDOT and/or their designated representatives shall complete the Railroad property Special Waste Procedures included herein. The ECAD and any other NEPA environmental document will be completed with a commitment to completely implement the Special Waste Procedures and for the Participating Railroads to complete all the required remediation as recommended in any subsequent PSI report.

Special Waste Management: All excavated materials shall be managed in accordance with applicable federal and state laws and regulations. Review section 8.0 of the Special Waste Procedures for further information.

Soils excavated from railroad property as part of CREATE Project improvements will need to be assessed for use as fill material along railroad property or ROW or for off-site disposal. If excavated soils require off-site disposal, soil sampling is recommended to meet the requirements of an off-site disposal facility in accordance with Illinois Administrative Code (IAC) Title 35 Part 1100 Clean Construction or Demolition Debris (CCDD) Fill Operations and Uncontaminated Soil fill Operations (if considering soil disposal in an uncontaminated soil disposal facility) or in accordance with Subtitle D landfill facility. Soil disposal issues may be considered in the Phase I study, shall be detailed during Phase II design, and implemented during the construction process.

Validity of Special Waste Assessment Results: Standards issued by the American Society for Testing and Materials (ASTM) and AAI indicate environmental due diligence efforts for special waste/regulated substance contamination shall only be considered valid for a period of six months. This reflects the realization that special wastes and other regulated substance contamination often may be introduced (through illegal disposal, migration from off-site, or generation from new land uses) into areas previously evaluated for contamination. Before proceeding with arrangements for a PSI or before completing land acquisition, the project area shall be reassessed, if necessary, to check for new reported releases and determine if land uses have changed within the project area, a process called “validation”.

The validation process for special waste assessment results associated with CREATE Program projects shall be completed in a manner consistent with the Chapter 27 of the IDOT BDE Manual (Attachment 45). In general, validation activities for CREATE Program projects may be completed using the CREATE Railroad Property Special Waste Screening Form (Attachment 19) in lieu of the Level II screening methodology. A table summarizing the validity (“shelf life”) considerations of Phase I documents, including special waste studies, can be found in Attachment 30.

XII. Special Lands

1. Section 4(f) – If the project will involve the use of land from publicly owned parks, recreational areas, wildlife refuges, or historic sites, a Section 4(f) Evaluation is required for each affected property. Coordination with IDOT and FHWA shall occur prior to initiating efforts associated with a Section 4(f) Evaluation and the FHWA must review and approve the evaluation.

   Summarize the Section 4(f) Evaluation, including the following elements:

   - Name and location of affected Section 4(f) resources;
   - Potential impacts to the resources, including noise and construction impacts;
   - Avoidance alternatives and mitigation measures; and
   - Results of agency coordination (e.g., IDOT, FHWA, FRA, IHPA).

2. Section 6(f) – If the project will involve use of Section 6(f) lands which were purchased or developed with LAWCON funds, the National Park Service (NPS) must approve the conversion of the land from outdoor recreational use to project-required use. The converted land must be replaced by property of at least equal fair market value and comparable quality, use, and location; and the conversion and substitution must be consistent with the Statewide Comprehensive Outdoor Recreation Plan. Coordination with IDOT and FHWA shall occur prior to initiating any efforts associated with a Section 6(f) evaluation. The Section 6(f) process shall be coordinated with IDNR and NPS.

   Include the following points regarding affected Section 6(f) resources:

   - Name and location of affected Section 6(f) resources;
   - Potential impacts to the resources;
   - Description of proposed replacement land;
   - Date the conversion request was submitted to IDNR, which forwards the request to NPS; and
   - Results of agency coordination, including date of NPS approval of the land conversion.

3. OSLAD Lands – If the project will involve use of land which was purchased with Open Space Land Acquisition and Development (OSLAD) funds, IDNR must approve the conversion of the land to a use other than public outdoor recreational use. The converted land must be replaced by property of at least equal fair market value and comparable quality, use, and location.

   Include the following points regarding affected OSLAD resources:

- Name and location of affected OSLAD resources;
- Potential impacts to the resources;
- Description of proposed replacement land; and
- Outcome of agency coordination, including date of IDNR approval of the land conversion.

XII. Processing of Categorical Exclusion

The FHWA, based on the ECAD Record, determines whether the project can proceed to be processed and approved as a Categorical Exclusion. If the FHWA approves the project as a Categorical Exclusion, the project can proceed to authorization for detailed design and construction. However, if there is not enough evidence to classify the project as a Categorical Exclusion, an EA must be completed to determine if any significant impacts are involved in any implementation of the project.

A.2.2 Environmental Assessment

The Environmental Assessment (EA) is the next level of NEPA environmental documentation after the ECAD. The EA document analyzes the same resource categories as the ECAD, but evaluates them in further depth. Typically, an EA is performed for projects where the significance of the environmental impacts is not clearly established, or for controversial projects or those involving organized opposition. If the EA process identifies no significant impacts, the outcome is a Finding of No Significant Impact (FONSI) issued by the FHWA, and the project can proceed to authorization for detailed design and construction. If during any stage of the EA process significant impacts are identified, an Environmental Impact Statement (EIS) is prepared.

The EA, like the ECAD, begins with a discussion of a Purpose and Need for the project. (See Chapter 24 of the BDE Manual (Attachment 42) for detailed EA preparation procedures.) During the EA process, several Build Alternatives may be developed and evaluated, and alternatives that are not reasonable are eliminated from further discussion. The Build Alternatives that remain are examined with respect to their feasibility, environmental consequences, and how well they satisfy the project's Purpose and Need. A Preferred Alternative is selected from among the Build Alternatives. The consequences of the "no-action" (No Build) alternative also are evaluated in the EA.

The EA document includes a separate section entitled Affected Environment, which describes the existing conditions for each resource in the project area. The locations of sensitive resources such as historic sites, wetlands, etc., shall be shown on an Environmental Resource Map.

The Environmental Consequences section of the EA discusses the impacts of the project alternatives on the resources described under Affected Environment. Mitigation measures for adverse impacts also are discussed in this section. The Affected Environment and Environmental Consequences

sections can be combined into a single section for purposes of clarity. Detailed analyses of specific resources shall be documented in separate technical reports. If Section 4(f) resources are involved in the project, the EA includes a separate section entitled "Section 4(f) Evaluation."

Public involvement is a key component of the EA process. (See Section A.3, Public Involvement.) It is important to address public involvement early in the EA process.

A.2.3 Environmental Impact Statement

Depending on the results of the ECAD (and EA, if performed), an Environmental Impact Statement (EIS) may need to be prepared for the project. The EIS process, which is more formal and complex than that of the EA, is comprised of the following major milestones: Notice of Intent (NOI) published in the Federal Register, Draft EIS, Final EIS, and Record of Decision (ROD). (See Chapter 25 of the BDE Manual (Attachment 43) for detailed EIS preparation procedures.)

The Draft EIS document describes the project purpose and need and analyzes all reasonable alternatives at a comparable level of detail. Like the EA, it includes sections on the affected environment and environmental consequences, and includes a separate "Section 4(f) Evaluation" section if applicable. The same categories of resources as in the EA are considered for impact assessment in the Draft EIS. The Affected Environment and Environmental Consequences sections can be combined into a single section for purposes of clarity.

As with the ECAD and EA, public involvement and agency coordination continue throughout the EIS process (see Section A.3, Public Involvement). Section 1319(b) of the Moving Ahead for Progress in the 21st Century Act (MAP-21) directs FHWA, the maximum extent practicable, to develop a single document that combines the Final EIS and ROD unless certain conditions exist. When the Final EIS and ROD are combined, the preferred alternative shall be identified in the Draft EIS to ensure the public as well as resource and regulatory agencies have adequate opportunity to comment on the preferred alternative before it becomes final.

After the Draft EIS is approved and issued by the FHWA, a public hearing is held and there is a formal comment period during which comments from the public and other agencies are submitted. Then a final EIS is developed, in which comments on the Draft EIS are addressed and the preferred alternative is identified.

After the Final EIS is approved and issued by the FHWA, the FHWA issues the ROD. This document describes the preferred alternative and presents the basis for its selection, identifies all the alternatives considered, and provides information on the means to avoid, minimize and compensate for environmental impacts. Once the ROD is approved, the project can proceed to authorization for detailed design and construction. In accordance with Section

1319 of the Moving Ahead for Progress in the 21st Century Act (MAP-21), FHWA has the ability to combine the final EIS and ROD into a single document, if certain conditions are met. FHWA's decision to combine the Final EIS and ROD will be made on a project-by-project basis after consideration has been given to the specific facts and circumstances relevant to the EIS process.

A.2.3 NEPA Reevaluations

Changes to CREATE Program rail projects that occur after the approval of the NEPA environmental document are typically evaluated through the development of environmental technical memoranda. Each technical memorandum serves as a reevaluation of the NEPA environmental study and subsequent decision. The memoranda are necessary to determine the validity of the original NEPA decision. The reevaluation shall take place after the CE, FONSI, EIS or ROD are approved, but prior to the advancement to the next stage of the project development process. The conclusion of the reevaluation is that the NEPA decision or documentation is valid or that additional analysis is required.

Reevaluations shall consider and discuss changes to the proposed projects, new circumstances, new information (e.g., environmental, traffic, design standards), final design or scope modifications, new or revised environmental laws, regulations, and/or policies which have occurred since issuance of the original NEPA decision. The amount of time a study has been idle or incomplete also is an important consideration when deciding whether a reevaluation is needed. A table summarizing the validity ("shelf life") considerations of Phase I documents, including NEPA documents, can be found in Attachment 30.

Consultation with FHWA is required in all cases to determine if a reevaluation is needed and, if needed, to determine the scope and format of the reevaluation effort. Attachment 21 contains a sample of a previously prepared environmental technical memorandum for a CREATE Program rail project.

A.3 PUBLIC INVOLVEMENT

FHWA and IDOT require public involvement for certain projects, including those that are expected to have certain environmental impacts or right-of-way impacts, and those requiring a noise barrier or road closures. IDOT's public involvement guidelines are detailed in Chapter 19 of the BDE Manual (Attachment 41). These requirements are relevant to CREATE rail projects. In addition, IDOT—in coordination with the CREATE Partners—has developed guidelines for public involvement activities related to CREATE Program rail projects. These guidelines can be found in the Public Involvement Guidelines for CREATE Program Rail Projects (Attachment 35). These guidelines are subject to periodic revision, so the latest version shall be obtained from IDOT at the beginning of a Phase I project.

The CREATE Public Involvement Guidelines for Rail Projects (Attachment 35) also shall be consulted for guidance on conducting stakeholder involvement activities for CREATE Program rail projects designated by IDOT as Context Sensitive Solutions (CSS) projects. All outcomes of the CSS process including environmental commitments and future design coordination efforts shall be clearly documented as part of the NEPA environmental documentation and the Phase I project report. This documentation shall be structured to assist in completing the required follow-up activities during Phase II (final) design and Phase III (construction). These issues may include, but may not be limited to, mitigation measures such as noise barriers, architectural design features, landscaping, aesthetics, management of traffic, maintenance of access, or public health.

B. Street Closure Report(s)

In the event that a street is permanently closed, include an IDOT Street Closure Report. For at-grade railroad/highway crossing closures, include grade crossing closure meeting minutes in this section.

Temporary street closures for construction do not need a separate street closure report, but they shall be described in Section IV-F of the Phase I project report. See sample Street Closure Report in Attachment 22.

C. Bridge Condition Report(s)

Each existing bridge in the project area which will be physically modified in any way requires a Bridge Condition Report (BCR). BCRs also are required in the following cases:

- The bridge is not currently used, but will be used for the project.
- The bridge is currently used for loadings that are less than the loadings proposed for the project (including the case when a track is added to a bridge).
- The project involves an increase in train speed and/or the amount of trains on the bridge.

There may be circumstances that will prohibit the completion of a BCR during the Phase I study. Such circumstances may include, but are not limited to, field observation obstacles, nonexistent or incomplete existing bridge plans, or both. These issues shall be coordinated early with IDOT and FHWA to achieve concurrence on the desired approach. Should the BCR not be completed during the Phase I study, then such encumbrances preventing completion of the BCR will be considered and addressed during Phase II (final) design. In these cases, it may be appropriate to reflect uncertainties as part of the project cost estimate included in the Phase I project report.

For the Phase I project report, the acceptable form of a BCR includes the following:

- Latest regular railroad bridge inspection report (see Existing Bridge Inspection Report Sample in Attachment 23) or new railroad bridge inspection report, if the bridge has not been inspected in the previous two years; and

- Letter from the owner railroad's designated bridge engineer (see BCR Certification Letter Sample in Attachment 24) stating that the bridge is sufficient for the proposed changes as listed above, or that the bridge needs to be repaired or modified, with the changes itemized.

If the above-listed items are not available and a BCR will be developed by the Phase I consultant, please contact IDOT Bureau of Freight Rail Management to obtain an appropriate representative example of BCR format and content.

D. Structure Preliminary Type, Size and Location (PTS&L) Drawings

Structure PTS&L drawings shall present a graphical summary of the overall structure and key details, including proposed construction materials, critical dimensions and other information needed to understand the construction of the structure and its relationship to both existing conditions and to the other work of the project. PTS&Ls shall be included for a structure with a significant footprint, major excavation and impacts to the public (including during construction). PTS&Ls shall be prepared for railroad bridges, retaining walls, sound walls, pedestrian underpasses, passenger station platform modifications and large drainage structures. Refer to sample drawings for a Bridge PTS&L (Attachment 25), Retaining Wall PTS&L (Attachment 26), Pedestrian Underpass PTS&L (Attachment 27). If needed, please contact IDOT Bureau of Freight Rail Management to obtain an appropriate representative example of format and content for a noise wall PTS&L.

Structure PTS&L drawings do not require formal approval from the Division of Highway's Bureau of Bridges and Structures during Phase I design; however, it is recommended that the PTS&L drawings be coordinated with the Bureau of Bridges and Structures during the Phase I design for review of proposed design concept, including clearances related to public ways.

E. Preliminary Drainage Study

E.1 Drainage Coordination

Early coordination shall occur with the appropriate entities to define the study process (including appropriate milestones for review and coordination efforts), identify potentially sensitive drainage areas, document the appropriate design criteria and the Best Management Practices (BMPs) to be used in the development of the proposed drainage plans. Coordination efforts will vary based on the geographic location, scope of work and complexity of the project. Coordination efforts for projects located in the City of Chicago may include, but may not be limited to, the following agencies:

- City of Chicago Department of Water Management (DWM)
- City of Chicago Department of Buildings (DOB);
- City of Chicago Office of Underground Coordination (OUC); and
- Metropolitan Water Reclamation District of Greater Chicago (MWRDGC).

E.2 Phase I Drainage Report

A Phase I Drainage Report shall be developed for all rail improvement projects. The length and content shall be appropriate for the proposed scope of work and

complexity of the project. A typical Phase I Drainage Report shall include, at a minimum, the following sections:

E.2.I. Existing Drainage Conditions:

- Describe existing drainage conditions, including any drainage problems identified in the project corridor.
- Describe any existing water resources, such as wetlands, streams, rivers, floodplains or floodways present in the project corridor.
- Identify any major culverts or waterway crossings with a drainage area greater than 20 acres.
- Identify any pump station locations or other unique features such as subways or underground tunnels.
- Existing soil conditions and soil permeability description from readily available information sources.

E.2.II. Proposed Drainage System:

- Summarize agency coordination completed during the Phase I drainage study process.
- Define proposed drainage design criteria.
- Describe any corrective action(s) for existing drainage problems identified in the project corridor.
- Evaluate (quantitatively or qualitatively) proposed stormwater discharge points.
- Identify potential sensitive and unsuitable outlets, detention requirements, as well as compensatory storage requirements (if any).
- Discuss BMPs and water quality measures incorporated into the project.
- Evaluate right-of-way requirements to accommodate the proposed drainage.
- Summarize conclusions, recommendations, and next steps related to drainage plan development and approval, including any further coordination efforts and permit requirements.

E.2.III. Appendices:

Appendices shall include all calculations, exhibits, and photos. For major rail improvement projects (as designated by the CREATE Program partners), exhibits shall include existing and proposed drainage plans which shall contain information equivalent in nature to the requirements outlined in the latest edition of the IDOT Drainage Manual. In addition, exhibits shall include a general location drainage map covering the entire project limits. Documentation of agency coordination also shall be included in the Appendix.

If needed, please contact IDOT Bureau of Freight Rail Management to obtain an appropriate representative example of format and content for a preliminary drainage study for a CREATE Program rail project.

F. Geotechnical Survey

The geotechnical survey shall include a description of geotechnical work performed as required to complete other elements of the Phase I study. For example,

geotechnical investigations completed to develop the structure PTS&L drawings shall be summarized in this section.

G. Intersection/Interchange Design Studies

Intersection/Interchange Design Studies are only required for grade separation projects and projects that include new or completely rebuilt roadway intersections. Include approved Intersection Design Studies (Attachment 39 – BDE Chapter 14) or Interchange Type and Design Studies (Attachment 40 – BDE Chapter 15) for all major intersections impacted by the project. Use an 11 in. x 17 in., reduced size sheet format.

H. CREATE Coordination Meeting Minutes

Provide copies of all coordination meeting minutes from Phase I project inception up to the time prior to submittal of the completed Phase I project report (see Sample Phase I Project Report Document, Attachment 3).

I. Other Appendices

Additional appendices may be added per specific project requirements. Examples of information that may be appropriate for an additional appendix may include, but may not be limited to, the following:

- Correspondence since the NEPA environmental document was approved;
- Other relevant correspondence;
- Agreements regarding structures;
- Property agreements such as easements, including temporary construction easements and temporary right of way agreements;
- Public transit (CTA, Pace and Metra) schedules covering routes through the project area, if there are impacts to the transit service;
- Utility crossing agreement lists and notification letters to utilities; and
- Illinois Commerce Commission petitions or orders regarding railroad/highway grade crossings.

Section 3. Cost Estimates and Schedule

At the completion of the Phase I study, prepare a detailed cost estimate and schedule for the project. This information is used during the programming process by the FHWA, IDOT Bureau of Freight Rail Management, IDOT Central Office and the CREATE Partners to determine budget and schedule requirements for each specific CREATE Project under consideration. The cost estimates also provide information that allow for the allocation of costs to public and/or private entities.

3.1. CREATE Design Approval Cost Estimate and Schedule Form 3.1

For Phase I project reports (whether Abbreviated Project Reports [APR] or Project Reports [PR]), prepare cost estimates for Phase I, Phase II, ROW and Phase III Costs, along with a Phase III Construction Schedule. The raw data that is the basis for the cost estimate is generally derived from the project's preliminary engineering design and is reviewed and approved for use by the CREATE Implementation Committee. This detailed information is summarized in the CREATE Design Approval Cost Estimate and Schedule Form 3.1 Excel spreadsheet. Two Excel spreadsheets are included with this Manual for use;

- Form 3.1 for Abbreviated Project Reports (see Attachment 4)
- Form 3.1 for Project Reports (see Attachment 6)

Form 3.1 is the same form for both types of studies, with the difference being in the Excel spreadsheets linked to each Form 3.1 as separate spreadsheet tabs. The APR Form 3.1 is linked to the Abbreviated Project Report (APR) Design Approval Form 4.2, as spreadsheet tab "APR Form 4.2"; while the Project Report Form 3.1 is linked to the Project Report Section V summary Form, as spreadsheet tab "PR Section V". For both the APR and the PR, the Form 3.1 is filled out first, which will result in the associated spreadsheets being populated with data.

Completion of the Excel version of the "Design Approval Form 3.1" requires that information be entered into all yellow highlighted fields by the Consultant/Contractor. The fields with green numbers or information will be automatically updated through the formulas embedded within the Excel spreadsheet and are not be changed. Fields with black numbers or information are fixed or defined by the CREATE Implementation Committee and are not to be altered unless advised otherwise.

Information shall be entered into the yellow highlighted fields of the "Design Approval Form 3.1" spreadsheet (generally in column "F") in accordance with the following instructions:

A. CREATE Project Number – Enter the assigned CREATE Project Number for the project.

B. Prime Railroad – Enter the accepted name or abbreviation of the Prime Railroad associated with the project. Prime railroad names shall be abbreviated are as follows:

- AMTK: Amtrak
- BNSF: Burlington Northern Santa Fe
- BRC: Belt Railway of Chicago

- CN: Canadian National Railway
- CP: Canadian Pacific Railway
- CSX: CSX Transportation Company
- IHB: Indiana Harbor Belt
- MET: Metra
- NS: Norfolk Southern Railway
- UP: Union Pacific

C. Date of Report – Enter the date of the Phase I project report, as shown on the cover sheet. Use the format Month dd, yyyy, as in February 29, 2008.

D. Year Estimate Was Compiled – Enter the year the cost estimate was completed. Use the format yyyy, as in 2008.

E. Begin Phase III – Enter the date the Phase III construction is expected to begin. Use the format of mm/yyyy, as in 02/2009.

F. Complete Phase III – Enter the date the Phase III construction is expected to be completed. Use the format of mm/yyyy, as in 11/2012.

G. Total Duration of Phase III – Determined by the spreadsheet based on information entered in items 6 and 7.

H. Inflation Rate – This figure is to be assigned by the CREATE Implementation Committee.

I. Phase I Costs – Enter the contracted costs for the Phase I study. Allocate the Phase I Part A and Part B costs by entity as assigned by the CREATE Implementation Committee. For these and all subsequent cost figures, enter the costs as whole numbers (no cents) without dollar signs, commas or periods; as in 30000 for $30,000. The Total Phase I Costs will total at the bottom of the Phase I column by the spreadsheet.

J. Phase II Costs – Enter the costs estimated for completion of the Preliminary Site Investigation (PSI) and Plans, Specifications and Estimates (PS&E). Allocate the Phase II costs by entity as assigned by the CREATE Implementation Committee. Enter the estimated Utility Negotiation Costs in the yellow field in column “D” of the spreadsheet. It will carry into column “F”. The Total Phase II Costs will total at the bottom of the Phase II column.

K. ROW Costs – Enter estimated Right-of-Way (ROW) acquisition costs. Allocate the ROW costs by entity as assigned by the CREATE Implementation Committee. The Total ROW Costs will total at the bottom of the ROW Costs column.

L. Phase III Costs – Construction Estimate – Enter the total Phase III Construction Estimate cost in the yellow field in column “D”.

M. Phase III Costs – “Confidence of Estimate” Contingency Used – This figure will be 15% for Phase I studies unless designated otherwise by the CREATE Implementation Committee.

N. Phase III – Total Current Construction Estimate – This is calculated within the spreadsheet.

O. Phase III – Construction Costs With Inflation – Enter the percentage of Phase III work anticipated to be performed in each calendar year (as designated in column "A") in the yellow field in column "E". Enter the percentages as numbers without symbols, including up to two decimal points of accuracy; as in 24.85 for 24.85%. The sum of all percentages is calculated by the spreadsheet at the bottom of the column and must equal 100.00%.

P. Construction Management Costs – This figure is as assigned by the lead railroad.

Q. Project's Management Reserve – This figure is as assigned by the CREATE Implementation Committee (not to exceed 5%).

3.2. Abbreviated Project Report Cost Estimates and Schedule

When the Excel version of the APR Form 3.1 (Attachment 4) is completed per the instructions in Section 3.1, the associated Abbreviated Project Report (APR) Design Approval Form 4.2 (spreadsheet tab "APR Form 4.2") also is partially completed. Refer to Section 2.1.3 for additional instructions on completing APR Form 4.2.

Include the completed APR Form 3.1 and detailed supporting documentation in the project report immediately following the APR Design Approval Form 4.2. Refer to the sample APR included as Attachment 2.

3.3. Project Report Cost Estimates and Schedule

When the Excel version of the PR Form 3.1 (Attachment 6) is accessed, the Excel file will include two spreadsheets; "Design Approval Form 3.1" and "PR Section V". When the PR Form 3.1 is completed per the instructions in Section 3.1, the "PR Section V" spreadsheet will be automatically completed when data is entered into the appropriate fields of the "Design Approval Form 3.1" spreadsheet. No additional data is input to the PR Section V spreadsheet.

Include the completed PR Form 3.1 and detailed supporting documentation in the project report as Exhibit H. Provide a summary of the cost estimate and schedule (spreadsheet "PR SECTION V") in Section V of the Phase I project report.

Section 4. Processing of Phase I Project Reports and Design Approval

To ensure uniform environmental evaluation and engineering design, representatives from IDOT Bureau of Freight Rail Management, FHWA and the other CREATE Partners attend regularly scheduled coordination meetings to discuss proposed CREATE project improvements. These meetings allow for the discussion of proposed project designs and any alternatives, environmental analyses/issues, whether or not public involvement is required, type of report processing, and the possibility for design exceptions. This coordination process allows for considerable discussion during project development and ensures that the proper design is being proposed before a Phase I engineering report is written and completed. This process also helps ensure that reports will cover the appropriate information and that projects are being designed cost-effectively.

4.1. Design Approval

A. The Bureau of Freight Rail Management will:

1. Review the Project Report/Abbreviated Project Report to ensure that it is accurate and complete. Note that when proposed improvements affect or include IDOT or locally-owned roadways, the Bureau of Freight Rail Management must receive required approvals from the IDOT Division of Highways and/or the local agency. When proposed improvements include structures improvements, the Project Report also shall be coordinated with the Division of Highway's Bureau of Bridges and Structures. For projects within the City of Chicago, IDOT also will coordinate through CDOT to confirm concurrence is obtained on the Phase I project report.

2. Prepare and sign a Design Approval form and include it in the Phase I Project Report/Abbreviated Project Report.

3. Submit two complete copies of the Phase I Project Report/Abbreviated Project Report, including appendices, to FHWA.

B. FHWA will:

1. Review the Phase I Project Report/Abbreviated Project Report to ensure that it is accurate and complete.

2. Sign the Phase I Design Approval forms.

3. Submit one complete copy of the approved Phase I Project Report/Abbreviated Project Report with signed Phase I Design Approval form to the Bureau of Freight Rail Management.

4.2. Revisions to the CREATE Program

Formal procedures have been established in the event that revisions to the CREATE program are necessary during the Phase I process, or at any other time during the course of the CREATE program, due to unforeseen circumstances. Refer to the U.S. DOT Procedures for Revising the CREATE Program (Attachment 38).

ATTACHMENTS

FOR

CREATE Program Rail Projects
Phase I Project Reports

PHASE I PROJECT REPORTS AND DESIGN APPROVAL PROCEDURES

Attachments Table of Contents

The following documents are included as Project Report Sample and Reference documents to assist in the preparation of Phase I Project Reports. These documents are located in separate Project Report Attachment Folders that can be accessed either directly from the folders or via hyperlinks placed within the various sections of the Phase I Project Report Procedures Manual. The Table of Contents below also includes hyperlinks to access each document.

ATTACHMENT SECTION 1 – SAMPLE PHASE I PROJECT REPORT DOCUMENTS

Attachment 1	CREATE Phase I Work Flow Process Flow Chart
Attachment 2	Sample Phase I Abbreviated Project Report Document
Attachment 3	Sample Phase I Project Report Document

ATTACHMENT SECTION 2 – PROJECT REPORT FORMS AND SAMPLE DOCUMENTS

Attachment 4	CREATE Abbreviated Project Report Cost Estimate Form 3.1 & Design Approval Form 4.2
Attachment 5	Phase I Project Report Design Approval Form 4.3
Attachment 6	CREATE Project Report Design Approval Cost Estimate and Schedule Form 3.1
Attachment 7	CREATE Map
Attachment 8	CREATE Map – Project Location Sample
Attachment 9	Project Limit Map Sample
Attachment 10	Existing Schematic Sample
Attachment 11	Preliminary Proposed Schematic Sample
Attachment 12	Typical Cross Section Sample
Attachment 13	Railroad/Highway Grade Crossing Detail Sample
Attachment 14	Final Initial Geometrics Sample
Attachment 15	CREATE IDOT Environmental Survey Request
Attachment 16	Air Quality & Emissions Analysis Sample
Attachment 17	Air Quality Hot-Spot Analysis Sample
Attachment 18	Noise and Vibration Analysis Sample
Attachment 19	CREATE Railroad Property Special Waste Screening Form
Attachment 20	Preliminary Site Investigation (PSI) Waiver Sample
Attachment 21	Environmental Technical Memorandum Sample
Attachment 22	Street Closure Report Sample
Attachment 23	Existing Bridge Inspection Report Sample
Attachment 24	BCR Certification Letter Sample
Attachment 25	Bridge PTS&L Format Sample
Attachment 26	Retaining Wall PTS&L Format Sample
Attachment 27	Pedestrian Underpass PTS&L Format Sample

ATTACHMENT SECTION 3 – PROJECT REPORT REFERENCES

Attachment 28	Project Report Section II – Purpose & Need Part A Statement
Attachment 29	CREATE SPEED Strategy & Flowchart Reference
Attachment 30	CREATE Program Phase I Document Validity ("Shelf life") Considerations
Attachment 31	CREATE Environmental Justice Policy
Attachment 32	Methodology for Determining if CREATE Passenger Rail Projects are "Projects of Air Quality Concern"
Attachment 33	CREATE Program Guidance for Analyzing Mobile Air Source Toxics (MSATs)
Attachment 34	CREATE Railroad Property Special Waste Procedures
Attachment 35	Public Involvement Guidelines for CREATE Program Rail Projects
Attachment 36	CREATE Noise and Vibration Assessment Methodology
Attachment 37	Railroad-Highway Grade Crossing Handbook
Attachment 38	U.S. DOT Procedures for Revising the CREATE Program

ATTACHMENT SECTION 4 – BDE MANUAL CHAPTER REFERENCES

Attachment 39	Chapter 14: Intersection Design Studies
Attachment 40	Chapter 15: Interchange Type and Design Studies
Attachment 41	Chapter 19: Public Involvement Guidelines
Attachment 42	Chapter 24: Environmental Assessments
Attachment 43	Chapter 25: Environmental Impact Statements
Attachment 44	Chapter 26: Special Environmental Analyses
Attachment 45	Chapter 27: Environmental Surveys
Attachment 46	Chapter 59: Landscape Design