

**PREFACE**

The *Bureau of Design and Environment (BDE) Manual* has been prepared to provide uniform practices for the Department and consultant personnel preparing Phase I studies and reports and contract plans for Department projects. The *BDE Manual* presents most of the information normally required in the development of a typical roadway project. The designer should attempt to meet all criteria and practices presented in the *BDE Manual*; however, the *BDE Manual* should not be considered a standard that must be met regardless of impacts. The designer should develop roadway designs that meet the Department's operational and safety requirements while preserving the environmental resources of an area. Designers must exercise good judgment on individual projects and, frequently, they must be innovative in their approach to roadway design. This may require, for example, additional research into the highway literature or use of other Department Manuals.



## Illinois Department of Transportation Departmental Policies

D&E-01

Effective Date: February 23, 2016  
Scheduled Review Date: February 23, 2021

### BUREAU OF DESIGN AND ENVIRONMENT MANUAL

#### 1. POLICY

It is the policy of the Department of Transportation to publish and maintain a manual which establishes uniform policies and procedures for the location, design, and environmental evaluation of highway construction and reconstruction type projects on the State Highway System. The title of the Manual is the [Bureau of Design and Environment Manual \(BDE Manual\)](#).

#### 2. PERSONS AFFECTED

Office of Program Development  
Office of Highways Project Implementation

#### 3. PURPOSE

The purpose of this policy is to compile the policies and procedures which govern project location, design, and environmental evaluation into one comprehensive manual.

#### 4. GUIDELINES FOR IMPLEMENTATION

The policies and procedures contained in the [BDE Manual](#) are effective on the date they are transmitted to manual holders unless otherwise noted in the transmittal memorandum. The [BDE Manual](#) is intended to apply primarily to the State Highway System and provides detailed requirements on such subjects as:

- a. Administration and Procedures
- b. Project Development
- c. Environmental Procedures
- d. Roadway Design Elements
- e. Design of Highway Types
- f. Other Highway Design Elements
- g. Plans and Contracts
- h. Procedure Memoranda

Departmental Policy D&E-01: Bureau of Design and Environment Manual

February 23, 2016

## 5. RESPONSIBILITIES

The **Bureau of Design and Environment** is responsible for preparing and maintaining this policy and the associated [BDE Manual](#). All projects on the State Highway System developed by the District Offices or other agencies shall be in compliance with this policy and the [BDE Manual](#).

## 6. REVISION HISTORY

Changes to this policy included in this version include:

- added Persons Affected section,
- updated office names to reflect the new organization chart,
- removed signature block, and
- minor editorial changes and formatting updates.

Archived versions of this policy may be examined by contacting the Bureau of Design and Environment.

## CLOSING NOTICE

Supersedes: Departmental Policy D&E-1: Bureau of Design and Environment Manual,  
Effective: October 16, 2010

Signatures: On File

## MANUAL FORMAT/UPDATE

The *Bureau of Design and Environment Manual* is available as a PDF document on the IDOT's website: <http://www.idot.illinois.gov/doing-business/procurements/engineering-architectural-professional-services/Consultants-Resources/index>. It is intended to provide current design and environment policies and procedures for use in developing State highway projects. To ensure that the *BDE Manual* remains up to date and appropriately reflects changes in IDOT's needs and applicable requirements, its contents are updated on an ongoing basis. To aid users in keeping track of revisions and understanding their background, BDE Procedure Memoranda are posted to the *BDE Manual* website; however, the associated policy revisions are incorporated in the relevant chapter(s) of the *BDE Manual* itself.

BDE will be responsible for evaluating changes in the highway design and environmental literature (e.g., the issuance of new research publications, revisions to Federal regulations) and will ensure that those changes are appropriately addressed through the issuance of revisions to the manual. In addition, it is important that users of the *BDE Manual* inform BDE of any inconsistencies, errors, need for clarification, or new ideas to support the goal of providing the best and most up-to-date information practical. A form entitled BDE Manual Comments and/or Corrections (see page v) has been provided for use in submitting any comments and/or suggestions.



**TABLE OF CONTENTS**

Preface

Signature Sheet

Manual Format/Updates

Manual Comments and/or Corrections

Table of Contents

**PART I – ADMINISTRATION AND PROCEDURES**

Chapter 1	Organization and Functions (Program Development)
Chapter 2	Project Development Network (New Alignment)
Chapter 3	Project Development Network (Existing Alignment)
Chapter 4	Coordination Responsibilities
Chapter 5	Local Agency Agreements
Chapter 6	Utility Coordination
Chapter 7	Railroad Coordination
Chapter 8	Consultant Developed and/or Designed Projects
Chapter 9	(Reserved)
Chapter 10	(Reserved)

**PART II – PROJECT DEVELOPMENT**

Chapter 11	Phase I Studies
Chapter 12	Phase I Engineering Reports
Chapter 13	Work Zone Transportation Management Plans
Chapter 14	Intersection Design Studies
Chapter 15	Interchange Type and Design Studies
Chapter 16	Rest Areas/Weigh Stations
Chapter 17	Bicycle and Pedestrian Accommodations
Chapter 18	Transportation Enhancements
Chapter 19	Public Involvement Guidelines
Chapter 20	Requirements for Major Projects
Chapter 21	(Reserved)

**PART III – ENVIRONMENTAL PROCEDURES**

Chapter 22	General Environmental Procedures
Chapter 23	Categorical Exclusions
Chapter 24	Environmental Assessments
Chapter 25	Environmental Impact Statements
Chapter 26	Special Environmental Analyses
Chapter 27	Environmental Surveys
Chapter 28	Environmental Permits/Certifications
Chapter 29	(Reserved)
Chapter 30	(Reserved)

**Appendices**

Appendix A	Regulations and Guidance
Appendix B	Acronyms/Glossary of Environmental Terms
Appendix C	Authority/Responsibilities

**PART IV – ROADWAY DESIGN ELEMENTS**

Chapter 31	Basic Design Controls
Chapter 32	Horizontal Alignment
Chapter 33	Vertical Alignment
Chapter 34	Cross Section Elements
Chapter 35	Access Control/Access Management
Chapter 36	Intersections
Chapter 37	Interchanges
Chapter 38	Roadside Safety
Chapter 39	Structure Planning/Geometrics
Chapter 40	General Drainage Procedures
Chapter 41	Construction Site Storm Water Pollution Control
Chapter 42	(Reserved)

**PART V – DESIGN OF HIGHWAY TYPES**

Chapter 43	Highway Systems
Chapter 44	Rural and Urban Freeways (New Construction/Reconstruction)
Chapter 45	Expressways (New Construction/Reconstruction)
Chapter 46	Strategic Regional Arterials (New Construction/Reconstruction)
Chapter 47	Rural Two-Lane/Multilane State Highways (New Construction/Reconstruction)
Chapter 48	Urban Highways and Streets (New Construction/Reconstruction)
Chapter 49	3R Guidelines for Rural and Urban Highways (Non-Freeways)
Chapter 50	3R Freeway Projects
Chapter 51	(Reserved)

**PART VI – OTHER HIGHWAY DESIGN ELEMENTS**

Chapter 52	(Reserved)
Chapter 53	Pavement Preservation and Rehabilitation Strategies
Chapter 54	Pavement Design
Chapter 55	Work Zone Traffic Control
Chapter 56	Highway Lighting
Chapter 57	Traffic Control Devices
Chapter 58	Special Design Elements
Chapter 59	Landscape Design
Chapter 60	Other Department Manuals
Chapter 61	(Reserved)
Chapter 62	(Reserved)

**PART VII – PLANS AND CONTRACTS**

Chapter 63	Plan Preparation
Chapter 64	Quantity Computations
Chapter 65	Cost Estimating
Chapter 66	Contract Processing

**PART VIII – PROCEDURE MEMORANDA**



