DESIGN-BUILD CONTRACT

BOOK 2

Illinois State Toll Highway Authority

Illinois Tollway Route 390

RR-23-4920R

March 27, 2026

Original Issue

Table of Contents

1 GENERAL 22
1.1 Introduction to Books 2 and 3 22
1.2 General Project Description 22
1.3 Project Location 23
1.4 Right-of-Entry 23
1.5 Project Standards 23
1.6 Governmental Approvals and Conceptual Design 24
1.7 Directive Design 24
1.8 Design Deviations 26
1.9 Design-Builder Responsibilities 26
1.9.1 Design Responsibility 26
1.9.2 Design Justification 27
1.9.3 Construction Responsibility 27
1.10 Illinois Tollway Responsibility 27
1.11 Other Projects in the Vicinity of the Project 28
1.12 Submittal Requirements 28
2 PROJECT MANAGEMENT 30
2.1 Project Management Plan 30
2.1.1 Management and Staffing Plan 31
2.1.2 Document and Data Management Plan 46
2.1.3 Equal Employment Opportunity Plan 59
2.1.4 Risk Management Plan 60
2.1.5 Contract Communication Plan 61
2.1.6 Quality Management Plan 61
2.1.7 Affected Third Party Plan 61
2.1.8 Safety Management Plan 62
2.1.9 Emergency Management and Disaster Recovery Plan 63
2.1.10 Public Information and Communications Plan 64
2.1.11 Comprehensive Environmental Protection Plan 64

2.1.12 Environmental Protection Training Plan 64
2.1.13 Waste Management Plan 64
2.1.14 Not Used 64
2.1.15 Utility Work Plan 64
2.1.16 Railroad Work Plan 64
2.1.17 Not Used 64
2.1.18 Transportation Management Plan 64
2.1.19 Final Acceptance and Transition Plan 65
2.1.20 Maintenance During Construction Plan 65
2.1.21 BIM Execution Plan 65
2.2 Schedule Management 65
2.2.1 Baseline Schedule Requirements 66
2.2.2 Cost- and Resource-Loaded 68
2.2.3 Calendars and Identified Contingency 69
2.2.4 Schedule Submittal and Report Requirements 69
2.2.5 Revised Baseline Schedule 70
2.2.6 Monthly Schedule Update 70
2.2.7 Impacted Delay Analysis 71
2.2.8 Change Management 72
2.2.9 Recovery Schedule 72
2.2.10 Weekly Look-Ahead Schedule 72
2.2.11 Record Work Schedule 72
2.2.12 Early Completion 73
2.2.13 Non-Compliance 73
2.3 Cost Management 73
2.3.1 General 73
2.3.2 Schedule of Values 73
2.3.3 Monthly Invoice Progress Reports 74
2.3.4 Pre-Invoice Meetings 75

2.3.5 Invoices 75
2.3.6 Invoice Calculations 76
2.4 Submittal Requirements 76
3 PUBLIC INFORMATION 82
3.1 General 82
3.2 Administrative Requirements 82
3.2.1 Staff Requirements 82
3.2.2 Stakeholder List 82
3.2.3 Standards 82
3.2.4 Meeting Requirements 83
3.2.5 Equipment/Software 83
3.2.6 Permits/Authorizations 84
3.2.7 Public Information and Communication Plan 84
3.3 Design Requirements (Not Used) 85
3.4 Construction Requirements 85
3.4.1 Information Materials 85
3.4.2 Electronic Information Distribution 85
3.4.3 Events 86
3.4.4 Project Information Signs 86
3.4.5 Project Update Email 86
3.4.6 Construction Reports and Plans 86
3.4.7 Commercial Vehicle Access and Restriction Information 87
3.4.8 Traffic Conditions and Incident Information 87
3.5 Submittal Requirements 87
4 ENVIRONMENTAL COMPLIANCE 90
4.1 General 90
4.1.1 Standards 90
4.1.2 Environmental Personnel 91
4.1.3 Meeting and Communication Requirements 92
4.1.4 Equipment/Software 92

4.1.5 Reports and Plans 96
4.2 Environmental Responsibilities 98
4.2.1 Environmental Studies Inventory Sheet 99
4.2.2 Wetlands 99
4.2.3 Publicly Owned Recreation Properties or Natural Lands - Not Used 101
4.2.4 Hydraulics and Hydrology 101
4.2.5 Architectural, Cultural, Historical and Archaeological Resources 102
4.2.6 Solid Waste 102
4.2.7 Construction Noise 104
4.2.8 Air Quality 104
4.2.9 Agricultural Resources 104
4.2.10 Landscape, Erosion and Sediment Control 104
4.2.11 Sustainability 105
4.3 Submittal Requirements 105
5 QUALITY MANAGEMENT 110
5.1 General 110
5.1.1 Design-Builder Responsibility 110
5.1.2 Illinois Tollway Responsibility 111
5.1.3 Definitions 111
5.2 Administrative Requirements 112
5.2.1 Standards 112
5.2.2 Meeting Requirements 112
5.2.3 Equipment/Software (Not Used) 113
5.2.4 Permits/Authorizations (Not Used) 113
5.2.5 Investigations/Supplemental Work (Not Used) 113
5.2.6 Reports 113
5.2.7 Document Control System 113
5.3 Quality Management Plan (QMP) 114
5.3.1 Quality Management Plan Planning 114

5.3.2 Quality Management Plan Contents 114
5.3.3 Quality Personnel 115
5.3.4 Design Quality Management Plan 115
5.3.5 Construction Quality Management Plan 116
5.3.6 Nonconforming Work 120
5.3.7 Corrective and Preventative Action 121
5.3.8 Operational Quality Control 122
5.4 Illinois Tollway Acceptance Activities 122
5.4.1 Illinois Tollway Quality Assurance 122
5.4.2 Independent Assurance Roles and Responsibilities 123
5.4.3 Third Party Owner Inspections and Approvals 123
5.5 Final Inspection and Final Acceptance 123
5.6 Submittal Requirements 124
6 UTILITIES 126
6.1 General 126
6.1.1 Utility Requirements 126
6.1.2 Preliminary Utility Coordination 126
6.2 Administrative Requirements 126
6.2.1 Standards 127
6.2.2 Meeting Requirements 127
6.2.3 Equipment/Software 129
6.2.4 Utility Notices and Agreements 129
6.2.5 Affected Utility Owners 129
6.2.6 Investigations/Supplemental Work 135
6.2.7 Scheduling 135
6.2.8 Other Requirements 136
6.2.9 Reports and Plans 136
6.3 Design Requirements 137
6.3.1 Design Criteria 137

6.4 Construction Requirements 139
6.4.1 Notifications 139
6.4.2 Construction Criteria 139
6.4.3 Utility Requirements 142
6.4.4 Instrumentation/Monitoring Requirements (Not Used) 142
6.4.5 Construction Reports and Plans 142
6.4.6 Standard Drawings 142
6.4.7 Construction Methods and Materials, Inspection and Testing Requirements 142
6.4.8 Removal of Miscellaneous Objects 143
6.4.9 Disposal of Materials 143
6.4.10 Temporary Requirements 143
6.5 Submittal Requirements 143
7 RIGHT-OF-WAY (ROW) 146
7.1 General Requirements 146
7.2 Right of Way Requirements 146
7.3 Administrative Requirements 147
7.3.1 Standards 147
7.3.2 ROW Meeting Requirements 147
7.3.3 Equipment/Software 147
7.3.4 Permits/Authorizations 147
7.4 Design-Builder Responsibilities for Project ROW and Additional Project ROW 148
7.4.1 Request for Additional Project ROW 148
7.4.2 (Not Used) 148
7.5 Illinois Tollway Responsibilities for Project ROW and Additional Project ROW (Not Used) 148
7.6 Illinois Tollway Responsibilities for Design-Builder Requested ROW 148
7.6.1 Appraisal and Appraisal Review 148
7.6.2 Negotiation and Acquisition 149
7.6.3 Relocation Assistance and Payments Program 149
7.6.4 Property Management 149

7.6.5 Accounting for Land Acquisition Services 149
7.6.6 Contracting for Land Acquisition Services 149
7.6.7 Outdoor Advertising 149
7.7 Design-Builder Responsibilities for Design-Builder Requested ROW 149
7.7.1 Request for Design-Builder Requested ROW 149
7.7.2 ROW Plans 150
7.7.3 ROW Survey 150
7.7.4 ROW Plats 150
7.7.5 Special Wastes 150
7.7.6 Acquired Properties 150
7.7.7 Design-Builder Right of Way Manager 150
7.8 Condemnation Procedures 151
7.9 Construction Requirements 151
7.9.1 General 151
7.9.2 Environmental Clearances 151
7.9.3 Demolition 151
7.9.4 Restoration of Property and Landscape 152
7.9.5 Protection of Property 152
7.10 Submittal Requirements 152
8 GEOTECHNICAL 155
8.1 General Requirements 155
8.1.1 Geotechnical Requirements 155
8.2 Administrative Requirements 155
8.2.1 Standards 155
8.2.2 Meeting Requirements 156
8.2.3 Equipment/Software 156
8.2.4 Permits/Authorizations 156
8.2.5 Certification Requirements 156
8.2.6 Investigations/Supplemental Work 157

8.2.7 Reports and Plans 158
8.3 Design Requirements 159
8.3.1 General 159
8.3.2 Design Criteria 159
8.3.3 Design Deviations 159
8.3.4 Additional Design Requirements 160
8.3.5 Base Sheets 161
8.4 Construction Requirements 161
8.4.1 General 161
8.4.2 Construction Reports and Plans 161
8.4.3 Standard Drawings 161
8.4.4 Construction Methods and Materials, Inspection and Testing Requirements 162
8.4.5 Instrumentation/Monitoring Plan (Not Used) 162
8.4.6 Removal of Miscellaneous Objects (Not Used) 162
8.4.7 Disposal of Materials 162
8.4.8 Temporary Requirements 162
8.5 Submittal Requirements 162
9 LAND SURVEYING 165
9.1 General 165
9.2 Administrative Requirements 165
9.2.1 Standards 165
9.2.2 Meeting Requirements 165
9.2.3 Equipment/Software 165
9.2.4 Permits/Authorizations 166
9.2.5 Investigations/Supplemental Work 166
9.2.6 Video Record 166
9.2.7 Survey Reports 166
9.2.8 Drone Survey 167
9.3 Design Documents 167

9.3.1 Survey Control Requirements 167
9.3.2 Survey Control Datum 167
9.3.3 Mapping 167
9.4 Construction Requirements 167
9.4.1 General 167
9.4.2 Construction Reports and Plans 167
9.4.3 As-Built Information 167
9.4.4 Standard Drawings 168
9.4.5 Additional Requirements 168
9.5 Submittal Requirements 169
10 PAVEMENTS AND ROADWAY MATERIALS 171
10.1 General Requirements 171
10.2 Administrative Requirements 171
10.2.1 Standards 171
10.2.2 Meeting Requirements 171
10.2.3 Equipment/Software 172
10.2.4 Permits/Authorizations 172
10.2.5 Investigations/Supplemental Work 172
10.2.6 Reports and Plans 172
10.3 Design Requirements 172
10.3.1 General 172
10.3.2 Design Criteria and Process 173
10.3.3 Not Used 176
10.3.4 Materials 176
10.3.5 Additional Design Requirements 179
10.3.6 Base Sheets 179
10.4 Construction Requirements 179
10.4.1 General 179
10.4.2 Construction Reports and Plans 179

10.4.3 Standard Drawings 180
10.4.4 Construction Methods and Materials, Inspection and Testing Requirements 180
10.4.5 Not Used 180
10.4.6 Removal of Miscellaneous Objects 180
10.4.7 Disposal of Materials 180
10.4.8 Temporary Requirements 180
10.5 Submittal Requirements 180
11 ROADWAYS AND GRADING 183
11.1 General Requirements 183
11.1.1 Roadway Requirements 183
11.1.2 Grading Requirements 183
11.2 Administrative Requirements 183
11.2.1 Standards and Manuals 183
11.2.2 Meeting Requirements 184
11.2.3 Equipment/Software Requirements 184
11.2.4 Permits/Authorizations 184
11.2.5 Investigations/Supplemental Work 185
11.2.6 Reports and Plans 185
11.2.7 3D Digital Delivery Requirements 185
11.3 Design Requirements 185
11.3.1 General 185
11.3.2 Design Criteria 186
11.3.3 Design Deviations 186
11.3.4 Additional Design Requirements 186
11.3.5 Base Sheets 195
11.4 Construction Requirements 195
11.4.1 General 195
11.4.2 Standard Drawings 195
11.4.3 Model as Legal Document (MALD) 195

11.4.4 Construction Methods and Materials, Inspection and Testing Requirements 195
11.4.5 Removal of Miscellaneous Objects 195
11.4.6 Disposal of Materials 196
11.4.7 Temporary Requirements 196
11.5 Section 11 Submittal Requirements 196
12 DRAINAGE 199
12.1 General Requirements 199
12.1.1 Drainage Requirements 199
12.2 Administrative Requirements 199
12.2.1 Standards 199
12.2.2 Meeting Requirements 200
12.2.3 Equipment/Software 200
12.2.4 Permits/Authorizations 200
12.2.5 Investigations/Supplemental Work 201
12.2.6 Reports and Plans 202
12.3 Design Requirements 202
12.3.1 General 202
12.3.2 Design Criteria 202
12.3.3 Design Deviations Not Used 205
12.3.4 Additional Design Requirements- Not Used 205
12.3.5 Base Sheets 205
12.4 Construction Requirements 206
12.4.1 General 206
12.4.2 Construction Reports and Plans - Not Used 206
12.4.3 Standard Drawings 206
12.4.4 Construction Methods and Materials, Inspection and Testing Requirements 206
12.4.5 Not Used 206
12.4.6 Not Used 206
12.4.7 Removal of Miscellaneous Objects 206

12.4.8 Disposal of Materials 206
12.4.9 Temporary Requirements 206
12.5 Submittal Requirements 206
13 STRUCTURES 209
13.1 General Requirements 209
13.1.1 Structures Requirements 209
13.2 Administrative Requirements 209
13.2.1 Standards 209
13.2.2 Meeting Requirements 210
13.2.3 Equipment/Software 210
13.2.4 Permits/Authorizations 211
13.2.5 Investigations/Supplemental Work 211
13.2.6 Reports and Plans 211
13.3 Design Requirements 212
13.3.1 General 212
13.3.2 Design Criteria 212
13.3.3 Design Deviations 212
13.3.4 Additional Design Requirements 212
13.3.5 Base Sheets 229
13.3.6 Aesthetics 229
13.4 Construction Requirements 229
13.4.1 General 229
13.4.2 Construction Reports and Plans 229
13.4.3 Standard Drawings 229
13.4.4 Construction Methods and Materials, Inspection and Testing Requirements 229
13.4.5 Instrumentation/Monitoring Plan - Not Used 230
13.4.6 Removal of Miscellaneous Objects - Not Used 230
13.4.7 Disposal of Materials 230
13.4.8 Temporary Requirements 231

13.5 Submittal Requirements 231

14 LANDSCAPE 233

14.1 General 233

14.1.1 Landscape Requirements 233

14.2 Administrative Requirements 233

14.2.1 Standards 233

14.2.2 Meeting Requirements 234

14.2.3 Equipment/Software 234

14.2.4 Permits/Authorizations 234

14.2.5 Investigations/Supplemental Work 234

14.2.6 Vegetative Assets 234

14.2.7 Timber Utilization 235

14.2.8 Reports and Plans 235

14.3 Design Requirements 235

14.3.1 General 235

14.3.2 Design Criteria 236

14.3.3 Design Deviations (Not Used) 236

14.3.4 Additional Design Requirements 236

14.3.5 Base Sheets 238

14.4 Construction Requirements 238

14.4.1 General 238

14.4.2 Construction Reports and Plans 239

14.4.3 Standard Drawings 239

14.4.4 Construction Methods and Materials, Inspection and Testing Requirements 239

14.4.5 Removal of Miscellaneous Objects 239

14.4.6 Disposal of Materials 240

14.4.7 Temporary Requirements 240

14.5 Submittal Requirements 240

15 VISUAL QUALITY MANAGEMENT 243

15.1 General Requirements 243

15.2 Administrative Requirements 243
15.2.1 Standards 243
15.2.2 Visual Quality Manager (Not Used) 243
15.2.3 Meeting Requirements 243
15.2.4 Equipment/Software 244
15.2.5 Permits/Authorizations 244
15.2.6 Investigations/Supplemental Work 244
15.2.7 Reports and Plans 244
15.3 Design Requirements 244
15.3.1 General 244
15.3.2 Investigations/Supplemental Work (Not Used) 244
15.3.3 Design Criteria (Not Used) 244
15.3.4 Visual Quality Details 245
15.3.5 Visual Quality Elements 245
15.3.6 Reports and Plans (Not Used) 246
15.3.7 Visual Quality Plan 246
15.3.8 Base Sheets 247
15.4 Construction Requirements 247
15.4.1 General 247
15.4.2 Construction Reports and Plans (Not Used) 247
15.4.3 Standard Drawings 247
15.4.4 Construction Methods and Materials, Inspection and Testing Requirements 247
15.4.5 Mock-Ups 247
15.4.6 Instrumentation/Monitoring Plan (Not Used) 248
15.4.7 Removal of Miscellaneous Objects (Not Used) 248
15.4.8 Disposal of Materials 248
15.4.9 Temporary Requirements (Not Used) 248
15.5 Submittal Requirements 248
16 SIGNING, PAVEMENT MARKINGS, TRAFFIC SIGNAL, AND LIGHTING 250

16.1 General Requirements 250
16.1.1 Pavement Markings, Traffic Signal Loop Detector, and Lighting Requirements 250
16.2 Administrative Requirements 250
16.2.1 Standards 250
16.2.2 Meeting Requirements 251
16.2.3 Permanent Signing Meetings (Not Used) 251
16.2.4 Equipment/Software 251
16.2.5 Permits/Authorizations 252
16.2.6 Investigations/Supplemental Work 252
16.2.7 Reports and Plans 252
16.3 Design Requirements 252
16.3.1 General 252
16.3.2 Design Criteria 253
16.3.3 Signing 253
16.3.4 Pavement Markings 255
16.3.5 Traffic Signal Existing Loop Detectors 255
16.3.6 Lighting 256
16.3.7 Base Sheets 259
16.4 Construction Requirements 260
16.4.1 General 260
16.4.2 Construction Reports and Plans 260
16.4.3 Standard Drawings 260
16.4.4 Construction Methods and Materials, Inspection and Testing Requirements 260
16.4.5 Removal of Miscellaneous Objects 261
16.4.6 Disposal of Materials 261
16.4.7 Temporary Requirements 262
16.5 Submittal Requirements 263
17 INTELLIGENT TRANSPORTATION SYSTEMS 265
18 MAINTENANCE OF TRAFFIC 267
18.1 General Requirements 267

18.1.1 Maintenance of Traffic Requirements 267
18.2 Administrative Requirements 267
18.2.1 Standards 267
18.2.2 Meeting Requirements 268
18.2.3 Equipment/Software 268
18.2.4 Permits/Authorizations 268
18.2.5 Investigations/Supplemental Work 268
18.2.6 Reports and Plans 269
18.3 Design Requirements 274
18.3.1 General 274
18.3.2 Design Criteria 274
18.3.3 Design Deviations 274
18.3.4 Additional Design Requirements 275
18.4 Construction Requirements 282
18.4.1 General 282
18.4.2 Construction Reports and Plans 283
18.4.3 Standard Drawings 283
18.4.4 Construction Methods and Materials, Inspection and Testing Requirements 283
18.4.5 Removal of Miscellaneous Objects 284
18.4.6 Disposal of Materials 285
18.4.7 Not Used 285
18.5 Submittal Requirements 285
19 MAINTENANCE DURING CONSTRUCTION 288
19.1 General Requirements 288
19.2 Administrative Requirements 288
19.2.1 Standards 288
19.2.2 Meeting Requirements 288
19.2.3 Equipment/Software 288
19.2.4 Permits/Authorizations 288

19.2.5 Investigations/Supplemental Work 289
19.2.6 Reports and Plans 289
19.3 Design Requirements 289
19.4 Maintenance Requirements 289
19.4.1 General 289
19.4.2 Construction Criteria 290
19.4.3 Construction Reports and Plans - (Not Used) 291
19.4.4 Standard Drawings (Not Used) 291
19.4.5 Construction Methods and Materials, Inspection and Testing Requirements (Not Used) 291
19.4.6 Removal of Miscellaneous Objects 291
19.4.7 Disposal of Materials 291
19.5 Submittal Requirements 291
20 BICYCLE AND PEDESTRIAN FACILITIES 293
20.1 General Requirements 293
20.2 Administrative Requirements 293
20.2.1 Standards 293
20.2.2 Bicycle Facilities 293
20.2.3 Pedestrian Facilities 293
20.2.4 Meeting Requirements 293
20.2.5 Equipment/Software 294
20.2.6 Permits/Authorizations 294
20.2.7 Investigations/Supplemental Work 294
20.2.8 Reports and Plans 294
20.3 Design Requirements 294
20.3.1 General 294
20.3.2 Design Criteria - (Not Used) 294
20.3.3 Project Specific Design Criteria - (Not Used) 294
20.3.4 Crosswalks - (Not Used) 294
20.3.5 Pedestrian Ramps 294

20.3.6 Pavement Marking and Signing 294
20.3.7 Pavement Design - (Not Used) 295
20.3.8 Design Deviations 295
20.3.9 Reports and Plans - (Not Used) 295
20.4 Construction Requirements 295
20.4.1 General 295
20.4.2 Construction Reports and Plans – (Not Used) 295
20.4.3 Construction Methods and Materials, Inspection and Testing Requirements 295
20.4.4 Removal of Miscellaneous Objects 295
20.4.5 Disposal of Materials 295
20.5 Submittal Requirements 295
21 RAILROADS 298
21.1 General Requirements 298
21.1.1 Railroad Requirements 298
21.1.2 Preliminary Railroad Coordination 298
21.2 Administrative Requirements 298
21.2.1 Standards 299
21.2.2 Meeting Requirements 299
21.2.3 Equipment/Software 300
21.2.4 Permits/Authorizations 300
21.2.5 Investigations/Supplemental Work 300
21.2.6 Reports and Plans 301
21.2.7 Affected Railroads 301
21.3 Design Requirements 302
21.3.1 General 303
21.3.2 Design Criteria 303
21.3.3 Design Procedures (Not Used) 303
21.3.4 Design Document Submittals 303
21.3.5 Railroad Design Submittals 303

21.4 Construction Requirements 304
21.4.1 General 304
21.4.2 Instrumentation/Monitoring Requirements 305
21.4.3 Construction Reports and Plans 305
21.4.4 Standard Drawings 305
21.4.5 Construction Methods and Materials, Inspection and Testing Requirements 305
21.4.6 Removal of Miscellaneous Objects 305
21.4.7 Disposal of Materials 305
21.4.8 Temporary Requirements 305
21.5 Submittal Requirements 306
22 TOLLING INFRASTRUCTURE 309
22.1 General Requirements 309
22.2 Administrative Requirements 309
22.2.1 Standards 309
22.2.2 Meeting Requirements 309
22.2.3 Equipment/Software 310
22.2.4 Permits/Authorizations 310
22.2.5 Investigations/Supplemental Work 310
22.3 Design Requirements 310
22.3.1 Design Deviations 310
22.3.2 Additional Design Requirements 310
22.3.3 Base Sheets 311
22.4 Construction Requirements 311
22.4.1 General 311
22.4.2 Standard Drawings 311
22.4.3 Construction Methods and Materials, Inspection and Testing Requirements 311
22.4.4 Disposal of Materials 311
22.5 Submittal Requirements 311

Section 1

1 GENERAL

This Section 1 of Book 2, General, describes the relationships between Book 2 and Book 3 and provides a general description of the Project and those items included in the Conceptual Design and Directive Design. This Section 1 also includes a listing of other requirements for this Project.

1.1 Introduction to Books 2 and 3

This introduction is intended to provide instructions to the Design-Builder on the relationship between Books 2 and 3. It does not replace the order of precedence set forth in Book 1, Section 1.2.1 (Content and Order of Precedence). If there are any conflicts between this introduction and Book 1, Section 1.2.1 (Content and Order of Precedence), Book 1 shall control.

Book 3 sets forth the Project Standards applicable to the Project. The Design-Builder shall perform the Work in compliance with the current editions, as of the Setting Date, of the Project Standards. Some Project Standards have been modified for application to the Contract. Book 3 includes modifications that apply to the standards listed in Book 3. In some instances, only specific sections of the given standard apply; these sections may be specified in Book 2. The Design-Builder shall not use any Illinois Tollway Special Provisions not included by reference in this Book 2 without prior approval from Illinois Tollway.

Book 2 sets forth requirements that apply to this Project. Book 2 incorporates the Project Standards in Book 3 by reference. Book 2 may modify, supplement, replace, or incorporate portions of the Project Standards. The text of Book 2 shall take higher precedence than the Exhibits of Book 2 unless otherwise specified. The text of and Exhibits of Book 2 shall take higher precedence than the Project Standards referenced within Book 2 and within Book 3.

In the event that the Design-Builder believes a modification and/or interpretation within Book 2 or Book 3 is unclear, the Design-Builder shall notify and coordinate with the Illinois Tollway, and in each case the modification and/or interpretation shall be determined at the sole discretion of the Illinois Tollway. If it is not clear to the Design-Builder how Book 2 and Book 3 shall be interpreted, the Design-Builder shall have the obligation to raise the issue with the Illinois Tollway. Regardless of whether the Design-Builder raises the issue, the Illinois Tollway shall always have the right to notify the Design-Builder if the Design-Builder interprets Book 2 and Book 3 incorrectly.

1.2 General Project Description

The Design-Builder shall not rely solely on the physical description contained in this Section 1 to identify all Project components. The Design-Builder shall determine the full scope of the Project through thorough performance of Reasonable Investigations and Scope Validation.

The Design-Builder shall provide the necessary resources and expertise to perform the Work in accordance with the Contract Documents. The Design-Builder shall coordinate activities with those impacted by the Work, including:

- Illinois Tollway;
- Governmental Agencies;
- Utility Owners;
- Railroads;
- Property Owners;
- The Public; and
- Other third-parties, as necessary.

The Design-Builder is responsible for completing the Work, which generally includes – but is not limited to – the design and construction of:

- Clearing, Grubbing, Demolition, and Removals;
- Utility Coordination;
- Grading and Earthwork;
- Roadways;
- Pavement Patching and Overlay;
- Bridge Structures Repair;
- Noise abatement walls;
- Environmental compliance, Permitting, and Mitigation;
- Drainage facilities, including storm sewers, culverts, and best management practices (BMPs);
- Erosion and Sediment control;
- Permanent seeding and Landscaping;
- Signing, Pavement marking, and Lighting;
- Maintenance of Traffic;
- Maintenance during construction; and
- Other highway infrastructure appurtenances.

Additionally, the Work may include – but is not limited to – the following:

- Assisting Illinois Tollway with Public Information;
- Coordinating with Project stakeholders;
- Project management and administration;
- Project controls;
- Permitting; and
- Other necessary tasks to complete the Work.

1.3 Project Location

The Project is located on Illinois Route 390 Tollway from Lake Street to I-290 in Cook and DuPage Counties in the Cities and Townships of Hanover Park, Schaumburg, Roselle, Elk Grove Village, and Itasca.

The Design-Builder shall ensure that no Work extends beyond the limits of the contract, unless Illinois Tollway Approves otherwise.

1.4 Right-of-Entry

Table 1-1 – Highway Occupancy Permits identifies existing Rights-of-Entry or easements that are active within the Project Limits.

Table 1-1: Highway Occupancy Permits

Permitted Entity	Location	Description
None Exist		

1.5 Project Standards

The Design-Builder shall adhere to and follow the Project Standards as set forth in Book 3 and order of precedence thereof, as stipulated in the respective technical sections of this Book 2.

1.6 Governmental Approvals and Conceptual Design

The Design-Builder shall ensure the Work, and performance thereof, meets the commitments of the Conceptual Design, including the Environmental Commitments, and the Governmental Approvals.

The applicable Governmental Approvals are:

- This Project is anticipated to require a permit from the United States Army Corps of Engineers (USACE). The permit is anticipated to be issued prior to the Contract NTP based on preliminary assessment of environmental impacts and the permit shall be amended as necessary by the Design-Builder if environmental impacts exceed the preliminary assessment of the environmental impacts.
- The Design- Builder will be responsible for obtaining IDOT approval for any work affecting a State highway by notifying IDOT 14 calendar days prior to commencement of work.
- The Design-Builder will be responsible for obtaining an IDOT highway permit and indemnifying IDOT per Article 107.26 of IDOT's Standard Specification for access to IDOT right of way.
- The Design-Builder is required to secure necessary permits for work on or near county highways and obtain written authorization for any lane closures on or adjacent to Cook County highways from the Cook County Department of Highways.
- The Design-Builder is required to secure necessary permits for work on or near Village roadways and obtain written authorization for any lane closures on or adjacent to Village roadways from the Village of Roselle.
- The Design-Builder is required to secure necessary permits for work on or near Village roadways and obtain written authorization for any lane closures on or adjacent to Village roadways from the Village of Schaumburg.
- The Design-Builder is required to secure necessary permits for work on or near Township roadways and obtain written authorization for any lane closure on or adjacent to Township from Schaumburg Township.
- The Design-Builder is required to secure necessary permits for work on or near county highways and obtain written authorization for any lane closures on or adjacent to Du Page County highways from the DuPage County Division of Transportation.
- The Design-Builder is required to secure necessary permits for work on or near Township roadways and obtain written authorization for any lane closures on or adjacent to Township roadways from Bloomingdale Township.
- The Design-Builder is required to secure all necessary permits or authorizations for work from governing agencies as determined by the Design-Builder.

1.7 Directive Design

The Reference Information conveys the general intent of the Project, however, due to Right-of-Way, railroads, utilities, and other third-party constraints, specific aspects of the Reference Information are considered as Directive Design and are noted as such. Directive Design is defined as the Preliminary Design in the Reference Information and Supplemental Information that is prescriptive and labeled as Directive Design. Unless explicitly permitted, in writing, by Illinois Tollway, the Design-Builder shall not deviate from the Directive Design. Notwithstanding the provisions in Book 1, the Directive Design elements are as follows:

- Geotechnical (Refer to Section 8)
    - Borings for BN 1606 and 1606A (Section 8.2.7.1.1)
    - Structural Geotechnical Report (Section 8.2.7.1.3)
- Land Surveying (Refer to Section 9)
    - Verifying and Using Provided Survey Control Points (Sections 9.2.7, 9.3.1 and 9.3.2)
- Pavement and Roadway Materials (Refer to Section 10):

  - Locations and Materials for Mainline Asphalt Overlay and Resurfacing (Sections 10.3.2 and 10.3.4)
  - Locations and Materials for Microsurfacing Mainline (Sections 10.3.2 and 10.3.4)
  - Mainline Continuously Reinforced Concrete Pavement (CRCP) Class A Patching Work Description (Sections 10.3.2 and 10.3.4)
  - Mainline Shoulder and Ramp Jointed Plain Concrete Pavement (JPCP) Class B Patching Work Description (Sections 10.3.2 and 10.3.4)
  - Joint Routing and Sealing Asphalt Shoulders and Cracks Work Description (Sections 10.3.2 and 10.3.4)
  - Mixtures for Cracks and Flangeways Work Description (Sections 10.3.2 and 10.3.4)
  - Asphalt Partial Depth Removal and Overlay Patching Work Description (Sections 10.3.2 and 10.3.4)
  - Additional Pavement Improvements Work Description (Section 10.3.5)
  - Test Strips for Stone Matrix Asphalt and Warm Mix Asphalt Mixtures (Section 10.4.4)
- Roadways and Grading (Refer to Section 11)
  - Existing Horizontal Alignment (Section 11.3.4.2)
  - Paved Shoulder Cross Slope Transition from 4” Overlay to 3” Overlay to meet 3” Barrier Reveal (Section 11.3.4.4.5)
  - Work Description for Aggregate Shoulders (11.3.4.4.6)
  - Work Description for Gutter and Curb Improvements and Coordination (Section 11.3.4.4.7)
  - Develop Limits of Grading for the Project Limits (Section 11.1.2 and 11.3.4.4.9)
  - Work Description for Grading work within Limits of Grading (Refer to Section 11)
  - Work Description for rumble strip improvements within the overlay limits, along with replacing any rumble strip impacted by Maintenance of Traffic or any other construction activities (Section 11.3.4.4.12)
  - Replace Delineation Devices along IL 390 Mainline and Ramps that are not functioning as intended.
  - Work Description for Approach Span Overlay (Section 11.3.4.5)
  - Minimum Roadway and Grading Work on Structures (Section 11.3.4.5)
  - Work Description for Barrier Warrant Analysis (Section 11.3.4.7)
  - Concrete Barrier Repairs and Temporary Concrete Barrier and Impact Attenuator Work (Section 11.3.4.7.4)
  - Work Description for Fencing (Section 11.3.4.11)
  - Work Description for Temporary Construction Access Roads (Section 11.4.7)
- Drainage (Refer to Section 12)
  - Cleaning and Televising Locations and Work Descriptions (Section 12.2.5.2)
  - Design Scope (Section 12.3.2)
  - Drainage Task Locations and Work Descriptions (Section 12.3.2)
- Structures (Refer to Section 13)
- Landscaping (Refer to Section 14)
  - Landscaping Work based on Design-Builder defined Limits of Grading/Construction (Sections 14.1.1 and 14.3.4.1)
  - Provide Temporary Erosion Control Measures for Construction Activities (Sections 14.1.1 and 14.3.4.1.5)
  - Investigate Locations specified in Table 14-1 and Provide Recommendations and Improvements for Permanent Erosion Control Measures (Sections 14.1.1 and 14.3.4.1.5)
- Pavement Markings and Lighting (Refer to Section 16)
  - Work Description for Providing Permanent Pavement Markings (Section 16.3.4)

- Work Description for Traffic Signal Existing Loop Detectors (Section 16.3.5)
- Work Description for Project Specific Lighting Requirements (Section 16.3.6.1.10)
- Development of Utility Load Letter and Associated Coordination (Section 16.4.4.4.1)

The Design-Builder shall correct Errors or Omissions within the Directive Designs and shall notify Illinois Tollway immediately if such Errors or Omissions are identified.

1.8 Design Deviations

The Illinois Tollway has identified Approved Design Deviations for this Project as listed in Exhibit 1B – Approved Design Deviations. The Design-Builder shall notify the Illinois Tollway of Errors or Omissions found within Approved Design Deviations immediately upon finding such Error or Omission. The Design-Builder shall ensure the accuracy and implementation of Permitted Deviations as part of the Work.

In the event the Design-Builder proposes amending or eliminating an Approved Design Deviation, the Design-Builder shall notify and coordinate with Illinois Tollway and prepare the documentation and plans necessary for the sought Design Deviation revision review process. The Design-Builder shall submit such requests utilizing the Illinois Tollway Design Deviation process as described in the Illinois Tollway DSE Manual. The Design-Builder will handle changes to the Contract Documents, and associated cost and schedule changes, through Change Orders per Book 1.

In the event the Design-Builder proposes an additional Design Deviation that was not listed on Exhibit 1B, the Design-Builder shall notify and coordinate with Illinois Tollway and prepare the documentation and plans necessary for the Design Deviation review process. The Design-Builder shall submit such requests in a timely manner, utilizing the Illinois Tollway Design Deviation process and provide any calculations that support the Design Deviation as described in the Illinois Tollway DSE Manual.

The Design-Builder shall not propose less stringent amendments to an Approved Design Deviation that would result in a product of lesser quality, safety, or value. The Design-Builder may not propose additional Design Deviations during procurement but may submit Design Deviations in support of a Change Order. The Design-Builder shall perform additional data collection, investigation, testing, analysis, design, reporting, and other necessary functions needed to implement a new Design Deviation

The amended and additional Design Deviations shall be subject to review and approval first by the Illinois Tollway and then the Federal Highway Administration (FHWA), as necessary, via Illinois Tollway coordination. The Design-Builder shall be solely responsible for delays in receiving the necessary approvals of Design Deviations and for impacts resulting from the implementation of such Design Deviations. Moreover, the Design-Builder shall not be entitled to an increase in the Contract Price, the adjustment of a completion deadline, claim, relief event, nor compensation event due to the Design-Builder's failure to receive approval of an amended or new Design Deviation. There is no assurance that Illinois Tollway will Approve the Design-Builder's Design Deviations.

1.9 Design-Builder Responsibilities

1.9.1 Design Responsibility

The Design-Builder shall be responsible for developing and providing all Design Work in accordance with the Contract Documents. All Designs provided by the Design-Builder shall be completed under the responsible charge of a registered Professional Engineer and/or Structural Engineer as appropriate, licensed

in the State of Illinois. The Designs and plans shall be sealed in accordance with the bylaws and rules of procedure of the Illinois State Board of Registration for Professional Engineers and Professional Land Surveyors, by the responsible engineer in charge. Major structure designs provided by the Design-Builder shall include an independent design review and check by an engineer registered in the State of Illinois employed by a firm other than an Engineer-of-Record contracted by the Illinois Tollway.

The Design-Builder shall not be relieved of its obligation to perform the Design Work in accordance with the Contract, or its other required obligations under the Contract, by oversight, spot checks, audits, reviews, acceptances, or approvals by any Persons, or by any failure of any Person to take such action.

The Design-Builder shall develop, implement, and maintain a design management approach that:

- Involves Illinois Tollway every four weeks, at a minimum, throughout the design development process; Meetings can be held in person at the Illinois Tollway GEC office or virtually.
- Integrates stakeholders in the design review comment process; and
- Integrates quality management into all submittals.

1.9.2 Design Justification

Upon request by the Illinois Tollway, the Design-Builder shall provide computer-generated 3-D models, plans, or typed documentations to explain or justify certain elements of the Project, including but not limited to:

- Design issues;
- Items requiring consideration; and
- Final decisions and justifications.

1.9.3 Construction Responsibility

The Design-Builder shall provide all Construction Work in accordance with the Contract Documents. The Design-Builder shall not be relieved of its obligation to perform the Work in accordance with the Contract Documents, or any of its other obligations under the Contract, by oversight, spot checks, audits, reviews, tests, inspections, acceptances, or approvals by any Persons, or by any failure of any Person to take such action.

The Design-Builder shall develop and implement a construction management approach that, at a minimum:

- Promotes quality in the Work product;
- Coordinates the design with the construction and promotes communication between Key Personnel and Illinois Tollway throughout the process;
- Ensures that the Project designers review and appropriately record changes during construction to any Released for Construction Plans; and
- Ensures that Illinois Tollway and/or the Design-Builder appropriately inspect and/or test all work in accordance with Illinois Tollway practices.

The Design-Builder shall use and provide materials that are consistent with this Book 2 and the Project Standards. Materials proposed by the Design-Builder in lieu of such materials listed in this Book 2 and the Project Standards shall be subject to Illinois Tollway Approval in its sole discretion.

1.10 Illinois Tollway Responsibility

Illinois Tollway will perform reviews, testing and inspection of the Design and Construction Work, as Illinois Tollway deems appropriate or as described within this Book 2.

1.11 Other Projects in the Vicinity of the Project

The Design-Builder shall coordinate the design and construction Work and cooperate with the holders of separate contracts in the vicinity of the Project, including both present and future contracts.

The following projects are known or anticipated at this time:

- Illinois Department of Transportation
  - CN 62R58, 9CY24, IL 19 (Mitchelle to Roselle Rd) - Resurfacing
  - CN 62R60, 9CY24, IL 19 (Roselle Rd to Baker Dr) - Resurfacing
  - CN 62K04, 6CY23, US 20 @ Gary Ave – Traffic Signal Modernization
  - CN 62R91, 4CY24, US 20 over IL 30 – Bridge Repairs
- Illinois Tollway
  - RR-23-4902 Systemwide Lighting Repairs
  - RR-23-4930 Systemwide Roadway Appurtenance Repairs
  - RR-24-9297 Systemwide Pavement Marking Improvements
  - RR-24-4976 Systemwide Pavement Repairs
  - RR-25-4998 Systemwide Lighting Repairs
  - RR-25-6002 Systemwide Pavement Repairs
  - RR-25-9311 Systemwide Pavement Marking

1.12 Submittal Requirements

Whenever a Submittal identified in *Table 1-2, Section 1.12 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management Plan*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 1-2 - Section 1.12 Submittal Requirements,* below. This *Table 1-2 - Section 1.12 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 1–2: Section 1.12 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Amendments to Approved Design Deviations	1.8	PDF/ DGN	Type 2	15	5	NTP 3

Section 2

2 PROJECT MANAGEMENT

This Section 2 of Book 2, Project Management, includes the requirements for Work associated with management of the Project. The Design-Builder shall manage and administer the Work in an orderly fashion to allow for a well-organized process. The Design-Builder shall coordinate with the Illinois Tollway to address issues at the lowest level possible while seeking opportunities to improve efficiency.

2.1 Project Management Plan

The Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Project Management Plan (PMP). The PMP shall be separate and apart from a project management plan – prepared by the Illinois Tollway – for use with the U.S. Federal Highway Administration (FHWA), if applicable.

The Design-Builder's PMP shall generally:

- Establish the organization, staffing, systems, strategies, approaches, procedures, and processes to manage and coordinate the Work;
- Define responsibilities to administer, monitor, and control the Work; and
- Describe the approach to deliver the Work in accordance with the Contract Documents.

The PMP is a collection of several component plans; however, there shall be only one PMP for the Design-Builder. The component plans are standalone plans defining various aspects of the Work. Component plan development and Illinois Tollway Approval timeframes shall be reflected in the Baseline Schedule. The PMP shall consist of the following component plans:

- Management and Staffing Plan (MSP);
- Document and Data Management Plan (DDMP);
- Equal Employment Opportunity Plan (EEOP);
- Disadvantaged Business Enterprise Performance Plan (DBEPP);
- Construction Works Plan;
- Risk Management Plan (RMP);
- Contract Communication Plan (CCP);
- Quality Management Plan (QMP):
    - Design Quality Management Plan (DQMP); and
    - Construction Quality Management Plan (CQMP).
- Affected Third Parties Plan (ATPP);
- Safety Management Plan (SMP);
- Emergency Management and Disaster Recovery Plan (EMDRP);
- Public Information and Communications Plan (PICP);
- Comprehensive Environmental Protection Plan (CEPP);
- Environmental Protection Training Plan (EPTP);
- Waste Management Plan (WMP);
- Utility Work Plan (UWP);
- Transportation Management Plan (TMP);
- Final Acceptance and Transition Plan (FATP);
- Maintenance During Construction Plan (MDCP); and
- BIM Execution Plan (BEP)

The Design-Builder shall ensure that each component plan Submittal is identified within the Submittal Packaging Requirement Database (SPRD) described in Section 2.1.2.1.1. The Design-Builder shall update and resubmit the PMP inclusive of applicable component plans for Illinois Tollway review and Acceptance

when changes in the Work necessitate an update, as reasonably directed by the Illinois Tollway, and, at a minimum, on an annual basis.

2.1.1 Management and Staffing Plan

As part of the PMP, the Design-Builder shall prepare and submit for Illinois Tollway review and Approval a Management and Staffing Plan (MSP) expanding upon the information submitted with the Proposal. The Design-Builder shall implement, manage, and update the accepted MSP in accordance with the PMP requirements.

The Design-Builder's MSP shall, at a minimum:

- Provide a Design-Builder organizational chart and roster for Key Personnel and Required Personnel regardless of their affiliation including their name, role, employer, email address, and contact phone number;
- Establish reporting lines, responsibilities, authorized signature responsibility, locations, and authorities for Key Personnel and Required Personnel regardless of their affiliation;
- Present the Design-Builder's plan for providing continuous Emergency contact information between NTP1 through Final Acceptance;
- Provide statements regarding Key Personnel and Required Personnel time commitments;
- Detail how vital design, construction, and maintenance during construction personnel shall be integrated and how they shall interact;
- Describe management structures and systems for design, construction, and maintenance during construction activities;
- Define interface protocols the Design-Builder shall utilize with the Illinois Tollway, Governmental Entities, third-parties, Utility Owners, and Railroads;
- Identify and describe meetings and reports needed to ensure the Work is coordinated within the Design-Builder and with the Illinois Tollway, Governmental Entities, third-parties, Utility Owners, and Railroads; and
- Describe how the Baseline Schedule will be prepared, implemented, managed, and updated between NTP 1 and Final Acceptance.

The Design-Builder shall ensure all personnel performing Work on the Project have the experience, skill, and knowledge to perform the Work assigned to them and shall ensure all personnel performing Work on the Project also have appropriate required professional licenses and certifications.

2.1.1.1 Key Personnel

2.1.1.1.1 Minimum Requirements of Key Personnel

The Design-Builder shall identify and provide Key Personnel for the Project who meet the minimum requirements of the Contract Documents. The Design-Builder shall retain the necessary Key Personnel and their respective minimum requirements and responsibilities for this Project as outlined in Table 2-1, Key Personnel for the Project, below.

2.1.1.1.2 Approval of Key Personnel

Illinois Tollway has the right to Approve or reject the Design-Builder's Key Personnel prior to their participation on the Project. Such Approval is based on the qualification requirements set forth above and elsewhere in the Contract Documents for all Key Personnel. Illinois Tollway does not need to provide additional Approval to Key Personnel approved prior to contract award to participate on the Project.

2.1.1.1.3 Deductions

2.1.1.1.3.1 Deductions for Change or Removal

Unless Illinois Tollway Approves otherwise, the Design-Builder shall be assessed liquidated damages for each occurrence of vacant Key Personnel positions or changes in Key Personnel positions, including the removal of Key Personnel from the Project by Illinois Tollway in accordance with Book 1, Section 21, except for extenuating circumstances as described in Book 1, Section 21. Such liquidated damages to be assessed for each Key Personnel shall be as identified in Table 2-1.

2.1.1.1.3.2 Deductions for Vacancy

The Design-Builder shall be assessed daily liquidated damages rate for Key Personnel positions which are vacant. Such liquidated damages to be assessed for each Key Personnel vacancies shall be as identified in Table 2-1.

Table 2-1: Key Personnel for the Project

Key Personnel	Minimum Responsibilities	Minimum Education and Experience Requirements	Liquidated Damages if the Key Personnel is Removed from or leaves the Project
Project Manager	Lead the Design-Build Project Team Will have the authority to represent, make decisions for, and oversee the performance of the Design-Builder	**Minimum of 10 years' experience in construction and management-of-construction of projects of similar scope and complexity**	$25,000 per change of Key Personnel. $3,000 per Business Day of vacancy.
Construction Manager	Lead coordination between design and construction teams with Design Manager. Employee of the lead construction team. Responsible for maintaining construction schedule and budget	**Minimum of 10 years' experience in managing construction for projects of similar scope and complexity**	$10,000 per change of Key Personnel. $1,000 per Business Day of vacancy.
Design Manager	Lead coordination between design and construction teams with Design-Build Construction Manager Lead design team	**Minimum of 10 years' experience in managing design for projects of similar scope and complexity** Will be licensed as a Professional Engineer in the State of Illinois Must be an employee of the lead design firm	$10,000 per change of Key Personnel. $1,000 per Business Day of vacancy.
Quality Manager	Lead the Design and Construction Quality Management of the entire contract	**Minimum of 10 years' experience in design or construction quality management of projects of similar scope and complexity**	$10,000 per change of Key Personnel. $1,000 per Business Day of vacancy.
Safety Manager	Leading safety team, creating safety plans and programs, and managing safety requirements of entire contract	**Minimum 10 years' experience** Must be a Certified Safety Professional (CSP) and hold current 30-hour card for OSHA Construction	Not Applicable
Environmental Manager	Coordinating the lead Design firm(s)'s environmental studies and ensuring that issues are resolved before and during Construction work.	**Minimum of 10 years of experience** **Minimum of 2 years managing environmental compliance activities and permitting for highway projects**	Not Applicable

Key Personnel	Minimum Responsibilities	Minimum Education and Experience Requirements	Liquidated Damages if the Key Personnel is Removed from or leaves the Project
	Demonstrated knowledge and ability to obtain required permits. Oversee field operations and ensure compliance with regulations. Have the authority to stop any and all Work that is not in compliance with environmental requirements	Meet the prequalification requirements of IDOT Prequalification Guidelines for conducting Environmental Studies	
Scheduler	Responsible for preparing the proposed Baseline Schedule for the Design-Builder, accounting for applicable constraints on the Work.	**Minimum 10 years of preparing schedules for similar projects** Experience with alternative delivery methods or projects with Designer involvement, including progressive design-build, CM/GC or design-build, for example	Not Applicable
Maintenance of Traffic Team	The MOT team (one or two people) will be responsible for ensuring that the traffic designs and maintenance of traffic operations are completed in accordance with contract requirements and best practices to minimize impacts of the project on the traveling public, the local road system, and Illinois Tollway revenue. The MOT team will also be responsible for coordinating and managing information provided to stakeholders and the public.	Recent experience designing maintenance of traffic and staging plans on projects of similar scope and complexity (3 years' experience or 2 similar projects within the last 5 years minimum). Available to visit the Project site within two (2) hours at all times. Work under the direct supervision of the Design Manager. Must be a registered professional engineer in the State of Illinois by the time the first notice to proceed is issued. Experience with public information management for similar projects	$10,000 per change of Key Personnel for any MOT Team member. $1,000 per Business Day of vacancy for any MOT Team member.

2.1.1.1.4 Replacement of Key Personnel

The Design-Builder shall notify Illinois Tollway in writing of any proposed changes to Key Personnel and include a detailed résumé summarizing the items set forth above and elsewhere in the Contract Documents. The Design-Builder shall not replace any Key Personnel without the prior written Approval of Illinois Tollway. Illinois Tollway will only approve such proposed replacement of Key Personnel if such replacements are equally qualified or more qualified than the original Key Personnel. The Design-Builder shall obtain written Approval of the person's participation in the Project before his or her start of work.

2.1.1.1.5 Directory of Key Personnel

Prepare a directory of Key Personnel that includes the following information for each individual: name, Project title, Project office address, Project office location, e-mail address, and telephone numbers (office, mobile, pager). Keep the directory current throughout the course of the Project.

Submit the directory of Key Personnel within seven (7) Days of NTP1.

2.1.1.2 Required Personnel

The Design-Builder shall identify, provide and retain Required Personnel for the Project who meet the minimum requirements of the Contract Documents. The necessary Required Personnel and their respective minimum requirements and responsibilities for this Project are outlined in Table 2-2, Required Personnel for the Project, below.

2.1.1.2.1 Approval of Required Personnel

Illinois Tollway has the right to Approve or reject the Design-Builder's Required Personnel prior to their participation on the Project. Such Approval is based on the qualification requirements set forth above and elsewhere in the Contract Documents for all Required Personnel. Required Personnel approved prior to contract award do not require additional Approval by Illinois Tollway to participate on the Project.

Table 2-2: Required Personnel for the Project

Relevant Book 2 Section	Required Personnel	Minimum Responsibilities:	Minimum Education and Experience Requirements:
Section 2, Project Management	Document Control Manager	Develop, lead, and train team regarding document control methods required for project and for WBPM	Minimum 5 years of experience, including document control on projects of similar scope and complexity
Section 3, Public Information and Communications	Public Information Liaison	Coordinate with project team to support: 1 – Tollway Communications preparation of project-related information to the public and 2 – Tollway Planning/Engineering communication with directly impacted stakeholders	Minimum 5 years of experience, including coordination with the public and governmental entities on projects of similar scope
Section 4, Environmental	SWPPP Designer	**See Book 2, Section 4**	Minimum 5 years of experience It is the responsibility of the Designer to be familiar with the Illinois Tollway landscape management practices and to be knowledgeable in the principles of erosion and sediment control, roadside landscape design and of current practices and applicable regulations as they may affect Illinois Tollway projects. The Designer shall also be knowledgeable of the most sustainable method for managing stormwater runoff.
Section 4, Environmental	SWPPP Inspector	Must perform inspections in accordance with approved SWPPP	Minimum 5 years of experience, including knowledge, skills, and experience in each of the following: - Design and recommend Erosion and Sediment Control (ESC) BMPs to implement during construction to minimize soil and sediment laden water loss. - Conduct site inspections for sediment and water containment and implementation assistance. - Produce reports which address findings and recommendations for BMP installation and maintenance, site inspections of drainage bodies, and flood effects.

Relevant Book 2 Section	Required Personnel	Minimum Responsibilities:	Minimum Education and Experience Requirements:
Section 4, Environmental	Wetland Specialist		Minimum 3 years of experience, including knowledge, skills, and experience in each of the following: ▪ Conduct field surveys to identify and delineate the boundaries of wetlands. ▪ Assess the condition of wetlands, including vegetation, hydrology, soil types and wildlife habitats. ▪ Prepare wetland reports, conducting function assessments and develop and mitigation plans. • Collect quantitative and qualitative data on water
Section 4, Environmental	Erosion and Sediment Control Installer	It is the responsibility of the Erosion and Sediment Control Installer to ensure continuous monitoring of the effectiveness of the implemented erosion and sediment control measures throughout construction of Illinois Tollway projects and that all actions and record-keeping is maintained to ensure permit compliance requirements are met.	Must be experienced in the development and implementation of erosion and sediment control plans to ensure the Design-Builder can effectively implement the plans during the construction phase of the project.
Section 5, Quality Management	Design Quality Manager	Quality Management of all design activities	Minimum 10 years of experience in quality management of design contracts
Section 5, Quality Management	Construction Quality Manager	Quality Management of all construction activities	Minimum 10 years of experience in quality management of construction contracts. The Quality Manager may also serve as the Construction Quality Manager.
Section 6, Utilities	Utility Coordination Manager	In accordance with Section 6 of this Book 2	Minimum 10 years of experience, including coordination with utilities on projects of similar scope and complexity
Section 9, Land Surveying	Survey Manager	This person manages all Design-Builder survey activities associated with the Project.	Must be licensed as a Professional Land Surveyor in the State of Illinois.

Relevant Book 2 Section	Required Personnel	Minimum Responsibilities:	Minimum Education and Experience Requirements:
		Responsible for directing and reviewing all Design-Builder and Subcontractor survey work. Serves as the point of contact for all survey related activities.	
Section 11, Roadways and Grading	Lead Roadway Engineer	Leads the roadway design team in project design of highways and related improvements, coordination and technical quality reviews.	Minimum 10 years of experience Must be licensed as a Professional Engineer in the State of Illinois
Section 12, Drainage	Lead Drainage Engineer	Design of all drainage elements including ditches, storm sewers, culverts, detention basins and BMPs Drainage plan preparation and supporting calculations Hydrologic and hydraulic modeling of bridges and culverts and preparation of all documents for IDNR-OWR permit applications Perform in person field inspections	Minimum 10 years of relevant experience Must be licensed as a Professional Engineer in the State of Illinois
Section 13, Structures	Lead Structural Engineer	Lead the design of bridges, major structures, retaining walls, noise walls, drainage structures and overhead sign structures.	Minimum 10 years of bridge/structures design experience Shall have accumulated demonstrated experience designing major bridges and structures like those Structures anticipated. Must be licensed as a Structural Engineer in the State of Illinois
Section 16, Signing, Pavement Marking, Traffic Signals, and Lighting	Traffic Engineer	Traffic modeling, interchange design studies, intersection studies, traffic impact studies, and evaluate maintenance of traffic impacts	Minimum 10 years of experience Must be licensed as a Professional Engineer in the State of Illinois Must be a Certified PTOE
Section 16, Signing, Pavement Marking,	Signing and Pavement	Design Illinois Tollway signs Design IDOT (when required)	Minimum 10 years of experience

Relevant Book 2 Section	Required Personnel	Minimum Responsibilities:	Minimum Education and Experience Requirements:
Traffic Signals, and Lighting	Marking Design Engineer		Must be licensed as a Professional Engineer in the State of Illinois
Section 16, Signing, Pavement Marking, Traffic Signals, and Lighting	Lighting Design Engineer	Design Illinois Tollway roadway lighting and electrical power systems Design IDOT or Local roadway lighting and electrical power systems (when required)	Minimum 10 years of experience Must be licensed as a Professional Engineer in the State of Illinois Experience designing Illinois Tollway and IDOT roadway lighting and electrical power systems

2.1.1.3 Co-location

2.1.1.3.1 General Provisions

Co-location of staff is not required for this project.

2.1.1.3.2 Facilities and Space Requirements—Project Office

The Design-Builder shall ensure that office staff facilities for the Design-Builder and Illinois Tollway construction field oversight personnel be located in the same general proximity. Separate office or field trailer space shall be provided for Illinois Tollway staff.

The Design-Builder shall provide and supply secure office space and Equipment specified in this Section from four weeks after NTP1 until Final Acceptance. The Design-Builder shall provide offices and Equipment for Illinois Tollway that is in good condition and of at least the same quality as the facilities that the Design-Builder provides its personnel on the Project.

The office shall have an electronic security system that will respond to any breach of exterior doors and windows. Doors and windows shall be equipped with locks. Doors shall also be equipped with dead bolt locks or other secondary locking device.

2.1.1.3.2.1 General Office Requirements

The Design-Builder shall provide office space for Illinois Tollway personnel not less than the size indicated in Table 2-3.

Table 2-3: Minimum Office Space Requirements for Illinois Tollway Personnel

Space	Quantity	Requirement
Office	4	150 square feet each, enclosed with lockable door, 48-inch round table with four upholstered chairs, additional bookcase, and computer desk with a minimum surface of 42” by 30”.
Office	11	100 square feet each, enclosed, may be modular spaces
Conference room	1	300 square feet each, enclosed with lockable door Additional furnishings in each conference room: 2 conference tables with a minimum of 44” by 96” top surface, and upholstered chairs to accommodate 20 people; 4-foot by 8-foot white board
Storage/filing	2	150 square feet, enclosed with lockable door Additional furnishings in each storage/filing room: eight four-drawer locking file cabinets and two 11-inch by 17-inch locking file cabinets with four drawers
Restrooms	1 each	Men’s and women’s
Paved parking		1 space per office plus 10 visitor spaces for Tollway staff use only
Break room	1	250 square feet, 8 feet of counter space with sink, drinkable hot and cold running water, minimum of 700 watt microwave with a turntable and minimum 1 cu ft capacity, refrigerator minimum of 18 cu ft capacity with a freezer unit, range/oven, first aid cabinet fully equipped, and break room supplies

The Design-Builder shall also provide the following for the facilities provided:

- Desk with a minimum surface of 42" by 30", and upholstered chair, 2-drawer lockable filing cabinet, 4-drawer lockable lateral filing cabinet, bookcase, 3-foot by 4-foot white board, two guest chairs, and waste and recycle baskets for ***each*** office space.
- Conference room holding a minimum of 20 people seated around a table, including upholstered chairs. In the event the requirements for any meeting exceed the space available in facilities provided, provide space at another location.
- Heating, ventilation, and air conditioning capable of maintaining temperature between 68- and 72-degrees Fahrenheit in all spaces throughout the year.
- Facilities that meet local code requirements for office space. Restrooms shall include hot and cold running water and shall be stocked with sanitary and lavatory supplies at all times.
- Offices and restrooms shall be maintained clean and in good working condition. A weekly cleaning service for the office shall be provided.
- Internet service connection with a wireless router capable of supplying service to 15 devices. The internet service shall be of unlimited data with a minimum download speed of 150 megabits per second and a minimum upload speed of 35 megabits per second.
- One electric paper shredder
- Three electric desk type tape printing calculator and two pocket scientific notation calculators with a 1000-hour battery life or with a portable recharger.
- Two plain paper network multi-function printer/copier/scanner machines capable of reproducing prints up to 11-inch x 17 inch within automatic feed tray capable of sorting 30 sheets of paper. Letter size and 11-inch x 17-inch paper shall be provided and stocked. The Design-Builder shall provide the multi-function machines with IT support for setup and maintenance.
- One electric water cooler dispenser including water service.

If the facility is a building, the Design-Builder shall provide a contract for the facility to Illinois Tollway one week after the execution of the Contract.

The Design-Builder shall provide contract maintenance agreements on all electrical office accessories for the duration of the Contract. The Design-Builder shall pay all utilities until the Project Office is removed.

The Design-Builder shall maintain access to the Project Office at all times, including removal of any snow/debris from the access and parking areas. The Design-Builder shall ensure the area where the Project Office is located, including access and parking for at least ten vehicles around the office.

2.1.1.3.3 Facilities and Space Requirements— Field Laboratory

2.1.1.3.3.1 Field Laboratory

The Design-Builder shall provide a field laboratory for Illinois Tollway staff in accordance with Tollway Supplemental Specification 670.04.

2.1.1.3.3.2 Replacement and Repair

If office equipment is stolen or damaged beyond repair, the Design-Builder shall provide an equivalent replacement within three Business Days. If the equipment needs repair, the Design-Builder shall repair it within three Business Days. The Design-Builder shall provide such replacement or repair at no direct cost to Illinois Tollway during the life of the Project.

2.1.1.3.3.3 Return of equipment

Illinois Tollway will return computer and Design-Builder-provided networking equipment, if applicable, to the Design-Builder within 90 Days after Final Acceptance of the Project.

2.1.1.4 Meetings

The Design-Builder shall convene regular meetings to coordinate the Work with the Illinois Tollway. Meetings shall include necessary Illinois Tollway-Related Entities, Governmental Entities, third parties, Utility Owners, Railroads, and Design-Builder-Related Entities as appropriate. The Design-Builder personnel with appropriate decision-making authority shall attend meetings. The Design-Builder shall provide meeting locations, invitations, and agendas with specific purpose and stated objectives to attendees no less than three (3) Business Days in advance of meetings.

For each meeting, unless otherwise agreed to by the Illinois Tollway, the Design-Builder shall develop meeting minutes, which shall include, at a minimum: the list of participants, items discussed, discrepancies and corrective actions discussed, follow-up action with respective due dates and identification of responsible parties, and identification of items needing resolution and their time constraints, no more than three (3) Business Days after meetings. The Design-Builder shall circulate meeting minutes to each of the meeting attendees. The Design-Builder shall be responsible for resolving comments on the meeting minutes and shall facilitate communication and meetings to resolve such comments, if necessary. The Design-Builder shall allow attendees at least three (3) Business Days to review meeting minutes. Within ten (10) Business Days of the meeting, the Design-Builder shall circulate the final meeting minutes, addressing attendees' comments.

No more than fifteen (15) Business Days after NTP 1, the Design-Builder shall provide the Illinois Tollway with a list of meetings necessary for the Work, identified throughout the Contract Documents, which, under no circumstances, establishes an exhaustive list. In addition to the meetings identified throughout this Book 2, the *Illinois Tollway Supplemental Specifications*, and *Illinois Tollway DSE Manual*, the meetings shall include, at a minimum:

- Project Initiation (Kick-Off) Meeting;
- Design Initiation Meeting;
- Teamwork Meetings;
- Partnerships sessions,
- Pre-construction Meeting;
- Maintenance During Construction Initiation Meeting;
- Weekly Construction Progress Meetings;
- Punchlist Meetings;
- Monthly Schedule Progress Meetings;
- Monthly Progress Meetings;
- Pre-Invoice Meetings per Book 2, Section 2.3.4, Pre-Invoice Meetings;
- Design Document Submittal review meetings per Book 2, Section 2.1.2.1.7, Design Document Submittals; and
- Construction Document Submittal review meetings per Book 2, Section 2.1.2.1.8, Construction Document Submittals.
- Public Meetings per Book 2, Section 3.2.4.1, Public Meetings

2.1.1.4.1 Project Initiation (Kick-Off) Meeting

The Design-Builder shall coordinate with the Illinois Tollway to confirm the agenda as well as the appropriate personnel to attend a Project Initiation (Kick-Off) Meeting held no more than five (5) Business Days after the Effective Date. The Project Initiation (Kick-Off) Meeting shall, at a minimum:

- Introduce key Illinois Tollway and Design-Builder Project personnel;
- Discuss key information and commitments submitted with the Proposal;

- Review Project goals, schedule, organization, communication, and expectations;
- Identify key stakeholders;
- Briefly discuss the Project Management Plan (PMP);
- Identify potential D&C risks and mitigation;
- Discuss key processes; and
- Discuss next steps.

2.1.1.4.2 Design Initiation Meeting

The Design-Builder shall coordinate with the Illinois Tollway to confirm the agenda as well as the appropriate personnel to attend a Design Initiation Meeting held no more than five (5) Business Days after NTP2. The Design Initiation Meeting shall, at a minimum:

- Introduce key Illinois Tollway and Design-Builder design personnel;
- Discuss key design related information submitted with the Proposal;
- Review Design Work schedule, organization, submission, review, and communication processes;
- Review applicable Project Management Plans (PMPs);
- Review Design Document requirements and the Submittal Packaging Requirements Database (SPRD);
- Discuss Submittal review and oversight processes;
- Review the contents of the Quality Management Plan (QMP) and specifically the Design Quality Management Plan (DQMP); and
- Discuss next steps.

2.1.1.4.3 Teamwork Meetings

The Design-Builder shall facilitate Teamwork Meetings to enable a more in-depth look at the Design Work as may be required from time to time. Teamwork Meetings shall be conducted with Illinois Tollway representatives from Central Office and the maintenance yards where the Work is located. The Illinois Tollway, the QAM, and/or the Design-Builder may initiate Teamwork Meetings. Mutual agreement of the Parties involved in the Teamwork Meetings shall establish the location, content, duration, and format of the Teamwork Meetings, subsequent Comments, and resolution processes.

2.1.1.4.4 Pre-construction Meeting

The Design-Builder shall coordinate with the Illinois Tollway to confirm the agenda as well as the appropriate personnel to attend a Pre-construction Meeting held no more than five (5) Business Days after NTP 3. The Pre-construction Meeting shall, at a minimum:

- Introduce key Illinois Tollway and Design-Builder Construction personnel;
- Review Construction Work schedule, organization, and communication processes;
- Identify Related Transportation Facilities;
- Review applicable Project Management Plans (PMPs);
- Briefly review applicable Design Documents;
- Review Construction Document requirements and the SPRD;
- Review the contents of the Quality Management Plan (QMP) and specifically the Construction Quality Management Plan (CQMP);
- Discuss safety and health related protocols;
- Review sensitive Project items such as but not limited to environmental issues, ROW constraints, utilities, geotechnical concerns, and other unique aspects of the Work;
- Discuss public and stakeholder communication expectations and identify known or potential public impacts and milestones requiring outreach and communications;
- Review Nonconformance Reports; and
- Discuss next steps.

2.1.1.4.5 Maintenance During Construction Initiation Meeting

The Design-Builder shall coordinate with the Illinois Tollway to confirm the agenda as well as the appropriate personnel to attend a Maintenance Initiation Meeting held no more than five (5) Business Days after the Effective Date. The Maintenance Initiation Meeting shall, at a minimum:

- Introduce key Illinois Tollway and Design-Builder maintenance personnel;
- Discuss key maintenance related information submitted with the Package Proposal;
- Review Maintenance During Construction Work processes;
- Review applicable Project Management Plans (PMPs);
- Briefly review applicable Design Documents;
- Review the contents of the Quality Management Plan (QMP) and specifically the Maintenance Quality Management Plan (MQMP);
- Discuss safety and health related protocols;
- Review sensitive Project items such as but not limited to environmental issues, ROW constraints, utilities, geotechnical concerns, and other unique aspects of the Work;
- Review Nonconformance Reports (NCRs); and
- Discuss next steps.

2.1.1.4.6 Weekly Construction Progress Meetings

The Design-Builder shall coordinate with the Illinois Tollway to confirm the agenda as well as the appropriate personnel to attend Weekly Progress Meetings beginning the first week after NTP 3 which shall be conducted in accordance with Illinois Tollway ISO Forms and, at a minimum:

- Briefly describe Work progress;
- Identify Critical Path issues and potential/proposed solutions;
- Discuss upcoming Milestones;
- Identify impending Work start and completion dates;
- Identify issues and provide potential/proposed solutions for the current week and summarize issues remaining to be resolved from the immediate prior week;
- Status of Nonconformance Reports (NCRs);
- Status of Submittals;
- Discuss relevant safety and health issues;
- Describe progress for achieving the DBE, VOSB, and OJT Goals;
- Summarize quality management activities including reviews, findings, and actions/resolutions; and
- Identify Illinois Tollway actions and/or decisions required for the upcoming week.

2.1.1.4.7 Punchlist Meetings

The Design-Builder shall coordinate with the Illinois Tollway to confirm the agenda as well as the appropriate personnel to attend Punchlist Meetings to be held as often as needed to facilitate Illinois Tollway acceptance which shall, at a minimum:

- Introduce key Illinois Tollway and Design-Builder Punchlist personnel;
- Discuss Punchlist inspection requests;
- Review conditions requiring correction and/or completion;
- Provide, coordinate, and complete material certifications, forms, and other relevant documents; and
- Record dates, as necessary.

The Design-Builder shall provide the Punchlist to the Illinois Tollway prior to Substantial Completion.

2.1.1.4.8 Reserved (Not used)

2.1.1.4.9 Monthly Progress Meetings

The Design-Builder shall coordinate with the Illinois Tollway to identify appropriate personnel to attend Monthly Progress Meetings (MPMs). The Design-Builder shall conduct the MPMs no more than five (5) Business Days after the submission of Monthly Progress Reports (MPRs) identified within Section 2.1.1.5.1, Monthly Progress Report of this Book 2 starting from the first month following NTP1 until the end of Term. The MPM shall, at a minimum, discuss MPR topics.

2.1.1.5 Reporting

The Design-Builder shall identify and describe necessary reports that attest to and summarize the performance of the Design-Builder's organization, staffing, systems, strategies, approaches, procedures, and processes to manage and coordinate the Work. No more than fifteen (15) Business Days after NTP 1, the Design-Builder shall provide the Illinois Tollway a list of reports necessary for the Work, identified throughout this Book 2, which, under no circumstances, establishes an exhaustive list. In addition to the submittals identified throughout this Book 2, the Design-Builder shall provide a Monthly Progress Report.

2.1.1.5.1 Monthly Progress Report

The Design-Builder shall prepare and submit an MPR to the Illinois Tollway, inclusive of a Monthly Schedule Update (MSU) as described in Section 2.2.6, Monthly Schedule Update of this Book 2. The reporting period for the MPR shall be the end of the last day of the month. The Design-Builder shall provide the MPR to the Illinois Tollway no later than the tenth day of each month (reporting period) starting from the first full month following NTP 1 through Final Acceptance. The Design-Builder shall make corrections to the MPRs as coordinated with the Illinois Tollway and provide an updated MPR within five (5) Business Days of receipt of written Illinois Tollway Comments.

The MPR shall, at a minimum, for the reporting period:

- Briefly describe Work progress;
- Provide brief schedule narrative discussing Work progress inclusive of:
- Critical Path issues and potential/proposed solutions;
- Milestones providing dates for the immediate prior period, the current period, and an explanation regarding variance greater than 30 Days;
- Start and completion dates for major Work based on the Work Breakdown Structure (WBS); and
- Planned major Work for the upcoming period.
- Identify issues and provide potential/proposed solutions for the current period and summarize issues remaining to be resolved from the immediate prior period;
- Status of Nonconformance Reports (NCRs);
- Incorporate the monthly quality report;
- Status of risk management activities;
- Summarize Claims accepted for the month immediately prior and the current period;
- Status Change Orders, Field Design Changes (FDC), and Directive Letters;
- Incorporate the latest SPRD and status of Submittals;
- Incorporate progress reports for achieving EEO requirements, including progress on all requirements for within Book 1, which includes but is not limited to, commercially useful function and prompt payment; and all requirements for OJT, which includes monthly reporting and any other EEO requirements;
- Summarize quality management activities including reviews, findings, and actions/resolutions;
- Identify Illinois Tollway actions and/or decisions required for the upcoming period;
- Provide digital progress photographs with descriptions (separate files logically named) accurately depicting and describing the progress of the Work noting that the Illinois Tollway is free to utilize

the photographs and descriptions as the Illinois Tollway determines without restrictions and/or cost; and

- Provide updates for milestones, public and stakeholder communications and outreach.

2.1.2 Document and Data Management Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Document and Data Management Plan (DDMP). The Design-Builder shall implement, manage, and update the accepted DDMP in accordance with the PMP requirements. As part of the DDMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Submittals Packaging Requirements Database (SPRD), as described within this Section of this Book 2.

The Design-Builder shall utilize the Illinois Tollway supplied WBPM throughout the duration of the Project for storing, submitting, cataloging, maintaining, controlling, accessing, searching, and retrieving Project Data inclusive of Project Management Plans, Design Documents, Construction Documents, Notices, Submittals, and records. Documents placed within the Illinois Tollway supplied WBPM shall be electronically searchable and legible. Existing Illinois Tollway processes within the WBPM system shall be used whenever applicable. The Design-Builder shall be responsible for coordinating with Illinois Tollway to determine when a WBPM process is applicable versus developing a new type of submittal/process.

The Design-Builder shall store construction material testing reports using I-MIRS (Illinois Materials Inspection and Reporting System) for review and record keeping within three (3) days of completion of the tests. The Design-Builder shall store asphalt, concrete, aggregate, and tack coat results in I-MIRS.

The Design-Builder shall coordinate with the Illinois Tollway to determine access rights and processes associated with the various Illinois Tollway internal electronic storage and management systems applicable to the D&C Work, which shall be summarized in the DDMP.

The Design-Builder's DDMP shall, at a minimum:

- Identify WBPM system processes that will be used;
- Identify necessary forms that will be used;
- Describe the Design-Builder's plans for compliance with ISO procedures for Design quality assurance;
- Follow the proper file naming convention in accordance with the Project Standards;
- Describe the version control procedures that will be utilized to ensure appropriate documents will be used for their intended purpose(s);
- Require the use of systems, standards, and procedures that will be compatible with those employed by the Illinois Tollway;
- Require the development and implementation of new operation procedures required as a result of Illinois Tollway amendments to systems, standards, and procedures;
- Ensure only authorized personnel have access;
- Summarize access rights and processes associated with the various Illinois Tollway internal electronic storage and management systems;
- Develop and employ appropriate standards and procedures and train Design-Builder personnel to operate applicable Illinois Tollway internal electronic storage and management systems; and
- Provide electronic data storage and electronic data transfer in native formats as well as searchable Portable Document Format (PDF) images.

2.1.2.1 Submittals

This Section 2.1.2.1 sets forth the terms and procedures that shall govern all Submittals pursuant to this Contract.

2.1.2.1.1 Submittal Packaging Requirements Database (SPRD)

The Design-Builder shall conduct necessary coordination meetings with the Illinois Tollway to establish Submittal processes and procedures, consistent with the Contract Documents, and shall prepare, and obtain Illinois Tollway acceptance on, an excel spreadsheet SPRD that, at a minimum, incorporates the Submittals and associated requirements of the Contract Documents, inclusive of this Book 2. The Design-Builder is specifically directed to the Section Submittal Requirements Tables at the end of each Book 2 Section. The Design-Builder shall implement, manage, and update the Illinois Tollway-accepted SPRD as deemed necessary by Illinois Tollway, but not less than quarterly. The submission and acceptance of the SPRD shall not relieve the Design-Builder of its Submittal obligations of the Contract Documents. The Design-Builder shall ensure that each Submittal identified in the SPRD is included in the Baseline Schedule and is assigned to an appropriate Coordination and Discipline Group (CDG). For each Submittal, the Design-Builder's SPRD shall, at a minimum:

- Assign a unique item number; per the file naming convention;
- Provide a description of each Submittal;
- Identify the Submittal Type;
- Reflect the time period for Illinois Tollway's review;
- The conditional precedent to certain activities such as:
    - NTP 2;
    - NTP 3;
    - Construction Work commencement for Submittal related Work;
    - Substantial Completion; or
    - Final Acceptance.
- The Design-Builder shall submit the SPRD to Illinois Tollway within twenty (20) Business Days after NTP 1.

2.1.2.1.2 Submittal Review, Comment and Acceptance Terms and Procedures

The Design-Builder shall prepare a variety of Submittals, identified throughout the Contract Documents, which, under no circumstances, establishes an exhaustive list. The Design-Builder shall deliver to the Illinois Tollway accurate and complete Submittals within the timeframe and form described within the Contract Document, inclusive of this Book 2. The Design-Builder shall be solely responsible for meeting Submittal requirements of the Work. For the avoidance of doubt, the Design-Builder shall account for potential multiple Submittals to achieve the Illinois Tollway's and/or commenting party's concurrence and for satisfying certain Notice to Proceed conditions necessary for portions of the Work when preparing and scheduling Submittals.

The Design-Builder shall coordinate with the Illinois Tollway, third-parties, the QAM, the DQM, and the CQM, as appropriate, to establish Design Document and Construction Document review workflow processes and procedures which designate the actions of each Party, provide consistent formatting, and facilitate efficient comment resolution. The Illinois Tollway will conduct reviews and provide written comments in accordance with the Contract Documents, inclusive of the accepted SPRD. The Illinois Tollway will review Submittals for compliance with the Contract Documents and sound engineering judgment and practice.

The Illinois Tollway may reject any Submittal that is incomplete, or otherwise does not provide the content or information required under the Contract Documents.

2.1.2.1.3 Time Periods

Whenever the Illinois Tollway has a right to review, comment on, reject, or accept a Submittal, the Illinois Tollway will review, comment on, reject, or accept (as applicable) such Submittal: (a) where a time period is specified in the Contract Documents, within such time period; or (b) where no time period is specified in this Contract Documents, promptly and in any event within fifteen (15) Business Days, in either case after the date the Illinois Tollway receives a complete Submittal in conformance with the Contract Documents.

The time periods set forth in the Contract Documents, in each case for the Illinois Tollway's review, comment, rejection, or acceptance (as applicable) of Submittals, shall apply to and restart with all Submittals that the Design-Builder may be required to resubmit under this Project Agreement. The Design-Builder shall schedule and coordinate all Submittals to allow an efficient and orderly Submittals process.

In addition, the Design-Builder shall be responsible for scheduling and obtaining all reviews required by Utility Owners, Railroads, Illinois Department of Transportation (IDOT), Counties, Municipalities, the Federal Highway Administration (FHWA), the Federal Aviation Administration (FAA), Federal Agencies and any other Persons other than Illinois Tollway, as applicable.

IDOT review time, if necessary, will be 30 Business Days.

FHWA review time, if necessary, will be 30 Business Days.

The Design-Builder shall schedule and arrange Comment Resolution Meeting(s) (CRMs) with the Illinois Tollway and third-parties as appropriate, if warranted, upon completed review. No less than five (5) Business Days prior to the CRM, the Design-Builder shall provide written responses to Illinois Tollway and/or third-party comments. No later than five (5) Business Days following the CRM, the Design-Builder shall revise the written responses as may be needed and provide the Illinois Tollway and/or the Governmental Entity with a record of the comment resolution.

The Design-Builder shall address Illinois Tollway and third-party comments, Basis of Rejection items, and/or Errors in the Design Documents and Construction Documents. The Design-Builder shall correct Design Documents and Construction Documents to achieve the Illinois Tollway's concurrence that Illinois Tollway comments have been addressed and to achieve third-party approvals in accordance with the Contract Documents.

2.1.2.1.4 Submittal Types

2.1.2.1.4.1 Type 1 Submittal

The Design-Builder may commence or permit the commencement of any Work that is the subject of, governed by or dependent upon a required Type 1 Submittal at or after submission to the Illinois Tollway; provided that the Design-Builder shall bear all risk and cost associated with any requirement to resubmit or to remedy any Nonconforming Work following any comment on the Type 1 Submittal.

The Illinois Tollway may make comments on the Type 1 Submittal and the Design-Builder shall use reasonable efforts to accommodate the Illinois Tollway's comments where accommodation does not materially increase the time or cost (or both) for the Design-Builder performance of the Work with respect to such Type 1 Submittal.

2.1.2.1.4.2 Type 2 Submittal

The Design-Builder shall not commence or permit the commencement of any Work that is the subject of, governed by or dependent upon a Type 2 Submittal until it has submitted the Type 2 Submittal to the Illinois Tollway, and:

The Illinois Tollway has received the Type 2 Submittal; and

Either:

If the Illinois Tollway makes a comment on the Type 2 Submittal, any re-submission of the Type 2 Submittal addresses the Illinois Tollway's Comment and the Illinois Tollway Accepts the resubmitted Type 2 Submittal or the basis for the comment in the Type 2 Submittal is resolved in accordance with Book 2 Section 2.1.2.1.5, Submittals Disputes. This is only true, however, in each case that the Design-Builder shall use commercially reasonable efforts to accommodate the Illinois Tollway's Comments where accommodation does not materially increase the time or cost (or both) for the Design-Builder's performance of the Work with respect to such Type 2 Submittal; or

If the Illinois Tollway rejects the Type 2 Submittal (and provided a Basis of Rejection), the resubmitted Type 2 Submittal fully remedies the Basis for Rejection and the Illinois Tollway accepts the resubmitted Type 2 Submittal, or the Basis of Rejection is otherwise resolved via dispute resolution.

If the Illinois Tollway does not respond to a Type 2 Submittal within the allowable time period, then the Type 2 Submittal shall be deemed rejected. The Illinois Tollway may, but is under no obligation to, provide its rationale for rejection; provided, however, that so long as the Design-Builder meets the requirements within the definition of a Claim, then the Design-Builder may seek relief and compensation with respect to the Work that is the subject of, governed by, or dependent upon, the relevant Submittal provided. However, the Design-Builder shall nevertheless submit a Submittal with or without amendments, as the Design-Builder determines appropriate, regardless of relief or compensation.

2.1.2.1.4.3 Type 3 Submittal

The Design-Builder shall not commence or permit the commencement of any Work that is the subject of, governed by or dependent upon a Type 3 Submittal until it has submitted the Type 3 Submittal to the Illinois Tollway and the Illinois Tollway has provided its Acceptance (at its sole discretion) of such Type 3 Submittal.

If the Illinois Tollway does not respond to a Type 3 Submittal within the allowable time period, then the Type 3 Submittal shall be deemed rejected. The Illinois Tollway may, but is under no obligation to, provide its rationale for rejection. If the Design-Builder wishes to proceed with the subject matter of the rejected (or deemed rejected) Type 3 Submittal, the Design-Builder shall amend and resubmit the amended Type 3 Submittal to the Illinois Tollway.

2.1.2.1.5 Submittals Disputes

The Design-Builder acknowledges and agrees that (a) the Design-Builder may not Dispute any rejection of a Type 3 Submittal by the Illinois Tollway under this Section 2.1.2.1.5, and (b) the Design-Builder may not bring a Dispute regarding any Type 3 Submittal under the Dispute Resolution Procedures.

Design-Builder shall notify the Illinois Tollway Project Manager on the Web-Based Project Management system (WBPM) within ten (10) Business Days after receipt of any review comments if additional

clarification is required, if there are conflicts between review comments received, or if the Design-Builder believes the comments, or the Basis of Rejection, received would cause the RFC documents, other Design Documents, or any Contract Documents to contain Errors or Omissions in any respect or which would otherwise adversely affect, in any manner, the Work or the Baseline Schedule. In the event of such occurrence and should the Illinois Tollway in its sole discretion agree with the Design-Builder's foregoing assertion, the Illinois Tollway shall have the right to modify its comments.

Any failure of the Design-Builder to so notify the Illinois Tollway within the ten (10) Business Days after receipt of any review comments shall constitute the Design-Builder's full acceptance of all responsibility for changes in response to such Illinois Tollway comments and will be treated for all purposes hereunder as if the Design-Builder had initiated such changes.

In the event that the Design-Builder disagrees with comments or Basis of Rejection received from the Illinois Tollway or with those received from others, the Design-Builder must, within ten (10) Business Days after receipt of comments provide written disposition to the comments that includes accompanying references applicable to Contract Documents or applicable references in Book 3 on the WBPM. Disagreement with review comments or the Basis of Rejection received does not relieve the Design-Builder from meeting the requirements of the Contract Documents and the decision as to whether or not such review comments shall apply to the Contract shall be in the Illinois Tollway's sole discretion.

In each case where the Design-Builder is entitled to seek, and seeks relief for a submittals dispute, the Design-Builder shall provide Notice to the Illinois Tollway that it either (a) will not accommodate the Illinois Tollway comments to a Submittal (on the basis that accommodation materially increases the time or cost (or both) of the Design-Builder's performance of the Work with respect to the relevant Submittal), or (b) Disputes the Illinois Tollway's Basis of Rejection, in each case as applicable to the Illinois Tollway's disposition of a Submittal. For avoidance of doubt, the Design-Builder's recourse to resolution of submittals disputes is conditioned upon affirmative Notice to the Illinois Tollway of the submittals dispute.

If the Design-Builder:

- does not accommodate Illinois Tollway's comment with respect to the relevant Submittal, and the Illinois Tollway asserted initially and reasonably continues to believe that such comment can, by the Design-Builder's exercise of commercially reasonable efforts, be accommodated without material increase in time or cost (or both); or
- Disputes the Illinois Tollway's Basis of Rejection, then, in either case, the Illinois Tollway will notify the Design-Builder within five (5) Business Days after receipt of the Design-Builder's Notice that the Illinois Tollway continues to reasonably believe: (i) that the Illinois Tollway's comment can, by the Design-Builder's exercise of commercially reasonable efforts, be accommodated without material increase in time or cost (or both), or (ii) the Basis of Rejection is valid.

Following such Notice by the Illinois Tollway, the Parties shall conduct discussions and negotiations in good faith to resolve the basis for the subject Submittals dispute. If the Parties fail to reach agreement within ten (10) Business Days after expiry of such good faith negotiations, as determined by either Party in its reasonable discretion, then either Party may refer the matter for determination in accordance with the Dispute Resolution Procedures.

2.1.2.1.6 Submittals Format

The Design-Builder shall provide Illinois Tollway with a complete searchable electronic PDF file of each submittal through the WBPM. The Design-Builder may provide submittals via multiple files if necessary due to file size constraints or variations in paper size (letter vs. tabloid). The Design-Builder shall number each page or sheet sequentially from the first page in the file to the last page. The Design-Builder shall submit a table of contents for each submittal that contains multiple pages, containing the following information: discipline, page or sheet number, page or sheet title. Should special provisions or other unique specifications apply to a submittal, the Design-Builder shall submit such special provisions with the respective submittal.

2.1.2.1.6.1 Illinois Tollway Review

The Design-Builder shall coordinate submittal of all design documents and shall not submit or resubmit more than ten (10) submittals per week to Illinois Tollway for its review. If Illinois Tollway receives more than ten (10) submittals in one week, it may elect, at its sole discretion, to either (a) consider the excess packages submitted for the following week or weeks a "deferral" or (b) review the excess submittals as they would the first 10. If Illinois Tollway elects option (b), Illinois Tollway will notify the Design-Builder of its election no later than five (5) Business Days after receiving the excess submittals. If Illinois Tollway does not provide notice after five (5) Business Days, the receipt of excess submittals will be treated as a deferral.

After each review, the Design-Builder shall address necessary comments raised by Illinois Tollway by revising the design and/or plans to Illinois Tollway's satisfaction.

Illinois Tollway will treat Submittals received after 3:00 pm local time as being received the following Business Day for the purposes of starting the time in which Illinois Tollway must review the submittal.

Illinois Tollway may put each submittal through multiple iterations of review before Acceptance. The actual Illinois Tollway review timeline may be directly related to the extent of involvement the Design-Builder allows during the design development process by consistently engaging Illinois Tollway. More up-front Illinois Tollway involvement may shorten review timelines.

For the avoidance of doubt, the Illinois Tollway's review, Acceptance, or Approval of a submittal, including the Design Document Submittals and Construction Document Submittals, shall not relieve the Design-Builder from compliance with any of the requirements of the Contract Documents.

2.1.2.1.6.2 Resubmittal Process

If the Design-Builder's Design Quality Assurance staff or Illinois Tollway deem it necessary, resubmittals of Design Documents may be required. Each resubmittal must address all comments received from a prior submittal in a manner satisfactory to the commenting party. The Design-Builder is not entitled to any additional compensation or time extension due to any resubmittal requirement by the review process or Illinois Tollway.

The Design-Builder shall resubmit the Design Document Submittals (as well as any other required design resubmittal) as many times as necessary to address the comments of the quality process and Illinois Tollway.

The Design-Builder may continue its design activities, at its sole risk, during the resubmittal process. Such continuation in no way relieves the Design-Builder of the responsibility to incorporate the comments of the resubmittal process into the Design Documents.

The Design-Builder shall submit a comment disposition log of the changes made to plans, specifications, and documents from previous submittals for ease of review when resubmittals are made.

2.1.2.1.7 Design Document Submittals

The Design-Builder shall execute Design Work in a collaborative manner with Illinois Tollway and affected third-parties, share and review Design Documents Submittals on a continual basis, and coordinate with the Illinois Tollway to address issues at the lowest level possible while seeking opportunities to improve efficiency. The Design-Builder shall schedule and coordinate Design Document Submittals to allow for a well-organized process. A Design Document Submittal may also mean any report, plans, and associated documents per the DSE manual.

The Design-Builder shall produce and submit to Illinois Tollway the Design Document Submittals in accordance with this Section 2.1.2.1.7 as described below and in other Sections of this Book 2.

The Design-Builder shall submit a Design Document Compliance Certificate signed by the Design Quality Manager (DQM) and Quality Manager (QM) with each Design Document Submittals, which, certifies to the Illinois Tollway that the (1) Design Document Submittals achieves the requirements of the Contract Documents, and (2) Design Document Submittals has been checked in accordance with the accepted Quality Management Plan (QMP). This Design Document Compliance Certificate in no way constitutes approval of the Design Document Submittals or subsequent construction, nor shall a Design Document Compliance Certificate relieve the Design-Builder of its responsibility to meet the requirements of the Contract Documents.

The Design-Builder shall sign and seal, with an Illinois-licensed Professional Engineer stamp, each RFC Document, final report submittal, and other documents, as necessary. The document that is signed and sealed shall convey what contents the signature and stamp apply to and that quality procedures for that submittal have been followed. The Design-Builder's Project Manager shall review, and sign a document attesting to that review, for all Design Document Submittals and include such signed document with the submittal. This document is meant to ensure that the construction arm of the Design-Builder team is familiar with and agrees with the information presented in the Design Document Submittals.

The Design-Builder shall prepare Design Documents that are similar in appearance and content to the Illinois Tollway standards applicable to the design being performed. The Design-Builder shall ensure that all drawings and associated documents are organized in a logical manner, have a uniform and consistent appearance, and clearly depict the intention of the design and construction as specified in the Illinois Tollway CADD Standards Manual.

The Design-Builder shall provide, as necessary, Design Document Submittals to the Illinois Tollway simultaneous with providing to Governmental Entities, third parties, Utility Owners, and/or Railroads, as specified within the Contract Documents. In the event that the Design-Builder provides Design Document Submittals directly to Governmental Entities, third parties, Utility Owners, and/or Railroads, a record copy shall be placed on the WBPM.

The Design-Builder shall detail its specific process for facilitating Illinois Tollway's, and other third-party (that will ultimately have acceptance or approval authority for the Work and RFC Documents), review processes for such Design Document Submittals.

No less than seven (7) Business Days after a Design Document Submittal being submitted to Illinois Tollway, the Design-Builder shall facilitate a review meeting to reconcile any Illinois Tollway questions or concerns on the Design Document Submittal. The Design-Builder shall document all discussions and conclusions of such meeting in meeting minutes and distribute such meeting minutes within three (3) Business Days of such meeting.

Upon submittal of a Design Document Submittal, the Design-Builder shall verify that all comments from a preceding Design Document Submittal are addressed, closed, or no longer applicable. The Design-Builder shall keep track of the status of all comments, questions, and responses on a Design Document Submittal in an excel worksheet and submit such worksheet with the respective subsequent Design Document Submittal. The Design-Builder shall resubmit Design Document Submittals to Illinois Tollway and third-parties iteratively until the necessary approvals or acceptances are received. The Design-Builder shall not submit a more advanced Design Document Submittal for the same Work until Illinois Tollway has issued acceptance on the less advanced Design Document Submittal.

For the avoidance of doubt, all references to the term "Designer", "Designer of Record", "Design Section Engineer" within the DSE Manual shall mean the Design-Builder. Cost estimates shall not be required with Design Document Submittals.

All Design Document Submittals shall be in English units. The Project coordinate system shall comply with the Project Standards.

At a minimum, and unless otherwise stated within the Contract Documents, the Design-Builder shall develop the following, each separately considered a Design Document Submittal:

- Preliminary Design Documents;
- RFC Documents; and
- Final Design Documents

The Design-Builder shall be responsible and At-Risk for identifying and developing Design Packages for the Project. At the Design-Builder's sole risk, the Design-Builder may proceed with construction of certain elements or portions of the Project in accordance with Released for Construction (RFC) plans before the RFC Documents of the entire Project has been completed and accepted by Illinois Tollway. Each Design Package shall comprise similar and coherent significant parts of the Project that can be checked and reviewed as a self-contained package with due consideration for accommodating interfaces with other Project components. The Design-Builder's plan for developing Design Packages shall be clearly depicted in the SPRD and include, at a minimum:

- Design Packages description, including scope of Design Work within each Design Packages, including limits and interface points; and
- Planned review stages and dates, including specific information to be reviewed, planned review dates (measured from NTP date) and percent complete represented by each review.

2.1.2.1.7.1 Conceptual Design Documents (Not Used)

2.1.2.1.7.2 Preliminary Design Documents

The Design-Builder shall prepare and submit to Illinois Tollway Preliminary Design Documents (at approximately 60% design completion), which shall meet the DSE Manual, Section 4.5, Preliminary Design Phase (60%) requirements.

2.1.2.1.7.3 Pre-RFC Documents

The Design-Builder shall prepare and submit to Illinois Tollway Pre-RFC Documents, which shall meet the DSE Manual, Section 4.6, Pre-Final Design Phase (95%), and Section 4.7, Final Design Phase (100%), requirements.

The Design-Builder shall submit, before or with the Pre-RFC Documents, a report detailing the Illinois Tollway review recommendation(s) and suggestion(s) from previous design submittals that were incorporated into the Project. This report shall also include a brief description of why a recommendation or suggestion was not used.

Pre-RFC Documents shall constitute the documents issued for the purposes of construction and shall contain, at a minimum, the following:

- Design plans
- Design calculations
- Design reports
- Specifications (indexed and numbered)
- Governmental Approvals, applicable permits, affected third-parties approvals, and Railroad and Utility Owner approvals if not already in Contract Documents
- ROW documentation for additional right of way, including grading consents, obtained for the project as a result of the Design-Builder's design
- Design files and models shown

The Design-Builder shall submit electronic PDF files of all RFC Documents, unless otherwise specified. If RFC documents are submitted in more than one package, the Design-Builder shall submit a final package that compiles all RFC documents which must be submitted after all individual RFC submittals are returned as accepted. This compiled package must be presented in a logical manner (i.e., consecutive page numbering, table of contents, etc.).

When submitting the Pre-RFC Documents, the Design-Builder's Quality Manager shall certify that:

- The design meets all applicable requirements of the Contract, applicable law, Environmental Commitments, and the Governmental Approvals;
- The RFC Documents are ready for Construction Work;
- The necessary permits for the RFC Document work have been obtained and are readily accessible;
- The RFC Documents have been checked in accordance with the Design-Builder's Accepted PQM;
- Required ROW has been secured;
- Necessary approvals from governmental agencies, Railroads, Utility owners, and other third parties have been obtained and are in writing; and
- All comments from Illinois Tollway and other reviewing agencies from previous submittals are resolved.

The Design-Builder shall submit calculations with the Pre-RFC Documents according to the following requirements:

- Ensure that all title blocks of calculation sheets include the calculation title, file number, page number, initials of the designer, checker and back-checker, and dates of when design, checking, and back-checking occurred.
- Ensure that all calculations indicate the design requirement, the assumptions made, the methods used, the source of the information, and the cross-reference for the applicable design drawings.
- Ensure that all structure calculations and bridge rating calculations performed using software are independently checked. The Design-Builder shall ensure that hand calculations are verified.
- Ensure that all calculations include the final iteration and are readily accessible, clear, understandable, concise, complete, and accurate so the final design of an element is easily determined.
- Ensure that all calculations are organized in a single document and numbered with a table of contents.
- Ensure that all calculations identify the code or standard utilized and indicate the specific section referenced in the right-hand column.
- Reference the computer programs and versions used in the calculations.
- Ensure that all manual calculations are printed, neatly and legibly.
- All calculations, manual or computer generated, shall be on 8½-inch by 11-inch or 11-inch by 17-inch standard paper. The minimum allowable font size is 12 point.

The Design-Builder shall ensure all Pre-RFC Documents meet the following requirements:

- All Work, including modifications to the Work, is designed under the authority of and signed by an Illinois-licensed Professional Engineer.
- The timing of submission of these documents is indicated in the Baseline Schedule.
- The limits of excavation have been identified for all excavation work.
- The limits of all stay-in-place elements of temporary works have been identified.
- Include estimated quantities for all items which require inspection or testing in accordance with the Illinois Tollway *Materials Source Guide*.
- Include product cut sheet information, as required, to define the Work.
- All shop drawings, and other items necessary to construct the Work are submitted or are identified for future receipt and review after the RFC submittal is submitted and returned (i.e., shop or working drawings and product data sheets).
- Include material strength, type, grade, and ASTM or AASHTO designation for all materials.

2.1.2.1.7.4 Released for Construction Documents

Upon receiving the necessary approvals or acceptances on the Pre-RFC Documents, the Design-Builder shall submit the revised set of RFC Documents to Illinois Tollway for Acceptance. The RFC Documents shall contain the same, but revised as necessary, information as the Pre-RFC Documents.

The Design-Builder shall obtain Illinois Tollway's signature Accepting the Released for Construction Documents prior to the use of those documents for construction.

2.1.2.1.7.5 Final Design Documents

The Design-Builder shall submit Final Design Documents to Illinois Tollway for review and acceptance. The Design-Builder shall ensure and provide documentation to Illinois Tollway that all review comments have been addressed. The Final Design Documents shall include a complete, final assembled design set that includes the latest RFC plans incorporating all FDCs, MWCs, and RFIs and all required design documentation. Illinois Tollway will not accept the Final Design Documents until the Design-Builder has completed all design and has addressed, resolved, and incorporated any prior Design-Builder, third-party,

and/or Illinois Tollway comments to the satisfaction of Illinois Tollway. If deemed necessary by Illinois Tollway, the Design-Builder shall resubmit revised Final Design Documents until such time that Illinois Tollway determines the review comments have been satisfactorily addressed. The Final Design Documents submittal shall be as specified in the Illinois Tollway Design Section Engineer's Manual. For the avoidance of doubt, the Final Design Documents are a complete set of compiled RFC Documents and are not As-Built Documents.

2.1.2.1.8 Construction Document Submittals

The Design-Builder shall produce and submit to Illinois Tollway the Construction Document Submittals in accordance with this Section 2.1.2.1.8 as described below and in other Sections of this Book 2.

The Design-Builder shall execute Construction Work in an orderly fashion and shall coordinate with the Illinois Tollway to address issues at the lowest level possible while seeking opportunities to improve efficiency. The Design-Builder shall schedule and coordinate Construction Document Submittals to allow for a well-organized process.

The Design-Builder shall prepare clear and accurate Construction Document Submittals. The Illinois Tollway may require revisions to Construction Document Submittals in the event of inaccuracies and/or incompleteness, or to provide additional information as may be reasonably needed to conduct review activities. The Design-Builder shall ensure that Construction Document Submittals are identified within the SPRD.

The Design-Builder shall provide Construction Document Submittals to the CQM for verification that they meet the requirements of the Contract Documents, inclusive of the CQMP, prior to submission to the Illinois Tollway, unless otherwise specified. The Design-Builder shall utilize the Illinois Tollway supplied WBPM system, as appropriate, when providing Construction Document Submittals to the Illinois Tollway.

The Design-Builder shall furnish PDF electronic copies, native electronic files, and a transmittal cover sheet in a form acceptable to the Illinois Tollway for Construction Document Submittals. A construction Document Submittal composed of multiple parts shall have each part clearly identified and the parts arranged in a logical sequence. The transmittal shall note every portion of the Construction Document Submittal.

No less than seven (7) Business Days after a Construction Document Submittal being submitted to Illinois Tollway, the Design-Builder shall facilitate a review meeting, as deemed necessary by Illinois Tollway, to reconcile any Illinois Tollway questions or concerns on the Construction Document Submittal. The Design-Builder shall document all discussions and conclusions of such meeting in meeting notes and distribute such meeting notes with five (5) Business Days of such meeting.

The Design-Builder shall provide Construction Document Submittals to the Illinois Tollway simultaneous with providing to Governmental Entities, third parties, Utility Owners, and/or Railroads, as specified within the Contract Documents. In the event the Design-Builder provides Construction Document Submittals directly to Governmental Entities, third parties, Utility Owners, and/or Railroads, a record copy shall be placed on the WBPM.

2.1.2.1.8.1 Shop and Working Drawing Documents

The Design-Builder shall generate shop drawings, working drawings, demolition plans and procedures, and erection plans and procedures in accordance with the Project Standards. The Design-Builder shall submit material and Equipment documentation as necessary to clearly define, control, construct, and inspect the Project. Shop drawings shall depict details needed for fabrication, handling, and transportation, as applicable. The Design-Builder shall obtain Illinois Tollway Acceptance of the shop drawing prior to fabrication commencement. Fabricator quality control as well as independent assurance and independent quality acceptance shall be included on the shop drawing.

The Design-Builder shall submit these drawings to the Engineer of Record for review and internal approval by qualified personnel. All such drawings must be reviewed by the Design-Builder's personnel and revised accordingly until the Design-Builder takes no exceptions to the content and are stamped "Approved for Construction." After the Engineer of Record completes review of a shop or working drawing, submit the drawings to Illinois Tollway in accordance with the Design Document Submittals requirements in Book 2, Section 2.1.2.1.7. An Illinois-licensed Professional Engineer shall sign and seal shop or working drawings requiring signing and prior to being issued for construction.

The Design-Builder shall describe the methods of construction proposed to be used for the Project on the shop and working drawings and calculations. The receipt and review of submittals for temporary Project elements by Illinois Tollway shall in no way constitute Approval or Acceptance of the temporary Project element.

The Design-Builder shall make no changes to any approved shop or working drawing after the Design-Builder's design team has approved them. Any deviations from approved shop or working drawings shall require the fabricator to submit revised drawings to the Design-Builder's design team for Approval.

2.1.2.1.8.2 Demolition Plan and Procedures

Whenever necessary throughout the performance of the Construction Work, the Design-Builder shall prepare, submit, and obtain Illinois Tollway and affected third-parties Acceptances on, Demolition Plan and Procedures in accordance with the Illinois Tollway Supplemental Specifications.

2.1.2.1.8.3 Field Design Change

The Design-Builder may initiate Field Design Changes (FDCs) for Construction Work after the RFC Documents have been Accepted by Illinois Tollway. FDCs may be necessary to address changes in construction material, approach, design, or in response to unknown field conditions that do not constitute minor changes. For avoidance of doubt, FDCs shall not be used as a Change Order or to modify the requirements of the Contract Document. The Design-Builder shall submit FDCs to the Illinois Tollway for review and acceptance. The FDC shall, at a minimum:

- Utilize a form acceptable to the Illinois Tollway;
- Assign a unique identification number;
- Provide the origination date and originator information;
- Identify changes attributable to the FDC applicable to the following:
    - The approved NEPA document;
    - The Project Limits;
    - Impacted Properties;
- Explain reasoning for the change;
- List the applicable design standards (manuals, requirements, etc.) related to the change;

- Identify additional Environmental Approvals and/or environmental commitments;
- Identify additional Approvals obtained from applicable Governmental Entities, third parties, Utility Owners, and/or Railroads; and
- Identify and describe impacts and/or changes attributable to the FDC applicable to the following:
    - Design Work and Construction Work;
    - ROW and Utility Adjustment Work.
    - Provide an Impacted Delay Analysis; and
    - Provide supporting Project Data and Design Work.

The Illinois Tollway, in its sole discretion, may accept or reject FDC proposed by the Design-Builder. The Design-Builder shall be solely responsible for impacts attributable to the FDC. The Design-Builder shall prepare and maintain an FDC log which shall be provided to the Illinois Tollway upon request.

Changes submitted under the FDC process shall adhere to the submission review and oversight procedures for Design Document Submittals in accordance with Book 1, Section 1.4.6, inclusive of processes associated with Preliminary Design Documents, Final Design Documents, RFC Design Documents, and Design Document Compliance Certificates. The Engineer of Record of the original design shall Approve the FDC prior to submittal to Illinois Tollway. In the event the Engineer of Record of the original design is not available, then after notification of the original EOR, another qualified EOR, with equal or greater experience than the original engineer, shall Approve the FDC.

2.1.2.1.8.4 Requests for Information and Minor Changes

Requests for Information (RFIs) may be utilized to clarify information presented in Design Documents but may not be used to supplant Change Requests or modify Contract Document requirements. The Design-Builder shall prepare and maintain an RFI log, which shall be provided to the Illinois Tollway upon request. The Design-Builder shall be responsible for preparing and maintaining responses to RFIs and providing them to the Illinois Tollway for review and concurrence.

RFIs that constitute Minor Work Changes (MWCs) may be used to transfer RFI information to the Final Design Documents. The Illinois Tollway and the EOR shall evaluate the RFI and if the RFI constitutes MWC, then the EOR may transfer the information from the RFI to the FDC log of MWCs and transfer the MWCs to the Final Design Documents. The Lead Design Manager shall be responsible for preparing and maintaining the FDC log of MWCs for the purpose of verifying completeness of the Final Design Documents and As-Built Documents.

2.1.2.1.8.5 As-Built Documents

The Design-Builder shall submit to Illinois Tollway the As-Built Documents that depict the final completed Project. The Design-Builder shall obtain Illinois Tollway Acceptance of the As-Built documents as a condition precedent of Final Acceptance, in accordance with Book 1, Section 24.3

Design-Builder shall refer to the BIM Implementation Manual for requirements on digital as-built delivery requirements. For underground utilities as-built documentation, Design-Builder shall refer to the Digital Utility As-Built Special Provisions Specification which provides methods of measurement, acceptable tolerances, deliverable format, and other necessary information.

2.1.2.1.8.6 Product Data

The Design-Builder shall submit to Illinois Tollway for Acceptance all manufacturers' warranties, guarantees, instruction sheets, parts lists, training manuals and other product data within twenty (20) Business Days of installation of the items to which they relate, and in any event prior to Final Acceptance.

The Design-Builder shall ensure that the product data cited in this section are organized and indexed in a manner that allows easy review and retrieval of information.

2.1.3 Equal Employment Opportunity Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of an Equal Employment Opportunity Plan (EEOP) addressing state and federal EEO requirements and expanding upon the information submitted with the Package Proposal. The EEOP shall consist of a Disadvantaged Business Enterprise Performance Plan (DBEPP) and a ConstructionWorks plan. The Design-Builder shall implement, manage, and update the accepted EEOP in accordance with the PMP requirements and the Contract Documents.

The Design-Builder shall ensure implementation of required federal, state, and Illinois Tollway EEO policies and programs. The Design-Builder shall also ensure non-discrimination and to take affirmative action to assure equal opportunity as set forth under federal, state, and local laws, executive orders, rules, and regulations. The Design-Builder shall:

- Implement compliance procedures with the Equal Employment Opportunity requirements of Executive Order 11246, "Equal Employment Opportunity;"
- Inform and educate subcontractors of EEO requirements and provide enforcement of the EEO program;
- Implement EEO policy throughout the levels of the Design-Builder's organization, including executive leadership;
- Ensure subcontractors managers, supervisors, and employees have access to and are provided EEO and diversity training;
- Promote an inclusive culture in the workplace by fostering an environment of professionalism and respect for personal differences;
- Recruit, hire, and promote individuals by implementing equal employment practices designed to widen and diversify the pool of candidates considered for employment openings on the Project, including openings in upper-level management as well as subcontractors;
- Develop the potential of employees, supervisors, and managers by providing training and mentoring to give workers of various backgrounds the opportunity, skill, experience, and information necessary to perform well, and to ascend to upper-level jobs. In addition, employees of all backgrounds should have equal access to workplace networks;
- Protect against retaliation by providing clear and credible assurances when employees make complaints or provide information related to complaints; the employer shall protect employees from retaliation and consistently follow through on this guarantee;
- Adopt a strong anti-harassment policy, periodically train each employee on its contents, vigorously follow and enforce it, and develop a tracking system for participation;
- Meet submission requirement for EEO reporting and documentation; and
- Require, at a minimum, monthly EEO related meetings with the Illinois Tollway and other appropriate attendees to discuss issues, concerns, and status with regard to EEO related work performance, activities, and records.

2.1.3.1 Disadvantaged Business Enterprise Performance Plan

As part of the EEOP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Disadvantaged Business Enterprise Performance Plan (DBEPP) for the D&C Work.

The Design-Builder's DBEPP shall, at a minimum:

- Ensure compliance with the Illinois Tollway's Disadvantaged Business Enterprise (DBE) program;
- Identify applicable forms to be utilized and meet submission requirements;
- Detail how the Illinois Tollway's DBE supportive services center will be utilized;
- Describe programs that will be implemented to ensure DBE firms successfully compete for Work;
- Provide procedures and processes to ensure DBE firms successfully complete the Work;
- Describe how the Work will be monitored to ensure DBE participation credit and compliance will be tracked and accounted for;
- Detail how the Work will be managed to ensure DBE firms receive timely and prompt payments and that they will be informed about prompt payment requirements;
- Describe how emerging risks associated with the DBE program will be identified and addressed, including ensuring that DBE firms will be performing commercially useful functions;
- Identify how monthly updates to the DBE community regarding progress and upcoming Contract opportunities will be provided;
- Provide narrative describing how ongoing good faith efforts to meet the DBE Goal will be conducted and detail efforts that will be undertaken to meet its DBE Goal;
- Detail how DBE participation and labor participation reports will be submitted and how records of compliance will be maintained, ensuring adherence to applicable civil rights requirements and the requirements of the Contract Documents; and
- Identify the processes and procedures for a DBE Recovery Plan should the Illinois Tollway determine the DBE Goals are not being achieved.

2.1.3.2 ConstructionWorks Plan

As part of the EEOP, the Design-Builder shall prepare and obtain Illinois Tollway acceptance of a plan incorporating the Illinois Tollway's ConstructionWorks training program for Construction Work.

The Design-Builder's ConstructionWorks plan incorporation plan shall, at a minimum:

- Identify affirmative action training programs;
- Describe ConstructionWorks training program incorporation details;
- Summarize goal setting criteria;
- Identify a potential number of training slots including work classifications;
- Define minimum lengths and type of training for work classifications;
- Develop training plans ascribing meaningful work toward journeyperson status;
- Describe trainee certification processes;
- Detail good faith efforts in identifying potential trainee and ongoing recruitment efforts;
- Detail how ConstructionWorks support services from the Illinois Tollway will be utilized;
- Detail how ConstructionWorks required program documents and training reports will be submitted and how records of compliance will be maintained, ensuring adherence to applicable civil rights requirements and the requirements of the Contract Documents; and
- Identify applicable forms to be utilized.

2.1.4 Risk Management Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Risk Management Plan (RMP) expanding upon the information submitted with the Proposal. The RMP shall include a risk matrix detailing the cause and effect of identified risks, the probability, impact, and exposure

associated with the identified risks, actions/mitigations necessary to address the risk, and residual risk items that remain after the risk action/mitigation occurs. The Design-Builder shall implement, manage, and update the accepted RMP in accordance with the PMP requirements.

The Design-Builder's RMP shall, at a minimum:

- Describe the approach for identifying, allocating, managing, and mitigating risk associated with the Work;
- Detail risks associated with resiliency of bridges, pavements, and embankments in addition to other Project related risks;
- Detail risk associated with not performing timely maintenance;
- Group risks between design, construction, maintenance, and hand back final acceptance;
- Provide specific mitigation strategies and measures to eliminate, prevent, and/or reduce risk impacts or to increase opportunity probability; and
- Identify opportunities to enhance the outcome of the Work.

2.1.5 Contract Communication Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Contract Communication Plan (CCP). The Design-Builder shall implement, manage, and update the accepted CCP in accordance with the PMP requirements.

The Design-Builder's CCP shall, at a minimum:

- Describe the communication protocol between the Illinois Tollway and the Design-Builder, including roles, responsibilities and timing;
- Detail how the various PMP component plan requirements will be coordinated with the Illinois Tollway;
- Identify the Design-Builder's procedures for notifying the Illinois Tollway about unexpected incidents that require Illinois Tollway input;
- Define processes and procedures for monitoring, evaluating, and adjusting communication activities between the Illinois Tollway and the Design-Builder; and
- Describe processes and protocols for identifying and communicating dates associated with completing activities made necessary by the Contract Documents.

2.1.6 Quality Management Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Quality Management Plan (QMP) in accordance with Book 2, Section 5. The Design-Builder shall implement, manage, and update the QMP in accordance with the PMP requirements.

2.1.7 Affected Third Party Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of an Affected Third Parties Plan (ATPP). The Design-Builder shall implement, manage, and update the accepted ATPP in accordance with the PMP requirements.

The Design-Builder's ATPP shall, at a minimum:

- List third party approvals, permits, agreements, and reviews that may be required to perform the Work;
- Describe the processes and timeframes the Design-Builder shall utilize to obtain third party approvals, permits, agreements, and reviews that may be required for the Work inclusive of appropriate review and resubmission timeframes;

- Detail how the Design-Builder shall coordinate the Work with third parties and mitigate impacts to third party work;
- Describe how the Design-Builder shall keep the Illinois Tollway informed of third-party related issues;
- Identify how the Design-Builder shall confirm the Work adheres to third party agreements; and
- Describe how the Design-Builder shall resolve third party complaints, whether received directly or forwarded by the Illinois Tollway.

2.1.8 Safety Management Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Safety Management Plan (SMP). The Design-Builder shall implement, manage, and update the accepted SMP in accordance with the PMP requirements.

The Design-Builder's SMP shall, at a minimum:

- Confirm the Design-Builder's approach to ensuring the safety of its personnel and the general public;
- Define how applicable Occupational Safety and Health Administration (OSHA) requirements will be followed;
- Identify how the Design-Builder shall ensure that during Construction Work, Maintenance Work, and/or Rehabilitation Work at the Bridge Site shall be a hardhat area, inclusive of personnel in cement concrete and warm mix asphalt plants operated exclusively for the Work, even if the facility is remotely located;
- Describe the policies, plans, training programs, controls, precautions, and responses to ensure the health, safety, and security of personnel affected by the Work;
- Describe reasonable precautions the Design-Builder shall take to provide protection and prevent damage from injury, vandalism, theft, or loss;
- Discuss the roles, responsibilities, and reporting line for the Design-Builder's safety and security personnel;
- Design-Builder shall ensure that the SMP is coordinated with the Illinois Tollway's Project Manual & Emergency Communication Plan;
- Identify the security measures to be used for the Work, including Illinois Tollway occupied locations and spaces, as deemed necessary by the Project Standards;
- Describe the procedures to ensure appropriate safety and security monitoring, reporting, and communication is occurring;
- Detail whistleblower protections;
- Identify available medical facilities and discuss Emergency procedures that Design-Builder personnel shall follow;
- Discuss actions the Design-Builder shall take to modify Equipment, devices, processes, and/or procedures to protect against hazards in the event that the Design-Builder or Illinois Tollway, identifies, in their sole discretion, extraordinary Site conditions that constitute a hazard;
- Present how the Design-Builder shall comply with the applicable Law, regulations, provisions, and policies governing health and safety;
- Identify processes for ensuring personnel in work zones exposed to either traffic or construction activities wear high-visibility safety apparel intended to provide conspicuity during daytime and nighttime usage meeting the performance class 3 requirements of the American National Standards Institute and the International Safety Equipment Association (ANSI/ISEA) Standard 107; and
- Identify how the Design-Builder shall make necessary arrangements with local authorities to provide fire protection and keep fire hydrants adjacent to the Work readily accessible for firefighting Equipment.

2.1.9 Emergency Management and Disaster Recovery Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway acceptance of an Emergency Management and Disaster Recovery Plan (EMDRP). The Design-Builder shall implement, manage, and update the accepted EMDRP in accordance with the PMP requirements.

The Design-Builder's EMDRP shall, at a minimum:

- Outline the procedures for Emergencies, Incidents, and Force Majeure Events with the potential to disrupt the Work and/or damage the Project including, but not limited to:
    - Severe weather events, including but not limited to, tornados, high winds, hailstorms, snowstorms, earthquakes, and flooding;
    - Power Utilities affecting traffic operations and/or safety;
    - Vehicular incidents that damage facilities or significantly interfere with traffic operations; and
    - Environmental and Hazardous Materials Release.
- Describe the Design-Builder's systems and procedures for limiting disruption to the Work, protecting documents and data, and promptly resuming Work after Emergencies, Incidents, and/or Force Majeure Events;
- Establish response procedures and identify relevant personnel, including their name, role, employer, email address, and contact phone number, responsible for organizing the Design-Builder's response and for implementing the EMDRP on a continual basis between NTP 1 and Final Acceptance;
- Define categories for the different types of events, data, systems, and operations according to their importance and the impact caused by a disruption;
- Identify the levels of redundancy, security, verification, and other precautions required to protect and restore critical systems and data;
- Describe how the Design-Builder shall coordinate and cooperate with the Illinois Tollway, local law enforcement agencies, first responders, and third parties in response to Emergencies, Incidents, and Force Majeure Events;
- Not restrict, limit, condition, constrain, or otherwise prevent or preclude the Illinois Tollway's unfettered access to the Project site and the use of applicable facilities for snow removal and evacuations;
- Detail how the Design-Builder shall notify the public about Emergencies, Incidents, and Force Majeure Events; and
- Describe the training the Design-Builder shall provide to the Illinois Tollway regarding relevant Emergency management and disaster recovery procedures and systems.
- Design-Builder shall ensure that the EMDRP is coordinated with the Illinois Tollway's Project Manual & Emergency Communication Plan

2.1.9.1 Utility & Railroad Emergency Response Plan

As part of the EMDRP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Utility & Railroad Emergency Response Plan. The Design-Builder shall implement, manage, and update the Utility & Railroad Emergency Response Plan. In the Utility & Railroad Emergency Response Plan, the Design-Builder shall:

- Provide a Utility Owner, Utility Operator, Railroad Owner, and Railroad Operator list, include contact information, for Utilities and Railroads located within the Project Limits;
- Provide copies of easements, plans, or other supporting documents that substantiates Utility Owner, Utility Operator, Railroad Owner, and Railroad Operator property interests, if any;
- Identify nearby medical facilities;
- Discuss emergency procedures;

- Establish emergency and safety communication protocols;
- Identify safe meeting locations for emergencies relating to Utilities and Railroads; and
- Prescribe evacuation routes for emergencies relating to Utilities and Railroads.
- Design-Builder shall ensure that the Utility & Railroad Emergency Response Plan is coordinated with the Illinois Tollway's Project Manual & Emergency Communication Plan

2.1.10 Public Information and Communications Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Public Information and Communications Plan (PICP) in accordance with Book 2, Section 3.2.7. The Design-Builder shall assist the Illinois Tollway with implementation, management, and updates to the PICP in accordance with the PMP requirements.

2.1.11 Comprehensive Environmental Protection Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Comprehensive Environmental Protection Plan (CEPP) in accordance with Book 2, Section 4.2.5.2. The Design-Builder shall implement, manage, and update the CEPP in accordance with the PMP requirements.

2.1.12 Environmental Protection Training Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of an Environmental Protection Training Plan (EPTP) in accordance with Book 2, Section 4.1.5.1. The Design-Builder shall implement, manage, and update the EPTP in accordance with the PMP requirements.

2.1.13 Waste Management Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Waste Management Plan (WMP) in accordance with Book 2, Section 4.2.6.2. The Design-Builder shall implement, manage, and update the WMP in accordance with the PMP requirements.

2.1.14 Not Used

2.1.15 Utility Work Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Utility Work Plan (UWP) in accordance with Book 2, Section 6.2.9.2. The Design-Builder shall implement, manage, and update the UWP in accordance with the PMP requirements.

2.1.16 Railroad Work Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Railroad Work Plan (RWP) in accordance with Book 2, Section 21.2.6.1. The Design-Builder shall implement, manage, and update the RWP in accordance with the PMP requirements.

2.1.17 Not Used

2.1.18 Transportation Management Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Transportation Management Plan (TMP) in accordance with Book 2, Section 18.2.6.1. The Design-Builder shall implement, manage, and update the TMP in accordance with the PMP requirements.

2.1.19 Final Acceptance and Transition Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Final Acceptance and Transition Plan (FATP). The Design-Builder shall implement, manage, and update the FATP in accordance with the PMP requirements.

The Design-Builder's FATP shall, at a minimum:

- Identify processes for inspecting and determining Construction Work completion;
- Require a certificate of Final Acceptance issued by the Design-Builder Project Manager and Quality Manager;
- Address processes for coordinating Interim Completion Deadlines, if applicable;
- Incorporate Punchlist processes, procedures, and schedules (which shall be consistent and coordinated with the inspections regarding Substantial Completion and Final Acceptance);
- Include a training and transition plan that details how the Design-Builder shall work with the Illinois Tollway to ensure a seamless transfer of responsibilities and safe traffic operations back to the Illinois Tollway;
- Require an information tracking system to identify, record, and status Construction Work Elements to be inspected inclusive of the actions needed to complete the Work, highlighting portions of the Work that are incomplete, incorporating Noncompliance Events (NCEs), actions necessary to complete the Work, and responsible parties; and
- Define required coordination with the Quality Manager in order to administer the completed Construction Work confirmation processes and resolution of Disputes.

2.1.20 Maintenance During Construction Plan

As part of the PMP, the Design-Builder shall prepare and obtain Illinois Tollway Acceptance of a Maintenance During Construction Plan (MDCP) in accordance with Book 2, Section 19.2.6.1. The Design-Builder shall implement, manage, and update the MDCP in accordance with the PMP requirements.

2.1.21 BIM Execution Plan

The purpose of the BIM Execution Plan (BEP) is to assist the Design-Builder in creating an execution strategy for BIM implemented projects using model as legal document (MALD). The project lead(s) of the Design-Builder shall establish the BEP by providing a document with the following information specific to model file development and delivery:

- Main person(s) of contact responsible for model management, coordination, and deliverables packaging.
- Firms involved with the design models.
- Which firm is modeling what part of the project scope.
- Quality Control Plan.
- Timeline for progress model review and clash detection between milestones
- Project baselines and critical elevations.
- Which cross-sections or portions of the plans removed during model development
- Deliverable methods (electronic data files or PDF plots).
- Reference copy of Appendix B scoping document applicable to the contracted design project.
- Identifying non-contractual portions of the electronic data files provided.

2.2 Schedule Management

The Design-Builder shall be responsible for the development of a pragmatic schedule and for performance of the Work in accordance with such schedule.

2.2.1 Baseline Schedule Requirements

The Design-Builder shall prepare and obtain Illinois Tollway Acceptance through the Tollways WBPM processes Construction Schedule Review (CSR) of the Baseline Schedule for the Work. The Baseline Schedule shall, at a minimum:

- Ensure adequate planning, scheduling, and resource allocation occurs;
- Confirm a reasonable and executable approach;
- Provide for continuous monitoring and reporting;
- Identify and coordinate activities; and
- Evaluate and measure progress.

The Baseline Schedule shall also, at a minimum:

- Apply the Critical Path Method of network calculation;
- Specify the longest path for defining critical activities with care taken to distinguish between the Critical Path and near-Critical Path (10 Days or less Float) activities;
- Be compatible with the Illinois Tollway's scheduling software, Primavera P6, and implement new operating practices as a result of Illinois Tollway amendments to schedule-related software, standards, and/or procedures;
- Be converted, if necessary, from native CPM scheduling software to Excel format and validated against the native schedule prior to submittal;
- Include a Work Breakdown Structure (WBS) based on a deliverable-orientated methodology, organized as specified in this Book 2, and map each activity to a WBS code;
- Depict Milestones;
- Show planned Work phasing;
- Divide Work into activities, avoiding open ends;
- Avoid imposed constraint dates to begin or complete activities, unless the Contract Documents require;
- Show time between the scheduled early completion date and Substantial Completion as Float;
- Depict subcontractor, design consultant, Utility Owner, Governmental Entity, Railroad, and supplier coordination;
- Identify approvals and permits; and
- Provide unique activity identification numbers.

The Design-Builder shall ensure Baseline Schedule titles and data dates are displayed on Design-Builder produced schedules, charts, and diagrams. The Design-Builder shall provide a legend on schedules, charts, and diagrams which indicates the various symbols used and their meanings. Electronic versions shall likewise be uniquely identifiable by filename.

- Has a unique activity description and contains a verb;
- Has at least one predecessor and one successor activity, except for Project start and finish, respectively; and
- Expresses activity durations in Days.

Additionally, the Design-Builder shall develop the Baseline Schedule to, at a minimum:

- Detail the WBS in accordance with specific activities while retaining the ability to summarize each activity into major Work categories as shown below;
    - Administration
        - Schedule milestones
        - Mobilization
        - All submittals (design packages, shop drawings, etc.)
        - Illinois Tollway and third-party review periods

    - Utility notification and relocation, by Utility
    - Material on hand (procured items) requests and payments
    - Substantial completion
    - Punch list
  - Bridges
    - Task
    - Task
  - Roadway
    - Task
    - Task
- Identify the Work in sufficient detail to allow the Illinois Tollway to monitor and evaluate design, procurement, construction, and maintenance activities, for the period between NTP 1 and Final Acceptance;
- Include activities for:
  - D&C Work;
  - D&C Work Submittals inclusive of review and Comment resolution;
  - Final Design submittal inclusive of review and Comment resolution;
  - Coordination and acquisition of third-party agreements;
  - Coordination and acquisition of approvals and permits;
  - Quality management processes;
  - Milestones and other constraining events; and
  - Maintenance Work.
- Be cost- and resource-loaded, to the satisfaction of the Illinois Tollway and refined throughout design development;
- Divide the Work into activities not to exceed twenty-one (21) Days and not less than five (5) days, except for design, long lead procurement, and level of effort activities where a greater duration may be used;
- Ensure each activity:
  - Has a unique activity description and contains a verb;
  - Has at least one predecessor and one successor activity, except for Project start and finish, respectively; and
  - Expresses activity durations in Days.
- Ensure activities are based on the actual duration and logical relationships and except for the first and last activities, each activity includes a minimum of one predecessor and one successor activity (no open ends);
- Highlight the Critical Path;
- Ensure that each Milestone is separately identified, conforms to the scheduling requirements set forth in the Contract Documents, and is assigned a "finish no later than" constraint date;
- Depict Float; and
- Incorporate long lead items.
- The Design-Builder shall utilize the following calculation settings consistent with industry best practices:
  - Expected finish dates shall not be used;
  - Resource-leveling shall not be used;
  - Retained logic shall be used when scheduling progressed activities;
  - "Start-to-start" lag shall be calculated from early start;
  - Critical activities shall be defined as those activities whose total Float is less than or equal to zero Days;
  - Total Float shall be calculated as finish Float;
  - Relationship lag shall be calculated based on the predecessor calendar;
  - Remaining duration shall be utilized to update schedule progress; and

- Duration percent complete shall be utilized.

The Design-Builder shall not engage in Float suppression manipulations that have the net effect of sequestering Float time. It is expressly agreed and understood that the Design-Builder is not entitled to any compensation or damages on account of delays which could have been avoided by revising activity time or logic used to sequester Float and will exclude the Design-Builder's right to recover any delay damages or compensation. Lags/Leads are subject to the consent of Illinois Tollway. The Design-Builder shall remove any Lags/Leads and replace them with an activity identifying the Lag/Lead upon request of Illinois Tollway, regardless of prior Acceptance on previous schedules.

The Design-Builder acknowledges that all Float is a shared commodity available to the Project and is not for the exclusive benefit of any party but is an expiring resource available to accommodate changes in the Work, however originated. Contract time extensions for Contract performance will be granted only to the extent that delays or disruptions to affected work paths exceed total Float along those paths of the Baseline Schedule in effect at the time of delay or disruption.

Where not superseded by this Book 2, the Design-Builder shall prepare the schedule and schedule-related submittals in accordance with *Illinois Tollway Supplemental Specifications Section 108.02*.

2.2.2 Cost- and Resource-Loaded

The Design-Builder shall, within the Baseline Schedule, apply cost- and resource-loading to materials, labor, and/or Equipment quantities based upon available resources and production rates. Activity labor loading may be based upon the total number of workers but, at a minimum, upon the total number of crews. The Design-Builder shall assign major construction Equipment to applicable activities. Quantity shall represent the estimated effort in-place for the cost and resource loading applied to the activities. The Design-Builder shall incorporate repairs during the Construction Period, including rehab and preservation to existing bridges, as necessary.

The Design-Builder shall not artificially inflate, imbalance, or front-load line items. The Baseline Schedule shall detail the total cost per activity and the cost per billing period for each activity. The Design-Builder shall ensure that all activity costs are consistent and total the Contract Price.

The Design-Builder shall ensure resource information includes (by category):

- Materials: type, unit of measure, and quantity.
- Labor: job hours planned by labor classification; and
- Equipment: job hours, number of pieces, types, and sizes.

Design-Builder shall cost-load the schedule as the basis to administer the payments to the Design-Builder. Design-Builder shall utilize cost accounts reflective of Price Proposal bid items and assign applicable cost-loaded activities to respective cost accounts.

Design-Builder shall substantiate an activity if Illinois Tollway questions the definition, costs, production rate or other data of it. Illinois Tollway may require questioned activities to be resource-loaded to include a reasonable estimate of either a commodity or labor hour upon which value or production is based.

Design-Builder shall create the Baseline Schedule with sufficient detail to accurately reflect the complexity and numerous construction operations of this Project to the satisfaction of Illinois Tollway.

2.2.3 Calendars and Identified Contingency

The duration of each activity includes the necessary Work Days to actually complete the Work defined by the activity; contingency is not to be built into the durations. The Design-Builder shall assign each activity to the appropriate calendar as it relates to each major item of Work. Each calendar, with the exception of the calendar utilized for tracking Days, includes contingent non-Work Days; with Saturday or Sunday not allowed to be shown as a contingent non-Work Day. The Design-Builder shall estimate and include within its schedules sufficient weather contingency in accordance with the Standard Specifications. The Design-Builder shall submit a statement with all schedules indicating duration (in hours) of the Design-Builder's normal Work Day as it relates to the work week (e.g., M-F [10 hours] and Sat [6 hours] for each calendar). Contingency will be the amount of indicated non-Work Days compared to this statement. If the Design-Builder does not submit this statement, it will be considered prima facie evidence that the Design-Builder did not account for sufficient weather impacts, at the Design-Builder's sole risk.

2.2.4 Schedule Submittal and Report Requirements

Illinois Tollway's review and Acceptance of schedules will not waive any Contract requirements and does not relieve the Design-Builder of any obligation or responsibility for submitting complete and accurate information. By review and Acceptance of the schedule, Illinois Tollway does not endorse or otherwise certify the validity or accuracy of any part of the schedules. The responsibility for validity and accuracy of all schedules is the sole responsibility of the Design-Builder.

Errors or omissions within schedules do not relieve the Design-Builder from finishing all Work within the time limit specified for completion of the Contract. If, after a schedule has been Accepted by Illinois Tollway, and either the Design-Builder or Illinois Tollway discovers that any aspect of the schedule has an error or omission, the Design-Builder shall correct the schedule and indicate the effects in accordance with Book 2, Section 2.2.7, Impacted Delay Analysis contained herein.

The Design-Builder shall ensure Baseline Schedule submittals and reports, at a minimum, include (as applicable):

- A transmittal letter identifying the submittal date and the schedule type submitted;
- A unique file name used to identify the schedule type and the submittal data date;
- A brief written narrative generally describing:
    - General sequence of design and construction;
    - Assumptions;
    - Critical Path;
    - Milestones and key events;
    - Sequence changes or other changes along with the reason those changes were necessary;
    - Potential delays and problems along with the estimated effect;
    - Specialty calendars used; and
    - Whether the Work is on, ahead of, or behind schedule.
- A schedule calculation log;
- The Primavera P6 file;
- A legible full schedule time-scaled bar-chart plot in PDF file format, organized by WBS, showing at a minimum:
    - Activity identification;
    - Activity name;
    - Original duration;
    - Remaining duration;

  - Start date;
  - Finish date;
  - Activity percent complete (duration-type); and
  - Total Float.
- A legible Critical Path time-scaled bar-chart plot in PDF file format;
- A tabular predecessor and successor report in PDF file format detailing each activity's predecessors and successors. The report shall be sorted by WBS (in ascending order by activity identification) and shall show for each activity:
  - Activity identification;
  - Activity name;
  - Original duration;
  - Remaining duration;
  - Early start;
  - Early finish;
  - Late start;
  - Late finish;
  - Free Float;
  - Total Float;
  - Critical ("yes" or "no"); and
  - Or each predecessor/successor activity, show the activity identification, activity name, relationship type, lag, free Float, total Float, driving ("yes" or "no"), and critical ("yes" or "no").

2.2.5 Revised Baseline Schedule

The Design-Builder shall submit to Illinois Tollway a Revised Baseline Schedule within 10 Business Days of executing a Change Order, Field Design Change, or Directive Letter.

The Design-Builder shall incorporate executed Change Orders, Field Design Changes, and Directive Letters into the originally planned Work execution. Once accepted, Revised Baseline Schedules shall remain in force as the Baseline Schedule until the Illinois Tollway accepts a subsequent Revised Baseline Schedule.

2.2.6 Monthly Schedule Update

The Design-Builder shall prepare and submit a Monthly Schedule Update (MSU) monthly, in conformance with this Section, with the MPR, SOVU, and MIPR. The reporting period of the MSU shall align with the invoicing period.

The MSU shall, at a minimum, for the reporting period:

- Incorporate information described in Book 2, Section 2.2.4, Schedule Submittal and Report Requirements;
- Meet the requirements of Section 2.2.1, Baseline Schedule Requirements;
- Provide an update against the current Baseline Schedule and reflect current Work status including:
  - A detailed resource-loaded schedule of activities including the reporting period data date;
  - Actual start and finish dates, percent complete, and remaining durations;
  - Forecasted finishes for in-progress work;
  - Re-forecasted early and late dates for remaining Work;
  - Physically complete Work percentage; and
  - The Critical Path.
- Provide, generally, the current plan for completing the Work;

- Identify the reporting period's Illinois-Tollway-accepted Baseline Schedule revisions resulting from Change Orders, Field Design Changes, Directive Letters, Relief Events, and/or Compensation Events;
    - Provide supplementary filtered layouts of activities included in the Baseline Schedule to create a listing of:
    - Anticipated D&C Work Submittals for the forthcoming reporting period; and
    - Anticipated Maintenance During Construction Work activities for the forthcoming reporting period.
    - A simplified bar chart for each Bridge indicating the physical status of the Work;
    - A graphical major item/WBS category summary report for each Bridge, comparing actual progress to planned progress;
    - A tabular report listing Critical Path and near-Critical Path (10 Days or less Float) activities;
    - A 30-Day D&C Work look ahead schedule;
    - A 60-Day approval and permit look ahead report; and
    - A 90-Day look ahead bar chart schedule sorted by WBS and activity early start dates.

The Design-Builder shall correct Illinois Tollway identified MSU deficiencies within ten (10) Business Days of notification. For avoidance of doubt, the MSU shall not be deemed to revise or amend the current Baseline Schedule, but rather serve to update the Illinois Tollway on the progress of activities against the Baseline Schedule and forecast future Work activities.

2.2.7 Impacted Delay Analysis

The Illinois Tollway and the Design-Builder shall address Baseline Schedule issues as quickly and collaboratively as possible following:

- AACE International Recommended Practice No. 45R-08, Scheduling Claims Protection Methods (AACE International 2009).

The Illinois Tollway and the Design-Builder shall address delay issues following:

- AACE International Recommended Practice No. 29R-03, Forensic Schedule Analysis (AACE International 2011); and
- AACE International Recommended Practice No. 52R-06, Time Impact Analysis – as Applied in Construction (AACE International 2006).

In the event that an Impacted Delay Analysis becomes necessary for a delay, Change Orders, Field Design Changes, or Directive Letters, the Design-Builder shall submit a written Impacted Delay Analysis describing the nature and influence of the delay, Relief Event, Compensation Event, Change Order, Field Design Change, or Directive Letter. The Impacted Delay Analysis shall, at a minimum:

- Establish the status of the Work before the event using the most recent MSU with the data date prior to and closest to the event, or as adjusted by mutual agreement between the parties;
- Base the event on the alleged delay date, or, in the event of Relief Event or Compensation Event, base the event on the date which the implementation of such event would commence;
- Identify the event, determine appropriate logic, and estimate impact duration;
- Provide a Fragmentary Network (Fragnet) demonstrating how the change, delay, or request would impact the Baseline Schedule;
- Demonstrate event effects through layouts generated from the scheduling software;
- Filter activities to show added or modified activities and activities impacted by the event;
- Note other changes made to the schedule including modifications to calendars or constraints;
- Include a narrative report describing the effects of the event to include:
    - Identifying the schedule used for the analysis;

- Describing the procedures used to analyze schedule impacts, including additions, deletions, or modification to activities and or fragments of activities, modifications to the calendars or constraints and modifications to relationships;
- Describing the delay, including the time, date, and location of the event;
- Explaining why the event requires an Impacted Delay Analysis;
- Describing the impact or potential impact by comparing Work prior to the impact and Work affected or predicted to be affected after the impact;
- Identifying new activities, relationships with Milestones, and impacts to the Critical Path;
- Describing mitigation efforts taken to date; and
- Describing potential resolutions to mitigate or avoid impact.

- Provide an electronic copy in Primavera P6 format of the impacted Baseline Schedule in addition to a copy in PDF; and
- Provide other information or documentation pertinent to the analysis.

The Design-Builder shall obtain Illinois Tollway acceptance of the submitted Impacted Delay Analysis prior to incorporating the Impacted Delay Analysis activities into the Baseline Schedule.

2.2.8 Change Management

The Design-Builder shall provide Illinois Tollway with the schedule activity(s) that was affected and document it in the Change Order. Incorporate all Change Orders into the schedule. The Design-Builder shall provide each Change Order with its own activity ID in the Revised Baseline Schedule and assign to a cost account in the Revised Baseline Schedule of Values.

2.2.9 Recovery Schedule

The Design-Builder shall, in the event of delays to either a Critical Path activity or the Critical Path as a whole for a period exceeding the greater of either fourteen (14) Days or the number of Days equal to five (5) percent of the Days remaining until a Completion Deadline, within ten (10) Business Days of such occurrence, provide a Recovery Schedule for the subsequent MSU. The Recovery Schedule shall demonstrate the Design-Builder's proposed plan to regain lost progress and to achieve the original Completion Deadline. The Design-Builder shall include with the Recovery Schedule an Impacted Delay Analysis to (1) reveal the causes of the delays, (2) determine the implications of the Recovery Schedule on total Float and remaining activities, and (3) determine implications of the Recovery Schedule on the Baseline Schedule.

2.2.10 Weekly Look-Ahead Schedule

The Design-Builder shall submit weekly a detailed, forward-looking schedule for a period of at least twenty-one (21) Days. This schedule may be a hand or computer-generated bar chart and must specifically reference the applicable Baseline Schedule activity ID. This Look-Ahead Schedule must be in greater detail than the Baseline Schedule and define specific daily operations at each specific location to be performed during the three-week period. The Design-Builder shall provide Weekly Look-Ahead Schedule details at Illinois Tollway's request.

2.2.11 Record Work Schedule

The Design-Builder shall submit a final MSU identified as the "Record Work Schedule" no less than ten (10) Business Days prior to Final Acceptance. The Record Work Schedule shall reflect the exact manner that Work was performed (including start and completion dates, schedule activities, actual durations, sequences, and logic) for the Project.

The Design-Builder's Project Manager shall sign and certify that the Record Work Schedule is a true Work record. The Design-Builder shall obtain Illinois Tollway approval of the Record Work Schedule as a requirement for Final Acceptance.

2.2.12 Early Completion

Should the Design-Builder intend to complete, or actually complete the Work, or any portion thereof, earlier than any Completion Deadline, it is understood that Project benefits from the increase in shared Total Float. The Design-Builder agrees that delays are only based on impacts to the Completion Deadlines, not the Planned Early Finish date of the Schedule. Completion Deadlines can only be changed by an executed Change Order.

2.2.13 Non-Compliance

The Design-Builder's refusal, failure, or neglect to diligently pursue timely Acceptance of any schedule or TIA constitutes reasonable evidence that the Design-Builder is not prosecuting the Work, or separable part, with the diligence that will ensure its completion within the applicable Completion Deadline and constitutes sufficient basis for Illinois Tollway to exercise one or a combination of the following options: assess a liquidated damage per Section 108.02(e) of the Illinois Tollway Supplemental Specifications or withhold an amount up to 100 percent of the estimated value of Work performed until the schedule is Accepted.

2.3 Cost Management

2.3.1 General

In accordance with Book 1, Illinois Tollway will provide Partial Payment as the Work progresses as outlined in the subsections below. Illinois Tollway will provide Final Payment in accordance with Book 1, Section 24.5, and upon completion of all Work and Final Acceptance by the Illinois Tollway.

2.3.2 Schedule of Values

2.3.2.1 Baseline Schedule of Values

With the Baseline Schedule, the Design-Builder shall develop and submit a Baseline Schedule of Values (BSOV) based on the Price Proposal and the activity breakdowns in the Baseline Schedule. The BSOV shall be an Excel spreadsheet version of the Baseline Schedule. The Design-Builder shall clearly link all lines in the BSOV to specific items in the Price Proposal. If a specific item in the Price Proposal is associated with a form that further breaks down the item's cost, the Design-Builder shall clearly link the items in the BSOV to the specific items in the form.

The BSOV shall, at a minimum:

- Be provided in an electronic Excel spreadsheet;
- Be consistent with the activities in the Baseline Schedule;
- List budgeted expenses per activity;
- Include activity resources such as materials, quantities, labor, and Equipment;
- Represent the planned labor and Equipment hours necessary to achieve the estimated production rates used to develop the Baseline Schedule; and

In the event that the Illinois Tollway does not accept the BSOV as submitted, the Design-Builder shall revise and resubmit it within fifteen (15) Business Days with changes clearly identified.

2.3.2.2 Revised Baseline Schedule of Values

The Design-Builder shall submit a Revised BSOV with each Revised Baseline Schedule, as a Revised Baseline Schedule becomes necessary.

The Design-Builder shall incorporate executed Change Orders, Notice of Design Change, Field Design Change, and Directive Letters into the originally planned Work execution. Once accepted, Revised BSOVs shall remain in force as the BSOV until the Illinois Tollway accepts a subsequent Revised BSOV.

2.3.2.3 Schedule of Values Updates

The Design-Builder shall prepare and submit a Schedule of Values Update (SOVU) monthly, in conformance with this Section 2, with the MPR, MSU, and MIPR. The reporting period of the SOVU shall align with the respective invoicing period and shall reflect the respective MSU.

The SOVU shall provide updated price information for each line item on an earned value basis through the current reporting period and forecast the remaining costs through Final Acceptance.

2.3.3 Monthly Invoice Progress Reports

The Design-Builder shall provide a Monthly Invoice Progress Report (MIPR) that summarizes the information identified below with the MPR, SOVU, and MSU. The Design-Builder shall provide an electronic copy of the progress report in an executive summary format.

The Design-Builder shall include the following in a monthly progress report:

- Summary of Work performed during the previous month, including digital color photographs of the Project progress
- Safety
    - Summary of Project accidents (frequency and severity) and corrective actions taken
    - Updates to emergency services access points to the Project Site
    - Updates on safety training provided
- Labor compliance
    - Certified payroll
    - Total monthly labor hours for construction/maintenance and non-construction personnel by classification of management, engineering, and other technical personnel used on the Project
    - Disadvantaged Business Enterprise (DBE) progress and Project updates
    - Equal Employment Opportunity (EEO) progress and Project updates
    - Update on labor compliance unresolved issues
- Quality updates
    - Summary of quality audits and quality control processes performed
    - Listing on nonconformances and resolutions
    - Summary of Quality Manual updates
- Public information updates
    - Summary of public input received, transmission of input to Illinois Tollway and record of Illinois Tollway's response
    - Summary of media contacts received, transmission to Illinois Tollway and record of Illinois Tollway's response
    - Summary of complaints received, transmission of complaints to Illinois Tollway and record of Illinois Tollway's resolution
- Environmental compliance
    - Summary and copies of environmental monitoring reports

  - Summary of Nonconforming Work issues and resolution
  - Summary of agency inspections
- Utilities
  - Status of private Utility activities performed and required
  - Status of public Utility activities performed and required
- Maintenance of traffic
  - Summary of traffic switches and a look ahead to future traffic switches
  - Summary of known traffic incidents within the work zone
- Change Orders
  - Summary of outstanding Change Orders
  - Summary of executed Change Orders

2.3.4 Pre-Invoice Meetings

Within five (5) Business Days after submitting the respective invoicing period's MIPR, MPR, SOVU, and MSU to Illinois Tollway for acceptance, the Design-Builder shall facilitate a Pre-Invoice Meeting with Illinois Tollway to reconcile on the following prior to submitting invoices:

- Activity percent complete within the MSU and SOVU which reflects physical percent complete estimated by design and field personnel, relating to a resource and cost loaded schedule activity
- Incorporation of Approved Change Orders as individual activities with proper title, coding by Change Order number, associated logic, duration, and cost/resource loading
- Verification of any unit price items, such as Shared Risk Items, Liquidated Damages and Nonconformance Report penalties assessed in the respective invoicing period
- Backup documentation for cost reimbursable procurement and Change Order schedule activities; and
- Conformance with DBE, EEO, and VOSB requirements.

The Design-Builder shall correct Illinois Tollway identified SOVU deficiencies within ten (10) Business Days of notification. For avoidance of doubt, the SOVU shall not be deemed to revise or amend the current BSOV but shall rather serve to assist with Design-Builder progress and earned value evaluation for current period activities.

2.3.5 Invoices

Illinois Tollway reserves the right to withhold processing an invoice if Contract requirements for preparing and submitting invoices are not met.

The Illinois Tollway will provide an excel based billing spreadsheet that shall be used to prepare and submit invoices.

Design-Builder shall structure the invoicing periods to start on the first day of the month and end on the last day of the month. Design-Builder shall include the following as applicable on the invoice cover sheet:

- Project number(s) and title;
- Invoice number (numbered consecutively starting with "01");
- Period covered by the invoice (specific Days);
- Total earned to date for the Project as a whole and for each Work Segment, if any;
- Authorized signature of the Project Manager;
- Date that invoice was signed; and
- Design-Builder shall submit separate invoices for design and construction activities.

The Design-Builder shall include the following documents with the invoice:

- Illinois Tollway-accepted MPR;
- Illinois Tollway-accepted MSU;
- Illinois Tollway-accepted SOVU; and
- Illinois Tollway-accepted MIPR.

Design-Builder shall submit invoices electronically in PDF format. Design-Builder shall submit with the invoice an electronic copy of the billing spreadsheet and an updated schedule in an electronic medium compatible with Illinois Tollway's software.

2.3.6 Invoice Calculations

Illinois Tollway will base payments on Illinois Tollway's estimate of physical percent complete of the Work, not on measured quantities, except where specifically stated in the Contract. The payment to the Design-Builder will be the amount shown on the Design-Builder's Illinois Tollway-approved invoice less deductions, per Book 1, assessed by Illinois Tollway.

The following Project Management items submitted with the Price Proposal will be paid by prorating any unpaid balances by the amount of time remaining until Substantial Completion:

- Contract Management (includes Cost Management and Schedule Management)
- Quality Management
- Human Resources Management
- Safety Management
- Public Information Management
- Environmental Management

Payment for mobilization below five percent of the total Contract price will occur in accordance with the following provisions. Mobilization in excess of five percent of the total Contract price will be paid in a prorated manner similar to Project Management items.

- 25 percent will be paid at NTP1.
- 50 percent will be paid when 10 percent of the original Contract amount has been earned. Earned value does not include the costs of bonds, insurance, and prior mobilization payments.
- 25 percent will be paid when 25 percent of the original Contract amount has been earned. Earned value does not include the costs of bonds, insurance, and prior mobilization payments.

Illinois Tollway will pay for insurance premiums as a pass-through of actual cost based on invoices from the insurance companies and proof of payment. Illinois Tollway will pay any remaining bond and insurance item balances by prorating, using the amount of time remaining until Substantial Completion.

Illinois Tollway will base payments for design on estimated percentage complete for each Released for Construction (RFC) package, with the following limitations:

- A maximum of 95 percent will be paid when RFC Documents have been Accepted.
- A maximum of 100 percent will be paid when all As-Built Documents have been Accepted.

The above provisions shall be reflected in the Design-Builder Baseline Schedule, MSUs, BSOV, and SOVUs.

2.4 Submittal Requirements

Whenever a Submittal identified in *Table 2-4, Section 2.4 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within *Section 2, Project Management*. The Illinois Tollway will conduct reviews and

provide review comments in accordance with *Section 2, Project Management* and *Table 2-4, Section 2.4 Submittal Requirements,* below. This Table *2-4 - Section 2.4 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 2-4: Section 2.4 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway Acceptance a Condition to Commencement of
1	Project Management Plan	2.1	See individual plan components, Items 1a-1x, below.				
1a	Management and Staffing Plan (MSP)	2.1.1	PDF	Type 3	15	15 days	NTP1
1b	Document and Data Management Plan (DDMP)	2.1.2	PDF	Type 2	15	10	Invoicing
1c	Equal Employment Opportunity Plan (EEOP)	2.1.3	PDF	Type 2	15	10	Invoicing
1d	Disadvantaged Business Enterprise Performance Plan (DBEPP)	2.1.3.1	PDF	Type 2	15	10	Invoicing
1e	ConstructionWorks Plan	2.1.3.2	PDF	Type 2	15	10	Invoicing
1f	Risk Management Plan (RMP)	2.1.4	PDF	Type 2	15	10	NTP 2
1g	Contract Communication Plan (CCP)	2.1.5	PDF	Type 2	15	10	NTP 2
1h	Quality Management Plan (QMP)	2.1.6	PDF	Type 2	15	10	NTP 3
1i	Design Quality Management Plan (DQMP)	2.1	PDF	Type 2	15	10	NTP 2
1j	Construction Quality Management Plan (CQMP)	2.1	PDF	Type 2	15	10	NTP 3
1k	Affected Third Parties Plan (ATPP)	2.1.7	PDF	Type 2	15	10	NTP 2
1l	Safety Management Plan (SMP)	2.1.8	PDF	Type 2	15	10	NTP 2
1m	Emergency Management and Disaster Recovery Plan (EMDRP)	2.1.9	PDF	Type 2	15	10	NTP 2
1n	Public Information and Communications Plan (PICP)	2.1.10	PDF	Type 2	15	10	NTP 2

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway Acceptance a Condition to Commencement of
1o	Comprehensive Environmental Protection Plan (CEPP)	2.1.11	PDF	Type 2	15	10	NTP 2
1p	Environmental Protection Training Plan (EPTP)	2.1.12	PDF	Type 2	15	10	NTP 2
1q	Waste Management Plan (WMP)	2.1.13	PDF	Type 2	15	10	NTP 2
1r	Utility Work Plan (UWP)	2.1.15	PDF	Type 2	15	10	NTP 2
1s	Railroad Work Plan (RWP)	2.1.16	PDF	Type 2	15	10	NTP 2
1t	Transportation Management Plan (TMP)	2.1.18	PDF	Type 2	15	10	NTP 3
1u	Final Acceptance and Transition Plan (FATP)	2.1.19	PDF	Type 2	15	10	NTP 3
1v	Maintenance During Construction Plan (MDCP)	2.1.20	PDF	Type 2	15	10	NTP 3
1w	BIM Execution Plan	2.1.21	PDF	Type 2	15	10	NTP 3
2	List of Meetings	2.1.1.4	PDF/Excel	Type 1	15	5	NTP 2
3	Preliminary Design Documents	2.1.2.1.7.2	PDF/DGN	Type 2	15	10	Pre-RFC Document development activities
4	Pre-Released for Constructions (RFC) Documents	2.1.2.1.7.3	PDF/DGN	Type 2	15	10	RFC Document development activities
5	Release for Construction	2.1.2.1.7.4	PDF/DGN	Type 2	15	10	Construction
6	Final Design Documents	2.1.2.1.7.5	PDF/DGN	Type 2	15	10	Final Acceptance
8	Construction Document Submittals	2.1.2.1.8	PDF/native electro	Type 2	7	5	Construction related to such submittals

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway Acceptance a Condition to Commencement of
			nic files				
9	Shop & Working Drawings	2.1.2.1.8.1	PDF	Type 2	10	5	Construction of specific element
10	As-Built Documents	2.1.2.1.8.5	PDF/DGN	Type 2	15	10	Final Acceptance
11	Manufacturer's Warranties	2.1.2.1.8.6	PDF	Type 2	20	-	Final Acceptance
12	Monthly Progress Report	2.1.1.5.1	PDF	Type 1	10	5	N/A Submitted monthly
13	Design Document Compliance Certificate	2.1.2.1.7	PDF	Type 2	7	-	N/A Submitted with Design Document Submittals
14	Field Design Change	2.1.2.1.8.3	PDF	Type 3	5 after EOR Approval	5	Construction of such Work
15	RFI log	2.1.2.1.8.4	Excel	Type 1	-	-	N/A, Submitted upon request
16	Baseline Schedule	2.2.1	PDF/Excel/Primavera	Type 2	15	10	First invoice
17	Revised Baseline Schedule	2.2.5	PDF/Excel/Primavera	Type 2	10	10	N/A. Submitted as necessary
18	Monthly Schedule Update	2.2.6	PDF/Excel	Type 3	10	10	Invoicing
19	Impacted Delay Analysis	2.2.7	PDF/Excel	Type 2	10	10	N/A, as necessary
20	Recovery Schedule	2.2.9	PDF/Excel	Type 2	15	10	Construction, in the event such Recovery

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway Acceptance a Condition to Commencement of
							Schedule is necessary
21	Weekly Look-Ahead Schedule	2.2.10	PDF	Type 1	5	5	N/A, submitted weekly
22	Record Work Schedule	2.2.11	PDF	Type 2	15	10	Final Acceptance
23	Baseline Schedule of Values	2.3.2.1	Excel/ PDF	Type 3	15	15	First invoice
24	Revised Baseline Schedule of Value	2.3.2.2	Excel/ PDF	Type 3	15	10	10 Business Days of Change Order
25	Schedule of Values Updates	2.3.2.3	Excel/ PDF	Type 3	15	10	Invoicing
26	Monthly Invoice Progress Reports	2.3.3	PDF/Excel	Type 2	15	10	N/A. Submitted Monthly
27	Invoices	2.3.5	PDF	Type 2	15	10	Payment

Section 3

3 PUBLIC INFORMATION

3.1 General

This Section 3 of Book 2 describes the requirements for providing public information support related to the Project. Illinois Tollway requires communications efforts for this Project to establish and build trust between Illinois Tollway, the Design-Builder, and customer groups.

Illinois Tollway will lead public information efforts for this Project; Design-Builder will serve as Project Liaison and supply materials and information requested by Illinois Tollway. This public information Work shall be completed based upon details described in this Book 2.

3.2 Administrative Requirements

3.2.1 Staff Requirements

The Design-Builder shall designate a Public Information Liaison, including providing their name, credentials, and contact information to the Illinois Tollway prior to the beginning of any Work. For further details regarding the Public Information Liaison, reference Section 2.1.1 (Management and Staffing Plan), Table 2-2 (Required Personnel for Project) of this Book 2.

3.2.2 Stakeholder List

Illinois Tollway has identified the following customer groups that must be communicated with during the Project, which includes, but are not limited to:

- Area residents, property owners and area neighborhood associations and groups
- System users and commuters
- Traveling public, including bicyclists and pedestrians
- Mass transit agencies and companies
- Other transportation construction projects in area and its appropriate contacts, as applicable
- Local and regional municipalities, counties, and governments
- Business owners, employees, and customers
- Emergency response agencies, including police, fire and ambulance services
- Utilities
- Railroads
- School districts

The Illinois Tollway will be the lead contact for all applicable parties that will be involved in or impacted by the Project. All applicable public information will be provided to the above list of stakeholders, at appropriate times, throughout the Project.

The Design-Builder shall also include all stakeholders in their outreach affected by Illinois Route 390 ramp detours as part of the Maintenance of Traffic during Construction.

3.2.3 Standards

For Public Information Work, the Design-Builder shall adhere to the order of precedence of the Project Standards below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail.

Primary Project Standards:

- Illinois Tollway Roadway Traffic Control and Communications Manual
- Illinois Tollway Project Manual & Emergency Communication Plan

Secondary Project Standards:

- Illinois Tollway Construction Bulletins
- Illinois Tollway Design Bulletins
- Illinois Tollway Lane Closures Management Application User Guide
- Illinois Tollway Lane Closure Guide
- Illinois Tollway Lane Closure Reference Guide

Tertiary Project Standards:

- Illinois Freedom of Information Act (FOIA)
- Remaining standards set forth in Book 3

3.2.4 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Book 2, Section 2.1.1.4. Meetings that may be applicable on a case-by-case basis include, but are not limited to: general design and construction meetings, right-of-way meetings, PIC meetings, etc.

3.2.4.1 Public Meetings

Attend one (1) public meeting and prepare exhibits and materials, as directed by Illinois Tollway. All arrangements for public meetings will be completed by the Illinois Tollway. The Design-Builder shall assist in preparing information and materials for the meeting, including but not limited to project exhibits, presentation content, project maps (and any other materials deemed appropriate by the Illinois Tollway) and assisting Illinois Tollway in answering inquiries about the Project through the development of draft responses, coordination of response approval with the Illinois Tollway and public response correspondence, as approved by the Illinois Tollway.

The public meeting shall be held at a local location in proximity to the Project. This may include, but is not limited to, areas of impact by the Project. The public meeting will be publicized by the Illinois Tollway through press releases (if applicable), Illinois Tollway's website, social media, etc.

The public meeting shall focus on informing participants of project plans, updates, schedules, and any other information deemed applicable by the Illinois Tollway. Responses to public inquiries and questions regarding the Project, which cannot be answered at the public meeting, shall be coordinated with Illinois Tollway. Comments from stakeholders received within two weeks of the public meeting's completion shall also be coordinated with the Illinois Tollway. Responses to all inquiries, questions and comments shall be compiled and responded to within ten (10) business days of the two-week public comment period after the meeting's completion.

Immediately contact Illinois Tollway's Project Manager if any contact by media representatives occurs. Do not respond to media inquiries unless specifically directed by Illinois Tollway's Project Manager.

3.2.5 Equipment/Software

The Design-Builder shall follow the Equipment and software requirements of the Project Standards.

3.2.6 Permits/Authorizations

The Design-Builder shall indicate in the Comprehensive Environmental Protection Plan (CEPP) which permits are necessary to obtain for the Public Information Work, including those necessary for investigations. The Design-Builder shall perform all activities necessary to furnish the Public Information Work-applicable permits, if any.

3.2.7 Public Information and Communication Plan

The Design-Builder shall, as part of the PMP, deliver to Illinois Tollway information regarding Project progress and coping issues for a variety of customer groups. To this end, the Design-Builder will develop, implement, and maintain a Public Information and Communication Plan (PICP) that includes:

- Design-Builder's public information staff contacts, roles, and responsibilities
- Key messages for Project, as defined by Illinois Tollway
- Public information strategies, approaches, and tools to output any applicable information to the public regarding, but not limited to:
    - Project schedule, project progress, construction information, project updates, traffic alternative messages and details regarding how specific instances will be resolved as they arise
- Coordination approach with Illinois Tollway
- Information collection and management approach, including support of and coordination with the Illinois Tollway on what specific information is needed and when, and method for transferring information to Illinois Tollway
- Emergency response communication program
    - Design-Builder shall ensure that the Emergency Management and Disaster Recovery Plan (EMDRP) is coordinated with the Illinois Tollway's Project Manual & Emergency Communication Plan
- Schedule for submitting public communications information to Illinois Tollway based on the schedule of public meetings and appropriate times to communicate with the public, as determined by the Illinois Tollway

Initial details regarding content to be included in this PICP are detailed in Section 2.1.5 (Contract Communication Plan) of this Book 2.

Coordinate and complete the PICP in conjunction with the plans detailed in Section 18.2.6 of this Book 2.

3.2.7.1 Crisis/Emergency Communications

Include in the PICP a crisis communications approach for responding to incidents and emergencies during the Project. Establish and manage an emergency response communication program that includes the following:

- Designated Design-Builder and Illinois Tollway staff, including their contact information, to respond to emergencies
- Define different types of emergency events, including level of severity and how to identify a situation as an emergency
- Approaches to responding to potential emergency situations
- Causes of specific disruptions (i.e., weather construction-related)
- Corrective actions to be taken to alleviate problems, if needed
- Identification and notification procedures for emergencies impacting the public, the anticipated duration of the emergency and how the public will be notified
- Develop and submit a contact list of emergency service providers for Illinois Tollway acceptance following any revisions.

Furthermore, the Design-Builder shall reference and incorporate applicable details from the Illinois Tollway's existing Project Manual and Emergency Communication Plan into this crisis communications approach. This reference and portion will detail the flow of communication in relation to any emergencies that may arise during the Project.

3.2.7.2 Media Relations

The PICP shall follow the Illinois Tollway's protocol related to coordinating with media contacts. Throughout the duration of the Project, the Illinois Tollway will lead, coordinate, and handle all media inquiries, requests or any situations involving the media. The Design-Builder shall immediately communicate any media inquiries, requests, or situations to the Illinois Tollway.

3.3 Design Requirements (Not Used)

3.4 Construction Requirements

3.4.1 Information Materials

Provide information, as necessary, to Illinois Tollway to assist in the preparation of materials for the identified customer groups and media outlets or others to support Illinois Tollway's communications efforts regarding construction-related materials. Materials may include tentative schedules, contact names, telephone numbers, Project descriptions, and Project maps and drawings, which may be presented at project meetings with stakeholders.

Furnish Project information, including Plan sheets, electronic data files (and description of content), and construction and design information to third parties (such as owner's attorneys or agents) within five (5) Business Days of contact and notification of Illinois Tollway.

3.4.2 Electronic Information Distribution

The Design-Builder, Illinois Tollway, and local agencies will have information that may need to be disseminated to stakeholders or customer groups (listed above). The Design-Builder shall:

- Assist Illinois Tollway in disseminating information about updates to the Project and current conditions of the Project. Illinois Tollway's primary electronic methods will be press releases, email, variable message signs, and through its use of innovative technology, including its Traffic and Incident Management System (TIMS) and Intelligent Transportation Systems (ITS).
- Provide relevant information to Illinois Tollway in a timely manner
- Provide project information (e.g., lane closures, ramp closures, roadway closures, etc.) to Illinois Tollway's Project Manager weekly to include in construction status reports and Regional Transportation Management Center (RTMC), using the Illinois Tollway Lane Closure online application process. The Lane Closure Requests are done through the Illinois Virtual Tollway (IVT) Website. The Design-Builder will be responsible for coordinating with the Illinois Tollway to gain access to the Illinois Virtual Tollway website. The *Illinois Tollway Lane Closures Management Application User Guide* provides detailed steps of the IVT Lane Closure Request process and shall be followed to ensure that the requests are done correctly. More Lane Closure requirements are provided in the *Illinois Tollway Lane Closure Reference Guide* and *Illinois Tollway Lane Closure Guide*. The Design-Builder shall ensure that all Lane Closure Requests are submitted on time and follow all the different requirements laid out in the Project Standards.

3.4.3 Events

The Design-Builder will notify Illinois Tollway within at least ten (10) business days of the start of major construction events, mainly those with large-scale and/or long-term impacts to customers, which result from the Project. Major construction events include, but are not limited to:

- Road and lane closures and restrictions
- Detours and detour routes
- Access changes
- Bridge closures
- Re-opening closed lanes
- New MOT configurations, including lane shifts
- Local special events occurring in adjacent municipalities, counties, agency work or other non-Tollway work that may impact the Project

3.4.4 Project Information Signs

Provide a sign at the Project construction office, if applicable, identifying the name of the Project and Design-Builder contact information, including the hotline number, email address, and office hours.

3.4.5 Project Update Email

Send weekly email updates to the Illinois Tollway Project Manager describing current Project status and progress, schedule updates, planned Work activities, planned traffic impacts, and other relevant Project information. Send email updates once per week, at a minimum, with more frequent updates as conditions require. Illinois Tollway will disseminate updated information via an email contact list, developed with input from the Design-Builder, and via construction alerts or press releases, as applicable.

3.4.6 Construction Reports and Plans

3.4.6.1 Construction Schedule and Maintenance of Traffic

Communicate all construction activities and maintenance of traffic activities that affect customer groups to Illinois Tollway, and Illinois Tollway Communications staff, through the Design-Builder's CPM schedule. Provide email notification of both start and anticipated end times. Immediately notify the Illinois Tollway Project Manager of changes to construction activities and maintenance of traffic activities so Illinois Tollway can post the information on the website, via press releases and/or disseminate it through other technologies.

Construction elements/events requiring notification of customer groups include, but are not limited to:

- Road, ramps and lane closures and restrictions
- Notification of start and end dates of construction
- Notification of start and end dates of detour routes
- Detours and detour routes
- Access changes
- Noise-producing activities
- Nighttime work and changes to daily work hours
- Haul routes
- Utility shutoffs
- Changes to traffic control configuration
- Clearing and grubbing
- Bridge impacts

- Re-opening closed lanes
- New MOT configurations, including lane shifts

3.4.7 Commercial Vehicle Access and Restriction Information

Notify the Illinois Tollway Project Manager in writing seven (7) Days prior to any activity that may restrict or impede the movement of commercial vehicles due to reduced lane widths, reduced height clearances, or lower weight limits. Include description of the activity (including anticipated restrictions), start of the event, and end of the event. Notify Illinois Tollway Project Manager immediately if there is a change to the start or end date of an activity.

3.4.8 Traffic Conditions and Incident Information

Report to Illinois Tollway's Project Manager and Traffic and Incident Manager any unusual traffic conditions or incidents, including crashes, disabled vehicles, oversized vehicles, Utility disruptions, adverse weather conditions (e.g., wind, ice, rain, and snow), and debris or animals on roadways within ASAP after detection.

3.5 Submittal Requirements

Whenever a Submittal identified in Table 3-1 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, Section 2, Project Management. The Illinois Tollway will conduct reviews and provide review comments in accordance with Section 2, Project Management and *Table 3-1, Section 3.5 Submittal Requirements*, below. This *Table 3-1, Section 3.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 3-1: Section 3.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review	Illinois Tollway acceptance a Condition to Commencement of
1	Stakeholder list	3.2.2	Excel	Type 2	15	10	Tollway Acceptance
2	Public Meetings	3.2.4.1	PDF	Type 2	14	10	Tollway Acceptance
3	Responses to public meeting questions, inquiries, and comments	3.2.4.1	Email	Type 2	14	10	Tollway Acceptance
4	Draft Public Information Plan	3.2.7	PDF	Type 2	15	10	Tollway Acceptance

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review	Illinois Tollway acceptance a Condition to Commencement of
5	Final Public Information Plan	3.2.7	PDF	Type 2	15	10	Tollway Acceptance
6	Crisis/emergency communications contact list	3.2.7.1	Excel	Type 2	15	10	Tollway Acceptance
7	Weekly project update email	3.4.5	Email	Type 2	5	5	Tollway Acceptance

Section 4

4 ENVIRONMENTAL COMPLIANCE

4.1 General

This Section 4 describes the overall objective of the design and Construction phase of environmental compliance and monitoring which is to ensure that the Design-Builder meets all federal, state, and Illinois Tollway mitigation measures and environmental protection requirements. In particular, the Design-Builder shall comply with regulations overseeing the following environmental related items including erosion control and storm water pollution prevention, proper management of contaminated soil, groundwater and waste, maintenance of noise and air quality, avoiding and/or minimizing impacts to the waters of the U.S. and wetlands, and the protection of threatened and endangered species and their suitable habitat. The Design-Builder shall adhere to all permit conditions, except as otherwise specifically stated herein.

The Design-Builder shall conduct all Work necessary to meet the requirements of this Book 2, Section 4, Environmental Compliance. The Design-Builder shall perform the Work in accordance with the requirements of the standards in the documents listed below, whether obtained by the Illinois Tollway or the Design-Builder in addition to those standards referenced in Book 2. The Design-Builder shall use the latest adopted edition at the time of the Proposal Due Date.

- the Part I Environmental Studies Inventory Sheet (ESIS);
- the Part II ESIS;
- Permits; and
- Environmental Evaluation Document (EED)

The Design-Builder shall be responsible for implementing the required control measures, minimization of environmental impacts, and mitigation measures to minimize environmental harm from the Project. The Design-Builder shall minimize both environmental impacts and impacts to adjacent property as design decisions are made and provide documentation of the decisions to Illinois Tollway with each Design Document Submittal.

4.1.1 Standards

For environmental compliance, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Primary Project Standards are of the highest precedence, secondary Project Standards are second on the order of precedence, and tertiary Project Standards are the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers Illinois Tollway with the higher quality or value shall prevail.

Primary Project Standards:

- Illinois Tollway Technical Memoranda;
- Illinois Tollway *Roadway Design Criteria;*
- Illinois Tollway *Drainage Design Manual;*
- Illinois Tollway *Environmental Studies Manual;*
- Illinois Tollway *Erosion Control and Landscape Manual*;
- Illinois Tollway *INVEST Project Development Manual Version 1.2.*

Secondary Project Standards:

- Illinois Tollway Supplemental Specifications.

Tertiary Project Standards:

- IDOT *Standard Specifications for Road and Bridge Construction; and*
- Remaining standards set forth in Book 3.

4.1.2 Environmental Personnel

The Design-Builder shall designate a Contract Environmental Compliance Officer (CECO) to communicate directly with the Illinois Tollway. The Design-Builder shall ensure the CECO meets the minimum requirements of Book 2, Section 2, Project Management. The CECO shall be responsible for:

- During the design development and construction phases, CECO shall oversee compliance with environmental commitments and all applicable permit conditions. These commitments will be fully integrated into engineering design plans, Construction best management (BMP) activities and Design-Builder maintenance operations.
- Conduct routine inspections to ensure proper implementation and maintenance of erosion and sediment control best management practices;
- Ensure the proper management and disposal of all regulated substances and contaminated materials;
- Perform formal reviews of change orders, design changes, and field design changes to confirm compliance with all Environmental Requirements;
- Serve as the primary liaison between the Design-Builder and Illinois Tollway on environmental issues during design and construction;
- Be the lead responder to all Nonconforming Work findings related to Environmental Requirements issued by Illinois Tollway, the Quality Manager, or the ECM in the case of self-reporting;
- Conduct final QA/QC reviews on all environmental documentation prior to submitting to the Illinois Tollway;
- The CECO shall have the authority to stop construction if such Construction Work violates Environmental Requirements; or if they potentially jeopardize human health and safety;
- Implement quality improvement strategies to reduce the number and severity of non-compliances to the Environmental Requirements;
- Plan, develop and conduct the Environmental Protection Training Plan (EPTP) for Review and Acceptance by the Illinois Tollway;
- Lead a field review with Illinois Tollway to review the Project and environmental issues every month during the construction period;
- Prepare and document any environmental related updates within the Comprehensive Environmental Protection Plan (CEPP) and submit to Illinois Tollway for Review and Acceptance; and
- Once construction is complete, the CECO shall review all environmental commitments for the Project and prepare a Mitigation Completion Report that documents and certifies the completion of all Environmental Requirements for Acceptance prior to Final Acceptance.

The Design-Builder shall submit Work products completed by the CECO to Illinois Tollway for Acceptance.

Unless otherwise designated, all Design-Builder specialists, supervisors, designers, and other environmental personnel identified in this Section 4.2.2 shall report directly to the CECO.

Submit a list of personnel proposed for the Environmental Team, and their qualifications, to Illinois Tollway ECM for Approval prior to commencing Construction Work. Environmental personnel may serve more than one of the following roles if the person meets all qualifications.

4.1.2.1 Permitting Specialist

The Design-Builder shall provide a Permitting Specialist that meets the qualifications provided in Book 2, Section 2, Project Management. The Permitting Specialist shall complete all duties described in Section 4.2.2.1.

The Permitting Specialist shall identify and facilitate the performance of Work necessary to acquire any additional permits required for the Project and supervise the Work necessary to develop all permit applications, drawings, correspondence, and the CEPP. This Work may include assembling a permit application package as required by the relevant permitting agency and review of the Phase II ESA to ensure compliance with Illinois Tollway policies.

The Permitting Specialist shall support the CECO to ensure that the Design-Builder remains in compliance with all conditions provided in the permits secured for the Project. The Permitting Specialist shall report the status of permit applications and permit compliance in each Environmental Compliance Status Report and report any potential or recognized project design or schedule impacts resulting from permitting.

4.1.2.2 Storm Water Pollution Prevention Plan Designer

The Design-Builder shall provide a Storm Water Pollution Prevention Plan (SWPPP) Designer that, at a minimum, meets the minimum requirements of Book 2, Section 2, Project Management. The SWPPP Designer is responsible for preparation of the SWPPP in compliance with the Illinois Environmental Protection Agency (IEPA) General Permit to Discharge Storm Water per the requirements of Illinois Tollway Special Provisions, *S.P. 112 Storm Water Pollution Prevention Plan included in Book 3*. Note, any reference within the Special Provision to DSE or Contractor means Design-Builder.

4.1.3 Meeting and Communication Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2. The Design-Builder shall be responsible for attending meetings with relevant environmental regulatory agencies, as necessary, with the Illinois Tollway serving as the single point of contact, to complete the requirements of this Section 4, Environmental Compliance, of this Book 2.

Unless otherwise directed by Illinois Tollway, the Illinois Tollway shall lead all communications with relevant environmental regulatory agencies. The Design-Builder shall assist with communications, as necessary and as directed by Illinois Tollway.

4.1.4 Equipment/Software

The Design-Builder shall follow the Equipment and software requirements of the Project Standards.

4.1.4.1 Environmental Documents

Prior to Final Acceptance, the Design-Builder shall prepare a Mitigation Completion Report summarizing the implementation of Environmental Commitments by the Design-Builder, and final documentation demonstrating said acceptance.

Prior to Final Acceptance, to demonstrate compliance with Environmental Commitments, the Design-Builder shall submit a comprehensive collection of all field documentation including data collection sheets, photologs, and inspection logs related to environmental sampling and monitoring.

4.1.4.2 Permits

Any permits acquired by Illinois Tollway are anticipated to be complete prior to Notice to Proceed (NTP-3). It is anticipated that USACOE Nationwide Permit (NWP) 14 for Linear Transportation Projects will apply to this project and is included as Exhibit 4A. A Pre-construction Notification (PCN) for use of NWP 14 is anticipated to be submitted to the USACOE by the Illinois Tollway in March 2026. The Design-

Builder can also refer to the Environmental Impacts Exhibit 4B. The Design-Builder shall obtain all other permits required for the Project, including permits not included in the Contract Documents and permits that must be modified as a result of the Work or changes to permit requirements.

The CECO shall provide Illinois Tollway with draft electronic versions and hardcopies of all permit applications, drawings, correspondence, and CEPP for review prior to Illinois Tollway submittal for review by the relevant permitting agency. Physical hardcopies of all permits shall remain onsite.

This project's general construction site activities will be conducted under the Illinois Environmental Protection Act (IEPA) General Permit to Discharge Storm Water associated with construction site activities (NPDES PERMIT NO. ILR10). Requirements for this permit are specified in Illinois Tollway *S.P. 111 NPDES Permit No. ILR10* are provided in Book 3. Note, any reference within the Special Provision to DSE or Contractor means Design-Builder.

The Design-Builder shall comply with the conditions and/or requirements of all permits. For permits or amendments to permits that are the responsibility of the Design-Builder, the CECO shall work with the Permitting Specialist to assemble a permit application package as required by the permitting agency and said permit applications will be reviewed by Illinois Tollway prior to submittal to regulating agencies.

Submit permit applications, permit amendments, permits including permit conditions issued, notice of termination of NPDES Construction Permit, and all documentation for permit monitoring and reporting requirements, including any violations and their resolutions to the Illinois Tollway.

The following table identifies known environmental regulatory obligations that may be required for the Project.

Table 4-1: Relevant Environmental Regulatory Obligations

Permit Name	Authorizing Agency	Applicable Manual	Typical Review Timeline	Typical Resubmittal Review Timeline	Acceptance by Authorizing Agency needed before (Site Access/ Investigations, Mobilization, Design, Construction, Final Acceptance, etc.)	Responsibilities and Additional Remarks and comments
ESIS Part 1	Illinois Tollway	Environmental Studies Manual	Two weeks	Two weeks	Not applicable.	See attached Book 2 Exhibit 4C
Revisions to ESIS Part I due to Design-Builder-inflicted changes	Illinois Tollway	Environmental Studies Manual	Two weeks	Two weeks	Before submittal pre-RFC design documents	Design-Builder responsibility
ESIS Part 2	Illinois Tollway	Environmental Studies Manual	Two weeks	Two weeks	Before submittal pre-RFC design documents	Design-Builder responsibility (submitted at 60% design and 95% design)
USACE Non-notifying Nationwide (NWP) Permit Must meet regional conditions of the Nationwide 14 Permit for Linear Transportation Projects (wetlands, waterways, and ditches)	United States Army Corps of Engineers (USACE) - Chicago District.	USACE – Chicago District website	2 Months	2 Months	During the design process	Illinois Tollway to delineate wetlands/ waterways/ditches. In the event there are impacts to wetlands and/or waters of the U.S. (WOUS) above the permitting thresholds for USACE NWP-14, the Illinois Tollway would prepare a permit, submit/execute permit to regulatory agency for review and approval. Once received, Tollway will include permit with conditions into the RFP documents.
A Forms	Illinois Tollway		Varies	Varies	Prior to Construction	Design-Builder to submit.

Permit Name	Authorizing Agency	Applicable Manual	Typical Review Timeline	Typical Resubmittal Review Timeline	Acceptance by Authorizing Agency needed before (Site Access/ Investigations, Mobilization, Design, Construction, Final Acceptance, etc.)	Responsibilities and Additional Remarks and comments
Erosion and Sediment Control Plans and permits	IEPA				Pre-RFC consistent with Section 2, Project Management	Design-Builder to prepare National Pollution Discharge Elimination Plan (NPDES) Permit ILR10, NOI, and SWPPP. Illinois Tollway to Submit NOI and NOT.
Sustainability	FHWA, Illinois Tollway	INVEST Manual	Two Weeks	Two Weeks	Pre-RFC consistent with Section 2, Project Management and prior to RFC	Design-Builder to prepare Project INVEST Scorecard (PINS)-30D, 95D, and -CSC

4.1.5 Reports and Plans

4.1.5.1 Environmental Protection Training Plan

As part of the PMP and in accordance with Section 2, Project Management, of this Book 2, the Design-Builder shall develop and implement an Environmental Protection Training Plan (EPTP). The purpose of the EPTP is to train the Design-Builder and Design-Builder-related personnel in how to identify environmental concerns within the Project Site and how to work in compliance with Environmental Requirements. This training will be conducted prior to beginning work on Site. The Design-Builder shall keep records of the EPTP training and submit records to Illinois Tollway upon request. At a minimum, the EPTP training shall include the following topics:

- Project Environmental Personnel, Responsibilities, and Lines of Authority (Project coordination and communication);
- Project Environmental Protection Standards and Specifications;
- Protection of Water Resources (wetlands, avoidance and minimization of impacts to waterways and stormwater conveyances);
- Protection of Land Resources and Erosion Control (maintaining limits of disturbance; erosion and sedimentation controls; and protection of tree and plant resources);
- Protection of Threatened and Endangered Species (Work window restrictions related to seasonal items including species and vegetation);
- Wastewater management (Disposal methods, waste collection, and site-specific waste management);
- Spill Control (Site-specific spill prevention, response, and cleanup and containment prevention);
- Non-hazardous Waste Disposal (Site-specific Non-Hazardous Solid Waste Disposal Plan);
- Noise Control (Site-specific Noise Control Plan)
- Air Control (Site-specific dust and emissions mitigation)
- Inadvertent discoveries of archaeological artifacts, suspected human bones, grave markers and grave artifacts should be reported to Dawn Cobb, Archaeologist at Illinois Department of Historic Preservation Division at 217-785-4992 and all work must stop until a determination of origin is made. If the bone is human, then the county coroner must be notified within 48 hours of the discovery. If you don't know the coroner's contact information, you should notify the sheriff's department.
- Impacts and consequences of deviating from approved operating procedures; and
- Additional topics as needed to maintain compliance with the Environmental Requirements.

4.1.5.2 Comprehensive Environmental Protection Plan

As part of the PMP and in accordance with Section 2, Project Management, of this Book 2, the Design-Builder shall develop and implement a Comprehensive Environmental Protection Plan (CEPP). The Design-Builder shall revise the CEPP if information within the CEPP becomes outdated (beyond six months old) or at Illinois Tollway's request. The Design-Builder shall, once all Construction Work is completed, submit a final version of the CEPP as a condition to Final Acceptance. At a minimum, the Design-Builder's CEPP shall include the following environmental recommendations during construction activities: :

- Outline the Design-Builder's environmental Required Personnel;
    - Provide each team member's names, title, contact information, and reporting structure.
    - Provide each team member's description of role, responsibilities, education, certifications, and other qualifications.
    - Specify, at a minimum, the appropriate Design-Builder contact person(s) for reporting and notification of the following events:
        - All spills;
        - Discharge to groundwater;

  - Discovery archaeological artifacts, suspected human bones or remains, grave markers and grave artifacts;
  - Materials such as, but not limited to, contaminated or regulated soils, solid waste, groundwater and/or underground storage tank ;
  - Disturbance of threatened or endangered species or their habitats, including wildlife injured during construction activities;
  - Illinois Environmental Protection Agency regulatory authority inspections concentrated on: proper management of regulated solid waste; compliance and enforcement of NPDES permit conditions to maintain water quality, and soil erosion and sediment control;
  - Illicit discharges of non-stormwater or sediment-laden stormwater leaving or entering the Site;
  - Occurrence of Project activities outside the planned final R/W
  - Design-Builder shall comply with the Project's permit conditions and follow the applicable federal Clean Air Act (CAA) requirements, Resources Conservation and Recovery Act (RCRA) requirements, Clean Water Act (CWA) requirements, and U.S. Fish and Wildlife Service (USFWS) and Illinois Department of Natural Resources (IDNR) threatened and endangered species protections.
- Prescribe the Design-Builder's communication protocol: describe and provide an illustrative communication tree for environmental compliance team coordination responsibilities, including the following:
  - Design coordination;
  - Construction inspection and coordination;
  - Illinois Tollway-controlled QA/QC coordination; and
  - Environmental permitting and approvals coordination - this should demonstrate how each member of the environmental compliance team is integrated into the overall process and clarify communication protocol with the Design-Builder's team members; Illinois Tollway staff;
- Outline the permitting needs for the project in a permit matrix, which, at a minimum, shall outline:
  - Permit application, applicable regulation, permitting issuing agency, and reason for permit
  - Applicant company and applicant name
  - Reviewer's contact information at permitting issuing agency
  - Applicant submittal date
  - Anticipated and Actual permit reviewing period
  - Permit Issuance date
  - Amendment and amendment approval (if needed)
  - Permit Expiration Date
  - Comments
- Integrate environmental information into design processes: Describe the type of environmental information to include in the design engineering plan sets and/or map book during conceptual level, preliminary design, intermediate design and final design phases.
- Describe the Environmental Compliance Plan:
  - Identify and document all environmental requirements:
    - Environmental Related Contract Document requirements
    - Permit conditions
  - Identify the applicable project Site locations and phases for implementation for each Environmental Condition or Requirement.
  - For each Environmental Condition or Requirement applicable to design and preconstruction activities, describe means and methods to achieve compliance.
  - For all other Environmental Condition or Requirements (those applicable to construction or post-construction Activities), provide a list of alternative solutions to achieve

compliance. This list of alternative solutions shall communicate standard practices, typical approaches, or options the Design-Builder is considering for implementation on the Project.
    - Describe how non-compliance issues, regardless of issuer, will be documented, reported, and tracked to resolution. This shall be consistent with the communication protocol and provide additional details, including response times, reporting and tracking tools to be used, and documentation to be provided.
    - Describe the purpose of the environmental team field reviews.
    - Provide an outline of how the 90-Day Environmental Compliance Work Plans (ECWP) will address Site-specific construction Activities.
- Describe environmental compliance tracking
    - Identify how compliance with the Environmental Requirements will be achieved.
        - Verification method (design review, field review, etc.)
        - Timing/frequency of verification
        - Documentation of compliance
    - Describe when and how compliance documentation will be made available to Illinois Tollway for review.
    - Outline of the Environmental Compliance Status Reports

4.1.5.3 Environmental Compliance Status Report

The Design-Builder shall, monthly, prepare and submit to Illinois Tollway for acceptance an Environmental Compliance Status Report (ECSR). The Design-Builder shall submit the monthly ECSR to Illinois Tollway within fifteen (15) Business Days following the end of the monthly reporting period. The Design-Builder's ECSR shall include the following, at a minimum:

- The current status of compliance with the Environmental Requirements as summarized using Exhibit 4D, Environmental Mitigation Tracking Form.
- Document any pertinent environmental issues and include a narrative of the compliance actions (i.e., avoidance, minimization, and mitigations) that have occurred during the reporting period.
- Include a summary of any Stakeholder communications and Governmental communications performed by Illinois Tollway that have occurred during the reporting period.
- Include a summary that lists the engineering plan sets and submittals that have undergone environmental cross-disciplinary review since the previous reporting period.
- Include the summaries from field reviews performed during the reporting period.
- Include dated photographs documenting environmental compliance, non-compliance, and Work activities.
- Document activities performed by environmental professionals, including the resumes of the individuals performing the Work.; and
- Include any audit information documenting the Environmental Compliance efforts within the reporting period.

4.2 Environmental Responsibilities

The Design-Builder shall assume that all instances of Design Section Engineer (DSE) "DSE" within the Illinois Tollway Environmental Studies Manual shall mean Design-Builder.

The Design-Builder shall include an Environmental Mitigation Tracking Spreadsheet, as shown in Exhibit 4D, with each Pre-RFC Submittal to document all mitigation requirements that are to be implemented with the Work. The Design Builder shall follow the conditions of the Nationwide Permit (NWP) 14 for Linear Transportation Projects, included as Exhibit 4A.

4.2.1 Environmental Studies Inventory Sheet

4.2.1.1 ESIS Part I

During development of the Conceptual Design, the Illinois Tollway performed the Environmental Studies Inventory Sheet (ESIS) Part I for this Project. The Design-Builder's design submittals shall include a review of any changes of the Illinois Tollway-completed ESIS Part I. Illinois Tollway will determine whether additional ESIS Part I activities are necessary based on the Design-Builder's ESIS Part 1 reviews.

4.2.1.1.1 Design-Builder-Inflicted Changes

Any Conceptual Design changes would trigger the need for additional ESIS Part I activities, the Design-Builder shall be responsible for and shall perform such activities in accordance with the Illinois Tollway Environmental Studies Manual. The Design-Builder shall complete ESIS Part I submittals using the WBPM system.

In the event Design-Builder-inflicted changes to the Conceptual Design trigger the need for a New Environmental Approval, such as an Environmental Evaluation Document (EED) under the National Environmental Policy Act of 1969 (NEPA), the Design-Builder shall be responsible for and shall perform the activities necessary to acquire the New Environmental Approvals, in accordance with the Illinois Tollway Environmental Studies Manual and Environmental Law.

For the avoidance of doubt, the proposed acquisition of Design-Builder Requested ROW shall be a Design-Builder-inflicted change to the Conceptual Design, which the Design-Builder shall be responsible for obtaining Environmental Approvals and Government Approvals for.

Furthermore, in the event Design-Builder-inflicted changes result in the need for personnel with specific qualifications, in accordance with the Illinois Tollway Environmental Studies Manual, the Design-Builder shall provide those personnel with such qualifications.

4.2.1.2 ESIS Part II

The Design-Builder shall prepare the ESIS Part II submittals to be submitted twice, initially as part of the Preliminary Design Document (60%) Submittal and the Pre-RFC Design Document (95%) Submittal. The Design-Builder shall complete the ESIS Part II submittals using the WBPM system. The Design-Builder shall provide qualified personnel to perform the ESIS Part II activities, as necessary and in accordance with the requirements of the Illinois Tollway Environmental Studies Manual.

4.2.2 Wetlands

The Design-Builder shall be responsible for performing the ESIS Part II activities. Illinois Tollway will obtain all necessary Section 404 Permits in accordance with Section 6.1, Wetlands, of the Illinois Tollway Environmental Studies Manual.

4.2.2.1 Known Wetlands, Waters of the United States, and Ditches

The following wetlands, waters of the United States (WOUS), and ditches were identified in the Wetland Delineation Technical Report dated 2022 for reference use only.:

4.2.2.2 Design Criteria for Wetlands/WOUS/Ditches

Avoid and minimize temporary fills and permanent impacts to the wetlands/WOUS/ditches described in the Environmental Impacts Exhibit 4B associated with permanent and temporary placement of fill, excavation, or other activities.

Wetlands and WOUS are included in the Environmental Impact Exhibit 4B. The Design-Builder will be required to include the Wetlands and WOUS on the Erosion and Sediment Control plans and Drainage Plans. See Illinois Tollway Erosion Control and Landscape Manual, Appendix 3 and Illinois Tollway Drainage Design Manual, Appendix M for plan requirements.

Comply with applicable permitting and regulatory requirements for any dewatering activities associated with Project construction. Do not proceed with construction in a designated area until a dewatering permit for that area is received.

The Design-Builder shall be responsible for performing the ESIS Part II activities in accordance with Section 6.2, Biological Resources, of the Illinois Tollway Environmental Studies Manual.

4.2.2.3 Known Biological Resources

The following threatened and endangered species, critical habitat, and protected resources were identified:

4.2.2.4 Federal-listed Threatened and Endangered Species

The Tollway utilized the U.S. Fish and Wildlife Services' Information for Planning and Consultation (IPaC) online tool to identify federally protected species and designated critical habitats located within the vicinity of the project area. The IPaC tool provides project-specific information on species listed under the Endangered Species Act (ESA), migratory birds protected under the Migratory Bird Treaty Act (MBTA). According to the IPaC Resource List covering the Project area within Cook and DuPage counties, eight (8) federally protected species [Endangered (E) - Northern Long-eared Bat (*Myotis septentrioalis*)]; [(Threatened (T) - Rufa Red Knot (*Calidris canutus rufa*)]; [Experimental population, Non-essential (EXPN) - Whooping Crane (*Grus americana*)]; [Threatened (T) – Eastern Massassauga (*Sistrurus catenatus*)]; [Endangered (E) – Hine's Emerald Dragonfly (*Somatochlora hineana)*]; [Proposed Threatened (PT) – Monarch Butterdly (*Danaus plexippus*)]; [Threatened (T) – Eastern Prairie Fringed Orchid (*Platanthera leucophaea*)]; [Endangered (E) – Leafy Prairie-clover (*Dalea foliosa*)] are known to occur within DuPage and Cook counties, IL. According to the IPaC review, there are no critical habitats located within the project area; however, avoidance and minimization measurements will be taken to protect the federally endangered Northern Long-eared bat.

4.2.2.5 State-listed Threatened and Endangered (T&E) Species

Illinois Tollway reviewed the Ecological Compliance Assessment Tool (EcoCAT) managed by the Illinois Department of Natural Resources (IDNR) Division of Natural Heritage for the recorded presence of state protected species within the vicinity of the project area. According to the Database, no State-listed threatened and endangered species have been identified and recorded near the project area.

4.2.2.6 State protected natural habitat

The IDNR Illinois Natural Heritage Database did not contain any records of Illinois Natural Area Inventory (INAI) sites, dedicated Natural Preserves, or registered Land and Water Reserves within the vicinity of the project area.

4.2.2.7 Design Criteria for Biological Resources

If the project results in impacts beyond Section 4.3.1.2, the Design-Builder shall follow Illinois Tollway Environmental Studies Manual, Section 6.2.6, Subsection Special Environmental Studies - The Biological Resource Memorandum.

4.2.2.8 Construction Criteria for Biological Resources

- Trees three inches or greater at breast height shall not be cleared between April 1 and September 30. Note, tree trimming and clearing of hazards can occur at any time.
- Bridge Bat Assessment (BBA) Form, Exhibit 4D must be completed by the Design-Builder prior to construction for any culvert or storm sewer work that is 48 inches or taller, and for any work on a bridge that is below the surface of a bridge deck or involves expansion joints. Note, the BBA is valid for two years.

4.2.3 Publicly Owned Recreation Properties or Natural Lands - Not Used

Do not impact any park properties along the corridor of this Project. The Design-Builder shall perform Work in accordance with *Illinois Tollway Supplemental Specification 107.24, Forest Protection*.

4.2.4 Hydraulics and Hydrology

The Design-Builder shall be responsible for performing the ESIS Part II activities and obtaining the Project's IDNR/OWR and NPDES permits in accordance with Section 6.4, Hydraulics and Hydrology, of the Illinois Tollway Environmental Studies Manual.

4.2.4.1 Known Floodplain, Floodway, and Waterway

The Design-Builder shall work within the construction limits of the Project. The Design-Builder shall use signage and temporary orange fencing to establish exclusion areas around the delineated wetlands and waters of the U.S. The Design-Builder shall avoid these exclusion areas. Do not drive vehicles or equipment near exclusion or within exclusion areas.

SITE	PLAN SHEET	LOCATION	WETLAND ACREAGE (IN PROJECT LIMITS)	WETLAND IMPACT AC	COMMENT	IMPACT TYPE
1	RDP - 04	STA. 673+25.01 TO STA. 673+83.10	2.324	0.019	WOUS IMPACT	PERMANENT
2	RDP - 04	STA. 674+46.46 TO STA. 675+05.97	2.324	0.155	WOUS IMPACT	TEMPORARY
3	RDP - 04	STA. 674+65.33 TO STA. 675+20.86	2.324	0.018	WOUS IMPACT	PERMANENT
4	RDP - 07	STA. 705+41.76 TO STA. 705+87.97	0.751	0.004		TEMPORARY
5	RDP - 07	STA. 706+33.57 TO STA. 706+51.77	0.751	0.003		TEMPORARY
6	RDP - 07	STA. 706+58.78 TO STA. 707+32.03	7.393	0.001		TEMPORARY
7	RDP - 07	STA. 706+58.78 TO STA. 707+32.03	7.393	0.004	WETLAND IS ALSO BMP	TEMPORARY
8	RDP - 07	STA. 707+84.47 TO STA. 708+00.31	3.411	0.004		TEMPORARY
9	RDP - 08	STA. 544+34.87 TO STA. 544+54.98	0.076	0.004		TEMPORARY
10	RDP - 09	STA. 722+83.55 TO STA. 724+02.31	0.164	0.004		TEMPORARY

11	RDP - 09	STA. 720+10.00 TO STA. 720+14.75	0.013	0.002		TEMPORARY

Refer to the Environmental Impacts Exhibit 4B for description of the work that will result in an impact to a wetland or waters of the U.S.

4.2.4.2 Design Criteria for Hydraulics and Hydrology

If construction occurs in a mapped or regulated floodplain/floodway, follow Illinois Tollway Drainage Design Manual, Section 3.0.

Floodplains and floodways are included on the Erosion and Sediment Control Plans and Drainage Plans. See Illinois Tollway Erosion and Sediment Control, Landscape Design Criteria, Appendix 3 and Illinois Tollway Drainage Design Manual, Appendix M for plan requirements.

The Design-Builder shall address impairments and total maximum daily loads in SWPPP.

4.2.4.3 Construction Criteria for Hydraulics and Hydrology

The Design-Builder shall perform Work in accordance with *Illinois Tollway Supplemental Specification 107.13, Work at Navigable and Regulated Waters and other Streams*.

If any changes of the permitted work are found necessary, revised plans should be submitted promptly to IDNR for review. If the Design-Builder is unable to complete the work by the permit expiration date, the Tollway on behalf of the Design-Builder may make a written request to the IDNR for a time extension.

4.2.5 Architectural, Cultural, Historical and Archaeological Resources

The Design-Builder shall be responsible for performing the ESIS Part II activities in accordance with Section 6.5, Architectural, Cultural, Historical and Archaeological Resources, of the Illinois Tollway Environmental Studies Manual.

4.2.5.1 Known Architectural, Cultural, Historical, and Archaeological Resources

Architectural, cultural, historical, or archaeological resources were identified in the ESIS-Part 1.

4.2.5.2 Construction Criteria for Architectural, Cultural, Historical, and Archaeological Resources

The Design-Builder shall perform Work in accordance with *Illinois Tollway Supplemental Specification 107.21, Protection and Preservation of Aboriginal Records and Antiquities*.

4.2.6 Solid Waste

If there is material to be disposed of offsite, the Design-Builder shall be responsible for performing the ESIS Part II activities, preparing the sampling plan, conducting the Phase II Environmental Site Assessment (ESA), and preparing the LPC-662 form or preparing and signing the LPC-663 form in accordance with Section 6.6, Solid Waste, of the Illinois Tollway Environmental Studies Manual.

Once sampling has taken place and analytical results have been received, the Environmental Specialist (ES) shall prepare a Phase II ESA report and an LPC-662 and/or LPC-663 form.

The Design-Builder shall assume that all instances of the Design Section Engineer (DSE) Environmental Specialist (ES), “DSE ES”, and “ES” within the Illinois Tollway Environmental Studies Manual shall mean Design-Builder.

The Illinois Tollway has performed the Phase I ESA for this Project with the anticipation of the Project being delivered per the Conceptual Design. Upon the Design-Builder's submittal of the Conceptual Design Document, the Illinois Tollway will review the Conceptual Design Document against the Illinois Tollway-completed Phase I ESA. Illinois Tollway will determine whether or not additional Phase I ESA activities are necessary based on the Design-Builder's Conceptual Design Submittal.

In the event Design-Builder-inflicted changes to the Conceptual Design trigger the need for additional Phase I ESA activities, the Design-Builder shall be responsible for and shall perform such activities in accordance with the Illinois Tollway Environmental Studies Manual.

4.2.6.1 Known Potentially Impacted Properties

There are no locations of Known Pre-Existing Hazardous Waste within the project limits.

4.2.6.2 Waste Management Plan

As part of the PMP, and in accordance with Section 2, Project Management, of this Book 2, the Design-Builder shall develop and submit to Illinois Tollway for acceptance a Waste Management Plan (WMP). The WMP shall include procedures compliant with applicable Environmental Requirements and include, at a minimum:

- the process to keep and maintain material safety data sheets, per Occupational Safety and Health Administration (OSHA) requirements for chemicals to be used on the Project;
- the names and contact information for designated individuals implementing the WMP;
- procedures for identifying and documenting Hazardous Materials which might impact the Work;
- procedures for mitigation of known Hazardous Materials anticipated to impact construction;
- procedures for characterization and mitigation of unanticipated Hazardous Materials encountered during construction;
- procedures for mitigation of Hazardous Materials during the Maintenance Period;
- provisions for appropriate storage and disposal of waste encountered on the Project for the Term; and
- process for removal and disposal of surplus material and performance of clean fill determinations.

The WMP shall include provisions for making workers aware of and able to recognize the potential Hazardous Materials to which they may be exposed, limiting Design-Builder and other Project workers' exposure to Hazardous Materials and providing necessary personal protection Equipment to protect workers from exposure. The WMP shall require the Design-Builder to provide any non-Design-Builder personnel who visit the Project with the appropriate personal protection Equipment.

The WMP shall require personnel of the Design-Builder handling Hazardous Materials be trained and certified at least to the minimum requirements established under the current guidelines of OSHA 29 C.F.R. 1910.120.

Further, the WMP shall include procedures for ensuring applicable certifications, licenses, authorizations, and Governmental Approvals for Design-Builder personnel handling Hazardous Materials are current and valid through the duration of the Work.

4.2.6.3 Design Criteria for Solid Waste

Classify soil for disposal, reuse options and construction worker precaution per Illinois Tollway Environmental Studies Manual, Section 6.6.4. Include waste disposal type, reuse options, and construction

worker precaution areas on Soil Plans. See Illinois Tollway Environmental Studies Manual, Section 6.6.9, Subsection Contract Documents.

4.2.6.4 Construction Criteria for Solid Waste

The Design-Builder shall perform Work in accordance with *Illinois Tollway Supplemental Specification 107.19, Removal and Disposal of Waste Materials*.

4.2.6.4.1 Solid Waste Disposal

For disposal of uncontaminated soil or regulated substances, use *Illinois Tollway Special Provisions Earthwork Management Plans, Disposal of Regulated Substances and Uncontaminated Soil*, and submit forms *A-51 Earthwork Construction Plan* and *A-53 Earthwork Final Construction Report*.

4.2.6.4.2 Previously Unidentified Hazardous Waste

The Design-Builder shall be responsible for cost and schedule implications due to activities related to the remediation of hazardous materials on Design-Builder Requested ROW.

4.2.6.4.3 Asbestos-Containing Materials and Regulated Waste – Not Used

4.2.6.4.4 Borrow, Use, and Waste Areas

Proposed borrow areas, use areas, (including, but not limited to temporary access roads, detours, and runarounds, plant sites and staging and storage areas), and/or waste areas are to be designated by the Design-Builder to the Illinois Tollway with the Pre-RFC Design Document submittals. The Design-Builder shall ensure and provide documentation that each site will not impact any archaeological resources, wetlands, or threatened and endangered species in accordance with Illinois Tollway policies, and in compliance with State, Federal and local regulations. The Pre-RFC Design Documents shall include a location map delineating the proposed borrow site, use area, and/or waste area, along with a written agreement from the property owner.

4.2.7 Construction Noise

The Design-Builder shall perform Work in accordance with *Illinois Tollway Supplemental Specification 107.35, Construction Noise Restrictions*. It shall be the responsibility of the Design-Builder to determine and comply with the limitations imposed by local ordinances with respect to construction operations and Equipment noise and working time restrictions in accordance with Illinois Tollway Supplemental Specification 108.13 Limitations of Operations.

4.2.8 Air Quality

The Design-Builder shall be responsible for performing the ESIS Part II activities in accordance with Section 6.8, Air Quality, of the Illinois Tollway Environmental Studies Manual.

4.2.8.1 Construction Criteria for Air Quality

The Design-Builder shall perform Work in accordance with *Illinois Tollway Supplemental Specification 107.36, Construction Air Quality – Dust Control* and *107.37 Construction Air Quality – Diesel Vehicle Emission Controls*.

4.2.9 Agricultural Resources

The Design-Builder shall be responsible for performing the ESIS Part II activities in accordance with Section 6.9, Agricultural Resources, of the Illinois Tollway Environmental Studies Manual.

4.2.10 Landscape, Erosion and Sediment Control

The Design-Builder shall be responsible for performing the ESIS Part II activities and obtaining the Project's NPDES Permit ILR10 in accordance with Section 6.10, Landscape, Erosion and Sediment Control, of the Illinois Tollway Environmental Studies Manual.

4.2.10.1 Design Criteria for Erosion and Sedimentation Control

The Design-Builder shall complete and acquire the IEPA NPDES Stormwater Permit. The Design-Builder shall prepare a SWPPP, prepare a SWPPP amendment for each construction phase, and update the SWPPP as the Project develops or when significant changes in the Project design or staging occur.

The Design-Builder shall ensure the erosion and sediment control design meets the minimum runoff control, erosion control, sediment control, control practices and applications, and permanent erosion and sediment control requirements in Section 3 of the *Illinois Tollway Erosion Control and Landscape Manual*.

The Design-Builder shall perform Work in accordance with Section 3.1 *Illinois Tollway Special Provisions S.P. 111.2 Storm Water Pollution Prevention Control Plan*. Note, any reference within the Special Provision to DSE or Contractor means Design-Builder.
These include the following:

- Runoff Control
- Erosion Control
- Sediment Control
- Control Practices and Applications

Illinois Tollway shall submit the NPDES Notice of Termination (NOT) upon Final Acceptance.

4.2.11 Sustainability

4.2.11.1 Design Criteria for Sustainability

Prepare Project INVEST Scorecard (PINS) -30D and -95D in accordance with the Illinois Tollway INVEST Project Development Manual Version 1.2.

4.2.11.2 Construction Criteria for Sustainability

Prepare PINS-CSC in accordance with the Illinois Tollway INVEST Project Development Manual Version 1.2.

4.3 Submittal Requirements

Whenever a Submittal identified in *Table 4-2, Section 4 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 4-2, Section 4 Submittal Requirements,* below. This *Table 4-2 - Section 4 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 4-3: Section 4 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1a	List of personnel for Environmental Team	4.1.2	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal
1b	SWPPP	4.1.2.2 / 4.2.10.1	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal
1c	Environmental Documents and Data	4.1.4.1	PDF	2	15	10	Prior to Final Acceptance
1d	Environmental Protection Training Plan	4.1.5.1	PDF / Excel	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal
1e	Comprehensive Environmental Protection Plan	4.1.5.2	PDF	2	15	10	Prior to Final Acceptance
1f	Environmental Compliance Status Report	4.1.5.3	PDF	2	15	10	Monthly Acceptance
1h	ESIS Part II	4.2.1.2	WBPM system	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal
1i	Waste Management Plan	4.2.6.2	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal
1j	Earthwork Construction Plan	4.2.6.4.1	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1k	Earthwork Final Construction Report	4.2.6.4.1	PDF	2	15	10	Prior to Final Acceptance
	Regulated Waste Removal Report	4.2.6.4.3	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal
1n	Borrow, Use and Waste Areas exhibit	4.2.6.4.4	PDF	2	15	10	Pre-RFC Design Documents Acceptance
1p	Dust Control	4.2.8.1	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document
1q	Diesel Vehicle Emissions Control	4.2.8.1	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal
1r	Form A-38 Illinois Tollway Storm Water Pollution Prevention Plan Erosion Control Inspection Report	4.2.11.2	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document
1s	Notice of Termination	4.2.10.1	PDF	2	15	10	Prior to Final Acceptance
1t	INVEST Scorecard	4.2.11.1	excel	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal
3	Sampling Plan	4.2.6	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal
4	Phase II ESA	4.1.2.1/ 4.2.6	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
5	LPC-663 Form	4.1.2.1/ 4.2.6	PDF	2	15	10	Preliminary Design Document with updates at Pre-RFC Design Document submittal

Section 5

5 QUALITY MANAGEMENT

This Section 5, Quality Management, of Book 2, describes the Design-Builder's responsibilities for Quality Management, including the development, implementation, and maintenance of an effective quality program and Quality Management Plan (QMP) to manage, control, document, and assure all requirements of the Contract Documents are met. The Design-Builder's Quality Management Plan (QMP) shall be developed, managed, and implemented in accordance with the applicable Illinois Tollway ISO forms and encompass all Work performed by the subconsultants and subcontractors at all tiers and the entire Quality Assurance program, including, at a minimum, a Design Quality Management Plan, and a Construction Quality Management Plan. The Design-Builder shall perform all Work in accordance with the requirements of this Section 5, Quality Management, and in accordance with the Illinois Tollway-Accepted QMP.

5.1 General

Illinois Tollway expects quality program improvements throughout the delivery of the entire Project. It is of the utmost importance that the Design-Builder involves its staff and partners with Illinois Tollway to ensure overall Project satisfaction. Illinois Tollway will strive for an oversight role in the quality management program for the Project; however, this will only be possible if the Design-Builder's quality program exhibits sound processes and practices that place quality design and workmanship above production and/or cost by all team members. The Design-Builder shall allow for Illinois Tollway involvement in the program.

If there is evidence that the Design-Builder's quality procedures are not adequate (as evidenced by poor results of Illinois Tollway's oversight reviews or problems during design or construction), Illinois Tollway may suspend ongoing design and construction Work represented by the deficient quality procedures and require correction of design and/or construction defects at no cost to Illinois Tollway. Illinois Tollway may also seek non-recoverable reimbursement for Illinois Tollway and other parties' additional costs and impacts per Book 1.

If Illinois Tollway determines that the Design-Builder is not providing adequate Quality Control or Quality Assurance, the Design-Builder's Quality Control and Quality Assurance staff may be directed by Illinois Tollway to be on Site at all times to perform reviews, audits, inspections, and other quality activities until the Design-Builder meets the Illinois Tollway-Accepted QMP requirements. Illinois Tollway may also seek non-recoverable reimbursement for Illinois Tollway and other parties' additional costs and impacts per Book 1.

5.1.1 Design-Builder Responsibility

The Design-Builder shall be responsible for Design Quality Control, Design Quality Assurance, and Construction Quality Control. The Design-Builder shall develop, implement, and maintain a QMP. The Design-Builder shall provide a quality control team to implement, monitor, test, assess, and adjust the production to ensure the final product meets the requirements of the Contract Documents. The Design-Builder shall not be relieved of its obligation to perform the Work in accordance with the Contract, or any of its other obligations under the Contract, by oversight, spot checks, audits, reviews, tests, inspections, acceptances, or approvals by any Persons, or by any failure of any Person to take such action.

5.1.1.1 Design Phase

The Design-Builder shall develop, implement, and maintain a qualified design quality management team and approach that:

- Oversees the design process of the Project by conducting reviews.
- Exhibits sound Quality Control and Quality Assurance review processes.
- Ensures the Released for Construction Documents meet the requirements of the Contract.
- Provides quality measures and encourages continuous improvement of the design of deliverable products.

5.1.1.2 Construction Phase

The Design-Builder shall develop and implement a qualified construction quality management team and approach that:

- Promotes quality in the Work product.
- Exhibits sound Quality Control review processes.
- Coordinates the design with the construction and promotes communication between Key Personnel, Required Personnel, and Illinois Tollway, including the Illinois Tollway Project Manager and Illinois Tollway Construction Manager, throughout the process.
- Ensures changes during construction to Release for Construction documents are reviewed by the Engineer of Record and are appropriately recorded.

5.1.2 Illinois Tollway Responsibility

Illinois Tollway will review Design-Builder submittals as generally described within this Section 5, Quality Management, and other areas of the Contract Documents.

Ultimately, Illinois Tollway Acceptance of the Project's design will be through the acceptance of Final Design Documents. Illinois Tollway will perform intermittent in-progress acceptance activities, including but not limited to:

- Monitoring the adequacy of the Design Quality Management Plan;
- In-progress design reviews;
- Formal design reviews of milestone design packages, as indicated in Book 2, Section 2, Project Management; and
- Audits of the resolution of design review comments.

Illinois Tollway will provide construction engineering, testing, and inspection as deemed necessary, in its sole discretion, for the design-build delivery method. Illinois Tollway will provide qualified Construction Quality Assurance Representatives to perform construction quality assurance auditing and acceptance testing. Illinois Tollway Construction Quality Assurance Representatives will perform on-site inspection and testing of the construction elements of the Work to verify Work has been constructed in conformance with the requirements of the Contract Documents, following the requirements of the Illinois Tollway Construction Managers Manual.

At Illinois Tollway's discretion, Illinois Tollway will perform Independent Assurance Activities to confirm the sampling and testing activities performed by the Tollway's Construction Quality Assurance Representatives and the Design-Builder's Quality Control team are conducted by qualified personnel using proper procedures and properly calibrated and functioning Equipment.

5.1.3 Definitions

Quality Control includes the activities undertaken by production staff to ensure suitability of inputs, processes, and outputs, such as work planning, reviews, inspection, tests, and checks.

Quality Assurance includes the activities undertaken by non-production staff to provide assurance and documentation that Work is meeting requirements, such as establishing quality and policy, defining

authority and responsibility, assessing effectiveness of the quality system, training, verification of quality control, and measures to improve quality.

5.2 Administrative Requirements

5.2.1 Standards

For quality management Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail.

Primary Project Standards:

- Illinois Tollway Design Section Engineer's (DSE) Manual
- Illinois Tollway Contractor's Quality Program Manual
- Illinois Tollway Special Provision Contractor's Quality Program
- Illinois Tollway Special Provision Asphalt Pavement Construction
- Illinois Tollway Special Provision Portland Cement Concrete

Secondary Project Standards:

- Illinois Tollway Supplemental Specifications.

Tertiary Project Standards:

- IDOT *Standard Specifications for Road and Bridge Construction; and*
- Remaining standards set forth in Book 3.

5.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

Illinois Tollway recognizes that quality management is dynamic; quality procedures may need to change as the Project moves forward. The Design-Builder's Quality Manager (QM), Design-Builder's Project Manager (PM), Design-Builder's Lead Designer, and Illinois Tollway shall review the QMP together every six months to ensure continued suitability, adequacy, and effectiveness. Subsequently and within ten (10) Business Days after the meeting, the Design-Builder shall revise and resubmit the QMP to Illinois Tollway, inclusive of any necessary changes. Any changes to the QMP at any point during the duration of the Project shall be resubmitted to Illinois Tollway for Acceptance.

As necessary, the Design-Builder shall host internal quality meetings with Design-Builder project personnel to address quality related issues, train new personnel, or brainstorm new procedures.

5.2.3 Equipment/Software (Not Used)

5.2.4 Permits/Authorizations (Not Used)

5.2.5 Investigations/Supplemental Work (Not Used)

5.2.6 Reports

With each Monthly Progress Report, the Design-Builder's Quality Manager shall develop and distribute to the Design-Builder's management personnel and the Illinois Tollway, a Quality Status Report which shall, at a minimum:

- Provide a summary of the internal quality activities;
- Provide a status of all RFIs;
- Provide a status of all Nonconforming Work;
- Provide a summary of any corrective and preventative actions;
- Provide a summary of any quality trends, both positive and negative, as applicable; and
- Provide Materials Testing and Inspection Plan results (both cumulative and monthly).

5.2.7 Document Control System

As part of the QMP, the Design-Builder shall outline, establish, and maintain a document control system to store and record all correspondence, design inputs, drawings, progress reports, technical reports, specifications, submittals, calculations, test results, inspection reports, Nonconformance Reports (NCR), quality review documents, administrative documents, and other documents generated under the Work. The Design-Builder shall maintain records that include factual evidence that the required inspections and tests have been performed, including the type and number, results, nature of defects, deviations, causes for rejection, proposed remedial action, and corrective actions of such inspections and tests. The Design-Builder shall identify all of the records that are to be maintained and kept throughout the duration of the Project, and how they will be controlled by a unique document control number. This system shall be integrated into the WBPM system and shall be accessible by Illinois Tollway.

The Design-Builder's records shall include a master list of Illinois Tollway-Accepted and Illinois Tollway-Approved Design Document Submittals, Construction Document Submittals, other submittals, and revisions.

The Design-Builder shall identify a Design-Builder person who is responsible for implementation, maintenance, and management of records and the document control system.

For each Design Document Submittal and Construction Document Submittal, certify in writing by the Project Manager and Quality Manager that the submittal has been:

- Designed in accordance with the requirements of the Contract, applicable law, and the governmental approvals.
- Checked in accordance with the Design-Builder's Illinois Tollway-accepted QMP
- Prepared consistently with other elements of the Conceptual Design

5.3 Quality Management Plan (QMP)

The Design-Builder shall develop a continuous quality process that begins with project planning and continues through design and construction until Final Acceptance.

The Design-Builder's QMP shall delineate procedures used by the Design-Builder's executive management to implement the Design-Builder's quality policy. The Design-Builder's executive management shall ensure its policy is implemented at all levels of the Project organization.

5.3.1 Quality Management Plan Planning

The Design-Builder's QMP shall outline the quality planning efforts that the Design-Builder will implement to ensure adherence to the requirements of the Contracts Documents:

- Identify processes, resources, and personnel needed for Design Quality Control, Design Quality Assurance, and Construction Quality Control;
- Train all project personnel on the implementation of the QMP;
- Identify processes for revising procedures within the QMP;
- Identify and define all measurable requirements of the Contracts Documents; and
- Develop processes for internal quality auditing to ensure all tiers of the Contract understand and are properly implementing the QMP. The Design-Builder shall audit the implementation of the QMP quarterly.

5.3.2 Quality Management Plan Contents

The Design-Builder shall prepare a QMP that, at a minimum:

- Describes in detail the quality processes for internal checks, reviews, audits, responsibility and authority, and resolutions to occurrences of nonconformance to the requirements of the Contract Documents;
- Addresses the responsibility and approval authority of the Illinois Tollway and outline processes for addressing issues related to elements of Work that do not comply with the requirements of the Contract Documents;
- Details a process for notifying Illinois Tollway in advance of all items requiring Illinois Tollway Quality Assurance, Inspection, and /or testing;
- Includes the Design-Builder's quality policy, quality planning, and quality improvement processes. The QMP shall include an approach to Quality Control relative to design, construction, and Work management;
- Addresses all actions to ensure a successful quality program integrated with Illinois Tollway's Acceptance testing, which will be performed on construction activities as defined in this Book 2, Section 5, Quality Management. All other Quality actions shall be the responsibility of the Design-Builder;
- Identifies how design processes will be managed to achieve quality and be organized by functional areas of Quality Control and Quality Assurance. Staffing of the functional areas shall be at the Design-Builder's discretion, unless otherwise dictated by the Contract Documents;
- Describes the Quality Manager's accountability for ensuring the effective implementation and maintenance of the QMP;
- Depicts, graphically, the lines of responsibility and interfaces to describe the Design-Builder's organization, including subconsultants and subcontractors;
- Depicts, graphically, the lines of responsibility and interfaces to describe the communications with Illinois Tollway and third parties;
- Describes all quality control and assurance resources, such as design reviewers, construction quality inspectors, and testers that the Design-Builder will use;
- Addresses the Design-Builder response to Warranty issues during the Warranty period; and

- Depicts how the Design-Builder's design technical experts are incorporated into the construction phase of the Project.

5.3.3 Quality Personnel

The Design-Builder's QMP shall identify the Design-Builder's QM who shall be responsible for the entire Design-Builder's quality activities for the Project and have direct reporting responsibility to the Design-Builder's Executive Committee, however, shall not be involved in the production of design or construction.

The Design-Builder's Quality Control personnel and Quality Assurance personnel shall not have the authority to deviate or permit deviation from the requirements of the Contract Documents; their roles are solely to ensure the finished Work meets the requirements of the Contract Documents.

The Design-Builder shall ensure all Project personnel are properly trained in the procedures of the QMP and shall document verification of such training efforts and attendees. Throughout the duration of the Project, it is the Design-Builder's responsibility to train new staff brought on to the Project.

The Design-Builder shall ensure that the Quality Assurance personnel:

- Have no responsibilities in the production of the Work.
- Are responsible for verifying and documenting that Work meets the Contract requirements and that the requirements of the Illinois Tollway-Accepted QMP are met.
- Have the authority to stop Work.

The Design-Builder shall ensure that the Quality Control personnel:

- Remain independent of the Quality Assurance personnel.
- Are responsible for verifying compliance of the Work with the requirements of the Contract Documents.

Within the QMP, the Design-Builder shall identify the Quality Key Personnel and Required Personnel listed in Section 2, Project Management, and describe that person's role in the Project.

5.3.4 Design Quality Management Plan

Within the QMP, the Design-Builder shall develop and implement a Design Quality Management Plan that describes how the design team schedules the design efforts, including design reviews, checking and back-checking stages, and issue dates of design deliverables. Additionally, the Design-Builder shall include within the Design Quality Management Plan details as to the level of involvement of Illinois Tollway, local, and regulatory agencies in the design development process. The Design-Builder is encouraged to involve Illinois Tollway in all design development processes, including independent technical reviews and constructability reviews.

The Design Quality Management Plan, at a minimum:

- Describes how all design criteria, Contract requirements, and other design inputs are defined, reviewed, and approved;
- Describes the design and verification activities separately;
- Describes how the design team schedules the design efforts, including design reviews, over the shoulder reviews, verification and checking stages, and issue dates of design deliverables;
- Describes how the Design-Builder will maintain an accessible, centrally controlled design criteria manual, database, or list that contains all relevant design inputs or reference to design inputs to be used by design personnel to incorporate into the design;

- Ensures that the design inputs are communicated to, and accessible by, the relevant designers responsible for incorporating design inputs into the design outputs;
- Defines the design outputs (i.e., the specific plans and specifications) to be produced and the checking and review processes that will be followed;
    - If any changes to the outputs must be made, describe how these changes are identified, implemented, and reviewed.
    - Describe the method of communicating these changes or revisions made in the field back to the designers or changes made by the designers back to the field. Changes must be in a format that is readily apparent and accessible.
    - Also, describe how any of these changes are relayed to Illinois Tollway in writing.
- Describe how changes to design inputs are identified, reviewed, and approved by authorized personnel prior to their implementation, including the method of communicating changes or revisions in the field;
- Describe the processes of which the Design-Builder will implement and perform design quality control processes, including but not limited to:
    - Checking of design calculations;
    - Reviews of studies, reports, and other design supporting documents;
    - Interdisciplinary and constructability reviews of milestone design packages;
    - Maintaining a log of design changes;
    - Design software validation.
- Meet the design quality requirements of the *Illinois Tollway DSE Manual*;
- Describe the processes of which the Design-Builder will implement and perform independent design quality assurance and audit processes, including but not limited to:
    - Audits of the design quality control processes at each milestone design package to ensure the package quality prior to its final release meets the requirements of the QMP;
    - Independent technical reviews;
    - Independent structural design reviews where required by this Book 2 or the Design Quality Management Plan

5.3.5 Construction Quality Management Plan

The Design-Builder shall be responsible for performing and documenting all required Construction Quality Control activities necessary to control the Work, which shall be documented within the QMP as the Construction Quality Management Plan. The Construction Quality Management Plan shall cover both permanent and temporary Work.

The Design-Builder's Construction Quality Manager (CQM) shall maintain a daily log of all Inspections performed for both Design-Builder and Subcontractor operations. The daily quality inspection reports shall identify inspections conducted, dates, results, locations, and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed. The responsible technician and the technician's supervisor shall sign the daily quality inspection reports.

To enhance coordination of Illinois Tollway's inspection activities during construction, the Design-Builder shall provide Illinois Tollway a weekly look-ahead of specifically scheduled construction activities, designating the location and planned quantities of Materials to be placed and the protocols for identifying completed construction Work. The contractor shall also use the WBPM system Materials Placement Notification (MPN) process to allow for Quality Acceptance testing as needed. The Design-Builder shall also provide Illinois Tollway with the actual construction activities conducted during the previous week, designating location and quantities of materials that were placed. The Design-Builder shall provide this information to Illinois Tollway at weekly status meetings electronically.

The Design-Builder's QMP shall include a process to communicate design changes to both the Design-Builder and Illinois Tollway on a timely basis consistent with the progress of construction Activities and as deemed necessary by the *Illinois Tollway Contractor's Quality Program Manual.*

As part of the QMP, the Design-Builder shall include a Construction Quality Management Plan that, at a minimum, meets the requirements of the *Illinois Tollway Contractor's Quality Program Manual* and:

- Identifies specific procedures to be followed to ensure all Work conforms to all the requirements of the Contract and of the design documents being used as the basis of construction;
- Identifies specific procedures for inspections, sampling, test procedures, checking, and documenting the Work, including all Work performed by Subcontractors, and for distribution of information (e.g., RFI Documents, design changes, Nonconformance Report [NCR] remediation) to all necessary parties;
- Includes a procedure on how construction changes (e.g., FDCs, RFIs) are documented for inclusion in the As-Built Documents;
- Includes critical activity points and critical activity point managers;
- Identifies what products or services are to be subcontracted;
- Provides a testing and inspection schedule to control the construction process;
- Identifies pre-activity meetings;
- Includes Provisions to ensure the quality and safety of the Work;
- Includes Provisions to ensure the requirements of Illinois Tollway Supplemental Specifications Section 105.15 —Responsibility for Construction Hauling Equipment, Section 106.07 Handling Materials, and Section 107.16 Equipment on Pavement or Structures with regard to all Material, including Material quantified by weight or volume, are adhered to;
- Documents testing procedures and verification process for testing results;
- Ensures proper sampling processes and procedures are utilized by all quality staff; and
- Describes process for documenting testing rates and materials certifications for Illinois Tollway verification;

The Design-Builder shall establish, document, and implement a Construction Quality Control Plan as part of the CQMP. The Construction Quality Control Plan shall include all procedures necessary for the Design-Builder to control the quality of its production processes to meet the requirements of the Contract Documents. The Design-Builder shall develop a testing and inspection schedule to control the production processes. All Design-Builder Construction Quality Control personnel shall be properly certified and capable of performing all field and laboratory inspections and tests they are assigned. The Design-Builder shall have enough qualified personnel to handle the workload. The Design-Builder shall provide the Equipment and facilities to perform all Tests.

The Design-Builder's Construction Quality Control personnel shall:

- Be responsible for the quality of the Work during production; and
- Have authority to stop Work.

The Construction Quality Control Plan shall include Construction Quality Control checklists. The Design-Builder may use current Illinois Tollway forms, manuals, and handbooks to develop Construction Quality Control checklists that are organized for the execution of Work Breakdown Structure (WBS) activities and all other associated Contract requirements. The Design-Builder shall maintain the checklists at the Project Site, always available for Illinois Tollway review.

The Design-Builder's use of unmaintained or outdated Construction Quality Control checklists shall constitute Nonconforming Work. Work shall not proceed until the Construction Quality Control checklist is updated and made compliant to this Section 5, Quality Management.

The Construction Quality Control labs shall be certified and on the American Association of State Highway and Transportation Officials (AASHTO) resource accredited list and meet the requirements outlined in the current IDOT Policy Memorandum.

5.3.5.1 Material Testing and Inspection Plan

The Design-Builder shall prepare and implement a Materials Testing and Inspection Plan (MTIP) as part of the Construction Quality Management Plan. The MTIP shall include the appropriate criteria, Test Procedures, and Inspection requirements identified in the Project Standards and the Contract Documents.

The MTIP shall include:

- Design-Builder-developed Inspection checklists of requirements.
- All Quality Control Inspections and Tests required, including, at a minimum, reference to the requirements of the Contract, frequency of the Inspections and Tests, and the Design-Builder-developed Quality Control processes. Where there is no Inspection or Test standard in any of the Illinois Tollway manuals, the MTIP shall include criteria based on the best-available industry standard information and technology.
- A summary of Activity-specific Material quantities to document that the minimum sampling, testing, and inspection requirements have been met. This summary shall be provided to Illinois Tollway with the monthly Quality Status Report.
- Processes to control, calibrate, and maintain both field and laboratory Test Equipment to ensure the Equipment meets industry standards and other applicable requirements.
- Procedures for delivery, handling, and storage of furnished products that ensure they are properly handled and stored to prevent damage, deterioration, or theft; and
- Detailed Inspection procedures to be used in cases where Inspections are to serve as the basis for verifying compliance with the requirements of the Contract.

5.3.5.1.1 Inspection

The Design-Builder shall conduct each Inspection in accordance with the Illinois Tollway-Accepted QMP. The Design-Builder shall document whether the Inspection passed or failed based on the "pass/fail criteria" established in the procedure and the requirements of the Contract (e.g., concrete depth checks on deck pours, rebar clearance/size, locations, elevations, stationing).

The Design-Builder shall include failing Inspection results in the Inspection documentation. The Inspection documentation shall be submitted to Illinois Tollway for review within 5 Business Days following the Inspection.

5.3.5.1.2 Testing

At a minimum, the Design-Builder shall follow the requirements of the Illinois Tollway Supplemental Specifications, the Project Standards, Special Provisions, and the Contractor's Quality Program. The Design-Builder shall document the results and show if the Test passed or failed based on the "pass/fail criteria" established in the Contract. The Design-Builder shall include failing Test results in the Test documentation.

At a minimum, the Design-Builder shall document results of tests in report format that includes the following:

- Contract or project identification number;
- Identification of items tested;
- Quantity represented;
- Date and time test conducted;
- Location of items tested;
- Test procedure used;
- Name of technician;
- Acceptance criteria;
- Results;
- Authorized signature; and
- The Tollway's I-MIRS program shall be used for applicable test data reporting.

The Illinois Tollway shall be immediately notified of any failing tests and subsequent remedial action. The Test data and results shall be submitted to Illinois Tollway for review within 24 hours or prior to the next placement of the material.

5.3.5.1.3 Product Control Plan

The Design-Builder shall prepare and implement a Product Control Plan (PCP) as part of the QMP. The PCP shall include procedures for the Design-Builder to inspect and test, where applicable, procured products from Suppliers during the manufacture, receiving, and installation of the products to ensure the requirements of the Contract Documents are met. The Design-Builder shall follow the Illinois Steel Products Procurement Act and its requirements.

In accordance with the *Illinois Tollway Contractor Quality Program Manual*, the PCP shall include procedures to document and demonstrate product compliance with requirements of the Contract documents by Certificates of Compliance (COC) or Certified Test Reports (CTR). The Design-Builder shall obtain COCs and CTRs prior to installing products and before including them on the Monthly Invoice. Certification shall be according to requirements of the Contract. The Design-Builder shall maintain a complete log of all COCs and CTRs, per the *Illinois Tollway Contractor Quality Program Manual*. The Design-Builder shall include in the COC and CTR log the signed certification that all Materials represented by each COC and CTR were installed in the Work. The log and all COCs and CTRs shall be available for Illinois Tollway's Verification at any time. The Design-Builder shall submit to Illinois Tollway for Acceptance all COCs and CTRs to Illinois Tollway prior to Final Acceptance. The PCP shall include procedures for delivery, handling, and storage of furnished products, ensuring that they are properly handled and stored to prevent damage, deterioration, or theft. The PCP shall document procedures for stored items and materials consistent with the expected duration and type of storage. The PCP shall include procedures for monitoring special processes utilized in fabrication, assembly, and testing of specified products. Special processes are those requiring qualified/certified production, inspection, and testing personnel to perform highly skilled Work, such as welding, brazing, soldering, nondestructive testing, machining, coating, or plating.

5.3.5.1.4 Specialized Manufacturing Facilities and Products

Specialized manufacturing facilities may be required by the Design-Builder to supply items or materials. The QMP shall specify how the Design-Builder shall ensure that specialized manufacturing facilities meet requirements established by Illinois Tollway. These requirements include, but are not limited to, the following:

- How manufacturing facilities will be selected;

- How the Design-Builder and the Illinois Tollway Quality Assurance personnel will determine the inspection requirements of the facility (e.g., initial capabilities of the facility, ongoing process and production, final product certification and documentation, delivery and handling processes, etc.);
- The lead times required for on-Site Inspection of the facilities. Illinois Tollway requires a 30 Business Day lead time to make travel arrangements for facility Inspection; and
- Sampling and Test requirements of the final product.

5.3.5.1.5 Specific Inspection Procedures

The QMP shall detail the Design-Builder's process for monitoring and inspecting all elements of the Work required by the Contract related to drilled shafts, driven piles, and micro piles, if used.

The QMP shall detail the Design-Builder's process for monitoring and inspecting all elements of the Work required by the Contract related to placement of embankment material. Monitoring shall include long-term measurements of settlement of embankment fill and compressible native soils beneath embankments, as determined by the Design-Builder's Geotechnical Engineer.

Structural Steel - The QMP shall detail the Design-Builder's process for inspecting structural steel components produced off Site at a fabricator and any structural steel connections that may need to be made on-site.

Precast Concrete - The QMP shall detail the Design-Builder's process for inspecting precast concrete components produced off Site at a fabricator.

5.3.6 Nonconforming Work

As part of the QMP, the Design-Builder shall describe how instances of nonconformances are identified and tracked, how resolutions to nonconformances are developed, and how the actions taken to correct nonconformances are documented, either in design plans or construction records and reviewed or re-inspected. This section will apply to both the design and construction of the Project. The Engineer of Record (EOR) who signed the applicable design documents shall review and approve all resolutions of nonconformances that require design changes, repairs, or rework.

In coordination with Illinois Tollway Quality Assurance, the Design-Builder shall ensure the QMP includes procedures to develop and maintain a system to identify, control, remedy, and report Nonconforming Work, including Nonconforming Work identified by Quality Control testing and Inspection and Illinois Tollway Quality Assurance. The QMP shall include procedures to identify Nonconforming Work and to withhold progress payment requests on the monthly Invoice until the Nonconforming Work is remedied. The Design-Builder shall remedy Nonconforming Work in accordance with Book 1 and the Illinois Tollway-Accepted QMP. The responsibility for review and disposition of Nonconforming Work shall be established in the QMP.

The Design-Builder shall identify Nonconforming Work by completing a NCR in the WBPM system's NCR process, including:

- Identification of Nonconforming Work;
- Description and evaluation of the Nonconforming Work;
- Identification of the Design-Builder's crew/foreman responsible for the Nonconforming Work;
- Applicable Contract requirements;
- Cause of Nonconforming Work;
- Recommendation for "remove and replace," "repair," or "accept as is" dispositions;

- Cost adjustment recommendations (if applicable);
- Proposed corrective action to prevent recurrence;
- Responsibility for accomplishing corrective action; and
- Schedule of Work and a date of remedy completion.

The recommended remedy for the Nonconforming Work shall be approved by the Design-Builder's EOR and the QM prior to its submittal to Illinois Tollway. The Design-Builder shall not perform the recommended remedy prior to receiving from Illinois Tollway a determination of "repair" or "accept as is" dispositions. For "repair" and "accept as is" dispositions, the NCR shall clearly identify if and how the remedy is out of compliance with the Contract requirement and why its Nonconforming use is acceptable.

The Design-Builder shall develop and maintain a Nonconforming Work log to track and identify the status of Nonconforming Work. An updated log shall be submitted to Illinois Tollway weekly for Acceptance and shall be used by the Design-Builder to look for Nonconforming Work trends to determine if corrective actions are needed. Each NCR shall be numbered sequentially and include a brief description and status.

The Design-Builder shall include in the QMP procedures for controlling the use of Nonconforming Work, including the tagging of Nonconforming Work products. Nonconforming Work product tags shall only be removed by the originator of the NCR or Quality Manager, and only when the Design-Builder demonstrates to Illinois Tollway that the Nonconforming Work product meets the requirements of the Contract.

As a part of its Quality Acceptance, Illinois Tollway will perform audits, which may result in Illinois Tollway-issued NCRs. These efforts do not relieve the Design-Builder of Quality Control responsibilities. Illinois Tollway will forward all audit reports and Nonconformance Reports (NCR) to the Design-Builder, and the Design-Builder shall respond to each NCR within five (5) Calendar Days of issuance. The Design-Builder's response shall identify how it proposes to remedy the Nonconforming Work and the date by which the remedy shall be completed. The QMP shall describe the approach and methodology for resolving Illinois Tollway NCRs.

5.3.7 Corrective and Preventative Action

The QMP shall describe corrective and preventative action procedures that the Design-Builder shall use to identify and improve processes that produce, or may produce, systemic Nonconforming Work identified by the Design-Builder or by Illinois Tollway. The Design-Builder's corrective and preventative action procedures shall include:

- Methods to investigate the cause of systemic Nonconforming Work and to determine what corrective action is needed to prevent recurrence.
- Methods to analyze all processes, Work operations, quality records, service reports, and Illinois Tollway assessments/testing to detect and eliminate the possibility of systemic Nonconforming Work from occurring.
- Methods to prioritize corrective and preventive action efforts based on the level of risk to the quality of the Work.
- Controls to ensure that effective corrective and preventative actions are taken when the need is identified.
- Methods to implement and record changes in procedures resulting from corrective and preventative actions.
- Procedures to respond to Illinois Tollway-issued NCRs.

5.3.8 Operational Quality Control

The Design-Builder shall establish, document, and implement an Operational Quality Control Plan as part of the QMP. The Operational Quality Control Plan shall include all procedures necessary for the Design-Builder to control the quality operations that support the construction of the Project, including:

- Environmental Compliance Work Plan, Environmental Compliance and Mitigation Training Program included in Book 2, Section 4, Environmental Compliance.
- Maintenance of Traffic operations.
- Construction water quality.
- Maintenance During Construction.
- Safety.

5.4 Illinois Tollway Acceptance Activities

5.4.1 Illinois Tollway Quality Assurance

Illinois Tollway will provide the construction acceptance testing and inspections on the Project. Acceptance of Work items for payment shall be based on procedures in the *Illinois Tollway Design-Build Construction Manager (CM) Manual*. Minimum sampling and testing frequencies of the product will be based on the Project Standards. The Design-Builder shall ensure the compatibility and integration of design, construction, installation, traffic management, and public information with Illinois Tollway's inspection and testing procedures. Materials accepted on the basis of a COC or CTR may be sampled, inspected, and tested by Illinois Tollway at any time. Illinois Tollway's Quality Assurance will assess the Design-Builder's compliance with the requirements of the Contract Documents.

Illinois Tollway will:

- Perform quality oversight audits and reviews.
- Monitor and audit the Design-Builder's quality processes to verify adherence to the QMP.
- Participate in pre-activity meetings, on-site meetings, and plan and specification reviews, as deemed necessary by Illinois Tollway.
- Participate in Design-Builder-initiated training, as deemed necessary by Illinois Tollway.
- Audit the Project records.
- Conduct verification and testing (oversight, sampling, inspection, and evaluation).
- Sign-off on Critical Activity Points to allow the Work to proceed.
- Conduct Independent Assurance Testing (IAT).
- Perform off-site verification inspection and testing of the fabrication of precast and pre-stressed concrete structures and of structural steel.
- Issue Final Acceptance of the Work.

Illinois Tollway retains the right to stop Work if:

- There is evidence that the QMP procedures are not being followed, or if the design, Materials, or workmanship do not meet the Contract requirements. Illinois Tollway may, at its sole discretion, stop Work until corrective procedures have been established and implemented.
- The Design-Builder fails to correct conditions that are unsafe, as determined by Illinois Tollway, for project personnel and/or the general public.

Illinois Tollway reserves the right to:

- Check testing Equipment for compliance with specified standards and to check test procedures and techniques.
- Access the test facilities of independent testing agencies to witness testing and verify compliance of test procedures, test techniques, tester certifications, and test results.

Illinois Tollway has the authority to remove any of the following from the Project:

- A tester who does not perform tests in accordance with the test methods established in CQP.
- A tester who does not report test results accurately.
- An inspector who does not perform duties consistent with industry-accepted standard practices or who demonstrates incongruity with respect to the Contract.
- An inspector or tester who is not currently certified for the test or inspection being performed.

5.4.2 Independent Assurance Roles and Responsibilities

Illinois Tollway will perform independent assurance reviews and IAT to ensure:

- Illinois Tollway and Design-Builder quality personnel are trained and certified and can demonstrate they understand the test procedures they are performing.
- The test Equipment used by Illinois Tollway's and the Design-Builder's quality personnel is calibrated.
- Split sample test results correlate.

IAT results also will be used as referee tests to assess statistically significant differences, determined by Illinois Tollway in its sole discretion, between Design-Builder QC Tests and QA results.

5.4.3 Third Party Owner Inspections and Approvals

Third Party personnel have the right to inspect the Work, provided the Third Party has jurisdiction over the Work and as required by Applicable Law. The Design-Builder shall adhere to Third Party inspection and approval procedures.

5.5 Final Inspection and Final Acceptance

The Design-Builder shall include a process within the QMP for scheduling, accomplishing, and tracking the Final Inspection and Final Acceptance process; and for developing and resolving punch lists in conformance with the Project Standards. The Design-Builder shall establish an acceptance task force to implement and monitor the Final Inspection and Final Acceptance process. This task force shall include the Design-Builder's Project Manager (PM), Quality Manager (QM), Design Quality Manager (DQM), Construction Quality Manager (CQM), and Illinois Tollway personnel and shall convene no later than six (6) months prior to the Project Completion Deadline. Illinois Tollway's final inspection will be performed prior to Final Acceptance of the Project in accordance with Project Standards. Design-Builder quality personnel shall perform an independent Inspection of all Work and address any outstanding and/or Nonconforming Work prior to requesting an Inspection from Illinois Tollway. The Design-Builder shall invite Illinois Tollway and other affected Agencies to attend independent inspections of the Work. Illinois Tollway will attend at its sole discretion. The punch list and punch list log shall be completed by Design-Builder quality personnel and shall be provided to Illinois Tollway for information.

At the completion of constructed elements of the Work, Illinois Tollway and the Design-Builder quality personnel will conduct a final inspection of the Work and the associated As-Constructed Documents, certifications, and Design-Builder cleanup requirements. After the joint inspection, Illinois Tollway and the Design-Builder will agree upon punch list items and an agreed date to complete correction of the items. Illinois Tollway will perform a final field audit of the Work after the Design-Builder has resolved its final punch list. Illinois Tollway final inspection will be performed prior to Final Acceptance of the Project

5.6 Submittal Requirements

Whenever a Submittal identified in *Table 5-1 Section 5.6 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 5-1, Section 5.6 Submittal Requirements,* below. *Table 5-1, Section 5.6 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 5-1: Section 5.6 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	QMP	5.3	PDF	3	14	7	NTP 2
1.a	Quality Personnel	5.3.3	PDF	3	14	7	NTP 2
1.b	Design Quality Management Plan	5.3.4	PDF	3	14	7	NTP 2
1.c	Construction Quality Management Plan	5.3.5	PDF	3	14	7	NTP 3
1.d	Materials Testing and Inspection Plan	5.3.5.1	PDF	3	14	7	NTP 2
1.e	Product Control Plan	5.3.5.1.3	PDF	3	14	7	NTP 2
1.f	Corrective and Preventative Action Procedures	5.3.7	PDF	3	14	7	NTP 2
1.g	Operational Quality Control	5.3.8	PDF	3	14	7	NTP 2

Section 6

6 UTILITIES

6.1 General

This Section 6 of Book 2, Utilities, describes the requirements associated with Utilities, including existing Utility Agreements, Project Utility Agreements, administrative requirements, design requirements, construction requirements, and testing requirements. This Section applies to existing and proposed Utilities, both underground and overhead.

6.1.1 Utility Requirements

As necessary, and as specifically described within this Section 6, Utilities, of Book 2, the Design-Builder shall perform the Utility Adjustment Work, in accordance with the requirements of the Contract Documents, notwithstanding the Utility Owners performing their own Relocation design and construction, as explicitly specified within this Book 2, Section 6, Utilities.

The Design-Builder shall maintain and provide to Illinois Tollway all coordination documentation, including all definitive cost estimates and invoice/ billing information necessary to distinguish between the cost of Utility Owner-requested Betterments and the cost of the Utility Adjustment Work necessary to complete the Project. The Design-Builder shall perform Betterments, as required, in accordance with the Utility Adjustment Work requirements of this Book 2 Section 6, Utilities.

The Design-Builder shall be responsible for the coordination and performance of all Incidental Utility Work, including removals of abandoned Utilities and protection of existing Utilities within the limits of their Work.

Utility Owners shall have Approval rights of the Work; however, Utility Owners' Approvals shall not relieve the Design-Builder of any liabilities or responsibilities with respect to the proper design and construction of the Project and the obligations under this Contract.

6.1.2 Preliminary Utility Coordination

The Illinois Tollway has performed Preliminary Utility Coordination with Utility Owners affected by the Project. The results of the Preliminary Utility Coordination are provided to the Design-Builder as Supplemental Information.

6.2 Administrative Requirements

The Design-Builder shall perform the Utility Adjustment Work with the understanding that the safety and continuity of operations of Utilities shall be of primary importance and shall be protected and safeguarded at all times. The Design-Builder shall, always, comply with directives of a Utility Owner concerning its facilities and operations.

The Utility Owner's decision as to methods, procedures, and measures used in the design and construction of Work near, below, or above their respective Utility shall be final and mandatory on the Design-Builder. Directives to the Design-Builder by a Utility Owner may be given directly or through the Illinois Tollway.

The Design-Builder shall be responsible for additional costs accrued or delay encountered by the Illinois Tollway or the Design-Builder due to the Design-Builder's failure to follow the applicable Utility Standards. The Illinois Tollway may seek reimbursement for such costs by withholding payment per Book 1, Section 14, Payment.

6.2.1 Standards

The Design-Builder shall adhere to the order of precedence of the Project Standards, below, for the performance of Utility Adjustment Work. Regarding Project Standards, Primary Project Standards are of the highest precedence, Secondary Project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher safety, quality or value shall prevail.

Primary Project Standards:

- *Applicable federal or state or municipal Utility standards and safety requirements*

Secondary Project Standards:

- *Illinois Tollway Design Section Engineer's (DSE) Manual*
- *Illinois Tollway Construction Manager's (CM) Manual*
- *Illinois Tollway Supplemental Specifications*

Tertiary Project Standards:

- *IDOT Standard Specifications for Road and Bridge Construction*
- *Remaining standards set forth in Book 3.*

6.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2. The Design-Builder shall facilitate meetings with Utility Owners as necessary to complete the Work in accordance with the requirements of the Contract Documents, or as deemed necessary by the Illinois Tollway, a Utility Owner, and the Design-Builder. In addition, the Design-Builder shall, at a minimum, facilitate the following meetings with Illinois Tollway and the affected Utility Owners:

- Attend any necessary Tollway-Utility coordination meetings to resolve utility conflicts;
- Within three (3) Business Days of receiving a stop work notice ordered by a Utility Owner or Illinois Tollway, a resolution meeting;
- Construction kickoff meeting at least fifteen (15) Business Days prior to construction activities related to Utility Adjustment Work or Relocation performed by a Utility Owner;
- Construction close-out meeting, within five (5) Business Days after the Design-Builder has completed construction activities related to Utility Adjustment Work or a Utility Owner has completed a Relocation;
- Design review meeting, occurring ten (10) Business Days after each design and permit submittal to a Utility Owner; and
- Other meetings as required in the Project Standards and Utility Standards.

The Design-Builder shall develop and, within three (3) Business Days of a Utility meeting occurring, circulate meeting minutes to each of the meeting attendees. The Design-Builder shall be responsible for resolving comments on the meeting minutes and shall facilitate meetings to resolve such comments, if necessary. The Design-Builder shall allow attendees at least three (3) Business Days to review meeting minutes. Within ten (10) Business Days of the meeting, the Design-Builder shall circulate the final meeting minutes, addressing attendees' comments.

Illinois Tollway and the Design-Builder shall be available to meet at the request of the other party, as necessary, to discuss and resolve matters relating to the Utility Adjustment Work. The requesting party shall provide the other parties with not less than five (5) Business Days prior notice of such meetings.

The Design-Builder shall provide Illinois Tollway copies of all correspondence between the Design-Builder and any Utility Owner no later than five (5) Business Days after receiving or sending it.

6.2.2.1 Coordination and Cooperation

The Design-Builder shall cooperate and coordinate with all affected Utility Owners to accomplish the Utility Adjustment Work, and at a minimum:

- Follow the Steps in Section 6.4.3 of the Tollway DSE Manual, including:
  - Preparing Notice of Interference forms for submission to the Tollway for completion
  - Issuing Notice of Work Orders as per Step 5 in Section 6.4.3 of the Tollway DSE Manual
  - Developing the Preliminary Plan Submittals as per Step 6 in Section 6.4.3 of the Tollway DSE Manual and follow all subsequent steps.
- Coordinate the design progress and ensure the Utility owner designs are adequate for the Work.
- Perform quality control and quality assurance activities for the Relocation designs.
- Provide the Utility Owners, as soon as practicable, with an estimated schedule for the performance of Utility Adjustment Work and notify them of any significant changes to the schedule.
- Keep Utility Owners fully informed of Project schedules and changes that affect or may affect their Utilities.
- Consider Utility Owners' needs for the allocation of resources to perform the Utility Owner's respective Utility work.
- Keep Utility Owners involved in decisions that affect their facilities so Utility Owners can provide uninterrupted service to their customers or cause the least interruption practicable.
- Perform quality control activities for the construction and installation of Relocations.
- If the same Utility requires adjustment at multiple locations throughout the project, coordinate the Utility Adjustment Work to attempt to avoid multiple Relocations of the Utility at different times in the overall schedule. The Design-Builder shall be responsible for cost and schedule implications associated with the second and all subsequent Relocations of a Utility that has already been relocated as part of the Project, including administrative, coordination, oversight, design, material, construction, and inspection costs.
- The Design-Builder shall provide documentation of all activities to coordinate Relocation activities with Utility Owners. This includes documenting telephone conversations, e-mails, and meeting minutes. The Design-Builder shall supply this information to Illinois Tollway no later than 24 hours after Illinois Tollway's request.

The Design-Builder shall provide a Utility Coordination Manager to be responsible for the duties described below:

- Coordinate with Utility users and businesses.
- Work with business owners to ensure business operations are not interrupted.
- Ensure services to private dwellings are not interrupted beyond typical private dwelling interruptions directed by the respective Utility.
- Field verifies, confirm, and document that:
  - The locations of proposed Utilities are accurate with respect to the Utility Owner's final design plans and Design-Builder's RFC Documents.
  - The constructed Utilities were installed in accordance with the Utility Owner's final design plans and Design-Builder's RFC Documents.

6.2.3 Equipment/Software

The Design-Builder shall refer to the Illinois Tollway CADD Manual for Software Requirements. The Design-Builder shall prepare existing utility plans in accordance with the Illinois Tollway Design Section Engineer's Manual that identify potential utility conflicts. Drawings shall correspond to the scale and orientation presented on the roadway plans. The Design-Builder shall submit both a PDF set and MicroStation set of drawings with each plan submittal; the MicroStation file submission shall include all design files, model files, reference files, and geometric data including alignment data and files.

6.2.4 Utility Notices and Agreements

6.2.4.1 Master Utility Agreements

No Master Utility Agreements are anticipated for this project. The Design-Builder will be responsible for coordination with Utility Owners as outlined in Section 6.2.5 of this Book 2.

6.2.4.2 Project Utility Agreements (Not Used)

6.2.4.3 Utility Permits and Utility Easements

Illinois Tollway requires a Utility Permit for all new Utilities and Betterments within Illinois Tollway Right of Way (ROW).

The Design-Builder shall coordinate with Illinois Tollway and the Utility Owner to review all required Utility Permits to ensure the proposed Relocations will not create any additional conflicts with the Project.

6.2.5 Affected Utility Owners

The Design-Builder shall refer to Tables 6-1 through 6-11 for Utility Owner information and preliminary information. The information provided in the tables are based on conditions during the creation of this document and are subject to change.

The Design-Builder is allowed to contact potentially affected Utility Owners during the development of their Technical and Price Proposals and will be responsible for coordinating with all Utility Owners within the Project Limits and providing them with plans and other information needed for their review. This must be done with all Utility Owners, regardless of whether the Design-Builder believes an impact is anticipated or not. The Design-Builder shall coordinate the Work related to the LC-A Lighting Controller with ComEd and submit a Load Letter as mentioned in Section 16.4.4.4.1 of Book 2. The Design-Builder shall contact John Lussow (jlussow@getipass.com) to provide updates on coordination with potentially affected Utility Owners. All coordination documents shall be submitted to the Illinois Tollway.

The Design-Builder shall specifically note the Utility Owner review times, which specifies the respective Utility Owner's approximate turnaround time for a given submittal review. The submittal review times shown are approximate and will depend on the level of completeness, accuracy, and familiarity the Design-Builder has with such Utility Owner; submittals by the Design-Builder that show a clear lack of understanding of the Utility Owner's standard operating procedures will likely result in longer permit review times.

The Design-Builder shall follow the Utility Standards referenced in the subsections below as a primary project standard, as prescribed in Section 6.2.1 of this Book 2.

The Site may include public and/or private underground utilities. The Design-Builder shall call the respective "Call before you dig" phone numbers listed in each subsection below and follow the direction

of such phone conversation. In addition, the Design-Builder shall contact and request Joint Utility Locating Information for Excavators (JULIE) site stripping as mentioned in Section 6.4.2.1 of Book 2. Coordination with Tollway Fiber Optics is required, and the Design-Builder shall contact John Lussow for coordination.

6.2.5.1 Utility Owners

Table 6-1: Assignment of Responsibility for Utility Work

Utility:	Adesta
Private or Public Utility:	Private
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390. Based on the concept location for LC-A, existing Adesta utilities may be in the vicinity of proposed area.
Contact Information:	Contact Person(s): Mr. Steve Mosny Email: steven.mosny@aus.com Address: 565 Willowbrook Centre Pkwy Willowbrook, IL 60527
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No
Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-2: Assignment of Responsibility for Utility Work

Utility:	AT&T
Private or Public Utility:	Private
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390.
Contact Information:	Contact Person(s): Mr. Alexander Bryant Email: ab8652@att.com Address: 1000 Commerce Dr Oak Brook, IL 60523
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No

Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-3: Assignment of Responsibility for Utility Work

Utility:	Comcast Cable
Private or Public Utility:	Private
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390.
Contact Information:	Contact Person(s): Thomas Munar Martha Gieras Email: thomas_munar@comcast.com martha_gieras@comcast.com Address: 688 Industrial Dr. Elmhurst, IL 60126
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No
Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-4: Assignment of Responsibility for Utility Work

Utility:	ComEd
Private or Public Utility:	Private
Scope of Utility Adjustment Work:	Design, Construction and Coordination for ComEd Lighting Controller "LC-A".
Contact Information:	Contact Person(s): Brenda Brock Email: Brenda.brock@exeloncorp.com Address: 3 Lincoln Center, 6th Floor Oakbrook Terrace, IL 60181
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No

Design-Builder responsible for Construction Work of Relocations	No. Design-Builder will be responsible for coordination with ComEd for service for the lighting controller relocation work.
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-5: Assignment of Responsibility for Utility Work

Utility:	Village of Hanover Park
Private or Public Utility:	Public
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390.
Contact Information:	Contact Person(s): Mr. Johnathan Stelle, P.E., C.F.M Email: jstelle@HPIL.org Address: 2121 W Lake St. Hanover Park, IL 60133
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No
Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-6: Assignment of Responsibility for Utility Work

Utility:	Village of Itasca Public Works
Private or Public Utility:	Public
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390.
Contact Information:	Contact Person(s): Mr. Mike Subers Email: msubers@itasca.com Address: 411 N. Prospect St Itasca, IL 60143
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No

Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-7: Assignment of Responsibility for Utility Work

Utility:	Lumen
Private or Public Utility:	Private
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390.
Contact Information:	Contact Person(s): Mr. Derek Broeker Email: derek.broeker@lumen.com Address: 225 Scientific Drive Norcross, GA 30092
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No
Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-8: Assignment of Responsibility for Utility Work

Utility:	Nicor Gas
Private or Public Utility:	Private
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390.
Contact Information:	Contact Person(s): Mr. Charles Parrott Email: cparrott@southernco.com Address: 1844 Ferry Rd. Naperville, IL 60563
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No

Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-9: Assignment of Responsibility for Utility Work

Utility:	Village of Roselle Public Works
Private or Public Utility:	Public
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390.
Contact Information:	Contact Person(s): Ms. Kristin Mehl Email: kmehl@roselle.il.us Address: 31 S. Prospect St Roselle, IL, 60172
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No
Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-10: Assignment of Responsibility for Utility Work

Utility:	City of Schaumburg Water & Sewer
Private or Public Utility:	Public
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390.
Contact Information:	Contact Person(s): Mr. Ryan Rivard Email: rrivard@schaumburg.com Address: 101 Schaumburg Court Schaumburg, IL 60193
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No

Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

Table 6-11: Assignment of Responsibility for Utility Work

Utility:	DuPage County Public Works
Private or Public Utility:	Public
Scope of Utility Adjustment Work:	Pavement and Structural Preservation and Rehabilitation of IL-390.
Contact Information:	Contact Person(s): Mr. Edward Buga Email: Edward.Buga@dupageco.org Address: 7900 IL-53, Woodridge, IL 60517
Typical Submittal Review Times (Approximate):	Initial Submittal: 90 days Resubmittal: 30 days
Utility Standards:	N/A
Design-Builder responsible for Design Work of Relocations	No
Design-Builder responsible for Construction Work of Relocations	No
"Call before you dig" contact:	JULIE and Contact Information Provided Above

6.2.6 Investigations/Supplemental Work

A certified SUE Plan has not been completed and is not required by the Design-Builder. The Design-Builder shall take all actions necessary to identify and confirm the existence and exact location, size, and type of all Utilities potentially impacted by the Project. The Design-Builder shall include all potentially impacted Utilities and Service Lines as part of this investigation. The Design-Builder shall take actions such as making diligent inquiry at the offices of the Utility Owners, consulting public records, and conducting field studies (such as potholing and test pits), taking into consideration the possibility that Utility Owners may provide inaccurate or inexact information about their facilities. Any inaccuracy in, or omission from, the information provided in the RFP with respect to existing Utilities shall not relieve the Design-Builder of its duties with respect to the Utility Adjustment Work.

The Design-Builder shall also be responsible for all Utility work for Structures per Section 13, Structures, of this Book 2. A list of defects from Section 13 is provided in Exhibit 6K, with the Bridge Numbers associated with each defect. The Design-Builder shall discuss defects with the Illinois Tollway and implement approved repairs.

6.2.7 Scheduling

The Design-Builder shall be responsible for scheduling and coordinating Utility Adjustment Work with Utility Owners to ensure design and construction of Utility Adjustment Work is performed on time and in accordance with the Design-Builder's Baseline Schedule.

6.2.7.1 Relocations Scheduling

The Design-Builder shall be responsible for scheduling the Relocation design and construction activities performed by the Utility Owners as noted in Section 6.2.2.1 of this Book 2 and shall ensure the schedule accounts for reasonable Utility Owner review, inspection, oversight, and approval timeframes, as necessary. Tables 6-1 through Tables 6-11 specify the reasonable timeframes for Utility Owner activities.

6.2.8 Other Requirements

The Design-Builder shall coordinate and cooperate with Illinois Tollway and the Utility Owners to ensure that all Utility Adjustment Work, including any Relocations performed by others, is performed promptly and closely coordinated with the Design-Builder's performance of the Project. The physical limits of the Design-Builder's obligation for the performance of Utility Adjustment Work shall extend as far as necessary or advisable to accommodate or permit construction of the Project, considering the requirements of the Utility Owners, Persons with jurisdiction, and adjacent property owners.

The Utility Adjustment Work excludes those efforts and costs allocated to the Utility Owners in the Utility Agreements, if any. The Utility Adjustment Work also excludes the following obligations assigned to Illinois Tollway in the Utility Agreements:

- Collecting payments due from the Utility Owners and reimbursing Utility Owners for their costs of performing Relocations
- Negotiating with Utility Owners to resolve issues relating to the determination of legal responsibility for costs between Illinois Tollway and the Utility Owner

The Design-Builder shall perform all efforts included in the Utility Adjustment Work, if any, with respect to each impacted Utility without regard to any of the following:

- Whether the Utility or necessity of the Utility Adjustment Work was identified before the Setting Date
- Any preliminarily proposed Work to mitigate Utility conflicts.
- Whether the Design-Builder is entitled to a Change Order with respect to such Utility Adjustment Work

The allocation of responsibility for any Utility Adjustment Work to a Utility Owner will not relieve the Design-Builder of the obligation to coordinate that Utility Adjustment Work with the Utility Owner, as necessary.

6.2.9 Reports and Plans

6.2.9.1 Documentation of Utility Coordination

The Design-Builder shall assemble all coordination documentation with Utility Owners and submit such documentation to Illinois Tollway on a monthly basis.

6.2.9.2 Utility Work Plan

As part of the Project Management Plan (PMP), the Design-Builder shall develop and maintain a Utility Work Plan (UWP) in the form that lists all Utility Owners affected or potentially affected by the Project. At a minimum, the Design-Builder shall provide the following in the UWP:

- The name of the Utility Owner and a unique identification number for tracking
- A brief description of the Utility by size and type
- The location of the Utility, based on Project control datum or by station and offset.
- The proposed treatment of the Utility and the date Illinois Tollway Accepted such treatment.

- The party responsible for performance of such Utility Adjustment Work
- The nature of the Utility Owner's existing right of occupancy of the ROW
- The scheduled start and completion dates of construction of the Utility Adjustment Work
- The actual start and completion dates of construction of the Utility Adjustment Work
- The status of construction for the Utility Adjustment Work, including percentage complete
- Contact information in case of an emergency
    - Design-Builder shall ensure that contact information provided is in coordination with the Illinois Tollway's Project Manual & Emergency Communication Plan
- Other information as Illinois Tollway may request.

The Design-Builder shall submit an up-to-date version of the UWP to Illinois Tollway monthly, or as Illinois Tollway otherwise directs.

6.3 Design Requirements

The Design-Builder shall perform the design of all Utility Adjustment Work, with the exception of Relocation design if such design is to be performed by Utility Owners, as specified within this Section 6, Utilities.

The Design-Builder shall ensure that all designs furnished by the Design-Builder, as well as all reviews and approvals the Design-Builder made of any Utility Owner-furnished designs, fully comply with the requirements of the Contract Documents.

6.3.1 Design Criteria

Any locational information provided regarding the existing utilities for the project are provided as Supplemental Information and shall be considered a Contract Document only to the extent that it is used to determine whether an existing underground or overhead Utility is indicated at all or with accuracy, as specified under Book 1, Section 6.2.

In considering the locations and the potential impacts of Utility Adjustment Work on the Project, identify and resolve conflicts in the following order of precedence:

1) Avoid conflict.
2) Minimize the conflict by adjusting Bridge or Roadway design.
3) Relocate the Utility

The Design-Builder shall coordinate with all parties to achieve an appropriate new location for Utility installation. Any Utilities installed at new locations in Illinois Tollway ROW are subject to an Illinois Tollway Utility Permit. The Design-Builder shall coordinate and gain approval of the new location with the Utility Owner and prepare the necessary documents and the Design-Builder shall obtain approval of the permit from the Illinois Tollway.

6.3.1.1 Conceptual Utility Relocation Plan

The Design-Builder shall send the affected Utility Owners the Design-Builder's Conceptual Utility Relocation Plans for review and Acceptance. Upon Acceptance thereof, the Utility Owner will advance the Utility Relocation Design Work, with support from the Design-Builder as requested by the Utility Owner. The Design-Builder shall also complete the Utility Design Sheet in Exhibit 6I for each utility conflict and maintain the Utility Tracking Log in Exhibit 6J.

6.3.1.2 Design by Utility Owner

In the event of a Utility Owner being responsible for Utility relocation Design Work, the Utility Owner will advance the Design-Builder's Conceptual Utility Relocation Plans to final design documents for the Utility Owners facilities. The Design-Builder shall review these plans for compliance with the design requirements of the Contract Documents and provide comments to the Utility Owner as appropriate. The Design-Builder shall provide all information necessary for the Utility Owners to create such final design documents, which may include information on construction staking and survey data, profile and cross section, and potholing, to confirm conflicts and coordinates.

The Design-Builder shall confirm there are no conflicts between the newly designed locations of Utilities and the Project. The Design-Builder shall review and certify that the design complies with the design requirements of the Contract Documents in accordance with either the requirements of the Utility Agreement, if any, or by issuing a Design-Builder Design Approval Letter, Exhibit 6G, to a Utility Owner who does not have a Utility Agreement. The Utility Owner shall be responsible for obtaining all necessary permits from the Illinois Tollway.

The Design-Builder shall submit to Illinois Tollway a hardcopy of each Design Approval Letter for each segment of design Work.

6.3.1.3 Design by Design-Builder (Not Anticipated to be Used)

In the event of a Design-Builder being responsible for the Utility relocation Design Work, the Design-Builder shall submit to the Illinois Tollway-accepted Design-Builder's Conceptual Utility Relocation Plans to the Utility Owner for review and acceptance. Upon acceptance by the Utility Owner, the Design-Builder shall advance the Design-Builder's Conceptual Utility Relocation Plans to final design documents for the Utility Owners facilities in accordance with the design submittal process specified in Book 2, Section 2, Project Management. The Design-Builder shall submit the Design Document Submittals to the respective Utility Owner for review and obtain approval for each individual Design Document submittal before advancing the Utility relocation design for the subsequent Design Document.

The Design-Builder shall furnish the design of all the Utility Adjustment Work necessary for the Project as stated in the Utility Agreements. The foregoing obligation includes temporary Utility Relocations and all necessary Relocations of Service Lines connected to such Utilities, regardless of the ownership, property served, and assignment of design in any respective Utility Agreement.

The Design-Builder shall comply with the Utility Standards current at the time of the Letting Date. In the event of a conflict between the Utility Owner's design standards and any other Contract Documents requirements, follow the most stringent requirements.

The Design-Builder shall submit designs to the Utility Owner for its written approval and document that approval according to the procedure in the applicable MUA(s) or Utility Agreement(s). The Design-Builder shall obtain Utility Owner approval of the RFC Documents prior to commencement of construction impacting such Utility. Obtain written Utility Owner approval of all subsequent changes to designs and include these changes on the Final Design and As-Built Documents.

All subsequent changes to designs will require written Utility Owner approval.

6.4 Construction Requirements

The Design-Builder shall perform the construction of all Utility Adjustment Work, with the exception of Relocation construction, if such construction is to be performed by Utility Owners, as specified within this Section 6, Utilities.

6.4.1 Notifications

6.4.1.1 Notices to Utility Owners

The Design-Builder shall issue all notices to the Utility Owners in accordance with the applicable Utility Agreement, or Notice and Order processes, whichever is applicable. Notify all affected Utility Owners at least two Business Days before commencing any operations that affect a Utility, unless otherwise agreed to in a Utility Agreement.

6.4.1.2 Notices Regarding Utility Owner Performance

The Design-Builder shall verify progress of the Utility Owner's work and notify Illinois Tollway should the Design-Builder have cause to believe that the Utility Owner will not meet the specified timeframe(s) for any of the following: construction; review of the Design-Builder's Plans; comment, review, and approvals; or inspection. The Design-Builder shall provide such written notice to Illinois Tollway within three Business Days of such discovery.

If the Utility Owner is performing construction, the Design-Builder shall verify that the required Illinois Tollway Utility Permit is obtained and complied with. If the Utility Owner does not have the necessary Illinois Tollway Utility Permit or is in violation of the permit or Utility Agreement, the Design-Builder shall notify Illinois Tollway in writing within three Business Days of such discovery.

6.4.2 Construction Criteria

6.4.2.1 Procedures and Agreements

The Design-Builder, prior to performing Construction Work, shall contact and request Joint Utility Locating Information for Excavators (JULIE) site stripping. The Design-Builder shall coordinate Work with Utility Owners to allow Utility Adjustment Work and Relocations to progress in a reasonable manner, reduce duplication of work to a minimum, and prevent interruption of the Utility Owner's services.

In addition to the J.U.L.I.E. requirements stated above, the Design-Builder shall have all known Illinois Tollway facilities located at all times in the area of work. The location of the Illinois Tollway's fiber optic cable, as well as other Illinois Tollway facilities, is not available through the J.U.L.I.E. system. The contractor shall coordinate with the Illinois Tollway to determine the location of these facilities.

The Design-Builder shall initiate the locate process for the Illinois Tollway facilities by completing the Illinois Tollway Locates form. To submit an Illinois Tollway Locates Form, Design- Builder shall log onto https://utilitylocates.illinoisvirtualtollway.com/. The completed form, valid for 28 days, shall be transmitted at least two (2) business days prior to starting any underground operations, excavations or digging of any type in the general area of the Illinois Tollway facility. If outside factors (weather, construction activity or vandalism) at the dig site have caused the markings to become disturbed and/or indistinguishable, a request for remarks/refresh is required. The request shall be electronically transmitted, at least two (2) business days prior to starting any underground operation. After remarking, the locate request is valid for another 28 days. A copy of all completed forms sent to the Illinois Tollway shall be provided to the contract Engineer.

Any questions or problems with the form please direct to:

Illinois Tollway Underground Facility Locates:

Phone: 630.241.6800 Extension: 4860 Fax: 630.271.7568

Email: locates@getipass.com

When working near electrical power lines:

- Work with the lines energized if the Work can be done safely,
- Make arrangements and pay for as necessary to:
    - Temporarily shut off the power
    - Temporarily insulate the line(s)
    - Bypass the power from the work area.
    - Make other arrangements necessary for a safe workplace.

Illinois Tollway makes no warranty, guarantee, promise, or representation as to whether the Utility Owner will temporarily shut off power, insulate its line(s), or charge the Design-Builder a fee for preparing a safe work area for the Design-Builder.

The Design-Builder shall not start construction operations adjacent to Utilities until arrangements have been made that are satisfactory to the Utility Owner to protect those facilities and continue their service. Should the Design-Builder's Work activities encounter, or damage a Utility in any way, even though there may be no apparent evidence of breakage or harm, the Design-Builder shall promptly notify the proper authorities and cooperate with those authorities to determine damage and restore interrupted services if needed. Where contact is made with a Utility, the Design-Builder shall suspend operations immediately and vacate the area until the Utility Owner has determined that it is safe to resume operations.

The Design-Builder shall coordinate with Utility Owners and employ special equipment, construction methods, and hand labor, if necessary, to accomplish the planned Work adjacent to Utility without damaging them. The Design-Builder shall not interfere with persons protecting or moving Utility property or operating the Utility.

If the Design-Builder discovers Unknown Utilities, immediately notify Illinois Tollway and the Utility Owner.

6.4.2.2 Construction by Design-Builder

In each instance where the Design-Builder performs the construction of the Utility Adjustment Work, the Design-Builder shall obtain from the Utility Owner written standards, specifications, and details current at the time of the Letting Date and verify that they are consistent and compatible with the Design-Builder overall Project design. The Design-Builder shall include the Utility Owner’s written standards and specifications in the RFC Documents. The Design-Builder shall comply with the Utility Owner’s written standards and specifications, the approved RFC Documents, all applicable Environmental Requirements, Utility Permits, and the requirements of the Contract Documents. In case of conflict, the Design-Builder shall follow the most stringent standard or requirement.

The Design-Builder shall restore to existing or better condition infrastructure damaged due to the Work performed by the Design-Builder.

6.4.2.3 Construction by Utility Owner

The Design-Builder shall inspect all Relocation performed by Utility Owners and their Subcontractors to verify compliance with Contract Documents, including NPDES Permit requirements. The Design-Builder shall verify construction each Utility Owner performs complies with the Contract Document requirements, MUAs, the Utility Agreements, the approved plans for such construction, and the Utility Permits. The

Design-Builder shall provide evidence of approval in accordance with the requirements of the Utility Agreement or by issuing a Design-Builder Construction Inspection Approval Letter Exhibit 6H to a Utility Owner who does not have a Utility Agreement. The Design-Builder shall notify Illinois Tollway in writing of any discovery of a noncompliance by a Utility Owner within 24 hours. The Design-Builder shall submit a copy of each Construction Inspection Approval Letter to Illinois Tollway within seven Days of completion of each segment of work by a Utility Owner.

6.4.2.4 Incidental Utility Work

The Design-Builder shall perform all Incidental Utility Work regardless of the allocation of responsibility for the Utility Adjustment Work. The Design-Builder shall make all arrangements and perform all Utility Adjustment Work necessary to accomplish the Incidental Utility Work, including locating existing Utilities, identifying conflicts, performing any necessary coordination with Utility Owners and property owners, furnishing design, performing construction, reimbursing Utility Owner Inspection costs, and obtaining and complying with all applicable legal requirements and required Governmental Approvals.

6.4.2.5 Out-of-Service Utilities

Out of service Utilities consist of two types:

- Pre-existing out of service Utilities
- Utilities that will come out of service due to Project Work including:
    - Abandoned facilities that will not be replaced.
    - Abandoned facilities associated with re-alignment, relocation, or replacement.

The Design-Builder shall leave pre-existing Out-of-Service Utilities in place (except those utilities noted in Section 6.4.3 of this Book 2) unless that Utility interferes with the Work. In such cases, the Design-Builder shall coordinate with the Utility Owner the removal of the Utilities within the conflict area unless the Utility Owner agrees to remove their facilities. The Design-Builder shall coordinate the timing of the removal with the Utility Owner. The Design-Builder shall obtain Illinois Tollway approval of the limits of removal prior to performance thereof. If required, the Design-Builder shall cap the Utilities by installing bulkheads. The Design-Builder shall dispose of the removed Utility materials in accordance with Section 4, Environmental Compliance, in coordination with the Utility Owner or Illinois Tollway if the Utility Owner is unknown.

The Design-Builder shall decommission Out-of-Service Utilities that are not removed by following Illinois Tollway or Utility Owner decommissioning requirements, which at a minimum includes:

- Install bulkheads and completely fill the pipe with sand or by another method Approved by Illinois Tollway.
- Construct bulkheads consisting of brick and mortar and seal the pipe end(s) completely to prevent water infiltration.
- Remove manholes and valve boxes.
- Any such Utility (including appurtenances) that has an inside diameter of less than 2 inches may be left in-place without following such procedures if each pipe end is capped.
- Make all arrangements and perform all Utility Adjustment Work necessary to decommission each Utility to be taken out of service and left in place, including design, construction, and obtaining consent from the affected Utility Owner and any affected landowner(s), as well as any necessary Governmental Approvals.
- Show all Out-of-Service Utilities on the As-Built Documents upon completion of the Work.

6.4.2.6 Maintenance of Utility Service

The Design-Builder shall take appropriate measures to ensure that all Utilities remain fully operational during all phases of construction to the greatest extent practicable.

6.4.2.7 Damage to Utilities by Design-Builder

The Design-Builder shall require all Subcontractors, employees, and agents performing the Work to exercise due caution and care to avoid causing damage to the Utility Owner's facilities, persons, and property. The Design-Builder shall assume responsibility for all damage caused by the Contractor's Subcontractors, employees or agents to the Utility Owner's property, facilities, structures, or persons. The Design-Builder shall immediately notify the affected Utility Owners of any Utilities damaged by the Contractor while performing the Work. The Design-Builder shall assume responsibility for all costs and schedule impact associated with said damage. Promptly after discovering such damage or receiving notice of any such damage from the Utility Owner or from any other source, the Design-Builder shall repair the damage to the Utility Owner's satisfaction or, at the Utility Owner's election, the Utility Owner may make such repairs at the Contractor's expense.

6.4.3 Utility Requirements

The Design-Builder shall identify all new and existing Utilities crossing embankments, evaluate settlement impacts on these lines, and evaluate the impacts of abandoned lines on settlements. The Design-Builder shall design new and relocated Utilities to accommodate the anticipated settlements, to verify Utilities operate effectively during and after Construction Work, and to satisfy the requirements of the Utility Owner.

The Design-Builder shall not place new Utilities nor keep existing Utilities within the pavement section of the highway pavement section nor allow abandoned Utilities within the pavement section of the Tollway; remove prior to placement of the pavement section. The Design-Builder shall remove Utilities of any size that fall within 3 feet below the pavement section (below subbase). At a minimum, the Design-Builder shall remove the following abandoned Utilities:

No abandoned utilities have been identified for removal within the project limits.

6.4.4 Instrumentation/Monitoring Requirements (Not Used)

6.4.5 Construction Reports and Plans

The Design-Builder shall be responsible for developing and obtaining affected Utility Owner approval on any construction submittals necessary to complete the Work, in accordance with the Utility Standards and Project Standards.

The Design-Builder shall provide As-Built Records obtained during utility coordination to the Tollway. The Design-Builder shall also provide As-Built Drawings for any utility work related to this project to the Tollway.

6.4.6 Standard Drawings

Unless directed otherwise, the Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings.

6.4.7 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards and Utility Standards. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards and Utility Standards.

All materials for, and each part or detail of the Work shall also always be subject to inspection by representatives of the applicable Utility Owner insofar as Utility interests are concerned, but such inspection shall not make the Utility Owner a party to the Contract, nor relieve the Design-Builder of its responsibility for the Work.

Following completion of construction of Utility Adjustment Work, the Design-Builder shall facilitate a meeting with Illinois Tollway to discuss lessons learned through performance of the Utility Adjustment Work, if any.

6.4.8 Removal of Miscellaneous Objects

The Design-Builder shall remove all existing pavement, curb and gutter, sidewalk, steps, drainage facilities, soil, rock, and other obstructions within the Project limits necessary to construct the Project. The Design-Builder shall remove all other unused materials, including temporary facilities, within the Project Site and grade to match the adjacent grading.

The Design-Builder shall remove all subsurface elements in accordance with the Project Standards and Utility Standards.

An allowance is provided for the Design-Builder for the Disposal of Unknown Pre-Existing Hazardous Materials, as outlined in Book 3.

6.4.9 Disposal of Materials

Unless otherwise stated within the Utility Standards, the Design-Builder shall assume ownership of all material and dispose of off the Project Site.

6.4.10 Temporary Requirements

Throughout construction Work, the Design-Builder shall ensure temporary Utility facilities, if applicable, are designed and constructed in accordance with this Section 6, Utilities, unless explicitly stated in this Section 6.4.10 and respective subsections thereof.

6.4.10.1 Temporary Utilities

The Design-Builder shall coordinate any temporary movements, protections, and other temporary configurations with affected Utilities. If the temporary movement of an overhead or underground facility, or temporary short-term shutdown of a facility, is initiated for the convenience of the Design-Builder, all costs associated with the temporary movement shall be the responsibility of the Design-Builder.

6.5 Submittal Requirements

Whenever a Submittal identified in *Table 6-12, Section 6.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, Section 2, Project Management. The Illinois Tollway will conduct reviews and provide review comments in accordance with Section 2, Project Management and *Table 6-12, Section 6.5 Submittal Requirements*, below. This *Table 6-12, Section 6.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 6-12: Section 6.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Documentation of Utility Coordination	6.2.9.1	PDF	2	10	5	N/A
2	Utility Work Plan	6.2.9.2	PDF	2	10	5	Conceptual Design Document submittal
3	Conceptual Utility Relocation Plan	6.3.1.1	PDF	2	10	5	Preliminary Design Document submittal
4	Design-Builder Design Approval Letter	6.3.1.2	PDF	2	10	5	Construction of this Work
5	Design-Builder's Construction Inspection Approval Letter	6.4.2.3	PDF	2	10	5	Illinois Tollway-Payment for this Work
6	As-Built Records and Drawings	6.4.5	PDF	2	10	5	N/A

Section 7

7 RIGHT-OF-WAY (ROW)

7.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of Book 2 Section 7, Right-of-Way (ROW). The Design-Builder shall conduct ROW activities and responsibilities in accordance with Applicable Law.

7.2 Right of Way Requirements

This Project shall be constructed within existing Illinois Tollway ROW, Public ROW and Railroad ROW and the Tollway does not anticipate any ROW acquisition will be required to construct the Conceptual Design. The Design-Builder shall confirm no additional ROW is required to construct the Conceptual Design during the Scope Validation Period. During that time, if the Design-Builder determines Additional ROW is required to construct the Conceptual Design, the Design-Builder shall notify the Tollway of the need for Additional ROW. If the Tollway agrees with the need for Additional ROW, the Tollway will acquire the ROW.

The Design-Builder may also request additional ROW for changes in the Conceptual Design or construction means and methods. In the event that the Design-Builder requests Design-Builder Requested ROW to perform the Work, and Illinois Tollway approves such request, the Design-Builder shall comply with the requirements in this Book 2, Section 7. The Design-Builder shall be responsible for completion of all steps in the ROW acquisition process for Design-Builder Requested ROW and, if applicable, for time and cost implications of any eminent domain proceedings resulting thereof. Illinois Tollway, in its sole discretion, may or may not exercise eminent domain powers for Design-Builder Requested ROW.

For the avoidance of doubt, the cost of Design-Builder Requested ROW shall be included in the Contract Price and shall not be a basis for a Change Order.

The Design-Builder shall assume the responsibility of all schedule and cost consequences sustained through Design-Builder Requested ROW acquisition activities, including, but not limited to, the following: preforming surveys, preparing ROW plans, obtaining Illinois Tollway approval, reimbursing Illinois Tollway for costs accrued by Illinois Tollway in the acquisition process, performing appraisals, facilitating and performing negotiations, costs of eminent domain proceedings (if applicable), paying acquisition settlement costs including closing fees, performing environmental clearances, obtaining permits, performing inspections, designing and performing demolitions, coordinating and performing Utility Adjustment Work, coordinating and performing Railroad Work (if applicable), and performing mitigation, as necessary.

The Design-Builder shall not be entitled to a Change Order for cost and schedule implications of adverse or unknown site conditions within Design-Builder Requested ROW, including but not limited to: Hazardous Materials, Differing Site Conditions, geotechnical issues, Unknown Utilities, and other situations.

Illinois Tollway will remain the owner of Project ROW and both Additional Project ROW and Design-Builder Requested ROW, if applicable and when acquired.

Illinois Tollway does not intend to acquire temporary ROW, such as temporary easements, for the project. Temporary ROW that meets the definition of Additional Project ROW shall be classified as Additional

Project ROW and will be treated as such. Temporary ROW that meets the definition of Design-Builder Requested ROW shall still be classified as Design-Builder Requested ROW and will be treated as such.

7.3 Administrative Requirements

The Design-Builder shall adhere to applicable federal and state laws when performing ROW acquisition activities.

7.3.1 Standards

For ROW, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Primary Project Standards are of the highest precedence, secondary Project Standards are second on the order of precedence, and tertiary Project Standards are the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers Illinois Tollway with the higher quality or value shall prevail.

Primary Project Standards:

- IDOT Land Acquisition Policies and Procedures Manual;
- Illinois Tollway Design Bulletins;
- Illinois Tollway Construction Bulletins;
- Illinois Tollway Design Section Engineer's Manual;
- Illinois Tollway Computer Aided Design and Drafting (CADD) Standards Manual;
- Illinois Tollway Standard Drawings;
- Illinois Tollway Base Sheet Drawings; and
- Illinois Tollway Special Provisions.

Secondary Project Standards:

- Illinois Department of Transportation Bureau of Design and Environment Manual; and
- Illinois Department of Transportation Standard Drawings.

Tertiary Project Standards:

- Remaining standards set forth in Book 3.

7.3.2 ROW Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

In addition, in the event the Design-Builder identifies a need for Additional Project ROW or Design-Builder Requested ROW, the Design-Builder shall facilitate a meeting, and subsequent meetings as necessary, to explain to the Illinois Tollway why such Additional Project ROW or Design-Builder Requested ROW is necessary.

7.3.3 Equipment/Software

The Design-Builder shall follow the equipment and software requirements of the Contract Documents and the Project Standards.

7.3.4 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for the Right of Way Work, including those necessary for investigations. The Design-Builder shall be responsible for all activities necessary to obtain such permits, including cost and schedule implications thereof.

The Design-Builder shall be responsible for coordinating the Work with adjacent and affected property owners. The Design-Builder shall include the Illinois Tollway in all correspondence between the Design-Builder and adjacent and affected property owners.

Illinois Tollway retains right of possession of the Site and the improvements made thereon by the Design-Builder. The Design-Builder's right to entry and use of the Site arises solely from permission granted by Illinois Tollway under the Design-Build Contract.

The Design-Builder shall not access the Project ROW without written permission from Illinois Tollway. The Design-Builder shall not access any private ROW without the respective property owner's approval, in writing and shall not trespass on private property. If any liability occurs as a result of a trespass, the Design-Builder shall be responsible for such liability, including indemnifying Illinois Tollway for such liability.

7.4 Design-Builder Responsibilities for Project ROW and Additional Project ROW

The Design-Builder shall design and construct the Work to minimize the necessary ROW acquisitions and easements required for the Project.

7.4.1 Request for Additional Project ROW

The Design-Builder shall submit to Illinois Tollway a Request for Additional Project ROW, if necessary, which shall include the following for each parcel identified as Additional Project ROW:

- Identification of the additional parcel and an explanation of a justification for its need;
- Illustration of each parcel, superimposed on an aerial photograph, with approximate area of the parcel;
- Illustration of the proposed Work superimposed on an aerial photograph with parcel limits shown;

Upon the Design-Builder submittal to Illinois Tollway for Additional ROW, the Illinois Tollway shall, in its sole discretion, review and either approve or deny such request. In lieu of acquiring Additional Project ROW, the Illinois Tollway may alter the requirements of the Contract Documents in an effort to avoid the need for Additional Project ROW acquisitions.

7.4.2 (Not Used)

7.5 Illinois Tollway Responsibilities for Project ROW and Additional Project ROW (Not Used)

7.6 Illinois Tollway Responsibilities for Design-Builder Requested ROW

For Design-Builder Requested ROW, the Illinois Tollway will perform the activities as described in this Section 7.6, however, will deduct all Illinois Tollway-accrued expenses in relation thereto from the Design-Builder's Contract Price.

7.6.1 Appraisal and Appraisal Review

For Design-Builder Requested ROW, the Illinois Tollway shall perform appraisals and appraisal reviews, as necessary, in accordance with Section 3 of the IDOT Land Acquisition Policies and Procedures Manual.

7.6.2 Negotiation and Acquisition

For Design-Builder Requested ROW, the Illinois Tollway shall perform negotiation and acquisition, as necessary, in accordance with Section 4 of the IDOT Land Acquisition Policies and Procedures Manual.

7.6.3 Relocation Assistance and Payments Program

For Design-Builder Requested ROW, the Illinois Tollway shall initiate and implement relocation assistance and payments programs, as necessary, in accordance with Section 5 of the IDOT Land Acquisition Policies and Procedures Manual.

7.6.4 Property Management

For Design-Builder Requested ROW, the Illinois Tollway shall be responsible for property management, as necessary, in accordance with Section 6 of the IDOT Land Acquisition Policies and Procedures Manual.

7.6.5 Accounting for Land Acquisition Services

For Design-Builder Requested ROW, the Illinois Tollway shall perform accounting for land acquisition services, as necessary, in accordance with Section 7 of the IDOT Land Acquisition Policies and Procedures Manual.

7.6.6 Contracting for Land Acquisition Services

For Design-Builder Requested ROW, the Illinois Tollway shall contract for land acquisition services, as necessary, in accordance with Section 8 of the IDOT Land Acquisition Policies and Procedures Manual.

7.6.7 Outdoor Advertising

For Design-Builder Requested ROW, the Illinois Tollway shall perform outdoor advertising, as necessary, in accordance with Section 9 of the IDOT Land Acquisition Policies and Procedures Manual.

7.7 Design-Builder Responsibilities for Design-Builder Requested ROW

For Design-Builder Requested ROW, notwithstanding the requirements of Book 1, Section 7.1.1 Responsibility for ROW Acquisition, and in addition to the requirements of Section 7.6, above, the Design-Builder shall perform the land acquisition activities as described in this Section 7.7.

7.7.1 Request for Design-Builder Requested ROW

The Design-Builder shall submit to Illinois Tollway a Request for Design-Builder Requested ROW, which shall include the following for each parcel identified as Design-Builder Requested ROW:

- Identification of the additional parcel and an explanation of a justification for its need;
- Illustration of each parcel, superimposed on an aerial photograph, with approximate area of the parcel;
- Illustration of the proposed Work superimposed on an aerial photograph with parcel limits shown;
- Cost estimate that includes separate values for land, acquisition activities, improvements, damages, and benefits, if any;
- Title commitment report for each parcel, including all supporting documentation, not more than 60 Business Days old;
- Maps, deeds, or other relevant information that may expedite the acquisition process;

- Relocation and Payment Plan, if acquisition would result in occupant or personal property relocation, in accordance with Section 5 of the IDOT Land Acquisition Policies and Procedures Manual;
- Environmental reports documenting the necessary clearance activities and risks; and
- Identification of activities that will need to be performed by Illinois Tollway and the estimated costs of those activities.

Upon the Design-Builder submittal to Illinois Tollway of a Request for Design-Builder Requested ROW, the Illinois Tollway shall, in its sole discretion, review and either approve or deny such Request for Design-Builder Requested ROW. In the event the Illinois Tollway denies the Design-Builder's Request for Design-Builder Requested ROW, the Design-Builder shall revise the proposed design and construction to deliver the Project within the Project ROW and, if applicable, the Additional Project ROW. In the event the Illinois Tollway approves the Design-Builder's Request for Design-Builder Requested ROW, the Design-Builder shall be responsible for the acquisition activities, further described in this Section 7.7.

7.7.2 ROW Plans

The Design-Builder shall be responsible for developing ROW Plans for the Design-Builder Requested ROW. The Design-Builder shall develop ROW Plans consistent with the requirements of Section 2 of the IDOT Land Acquisition Policies and Procedures Manual.

7.7.3 ROW Survey

For Design-Builder Requested ROW, the Design-Builder shall be responsible for performing ROW survey in accordance with Section 2 of the IDOT Land Acquisition Policies and Procedures Manual.

7.7.4 ROW Plats

For the Design-Builder Requested ROW, the Design-Builder shall develop ROW Plats, as necessary, in accordance with Section 2 of the IDOT Land Acquisition Policies and Procedures Manual.

7.7.5 Special Wastes

For Design-Builder Requested ROW, the Design-Builder shall be responsible for managing special wastes, as necessary, in accordance with Section 10 of the IDOT Land Acquisition Policies and Procedures Manual.

7.7.6 Acquired Properties

The Design-Builder shall not access the acquired parcel until the Illinois Tollway has issued written notice allowing Design-Builder access.

7.7.7 Design-Builder Right of Way Manager

In the event Illinois Tollway approves a Request for Design-Builder Requested ROW, the Design-Builder shall retain a ROW Manager. The ROW Manager shall be responsible for all ROW coordination and compliance requirements, shall be certified for acquisition and relocation services in accordance with the Illinois Tollway Construction Management Manual, and shall be subject to Illinois Tollway approval in its sole discretion. The ROW Manager shall have ten years of experience in the ROW profession and eight years of ROW acquisition experience in the State of Illinois.

The ROW Manager shall facilitate bi-weekly meetings to provide Illinois Tollway with updates on Design-Builder Requested ROW acquisition activities. The ROW Manager shall be responsible for developing and

updating an internal acquisition quality and status tracker; the Design-Builder shall, upon Illinois Tollway request, provide Illinois Tollway with a up to date copy of such quality and status tracker.

7.8 Condemnation Procedures

Illinois Tollway may elect to use condemnation procedures for Additional Project ROW. Illinois Tollway, in its sole discretion, may or may not elect to use condemnation procedures for Design-Builder Requested ROW. Should the Illinois Tollway fail to acquire Design-Builder Requested ROW within 365 days of Illinois Tollway's approval of the Request for Design-Builder Requested ROW for such Design-Builder Requested ROW, the Design-Builder may request that Illinois Tollway use condemnation procedures for such Design-Builder Requested ROW, ("Condemnation Request"). The Design-Builder shall include the following in the Condemnation Request:

- Progress, if any, of the acquisition activities to date;
- Proof of diligent efforts of Design-Builder to acquire Design-Builder Requested ROW, including:
    - Copies of emails, letters, and other methods of communication.
- Results of investigations, surveys, or other activities; and
- Reasons for failed Design-Builder Requested ROW acquisition.

Upon Design-Builder submittal to Illinois Tollway of a Condemnation Request, the Illinois Tollway shall, in its sole discretion, review and either approve or deny such Condemnation Request. The Design-Builder shall be responsible for costs accrued by Illinois Tollway in its performance of condemnation procedures for Design-Builder Requested ROW, even if such condemnation procedures are unsuccessful.

7.9 Construction Requirements

7.9.1 General

Completed all Work for the Project within the Project ROW, acquired Additional Project ROW, and acquired Design-Builder Requested ROW.

7.9.2 Environmental Clearances

The Design-Builder shall perform all environmental clearance activities for the acquired Additional Project ROW and Design-Builder Requested ROW in accordance with Section 4, Environmental Compliance, of this Book 2.

7.9.3 Demolition

The Design-Builder shall coordinate with Illinois Tollway for the Design-Builder to properly demolish all buildings, Structures, and other improvements on all acquisitions. The Design-Builder shall acquire ROW that include acquisition of buildings, Structures, or improvements and conduct demolition of such buildings, the Structures, and improvements in compliance with this Section 7 and the Project Standards. The Design-Builder shall conduct and document asbestos and hazardous waste, including lead-based paint inspections and any required action in accordance with Book 1. The Design-Builder shall develop and submit a SWPPP and obtain Illinois Tollway approval of such SWPPP prior to any Work on these acquired parcels. The Design-Builder shall abandon or remove all Utilities associated with such buildings, Structures, and other improvements installed on or connected to the ROW in accordance with the requirements of the applicable Utility Owner as part of the demolition, unless otherwise noted.

The Design-Builder shall properly remove and dispose of all regulated asbestos containing material, all universal and other types of hazardous waste, and any other regulated material other than solid waste prior

to demolition of any property in accordance with all Federal, State, and Local regulations. The Design-Builder shall obtain all permits and other documents required by State and local government, including a demolition plan Approved by Illinois Tollway in accordance with the Occupational Health and Safety Administration (OSHA) demolition regulations 1926.850, prior to demolition of any property. Such documentation shall be submitted to Illinois Tollway for Approval at least 21 Days prior to demolition.

7.9.4 Restoration of Property and Landscape

The Design-Builder shall return all temporary ROW to landowners in the same condition, or better, than it was prior to taking possession. Unless purchased through an acquisition, the Design-Builder shall, at its sole cost and expense, repair and/or replace or restore to its existing condition any damage to temporary ROW that occurred due to Design-Builder activities. The Design-Builder shall conduct such activities prior to the termination date of the easement term.

7.9.5 Protection of Property

Once Illinois Tollway provides written authorization to access property, in accordance with the requirements herein, the Design-Builder shall manage and minimize losses to the property, which shall include securing all buildings and Structures and the installation of temporary fencing sufficient to contain animals and prevent the unauthorized entry or trespassing of the property. Acquired ROW without existing fence that meets the specifications of the Project Standards, shall be protected by the Design-Builder with temporary fencing within 48 hours of the Design-Builder being granted access to such property. The Design-Builder shall install temporary fencing prior to removing any ROW fencing within the Project limits.

7.10 Submittal Requirements

Whenever a Submittal identified in *Table 7-1, Section 7.10 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, Section 2, Project Management. The Illinois Tollway will conduct reviews and provide review comments in accordance with Section 2, Project Management and *Table 7-1, Section 7.10 Submittal Requirements*, below. This *Table 7-1, Section 7.10 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 7-1: Section 7.10 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Request for Additional Project ROW	7.4.1	PDF and MicroStation	3	15	10	Construction Work
2	Proposed ROW Plans	7.7.2	PDF and MicroStation	2	15	10	Construction Work
3	Request for Design-Builder Requested ROW	7.7.1	PDF and MicroStation	3	15	10	Construction Work on such property
4	Condemnation Request	7.8	PDF	3	30	30	Construction Work on such property
5	SWPPP for acquired properties	7.7.5	PDF	2	15	10	Construction Work on such acquired property
6	Demolition plan for acquired properties	7.9.3	PDF	2	15	10	Construction Work on such acquired property

Section 8

8 GEOTECHNICAL

8.1 General Requirements

This Section 8, Geotechnical, describes the requirements for geotechnical foundations and other geotechnical-related work.

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 8, Geotechnical, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design, repair/rehabilitate, and construct Geotechnical Work in accordance with:

- Directive Designs;
- Commitments of the Governmental Approvals and Environmental Approvals; and
- Project Standards.

8.1.1 Geotechnical Requirements

The Design-Builder shall perform the necessary Geotechnical Work, which may include, but is not limited to, the investigations, design, repair/rehabilitation, and construction of geotechnical elements of the Work in accordance with this Book 2, Section 8, Geotechnical.

8.2 Administrative Requirements

8.2.1 Standards

For Geotechnical Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary Project Standards are second in the order of precedence, and tertiary standards are third in the order of precedence. Any conflict within Project Standards shall immediately be brought to the attention of the Design-Build Project Manager and Design-Build Design Manager for discussion and resolution with the Illinois Tollway. In the event of conflict within Project Standards of the same order of precedence, and unless otherwise directed by the Illinois Tollway, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail. The Design-Builder shall use the latest adopted editions of the Primary, Secondary and Tertiary Project Standards at the time of the Setting Date.

Primary Project Standards:

- Illinois Tollway *Geotechnical Manual*
- Illinois Tollway *Structure Design Manual*
- Illinois Tollway *Design Section Engineers Manual*
- IDOT Standard Specifications for Road and Bridge Construction
- IDOT Supplemental Specifications and Recurring Special Provisions
- Illinois Tollway Supplemental Specifications to the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction

Secondary Project Standards:

- IDOT *Geotechnical Manual*
- IDOT *All Geotechnical Manual User Memorandums* (AGMU)
- IDOT *Bridge Manual*
- IDOT *Culvert Manual*
- IDOT *Subgrade Stability Manual*
- IDOT *Structure Services Manual*

Tertiary Project Standards:

- AASHTO *LRFD Bridge Design Specifications*
- AASHTO *LRFD Bridge Construction Specifications*
- AASHTO *Standard Specifications for Highway Bridges*
- AASHTO *Laboratory Specifications*
- AASHTO *Manual on Subsurface Investigations*
- AASHTO Manual for Bridge Evaluation
- AASHTO Guide Design Specifications for Bridge Temporary Works
- AASHTO Construction Handbook for Bridge Temporary Works
- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals
- ASTM Standards
- FHWA publications
- USACE *Publications*
- USACE *Engineering Manuals*
- Remaining standards set forth in Book 3

8.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2. There are no additional meeting requirements for Section 8, Geotechnical, of this Book 2.

8.2.3 Equipment/Software

Upon receipt of NTP 2, and prior to the start of design work on the Project, the Design-Build Design Manager shall compile a list of software to be used in geotechnical design and shall submit such list to the Illinois Tollway for Acceptance. The Illinois Tollway does not support a preapproved list of software but reserves the right to disallow any software on a case-by-case basis.

The Design-Builder shall use Bentley gINT© for Windows (version 8 or higher) or a compatible computer program to develop electronic final foundation boring logs.

The Design-Builder shall follow the equipment and software requirements of the Project Standards.

8.2.4 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to be obtained for the Geotechnical Work, including those necessary for Scope-Validation inspections and/or investigations. The Design-Builder shall perform all activities necessary to furnish the Geotechnical Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals from entities such as Utility Owners, Railroad Owners, and Railroad Operators, as necessary, for geotechnical Design Document Submittals and Construction Document Submittals that potentially affect these third parties.

8.2.5 Certification Requirements

Perform all soil laboratory testing and analysis at an accredited AASHTO resource and IDOT Bureau of Materials inspected laboratory for the geotechnical tests described in the Illinois Tollway *Geotechnical Manual* and in this Section 8, Geotechnical.

8.2.6 Investigations/Supplemental Work

The Design-Builder shall perform the field investigations deemed necessary during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Book 1 Section 2.3.1, Scope Validation Period and to complete the Geotechnical Work as outlined in the subsections below.

8.2.6.1 Geotechnical Subsurface Exploration

8.2.6.1.1 Preliminary Subsurface Data

Conceptual preliminary geotechnical data, if any, obtained by Illinois Tollway for this Work are included as Supplemental Information and are provided to Design-Builder for evaluation of the subsurface conditions along the alignment and for the various design elements.

The Design-Builder may use existing boring data and test results, if any, contained in the Supplemental Information to satisfy the geotechnical requirements of the Illinois Tollway *Geotechnical Manual* and IDOT *Geotechnical Manual*, at their sole discretion, as appropriate. The Design-Builder shall make its own interpretations of the existing geotechnical data. The Design-Builder shall verify the suitability and sufficiency of the geotechnical data, and the form and nature of the subsurface conditions that may affect its detailed design, construction methods, and Equipment.

8.2.6.1.2 Supplemental Subsurface Investigations

The Design-Builder shall conduct supplemental and additional subsurface investigations and subsequent geotechnical analysis and design necessary to:

- Satisfy the applicable minimum subsurface investigation requirements per the Illinois Tollway *Geotechnical Manual*, or as specified herein.
- Supplement the Supplemental Information to support the Design-Builder's design.
- Support changes to the scope that was initiated by the Design-Builder.

After collecting soil and rock samples, the Design-Builder shall perform laboratory tests to quantify material properties and verify design assumptions. The Design-Builder shall perform sufficient testing to satisfy that the test results are representative of in-situ conditions. The Design-Builder shall perform all standard soil and rock sample laboratory testing in accordance with the appropriate ASTM or AASHTO Test Designation, as outlined in the Illinois Tollway *Geotechnical Manual* and in this Section 8, Geotechnical.

The Design-Builder shall conform to the supplemental subsurface exploration program, including the location, number, depth, type of boreholes, field-testing and sampling, and laboratory testing to meet the Project Standards.

Field-testing and sampling shall be performed in accordance with the appropriate ASTM or AASHTO Test Designation, as outlined in the *Illinois Tollway Geotechnical Manual* and in this Section 8, Geotechnical.

The Design-Builder shall include the results of the supplemental subsurface investigation for foundations and/or other geotechnical-related Work, incorporating the geotechnical information provided in the Supplemental Information, at the Design-Builder’s sole discretion, for each structure in the form of boring logs plotted on proposed plans, profiles, cross-sections, and geotechnical recommendations.

8.2.7 Reports and Plans

The Design-Builder shall prepare the relevant Design Document and Construction Document Submittals in accordance with the minimum requirements in Book 2, Section 2, Project Management, and this Section 8, Geotechnical.

Additionally, the Design-Builder shall develop and submit, as necessary, the reports and plans prescribed throughout this Section 8, Geotechnical.

The Design-Builder may request existing record drawings, shop drawings, structure geotechnical reports, inspection reports, bridge condition reports, or other historical information deemed useful for the successful completion of this Project through written request of the Design-Build Project Manager to the Illinois Tollway Project Manager. The Illinois Tollway does not guarantee the accuracy of, nor the availability of, any historical documents for geotechnical elements included within this Project and all documents shall be used at the sole discretion and risk of the Design-Builder.

The Design-Builder is hereby notified that additional information related to structures and geotechnical work within the Project may be available at the Illinois Department of Transportation (IDOT) District 1 offices. The Design-Builder shall request appropriate contact information and permission from the Illinois Tollway prior to contacting IDOT District 1.

8.2.7.1 Geotechnical Reports

Prior to initiating any supplemental subsurface investigation, and in accordance with the *Illinois Tollway Geotechnical Manual*, the Design-Builder shall prepare geotechnical reports for individual elements or groups of project elements (as required) based upon priority and, as applicable, sequence of construction and submit for Illinois Tollway Acceptance. The Design-Builder shall include a detailed method statement describing the general philosophy and methods of investigation, any required design and analysis, and the selection of the anticipated means of construction for the included project elements. The Design-Builder shall indicate in the method statement how material and design details are chosen to match selected construction methods and construction details and the soil, rock, and groundwater environment for the site.

8.2.7.1.1 Geotechnical Desk Study Report

The Design Builder shall develop and submit to the Illinois Tollway a Geotechnical Desk Study Report. The purpose of this report is to describe the existing information and preliminary recommendations, as applicable to the project. For each Geotechnical Desk Study Report, the Design-Builder shall include the following technical information, as a minimum:

- Description of geology and various ground types to be encountered along the alignment.
- Description of applicable geotechnical information that was received or collected and analyzed in developing the Geotechnical Desk Study Report.
- Assessment of the engineering properties of all soil types, including the expected average and range of soil strengths and deformation properties and the preliminary design parameters for all soil and rock types.
- Narrative describing the interpretation of the pertinent geotechnical data used as a basis for preliminary selection, design, and installation of the proposed foundation elements.

- Description of the planned supplemental subsurface investigation and planned final design geotechnical reports.

The Design-Builder shall define the investigation, engineering, and design approach that will be followed to develop the most technically and environmentally acceptable and durable foundations, cut-and-fill slopes, retaining structures, pavements, stormwater management facilities, and geotechnical designs for the elements included in the Geotechnical Desk Study Report.

Prior to performing the supplemental subsurface investigation, the Design Builder shall submit, for Tollway Review and Approval, the anticipated type and locations of exploration required for successful completion of the geotechnical study. Work may only begin upon receipt of Tollway Approval for the type, locations and methods of investigation. At a minimum, one (1) soil boring shall be required at each approach of BNs 1606 and 1606A for bridge approach slab (and approach slab support) design and semi-integral abutment conversion.

8.2.7.1.2 Roadway Geotechnical Report

If a supplemental subsurface investigation is required for roadway-related elements, the Design Builder shall prepare a Roadway Geotechnical Report (RGR) summarizing the results of the field exploration and soil sample testing and providing all information and recommendations necessary for final design. The Roadway Geotechnical Report shall be completed in accordance with Illinois Tollway and IDOT requirements.

8.2.7.1.3 Structure Geotechnical Report

If a supplemental subsurface investigation is required for structural-related elements, the Design Builder shall prepare a Structure Geotechnical Report (SGR) summarizing the results of the field exploration and soil sample testing and providing all information and recommendations necessary for final design. The Structure Geotechnical Report shall be completed in accordance with Illinois Tollway and IDOT requirements.

8.3 Design Requirements

8.3.1 General

The Design-Builder shall provide geotechnical analysis and design for all structures and improvements as deemed necessary during the Scope-Validation investigations, and as further included in the Illinois-Tollway-Approved Scope of Work, such as bridges, retaining walls, embankments, slopes and cuts, noise walls, sign structures, lighting structures, culverts, and ponds.

8.3.2 Design Criteria

The Design-Builder shall perform geotechnical designs in accordance with the requirements set forth in the Illinois Tollway Structure Design Manual, the *Illinois Tollway Geotechnical Manual* and the *IDOT Geotechnical Manual*.

8.3.3 Design Deviations

There are ***no*** pre-Approved Design Deviations pertaining to the Geotechnical Work on this Project.

The Design-Builder shall not be permitted to implement Design Deviations into the Work unless otherwise approved by the Illinois Tollway, per Section 1, General, of this Book 2.

8.3.4 Additional Design Requirements

The Design-Builder shall ensure the geotechnical design meets the minimum requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.1 Subgrades

The Design-Builder shall ensure the geotechnical design meets the minimum subgrade requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.2 Embankments

The Design-Builder shall ensure the geotechnical design meets the minimum embankment requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.3 Cut Slopes

The Design-Builder shall ensure the geotechnical design meets the minimum cut slope requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.4 Erosion Control

The Design-Builder shall ensure the geotechnical design meets the minimum erosion control requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.5 Storm Sewers

The Design-Builder shall ensure the geotechnical design meets the minimum storm sewer requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.6 Structures

8.3.4.6.1 Bridges (Not Used)

8.3.4.6.2 Culverts

The Design-Builder shall ensure the geotechnical design meets the minimum culvert requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.6.3 Three Sided Structures (Not Used)

8.3.4.6.4 Retaining Walls (Not Used)

8.3.4.6.5 Miscellaneous Structures

The Design-Builder shall ensure the geotechnical design meets the minimum miscellaneous structure requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.7 Settlement Analyses

The Design-Builder shall ensure the geotechnical design meets the minimum settlement analyses requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.8 Slope Stability Analysis

The Design-Builder shall ensure the geotechnical design meets the minimum slope stability analysis requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.9 Scour Evaluations and Countermeasure Treatments

The Design-Builder shall ensure the geotechnical design meets the minimum scour evaluations and countermeasure treatment requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.10 Seismic Analysis (Not Used)

8.3.4.11 Foundation Type Selection and Analysis (Not Used)

8.3.4.12 Drainage System Filter Requirements

The Design-Builder shall ensure the geotechnical design meets the minimum drainage system filter requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.4.13 Geosynthetics

The Design-Builder shall ensure the geotechnical design meets the minimum geosynthetics requirements in Section 6 of the *IDOT Geotechnical Manual*.

8.3.5 Base Sheets

Unless directed otherwise, The Design-Builder shall utilize the Illinois Tollway Base Sheets when preparing the Design Document Submittals and Construction Document Submittals.

8.4 Construction Requirements

8.4.1 General

The Design-Builder shall construct all work in accordance with the applicable final design and construction recommendations provided in the Final Geotechnical Reports and the Illinois Tollway-accepted RFC Documents, Construction Document Submittals, Project Standards, applicable permits, and requirements of the Contract Documents.

Do not damage adjacent infrastructure; show no damage has occurred by providing pre-construction and post-construction condition reports. Damage identified in the post-construction condition report that was not present in the pre-construction condition report will be repaired by the Design-Builder to a condition Approved by Illinois Tollway.

Conduct all Work to prevent damage to adjacent utilities, buildings, and structures; to avoid interruption of their operations; and to prevent undue annoyance to their occupants.

8.4.2 Construction Reports and Plans

In addition to the Construction Document Submittal requirements of Section 2, Project Management, of this Book 2, the Design-Builder shall prepare the following reports and plans for construction Work:

- Submit an electronic copy of completed soil lab test data as part of the supplemental subsurface investigation to Illinois Tollway.

8.4.3 Standard Drawings

Unless directed otherwise, the Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings.

8.4.4 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards.

8.4.5 Instrumentation/Monitoring Plan (Not Used)

8.4.5.1 Vibration Monitoring Requirements (Not used)

8.4.5.1.1 Vibration Monitoring and Control Plan (Not Used)

8.4.5.1.1.1 Susceptibility Study (Not Used)

8.4.5.1.1.2 Preconstruction Survey (Not Used)

8.4.6 Removal of Miscellaneous Objects (Not Used)

8.4.7 Disposal of Materials

The Design-Builder shall assume ownership of all material to be disposed of off-the Project Site.

8.4.8 Temporary Requirements

Throughout construction Work, the Design-Builder shall ensure temporary geotechnical facilities are designed and constructed in accordance with this Section 8, Geotechnical, and the applicable requirements of the *Illinois Tollway Structure Design* Manual, *Illinois Tollway Geotechnical* Manual, and the Project Standards.

8.4.8.1 Temporary Support of Excavation

Design and construct temporary support of excavation in accordance with all applicable Occupational Safety and Health Administration (OSHA) standards, AASHTO requirements, and Project Standards.

8.4.8.2 Blasting Requirements (Not Used)

8.4.8.3 Excavation in Shale (Not Used)

8.5 Submittal Requirements

Whenever a Submittal identified in *Table 8-1, Section 8.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 8-1, Section 8.5 Submittal Requirements,* below. This *Table 8-1, Section 8.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 8-1: Section 8.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Geotechnical Desk Study Report	8.2.7.1.1	PDF	2	10	5	Pre-RFC Documents development activities
2	Roadway Geotechnical Report (RGR)	8.2.7.1.2	PDF	2	10	5	Pre-RFC Documents development activities
3	Structure Geotechnical Report (SGR)	8.2.7.1.3	PDF	2	10	5	Pre-RFC Documents development activities

Section 9

9 LAND SURVEYING

9.1 General

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 9, Land Surveying, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design and construct land surveying Work in accordance with:

- The Directive Design;
- Commitments of the Governmental Approvals and Environmental Approvals;
- Project Standards; and
- Applicable Laws such as Title 68: Chapter VII: Subchapter b: Part 1270: Section 1270.56

9.2 Administrative Requirements

9.2.1 Standards

For land surveying Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail.

Primary Project Standards:

- *Illinois Tollway Supplemental Specifications*
- *Illinois Department of Transportation Survey Manual*
- *Illinois Department of Transportation Land Acquisition Policies and Procedures Manual*
- *Illinois Tollway Computer Aided Design and Drafting (CADD) Standards Manual*
- *Illinois Department of Transportation CADD Manual*
- *Illinois Tollway Construction Manager's Manual*

Secondary Project Standards:

- *Illinois Department of Transportation Standard Specifications for Road and Bridge Construction*
- *National Spatial Data Infrastructure Geospatial Positioning Accuracy Standards, Part 3: National Standards for Spatial Data Accuracy, FGDC-STD-007.3-1998*
- *American Congress on Surveying and Mapping and the American Society of Civil Engineers Definitions of Surveying and Associated Terms*

Tertiary Project Standards

- *Remaining standards set forth in Book 3*

9.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

9.2.3 Equipment/Software

The Design-Builder shall refer to the *Illinois Tollway CADD Standards Manual* for CADD equipment and Software Requirements.

9.2.4 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for the land surveying Work. The Design-Builder shall perform all activities necessary to obtain the land surveying Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as Utility Owners, railroad owners, and railroad operators, property owners, as necessary, for land surveying Work that potentially affects third parties.

9.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform field investigations they deem necessary to complete the land surveying Work.

9.2.6 Video Record

Before the start of construction, the Design-Builder shall digitally document the entire Project Work Area, including structures, and surrounding areas to record the pre-construction condition. Complete the video in accordance with the Special Provision for Audio-Visual Filming. Provide a digital copy to Illinois Tollway for Acceptance.

9.2.7 Survey Reports

Maintain neat and accurate documents for all survey operations conducted throughout the Project. Include all calculations, staking notes, and field crew daily diaries. Write a formal Survey Report for all survey calculations related to survey control networks, road alignments, property boundaries, and public land survey system (PLSS) surveys. The intent of each Survey Report is to document and perpetuate the information and rationale used to determine the survey data that is part of the Project. Make records available for Illinois Tollway's review upon request. Include information related to the source data used, the calculations performed, and the data produced as part of the survey process. Illinois Tollway will provide the format specifications of each report type. Have a Professional Land Surveyor licensed in the State of Illinois review and sign each report.

The Design-Builder shall submit Survey Reports in electronic file format within 30 Days of the completion of survey control networks, road alignments, property boundaries, and PLSS surveys that include the following:

- Existing route alignments and profiles
- Boundary Survey
    - Signed hardcopy or PDF thereof
- Topographic Survey
    - Open Roads Survey
    - Terrain
    - MicroStation Drawing
- The location and coordinate values of the available horizontal and vertical control stations within the Project
- Copies of all data, notes, field books, etc. used in determinations of boundary and Topographic surveys shall be provided.

The Design-Builder shall verify and confirm the location, accuracy, and datum of all information provided to the Design-Builder in Exhibits 9B and 9C. The Design-Builder shall document all forms of data verification.

9.2.8 Drone Survey

The Design-Builder may perform a drone survey of existing facilities. The Design-Builder shall adhere to the applicable FAA and Illinois Tollway permitting requirements and regulations when operating drones.

9.3 Design Documents

9.3.1 Survey Control Requirements

The Design-Builder shall use the primary control points, as established in Exhibits 9B and 9C, as a basis for survey. The Design-Builder may create a secondary control for construction; however, additional primary controls shall not be permitted.

9.3.2 Survey Control Datum

The Design-Builder shall utilize the Survey Control Datum as prescribed in Exhibit 9B and 9C and supplemented in accordance with the IDOT Survey Manual.

9.3.3 Mapping

The Design-Builder shall conduct all tasks necessary to complete mapping for the Project in accordance with the Minimum Standards of Practice per joint committee on administrative rules (JCAR) Administrative Code. The Design-Builder shall acquire and establish the planimetric, topographic, design, Utility, Railroad, alignment, ROW, and base maps necessary to complete the Project.

9.4 Construction Requirements

9.4.1 General

The Design-Builder shall perform all surveying necessary to facilitate construction operations for the duration of the Project.

The Design-Builder shall mark the Project ROW, Additional Project ROW, Design-Builder Requested ROW, and Temporary and Permanent Easements necessary for construction purposes.

9.4.2 Construction Reports and Plans

In addition to the Construction Document Submittal requirements of Section 2, Project Management, of this Book 2, the Design-Builder shall prepare the following reports and plans for construction Work:

- Submit the survey records and reports during construction and prior to Final Acceptance, in accordance with the Illinois Tollway Construction Manager's manual.

9.4.3 As-Built Information

As specified in, and in addition to, the requirements of Book 2, Section 2, Project Management, the Design-Builder shall produce reports documenting the location of the as-built alignments, profiles, structure locations, Utilities, Railroads, and survey control monument placement. Comply with the as-built document requirements in Section 2, Project Management, for all as-built data.

Deliver as-constructed Utility information bi-weekly, top of clay and trimmed surfaces monthly, and final as-built survey files within thirty (30) Days of Substantial Completion of the Project.

9.4.4 Standard Drawings

Unless directed otherwise, the Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings.

9.4.5 Additional Requirements

9.4.5.1 Survey Monuments

9.4.5.1.1 Existing Survey Control Monuments

The Design-Builder shall locate and preserve all previously established survey control monuments located within the Project. The Design-Builder shall notify Illinois Tollway in writing of all such survey monuments that will be disturbed during the Project at least thirty (30) Days prior to their disturbance.

The Design Builder shall date, initial, and mail the notification letter, including updated database sheets, to Illinois Tollway:

Mike Woodward
Land Acquisition Manager
2700 Ogden Ave
Downers Grove, IL 60515
Phone: (630)241-6800
Fax: (630)241-7302
Email: mwoodward@getipass.com

9.4.5.1.2 Public and Private Land Survey Monuments

In accordance with 765 ILCS 220/2 – Land Survey Monuments act, the Design-Builder shall locate and preserve all previously established Public Land Survey System (PLSS) monuments as well as monuments marking property corners located within the Project. Notify the Illinois Tollway Project Manager in writing of all PLSS survey monuments that will be disturbed during the Project construction ("Notice of Monument Disturbance").

Perpetuate the coordinate location of all known monuments marking property corners located along or within the ROW of the Project. Replace all monuments disturbed as a result of the Project.

The Design-Builder shall provide a Licensed Land Surveyor, in accordance with the Illinois Department of Financial and Professional Regulation.

9.4.5.1.3 Preservation of Survey Monuments

The Design-Builder shall cooperate with the Illinois Tollway in protecting and preserving all cornerstones and survey monuments that are within the right-of-way of the Project. The Design-Builder shall not start Construction Work until the Design-Builder has identified all known cornerstones, monuments, and land markers in the Work area. Monuments, cornerstones, and land markers unexpectedly encountered shall be protected and preserved by the Design-Builder until legally referenced by the Licensed Land Surveyor. When cornerstones, monuments and land markers are encountered in the performance of the Work, the Design-Builder shall furnish the necessary monument covers for such encounters. The Design-Builder shall

furnish all the labor, tools and other materials requested or incidental to such installations. The Design-Builder is responsible for the preservation of cornerstones and survey markers. The cost to the Illinois Tollway for repair, relocation, and replacement of any cornerstone, monument, or land marker which is damaged, destroyed, or made inaccessible by the Design-Builder shall be deducted from the partial payments or Final Payment in accordance with Book 1, Section 14, Payment.

9.5 Submittal Requirements

Whenever a Submittal identified in *Table 9-1, Section 9.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 9-1, Section 9.5 Submittal Requirements,* below. This *Table 9-1, Section 9.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 9-1: Section 9.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Notice of Monument Disturbance	9.4.6.1.2	Email/ PDF	1	20	10	Disturbance of monument
2	Monument Relocation Plan	9.4.6.1.3	PDF & DGN	3	10	5	Construction
3	Video Record	9.2.6	Digital Copy	3	15	15	Construction
4	Survey Reports	9.2.7	Email/ PDF/ DGN	1	30	30	Construction

Section 10

10 PAVEMENTS AND ROADWAY MATERIALS

10.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 10, Pavements and Roadway Materials, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design and construct pavements and roadway materials Work in accordance with:

- The Directive Design;
- The commitments of the Governmental Approvals and Environmental Approvals; and
- The Project Standards.

10.2 Administrative Requirements

10.2.1 Standards

For Pavements and Roadway Materials Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of a conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail.

Primary Project Standards:

- *Illinois Tollway Special Provisions*

Secondary Project Standards:

- *Illinois Tollway Supplemental Specifications*
- *IDOT Supplemental Specifications and Recurring Special Provisions*

Tertiary Project Standards:

- *Illinois Tollway Standard Drawings*
- *Illinois Tollway Geotechnical Manual*
- *Illinois Tollway Manual of Modified Test Procedures*
- *AASHTO Mechanistic-Empirical Pavement Design Guide: A Manual of Practice*
- *IDOT Standard Specifications for Road and Bridge Construction*
- *IDOT Manual of Test Procedures for Materials*
- *Illinois Tollway Computer Aided Design and Drafting (CADD) Standards Manual*
- *IDOT Highway and District Standard Drawings*
- *IDOT Bureau of Design and Environment Manual*
- *IDOT Subgrade Stability Manual*
- *IDOT Geotechnical Manual*
- *AASHTO Laboratory Specifications*
- *FHWA Publications*
- *AASHTO Standards*
- *ASTM Standards*
- *Remaining standards set forth in Book 3*

10.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2. A materials pre-construction meeting shall be held with the Tollway before starting onsite construction

activities to discuss proposed materials and sources. Pre-pour, pre-pave, or pre-activity meetings shall be held before starting any major activities including but not limited to activities such as concrete paving, bridge deck, bridge deck overlay, warm mix asphalt, aggregate crushing, chemical stabilization, and diamond grinding.

10.2.3 Equipment/Software

The Design-Builder shall refer to the Illinois Tollway CADD Manual for Software Requirements.

The Design-Builder shall follow the equipment requirements of the Project Standards.

10.2.4 Permits/Authorizations

The Design-Builder shall indicate in the Comprehensive Environmental Protection Plan (CEPP) which permits are necessary to obtain for the pavements and roadway materials Work, including those necessary for investigations. The Design-Builder shall perform all activities necessary to furnish the pavements and roadway materials Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as Utility Owners, railroad owners, and railroad operators, as necessary, for pavements and roadway materials Design Document and Construction Document Submittals that potentially affect third parties.

10.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform field investigations they deem necessary to complete the pavements and roadway materials Work.

10.2.6 Reports and Plans

The Design-Builder shall prepare the relevant Design Document and Construction Document Submittals in accordance with minimum requirements in this Book 2, Section 10, Pavements and Roadway Materials.

The Design-Builder shall provide a Patching Schedule in the Plan Documents that specifies the station, lane(s), length, width, patch area by type, and associated saw cuts or reinforcement needed for the patch (i.e., saw cuts, tie bars, dowel bars, patching reinforcement).

10.3 Design Requirements

10.3.1 General

The Design-Builder shall Design and Construct the IL-390 Pavements and Roadway Materials without adversely affecting the adjoining/adjacent roadways.

The Design-Builder shall design transitions to and from the pavement improvements within the Project Limits, as necessary, accounting for width transitions, roadway geometric changes, and safety appurtenances, at a minimum.

10.3.2 Design Criteria and Process

The Design-Builder shall rehabilitate and repair the pavement in accordance with Table 10-1. In addition, certain items of Work contained below are included in Book 1 Section 16.1 as Shared Risk Item Work. Section 1.7 of Book 2 lists which of these items are Directive Designs. Proposers are encouraged to submit ATC's for alternate pavement designs.

Table 10-1: Proposed Pavement Repairs

General Location/Limits	Work Description	Pavement Type
IL 390 from Lake Street to Irving Park Rd (MP 6.0 to MP 7.6) Approximately Station 652+94.54 to Station 742+45.07	• Asphalt Overlay • Class A Patching • Class B Shoulder Patching • Asphalt Overlay on Bridge Approaches as specified in Section 13.	Mainline: CRCP Shoulder: JPCP
IL 390 from Irving Park Rd to West of Roselle Rd (MP 7.6 to 10.1) Approximately Station 742+45.07 to Station 873+00	• Microsurfacing Inside and Outside Shoulder • Joint Routing and Sealing Asphalt Lanes, Shoulders and Cracks • Localized Class D Patching	Lane 1: Full Depth HMA Lane 2 and 3: SMA Over CRCP
IL 390 from West of Roselle Rd to Meacham Rd (MP 10.1 to MP 11.2) Approximately Station 873+00 to Station 931+60	• Microsurfacing Shoulders • Asphalt Resurfacing of Mainline Lanes and Outside ShoulderLocalized Asphalt Partial Depth Removal and Overlay Patching	Lane 1: Full Depth HMA Lane 2 and 3: SMA Over CRCP
Ramps from Lake St to Meacham Rd (MP 6.0 to MP 11.2) Approximately Station 652+94.54 to Station 931+60	• Class B Patching • Concrete Pavement Longitudinal Joint and Crack Sealing	JPCP

The work specified in Table 10-1 shall follow the criteria described below.

Asphalt Overlay (MP 6.0 to MP 7.6):

The overlay materials and limits are a Directive Design, and the limits include IL 390 from Lake Street to Irving Park Road, along with the Lake Street Ramps. Included in this area is one emergency turnaround (refer to Book 2 Section 11.3.4.) and Plaza 330 (refer to Section 11.3.4.6). The Concrete Pavement under the Overhead Tolling Equipment is to remain as is, without an overlay. The use of HMA and PCC Butt Joints will be necessary to transition overlay pavement to existing pavements at general locations shown in Exhibit 10B and shall be in accordance to Illinois Tollway Standard Drawings. The Design-Builder shall design the transitions. Based on the concept transition locations shown in Exhibit 10B, the Design-Builder shall minimize any impacts to the existing moment slabs at both the EB and WB Plaza 330.

Design-Builder shall analyze and address impacts to the barriers due to the 4" increase in the vertical elevation of IL-390 in the overlay area. A Barrier Warrant Analysis will be necessary as outlined in Book 2 Section 11.3.4.7. Any regrading efforts due to the 4" overlay is outlined in Section 11.1.2. Loop detectors on the mainline and ramps are impacted by the overlay and will have to be removed and replaced at locations specified in Section 16.3.5 of Book 2. The impacted loop detectors are related to the traffic signal interconnect plans and schematics. The Design-Builder shall minimize the impacts to the overall traffic signal interconnect system and ensure new loop detectors are installed according to the Project Standards. Coordination with IDOT and local agencies will be required from the Design-Builder for these repairs.

Exhibit 10B provides the overlay limits, concept transition locations/lengths, number of lifts, materials, and depths of the asphalt overlay.

The Design-Builder shall use Illinois Tollway Base Sheet M-RDY-415 for Longitudinal Joint Sealant for Asphalt Overlay work.

Asphalt Resurfacing (MP 10.1 to MP 11.2):

The Design-Builder is responsible for Asphalt Resurfacing within the limits described in Table 10-1 and as shown in Exhibit 10B. The Design Builder shall be responsible for the following:

- HMA Removal of 2" of mainline lanes and outside shoulder in accordance with the Illinois Tollway Special Provision for Asphalt Pavement Surface Removal.
- Asphalt Partial Removal and Overlay Patching along the longitudinal joints as described below.
- Apply Asphalt Tack Coat to the milled surface in accordance with the Illinois Tollway Special Provision for Asphalt Pavement Construction. The Asphalt Tack Coat must be placed before the Longitudinal Joint Sealant.
- Place Longitudinal Joint Sealant (LJS) along longitudinal joints in accordance with the Illinois Tollway Special Provision for Asphalt Pavement Construction. The Longitudinal Joint Sealant must be placed in the same closure as the proposed SMA, with no traffic allowed on it. Design-Builder must ensure that the existing surface is thoroughly cleaned and dry prior to the application of the Longitudinal Joint Sealant. During construction, truck and machinery operators must take care not to drive over the LJS.
- Place 2" of Stone Matrix Asphalt Friction Surface Course on the Mainline and Ramps and Warm Mix Asphalt Surface Course on the Outside Shoulder. Limits of the resurfacing are provided in Exhibit 10B.

The Design-Builder shall use Illinois Tollway Base Sheet M-RDY-415 for Longitudinal Joint Sealant for Asphalt Resurfacing work.

Class A and Class B Patching (MP 6.0 to MP 7.6 and Ramps):

The Design-Builder shall propose the materials for the concrete patching to the Illinois Tollway and obtain approval prior to any construction operations. The Class A patching will occur on the IL 390 mainline CRCP pavement, and the Class B Patching will occur on the mainline shoulder and ramp jointed plain concrete pavement (JPCP) pavements. Use of dowel bars, patching reinforcement, saw cuts and tie bars will be required based on Illinois Tollway and IDOT Standard Drawings. All Proposed Concrete Patching will be included as Shared-Risk Work Items. Loop detectors on the mainline and ramps are impacted by the concrete patching and will have to be removed and replaced as outlined in Section 16.3.5.

Patching locations are shown in Exhibit 10C, including Patching Schedules with details regarding the patch location. The Design-Builder shall Scope Validate the provided patching schedule and provide a patching schedule in the Plan Documents that specifies the station, depth of pavement, length, width, patch area by type, and associated saw cuts or reinforcement needed for the patch (i.e., saw cuts, tie bars, dowel bars, patching reinforcement). Any revisions to the schedule provided in Exhibit 10C shall be incorporated into the Design-Builder's patching schedules. The Design-Builder shall verify all pavement depths that are to be patched with Historical Plans and As-Built Plans. It will be the Design-Builder's responsibility to also verify patch dimensions specified in the Patching Schedule based on locations of the longitudinal joints.

For pavement repairs within the limits of an existing lug system, the Design-Builder shall preserve existing lug system reinforcement. Any damage to lug bars shall be repaired or replaced in-kind and to meet IDOT Highway Standards.

Microsurfacing (MP 7.6 to MP 11.2):

The microsurfacing limits are a Directive Design. The Material for the microsurfacing is also a Directive Design and shall follow the Tollway and IDOT specifications described below in Section 10.3.4 of this Book 2.

Exhibit 10B provides microsurfacing limits.

Asphalt Pavement Longitudinal Joint and Crack Routing and Sealing (MP 7.6 to MP 10.1):

The Design-Builder shall route and seal longitudinal joints, transverse joints, and in-lane cracks along the IL 390 Mainline existing asphalt overlay. Longitudinal joints that are repaired using the Asphalt Partial Depth Removal and Overlay Patching mentioned below are not required to be sealed.

Mixtures for Cracks, Joints and Flangeways:

The Design-Builder shall use Mixtures for Cracks, Joints and Flangeways along the IL 390 Mainline, in accordance with Section 406 of the *IDOT Standard Specifications*.

Asphalt Partial Depth Removal and Overlay Patching (MP 10.1 to MP 11.2):

The Design-Builder shall repair the existing binder course in localized areas along the longitudinal joint where the existing CRC is visible with Asphalt Partial Depth Removal and Overlay Patching on IL 390 from West of Roselle Road to Meacham Road, approximately MP 10.1 to MP 11.2, according to the Illinois Tollway Special Provision for Asphalt Partial Depth Removal and Overlay Patching and Illinois Tollway Standard Drawing A2, Asphalt Overlay Repair. The longitudinal joint repairs shall be a minimum of 2’ (1’ on each side of the longitudinal joint). This work will be done after the 2” HMA removal.

10.3.2.1 Lane Profile Smoothness

The Design-Builder shall ensure lane profile smoothness meets the requirements of the *Illinois Tollway Roadway Design Criteria.*

10.3.3 Not Used

10.3.4 Materials

The Design-Builder shall use IDOT and Tollway approved materials as specified in the *Illinois Tollway Special Provisions* and *IDOT Standard Specifications for Road and Bridge Construction*.

Details for the materials to be used on specific work activities are provided below.

Asphalt Overlay and Asphalt Resurfacing:

Table 10-2: Asphalt Mixture Table

Location / Operation	Designation	Unit	Voids	Thickness	Mix Type
Mainline and Ramp CRCP Pavement Overlay (MP 6.0 to MP 7.6)	Stone Matrix Warm Mix Asphalt Surface Friction Course, IL-12.5, N80	Ton	3.5% @ 80 GYR	2.00”	SBS or GTR Modified Stone Matrix Warm Mix Asphalt Surface Friction Course, IL 12.5, N80
	Stone Matrix Warm Mix Asphalt Binder Course, IL-12.5, N80	Ton	3.5% @ 80 GYR	2.00”	SBS or GTR Modified Stone Matrix Warm Mix Asphalt Binder Course, IL 12.5, N80
Shoulder Pavement JPCP Overlay (MP 6.0 to MP 7.6)	Warm-Mix Asphalt Surface Course, Mix “D”, N70	Ton	3.0% @ 70 GYR	4.00” (2 Equal Lifts)	Warm Mix Asphalt Surface Course, Mix “D”. N70
Mainline and Ramp Asphalt Resurfacing (MP 10.1 to MP 11.2)	Stone Matrix Warm Mix Asphalt Surface Friction Course, IL-12.5, N80	Ton	3.5% @ 80 GYR	2.00”	SBS or GTR Modified Stone Matrix Warm Mix Asphalt Surface Friction Course, IL 12.5, N80
Shoulder Resurfacing (MP 10.1 to MP 11.2)	Warm-Mix Asphalt Surface Course, Mix “D”, N70	Ton	3.0% @ 70 GYR	2.00”	Warm Mix Asphalt Surface Course, Mix “D”. N70
Bridge Approach Overlay (MP 6.0 to MP 7.6)	Stone Matrix Warm Mix Asphalt Surface Friction Course, IL-12.5, N80	Ton	3.5% @ 80 GYR	*1.50”	SBS or GTR Modified Stone Matrix Warm Mix Asphalt Surface Course, IL-9.5, N80
Localized Class D Patching (MP 7.6 to MP 10.1)	Class D Patches	SQ YD	4% @ 70 GYR	2.00”	Warm Mix Asphalt Surface Course, IL-9.5 Mix D, N70
			3% @ 50 GYR	Remaining Depth of Existing Pavement"	Warm Mix Asphalt Binder Course, IL-19.0, N50

*May vary based on the depth of scarification and proposed bridge deck latex concrete overlay thickness

The quantity of Stone Matrix Warm Mix Asphalt Surface Friction Course, IL-12.5, N80 noted in Book 1, Table 16-1 has been determined by multiplying the estimated volume of material by 118 lb/sq yd/in.

The quantity of Stone Matrix Warm Mix Asphalt Surface Course, IL-9.5, N80 and Stone Matrix Warm Mix Asphalt Binder Course, IL-12.5, N80, noted in Book 1, Table 16-1 have been determined by multiplying the estimated volume of material by 114 lb/sq yd/in.

The quantity of Warm-Mix Asphalt Surface Course, Mix "D", N70, noted in Book 1, Table 16-1 has been determined by multiplying the estimated volume of material by 112 lb/sq yd/in.

The Design-Builder shall base their estimate on the volume of materials by the unit weight for the material he proposes. The Design-Builder can calculate the volumes based on Shared Risk quantities provided in Table 16-1 of Book 1 and the respective unit weights provided above.

The Design-Builder shall follow the *Illinois Tollway Special Provision for Asphalt Pavement Construction and Asphalt Mixtures* and *Reclaimed Asphalt Materials.*

Class A and Class B Patching:

Full Depth Class A and Class B patching repairs shall conform to Tollway Standards for Accelerated and Rapid cast-in-place patching. Accelerated cast-in-place concrete repair procedures shall be completed in accordance with the *Illinois Tollway Special Provision for Accelerated PCC Pavement Patching*. Rapid cast-in-place concrete repair procedures shall be completed in accordance with the *Illinois Tollway Special Provision for Rapid Setting Latex Modified Concrete Pavement Patching*. If Rapid cast-in-place is used for Class A Patching, the Design-Builder shall use CSL instead of CAL. Standard patching shall conform to IDOT Highway Standards and Section 442 of the *IDOT Standard Specifications for Road and Bridge Construction*.

Class D Patching:

The Design-Builder shall follow the *Illinois Tollway Special Provision for Asphalt Pavement Patching* for the Class D patching. Standard patching shall conform to IDOT Highway Standards and Section 442 of the *IDOT Standard Specifications for Road and Bridge Construction*.

Microsurfacing:

The Design-Builder shall use Tollway approved Materials as specified in the *Illinois Tollway Special Provision for Microsurfacing* and shall be completed in accordance with Section 404 of the *IDOT Standard Specifications for Road and Bridge Construction*.

Asphalt Pavement Longitudinal Joint and Crack Routing and Sealing:

The Design-Builder shall use Tollway approved Materials as specified in Sections 451 and 452 of the *Illinois Tollway Supplemental Specifications* and *IDOT Standard Specifications for Road and Bridge Construction*.

Mixtures for Cracks, Joints and Flangeways:

The Design-Builder shall use IDOT approved Material as specified in Section 406 of the *IDOT Standard Specifications for Road and Bridge Construction*.

Asphalt Partial Depth Removal and Overlay Patching:

The Design-Builder shall use Illinois Tollway approved Materials as specified in the Illinois Tollway Special Provision for Asphalt Partial Depth Removal and Overlay Patching.

10.3.5 Additional Design Requirements

The Design-Builder shall reconstruct or repair to existing conditions any pavements damaged due to, but not limited to, the following work activities:

- Loop detector removal and replacement (Refer to Section 16)
- Pipe underdrain repair (Refer to Section 12.3.2 for location of additional underdrain pavement repairs)
    - Design-Builder shall backfill with PGE (10 inches), granular subbase (9 inches), asphalt base course (9¼ inches) and surface and binder courses (3½ inches)
- Any pavement impacts due to additional drainage work determined from the Cleaning and Televising Contract RR-22-4876
- Any other impacts due to Construction activities in overall Scope of Work

These additional pavement improvements shall be included in the Design-Builder's lump sum price and are not Shared Risk or Allowance items.

10.3.5.1 Not Used

10.3.5.2 Not Used

10.3.5.3 Local Roadways and Standards

When roadways and driveways adjacent to and crossing the Project are disturbed by construction activities, the Design-Builder shall match the in-place surface type and structure of the existing roadways or driveways, unless otherwise specified. Avoid differential settlement for all pavement tie-ins and account for total surfacing thickness, minimum structural requirements, unbound base/subbase thickness, frost-free characteristics, and other appropriate factors.

10.3.6 Base Sheets

The Design-Builder shall utilize the Illinois Tollway Base Sheets when preparing the Design Document and Construction Document Submittals.

10.4 Construction Requirements

10.4.1 General

The Design-Builder shall construct the roadway Work and grading Work in accordance with the Illinois Tollway-Accepted Released for Construction (RFC) Documents, Construction Document submittals, applicable permits, and requirements of the Contract Documents.

10.4.2 Construction Reports and Plans

In addition to the Construction Document submittal requirements of Section 2, Project Management, of this Book 2, the Design-Builder shall prepare the following reports and plans for construction Work:

The Design-Builder shall submit information for the specific Materials to be used on the Project. This includes, but is not limited to, source, material type, and test results demonstrating compliance with the Project Standards for items such as embankment, chemically stabilized subgrade, aggregate, concrete mixtures, and asphalt mixtures.

10.4.3 Standard Drawings

The Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings and IDOT Highway and District Standard Drawings.

10.4.4 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards, Illinois Tollway Specifications and IDOT Standard Specifications. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards.

Test Strips for the Stone Matrix Asphalt and Warm Mix Asphalt Mixtures will be required at the beginning of HMA production for each mixture according to the *Illinois Tollway Special Provision for Asphalt Pavement Construction.*

10.4.5 Not Used

10.4.6 Removal of Miscellaneous Objects

The Design-Builder shall remove all subsurface elements in accordance with the Project Standards.

10.4.7 Disposal of Materials

The Design-Builder shall assume ownership of all material to be disposed of off-the Project Site.

10.4.8 Temporary Requirements

Throughout construction Work, the Design-Builder shall ensure temporary pavement facilities are designed and constructed in accordance with *the Illinois Tollway Special Provision for Temporary Pavements*.

10.5 Submittal Requirements

Whenever a Submittal identified in *Table 10-3, Section 10.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 10-3, Section 10.5 Submittal Requirements,* below. *Table 10-3, Section 10.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 10-3: Section 10.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1b	Project Materials	10.3.4	PDF	2	10	5	RFC

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1c	Patching Schedule	10.2.6	PDF	2	10	5	Pre-RFC Design Document Preparation

Section 11

11 ROADWAYS AND GRADING

11.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 11, Roadways and Grading, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design and construct roadways and grading Work in accordance with:

- The Directive Design
- The commitments of the Governmental Approvals and Environmental Approvals; and
- The Project Standards.

11.1.1 Roadway Requirements

The Design-Builder shall perform the necessary roadway Work, which may include, but is not limited to, the design and construction of Illinois Tollway mainline, preferential lane, auxiliary lane, C-D Roadway, emergency access points, turnarounds, and ramps.

11.1.2 Grading Requirements

The Design-Builder shall perform the necessary grading Work, which may include, but is not limited to, the design and construction of clearing and grubbing, excavation and embankment, subgrade preparation, and stabilization.

The Design-Builder shall develop limits of grading for the proposed overlay and resurfacing limits, and as required due to miscellaneous work.

11.2 Administrative Requirements

11.2.1 Standards and Manuals

For roadways and grading Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, Primary Project Standards are of the highest precedence, Secondary Project Standards are second on the order of precedence, and Tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher safety, quality or value shall prevail. The Design-Builder shall use the latest adopted editions of the Primary, Secondary and Tertiary Project Standards at the time of the Setting Date.

Primary Project Standards and Manuals:

- *Illinois Tollway Roadway Design Criteria (RDC Manual)*
- *Illinois Tollway ProVal User Guide*
- *Illinois Tollway Traffic Barrier Guidelines*
- *Illinois Tollway Drainage Design Manual*
- *Illinois Tollway Structure Design Manual*
- *Illinois Tollway BIM Implementation Manual*
- *Illinois Tollway Computer Aided Design and Drafting (CADD) Standards Manual*
- *Illinois Tollway Quality Standard for Work Zone Traffic Control Devices*
- *Illinois Tollway Contractor's Quality Program Manual*
- *Illinois Tollway Guidelines for Roadway Illumination*
- *Illinois Tollway Signing and Pavement Marking Guidelines*

- *Illinois Tollway Design Section Engineer's (DSE) Manual*
- *Illinois Tollway Roadway Traffic Control and Communications Manual*
- *Illinois Tollway Erosion Control and Landscape Manual*
- *Illinois Tollway Standard Drawings*
- *Illinois Tollway Lane Closure Guide*
- *Illinois Tollway Base Sheet Drawings*
- *Illinois Tollway Design Bulletins*
- *Illinois Tollway Construction Managers Manual*
- *Illinois Tollway Construction Bulletins*

Secondary Project Standards:

- *Illinois Tollway Supplemental Specifications*
- *AASHTO A Policy on Geometric Design of Highways and Streets*
- *AASHTO Roadside Design Guide*

Tertiary Project Standards:

- *Illinois Department of Transportation Standard Specifications for Road and Bridge Construction*
- *Illinois Department of Transportation Bureau of Design and Environment Manual*
- *Illinois Department of Transportation Highway Standard Drawings*
- *Illinois Department of Transportation District One Standard Drawings*
- *Remaining standards set forth in Book 3*

11.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

The Design-Builder shall schedule a Design Verification meeting to discuss geometric changes and updates to the design reference and supplemental documents provided by the Tollway. This meeting shall take place prior to the Design Document submittals.

The Design-Builder shall schedule a Barrier Warrant Analysis (BWA) Concept meeting. The requirements for this meeting shall be in accordance with Article 4.3 of the *Illinois Tollway Traffic Barrier Guidelines (TBG Manual).* This meeting shall take place prior to the Design Document submittals.

The Design-Builder shall provide recommendations on the Work described in this Section 11, Roadways and Grading, of this Book 2, and implement them into the Preliminary Design Documents. A Preliminary Design Review Meeting with the Design-Builder and the Illinois Tollway will be required to discuss the recommendations provided by the Design-Builder.

11.2.3 Equipment/Software Requirements

The Design-Builder shall refer to the *Illinois Tollway CADD Standards Manual* for CADD equipment and Software Requirements.

11.2.4 Permits/Authorizations

The Design-Builder shall indicate in the Comprehensive Environmental Protection Plan (CEPP) which permits are necessary to obtain for the roadway Work and grading Work, including those necessary for investigations. The Design-Builder shall perform all activities necessary to furnish the roadway Work and grading Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as Utility Owners, Railroad Owners, and Railroad Operators, as necessary, for roadway and grading Design Document submittals and Construction Document submittals that potentially affect third parties.

11.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform field investigations they deem necessary to complete the roadway Work and grading Work.

11.2.6 Reports and Plans

The Design-Builder shall prepare the relevant Design Document and Construction Document submittals in accordance with Book 2, Section 2, Project Management, and this Section 11, Roadways and Grading.

The Design-Builder shall prepare plans in accordance with the Illinois Tollway design manuals. The Design-Builder shall prepare plans at a minimum scale of 1” = 50’ to clearly show the design intent. The Design-Builder shall submit both a PDF set and MicroStation set of drawings with each plan submittal. The MicroStation file submission shall include all design files, model files, reference files, and geometric data including alignment data and files.

11.2.7 3D Digital Delivery Requirements

For projects requiring scope to use Model as Legal Document (MALD), the Design-Builder shall follow the guidelines set forth in the Illinois Tollway BIM Implementation Manual. This project is not intended to require the guidelines set forth for MALD projects. The Design-Builder shall still prepare and follow modeling guidelines in accordance with the Illinois Tollway CADD Standards Manual. For milestone electronic data file submission, the Design-Builder shall submit files in formats indicated in the Illinois Tollway DSE Manual for design model files (i.e., model files, reference files, and geometric data including alignment data, etc.). The underground utilities shall be documented and modeled in accordance with the Digital Utility As-Built Special Provision.

11.3 Design Requirements

11.3.1 General

The Design-Builder shall design roadway geometrics within prescribed ROW limits, to integrate with streets and roadways adjacent or connecting to the Project, without adversely affecting the adjoining/adjacent roadways.

The Design-Builder shall design transitions to and from project improvements within the Project Limits, as necessary, accounting for width transitions, roadway geometric changes, and safety appurtenances, at a minimum.

The Design-Builder shall design roadways to incorporate necessary roadway appurtenances, including but not limited to ROW fences, guardrail, barriers, signing, highway lighting, and hazard protection as required and as necessary to promote safety for the traveling public and adjacent properties.

11.3.2 Design Criteria

The Design-Builder shall, at a minimum and without limiting the other requirements of the Contract Documents, design and construct the roadway Work and grading Work to meet the Project Standards and Manuals. Project-Specific Design Criteria is identified in Table 11-1, below.

Table 11-1: Project-Specific Design Standards for IL 390

IL 390 Mainline Design Standards	Mainline
Roadway name / number	IL 390 – Lake St To I-290 (MP 6.0 to MP 13.0)
Jurisdiction	Illinois Tollway
Project Type	Preservation and Rehabilitation
Design Vehicle	WB-67
Roadway Type	Mainline
Design Speed	60 MPH
AADT – Existing	23,920
Posted Speed Limit	55 MPH / 45 MPH Minimum
Median Type	Open

11.3.3 Design Deviations

The Approved Design Deviations pertaining to the Roadway Work and grading Work are included in Exhibit 1B of this Book 2, and listed below:

- Paved Shoulder Cross Slope
- Maximum Rollover

The design deviations listed above shall be restricted to the maximum values and to the station limits that are identified in the Tollway Approved Design Deviations (Exhibit 1B).

The Design-Builder shall not be permitted to implement into the Work additional Design Deviations unless otherwise approved by the Illinois Tollway, per Section 1, General, of this Book 2.

11.3.4 Additional Design Requirements

11.3.4.1 Not Used

11.3.4.2 Horizontal Alignment

The horizontal alignment will not be revised and shall match existing conditions. Horizontal alignment plans and curve data are provided in Exhibit 11B. It shall be the Design-Builder's responsibility to verify the accuracy of the Horizontal Alignments provided.

11.3.4.3 Vertical Alignment

The Vertical Profile shall not be revised and shall match existing conditions.

11.3.4.4 Cross Sectional Elements

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the roadway design meets the cross-sectional elements requirements, including but not limited to the design elements listed in Section 2.6 of the *Illinois Tollway RDC Manual.*

11.3.4.4.1 Paved Shoulder Cross Slope

To match 3-inch reveal of the concrete barrier during overlay activities, there will be a 4-inch to 3-inch transition of the shoulder overlay. This causes a steeper cross slope than the allowable 4.0% in some areas. The Approved Design Deviation shows the station ranges where the deviation is applicable (Exhibit 1B).

11.3.4.4.2 Aggregate Shoulder

Within the overlay limits, the aggregate shoulder shall be regraded to account for the proposed overlay thickness. The Design-Builder shall follow the requirements for Aggregate Shoulders as identified in the *Illinois Tollway* Special Provisions and the *Illinois Tollway Roadway Design Criteria*.

11.3.4.4.3 Use of Gutter and Curb

Gutter and curb improvements shall be included in the plan submittals. The Design-Builder shall be responsible for the following gutter and/or curb improvements:

- Removal and replacement of existing gutters and curbs affected by the overlay.
- Analyzing gutter and curb conformance with *Illinois Traffic Barrier Guidelines, Illinois Tollway RDC Manual, and all other applicable Project Standards and Drawings.*
    - Design-Builder to include analysis of curbs and gutters in the Barrier Warrant Analysis prepared for the Illinois Tollway.
- Repair of Specified Locations with gutter and curb defects

The Illinois Tollway has preliminarily identified areas of deficient curb and gutter as listed in Table 11-2 and their proposed improvements in Exhibit 11C. The Design-Builder shall evaluate, determine locations, and provide proposed recommendations for Tollway Approval and then repair and/or replace all deficient curb and gutter throughout the Project Limits including those identified in Table 11-2.

Table 11-2: Gutter Repair Tasks

Task ID	Location	Approximate Station (Alignment)	Defect Description
15237	IL 390 Mainline (MP 7.0) BN 1602 – East Approach Span	708+00.00 (IL 390)	Incorrect gutter transition at Type T6ac terminal.

11-1	Ramp Lake 3 (MP 6.0)	50+37.16 (Lake Street) to 304+42.34 (Ramp Lake 3)	Heavy Deterioration of the Northbound Lake Street to Eastbound IL 390 Lake 3 Ramp curb and gutter and gutter outlet.
11-2	EB IL 390 (MP 6.0)	654+19.00 to 656+01.60 (IL 390)	Heavy Deterioration of the Eastbound Gutter Adjacent to BN 1600 South Slopewall. Slopewall repairs are specified in Section 13 of this Book 2. This gutter will also be impacted by the 4" overlay, and it will be the Design-Builder's responsibility to improve location.

11.3.4.4.4 Sideslopes

Sideslopes shall be designed in accordance with the Sideslopes Hierarchy table shown in *Illinois Tollway RDC Manual, Article 2.6.8, Sideslopes,* with the flattest sideslope that fits field conditions be used. In no case shall a less preferred sideslope be used in lieu of a more preferred sideslope section, and all improvements shall be within the Illinois Tollway existing right-of-way limits.

The Design-Builder shall develop the limits of grading based on proposed improvements to assist in identifying grading work on sideslopes within the Project Limits. The limits of grading shall be identified on the Plans submitted by the Design-Builder. If the limits of grading along the sideslopes conflict with a wetland, Waters of the US (WOUS), bioswale, or other environmental features, the Design-Builder shall coordinate these locations with the Illinois Tollway. Design Deviations may be required by the Design-Builder to mitigate environmental impacts.

The Illinois Tollway has preliminarily identified areas of deficient roadside sideslopes as listed in Table 11-3 and their proposed improvements in Exhibit 11C. The Design-Builder shall evaluate, determine locations, and provide proposed recommendations for all deficient roadside sideslopes throughout the Project Limits including those identified in Table 11-3.

Table 11-3: Roadside Slope Reconstruction Tasks

Task ID	MP	Approximate Station	Defect Description
12230	10.9	911+00.00	Unshielded slope is steeper than 3:1 gradient. Review and justify with barrier warrant analysis.
16159	11.95-12.0	972+00.00	The roadside slope and ditch grading is incomplete and lacks earthen fill.

11.3.4.4.5 Ditch Bottom Width

The current ditch bottom width for the median ditch from Lake Street to Irving Park Road is two (2) ft, which shall remain as is unless new ditches are proposed. If the Design Builder proposes new ditch improvements, then the proposed design shall be in accordance with the Illinois Tollway RDC Manual, Article 2.6.9, Ditch Bottom Width.

11.3.4.4.6 Gore Area Cross Slope

Cross Slopes shall be in accordance with the *Illinois Tollway RDC Manual, Article 2.6.9, Gore Area Cross Slopes.*

11.3.4.4.7 Rumble Strips, Delineation Devices and Markings

The Design-Builder is responsible for rumble strip improvements within the overlay and resurfacing limits. Rumble strips impacted by Maintenance of Traffic or any other construction activities shall also be removed and replaced.

The Design-Builder shall replace any delineation devices and markings along the IL 390 Mainline and ramps within the project limits that are not functioning as intended.

The Design-Builder shall use a Warm Mix Asphalt Surface Course, Mix D, N70, 4.0% @ 70 GYR, 2" thickness mix for Shoulder Rumble Strip Removal. This work shall be in accordance with the *Illinois Tollway Special Provision for Shoulder Rumble Strip Removal*.

11.3.4.4.8 Emergency Turnarounds

A list of existing Emergency Turnarounds within the Project Limits and the proposed improvements are shown below in Table 11-4, Emergency Turnaround Locations.

Table 11-4: Emergency Turnaround Locations

Mainline	Location	Work Description
IL 390	West of Plaza 330 Station 678+20	4" WMA Overlay
IL 390	West of Plum Grove Road over IL 390 Station 885+00	Microsurfacing
IL 390	East of Rohwling Road over IL 390 Station 985+00	Microsurfacing

The described Work in Table 11-4 at the emergency turnaround locations is shown in Exhibit 10B.

11.3.4.4.9 Crash Investigation Sites

A list of existing Crash Investigation Sites within the Project Limits and the proposed improvements are shown in Table 11-5, Existing Crash Investigation Site Locations.

Table 11-5: Existing Crash Investigation Site Locations

Mainline	Location	Work Description
IL 390 Westbound and Eastbound	Toll Plaza 330 Station 687+00	Mainline Overlay Transition to Existing Toll Plaza Pavement
IL 390 Westbound and Eastbound	Toll Plaza 328 Station 815+00	Task 15212, described in Table 11-9
IL 390 Westbound and Eastbound	Toll Plaza 326 Station 902+00	No Anticipated Work

11.3.4.5 Structures

The Design-Builder shall use the 1.50" asphalt surface course mixture (refer to Section 10.3.4 of Book 2) for the approach slabs within the overlay limits of the following Bridges, as shown in Exhibit 10C:

- BN 1602 – WB IL 390 over Railroad
- BN 1606A – WB IL 390 Ramp to SB Gary Ave
- BN 1606 – WB IL 390 over Springinsguth Road
- BN 1605 – EB IL 390 over Springinsguth Road
- BN 1608 - WB IL 390 over IL 19 (Irving Park Road)
- BN 1607 - EB IL 390 over IL 19 (Irving Park Road)

The Design-Builder shall be responsible for all roadway and grading Work for Structures per Section 13, Structures, of this Book 2. A list of repairs for the bridges is provided in Table 11-6 with the associated bridge numbers.

Table 11-6: Minimum Roadway and Grading Work on Structures

Repair Type	Bridge Numbers (BN)
Guardrail Repairs	1601, 1607, 1608, 1609, 1619
Parapet and Barrier Height Extension, as Required, as Part of the Barrier Warrant Analysis within Overlay Limits	1602, 1605, 1606, 1606A, 1607, 1608
Broken Fence Repair	1602C
Gutter Repair	1612
Grading	1600, 1602, 1605, 1606A, 1607, 1611, 1612, 1613, 1614, 1618, 1619, 1620

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the roadway design meets the structures geometric requirements, including but not limited to the shoulder width, horizontal clearance, vertical clearance, and deck cross slope requirements in Section 2.7 of the *Illinois Tollway RDC Manual*.

11.3.4.6 Toll Plazas

A list of the Toll Plazas within the Project Limits is provided below in Table 11-7, Toll Plaza Locations. Proposed improvements for these Toll Plazas are described above in Table 11-5, Existing Crash Investigation Site Locations.

Table 11-7: Toll Plaza Locations

Mainline	Location
IL 390 Westbound and Eastbound	Toll Plaza 330 - Station 687+00
IL 390 Westbound and Eastbound	Toll Plaza 328 – Station 815+00
IL 390 Westbound and Eastbound	Toll plaza 326 – Station 902+00

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the design meets the toll plaza requirements in Section 2.8 of the *Illinois Tollway RDC Manual*.

11.3.4.7 Roadside Safety

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the roadway design meets the roadside safety requirements in Section 2.9 of the *Illinois Tollway RDC Manual* and the requirements of the *Illinois Tollway Traffic Barrier Guidelines*.

All guardrail, concrete barriers, parapets, energy attenuators, traffic barrier terminals, cable median barriers and other associated roadside features shall meet the requirements of the *Illinois Tollway Traffic Barrier Guidelines* and where applicable, the *Illinois Tollway Structural Design Manual*.

Roadside obstacles as described in the *Illinois Tollway Traffic Barrier Guidelines* shall be analyzed and included as part of the Barrier Warrant Analysis (BWA) report within the limits of the overlay and at any locations of added Areas of Concern. The BWA process shall start with a BWA Concept meeting with the Illinois Tollway that includes a plan exhibit showing all Area of Concerns (AOC)s to discuss the project specifics, the BWA methodology and schedule in accordance with Section 4.3 of the *Illinois Tollway Traffic Barrier Guidelines*. The BWA report shall not be considered complete until it has been reviewed and accepted and all comments resolved to the satisfaction of the Illinois Tollway and is required before submitting any RFC documents that contain roadside obstacles.

A Preliminary Barrier Warrant Analysis was submitted to the Tollway and will be provided to the Design-Builder as Supplemental Information The Design-Builder shall be responsible for resolving comments from the Preliminary Barrier Warrant Analysis report and complying with all Barrier Warrant Analysis criteria and submittals set forth in the *Illinois Tollway Traffic Barrier Guidelines*.

The Design-Builder shall be responsible for the listed design scopes below within the Project Overlay Limits:

- Perform a visual (field) review of items along the project corridor and provide a summary report of any obstacles needing shielding or removal of any existing barriers which do not meet current standards. Note that existing guardrail may remain if the proposed work does not impact the guardrail. If the guardrail requires any modifications (lengthen, shorten, removed, and replace, etc.), then the entire run must meet the current standards.
- Remove and replace, to current standards, any barriers that may need to be removed or relocated to accommodate any construction equipment.
- Review all guardrails or cable barriers for height adjustment/relocation/replacement.
- Review constructability of proposed guardrail relative to existing conditions.
- Review the structure protection requirements in the *Illinois Tollway Structure Design Manual and the AASHTO LRFD* and Protection of Structures requirements in the *Illinois Tollway Traffic Barrier Guidelines* in relation to bridge abutments and piers, as this is a new requirement implemented recently.
- Previous Barrier Warrants shall be reviewed to ensure all existing items were accounted for within the BWA limits. Table 11-8 lists the Existing Barrier Warrants recently completed along IL 390 from Lake Street to I-290.

Table 11-8: Previous Barrier Warrants

Contract	Limits

I-13-4601	IL 390 MP 11.2 to MP 12.0
I-13-4602	IL 390 MP 7.6 to MP 10.1
I-12-4603	IL 390 MP 10.1 to MP 11.2
I-13-4628	IL 390 MP 6.0 to MP 12.75
I-13-4638	IL 390 MP 9.7 to MP 15.9
I-14-4647	IL 390 MP 5.9 to MP 11.2

11.3.4.7.1 Clear Zone

Per the Project Standards, the Design-Builder shall identify and incorporate the clear zone as described in the Illinois Tollway *Traffic Barrier Guidelines,* to maintain an unobstructed, traversable area provided beyond the edge of traveled way for the recovery of errant vehicles.

11.3.4.7.2 Roadside Safety Appurtenances

The Design-Builder shall remove or revalidate (included as part of the Barrier Warrant Analysis report), all existing roadside safety appurtenances such as guardrail, barriers, traffic barrier terminals, attenuators, and cable median barriers within the Project Overlay Limits. Refer to Table 10-1 of Section 10.3.2 to find the limits of the pavement work. The Design-Builder shall design new roadside safety appurtenances, where necessary, in accordance with the Illinois Tollway *Traffic Barrier Guidelines*.

The Design-Builder shall properly develop and submit to the Illinois Tollway for acceptance, a Barrier Warrant Analysis Report for all roadside obstacles and slope features that require permanent guardrail or barrier as outlined in the *Illinois Tollway Traffic Barrier Guidelines*.

The Design-Builder shall design and construct guardrail, traffic barrier terminals, concrete barriers and other roadside longitudinal barriers, crash cushions, sign and luminaire supports to meet the *AASHTO Manual for Assessing Safety Hardware (MASH)* testing criteria, and be located and installed in accordance with the *Illinois Tollway Traffic Barrier Guidelines* and *Illinois Tollway Standard Drawings*.

11.3.4.7.3 Guardrail

The Design-Builder shall use the Midwest Guardrail System (MGS) for all installations of guardrail in accordance with the current Illinois Tollway Standard Drawings and the *Illinois Tollway Traffic Barrier Guidelines*, unless otherwise approved by the Illinois Tollway.

The Design-Builder shall not connect guardrails directly to bridge structures, retaining walls, wing walls or noise abatement walls, but use a concrete shoulder barrier transition as described in the *Illinois Tollway Traffic Barrier Guidelines*. The Design-Builder shall not use a guardrail if any above grade obstacle or structural element falls within the deflection distance of the guardrail in accordance with the *Illinois Tollway Traffic Barrier Guidelines*.

11.3.4.7.4 Concrete Barrier

The Tollway has identified locations with defects to the Concrete Barrier outside of the overlay Limits. These defects are specified below in Table 11-9 as Tasks. More details and recommendations are also provided for the listed Tasks in Exhibit 11C.

Table 11-9: Concrete Barrier OMS Tasks

Task ID	Direction	MP	Defect Descriptions
19-10342	WB	8.4	Wall cracking and delaminating on backside of wall
15212	WB & EB	9	The crash investigation site entrance opening seems too wide: 75' opening from departure-side barrier wall end to the tip of the attenuator. This wide opening does not adequately shield the majority of the crash investigation parking area for errant vehicles. It is evident that an errant vehicle drove into this area scraping the parapet wall inside of the crash investigation site. For this task, the Design-Builder shall extend the concrete barriers to maximize coverage of the area protected by the concrete barrier and energy attenuator. The Design-Builder shall follow the energy attenuator criteria listed below for the separate temporary concrete barrier task. The energy attenuators can be removed and reinstalled based on the condition of the attenuators. Although outside of the Overlay Limits, this work shall be included in the Barrier Warrant Analysis prepared by the Design-Builder. Using Autoturn or a similar software, the Design-Builder shall ensure that vehicular movement and turning is not restricted at the Plaza based on the revised layout. The Design-Builder shall coordinate any additional work that may be necessary due to this task, including, but not limited to, drainage structure adjustments or relocations, utility adjustments, and other miscellaneous tasks.

The Design-Builder is responsible for repairing the identified locations.

The Design-Builder shall install Temporary Concrete Barrier with Cross-Bolt Connection, that will remain in place, as shown at the location in Exhibit 11D. The Work shall be in accordance with the *Illinois Tollway Standard Drawing D10, Illinois Tollway Special Provision for Temporary Concrete Barrier Cross-Bolt Connection,* and *Special Provision for Furnish and Install Temporary Concrete Barrier Cross-Bolt Connection*. An Energy Attenuator and Energy Attenuator Concrete Pad shall be constructed in accordance with Section 1207 of the *Illinois Tollway Supplemental Specifications*, at the location shown in Exhibit 11D. The Design-Builder shall use a product listed in the *Illinois Tollway Traffic Barrier Guidelines*. The Design-Builder shall adjust the adjacent handhole near the temporary concrete barrier to match new pavement elevations and avoid any damage to the handhole when anchoring the temporary concrete barrier into the pavement, as needed. The Design-Builder shall also ensure that pavement condition allows for the final three Temporary Concrete Barrier Spans to be pinned to an area of PCC pavement that is intact and functioning as expected.

For the BWA within the limits of the overlay and at any locations of added Areas of Concern, the Design-Builder shall refer to the Illinois Tollway's *Traffic Barrier Guidelines* for guidance and requirements for placing guardrail, or Test Level 4 or 5, concrete barrier. The Design-Builder shall refer to the *Illinois Tollway's Structural Design Manual* for loading and design requirements for bridge elements, retaining walls, parapets, crashworthy noise abatement walls and concrete barriers. The placement and extent of the

concrete barriers shall be according to an analysis performed in accordance with the *Illinois Tollway Traffic Barrier Guidelines*.

When a concrete barrier converges toward traffic, in the direction of traffic, the barrier face shall taper at a flare rate not less than 30:1 along mainline lanes when within the clear zone and be limited to a flare rate as described in the AASHTO Roadside Design Guide Table 5-9 along other roadway classifications.

11.3.4.8 Stationing

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the roadway design meets the stationing, including but not limited to the general stationing and dual stationing requirements in Section 2.13 of the *Illinois Tollway RDC Manual*.

The Design-Builder shall match existing general stationing. A station equation is present at the following location of the existing centerline of IL 390:

- Station 822+04.72 BK = Station 822+09.81 AH

11.3.4.9 Fencing

The Design-Builder shall replace ROW fencing or access gates that is/are impacted, damaged, or missing within the Project Limits. The Design-Builder shall design and construct chain link fence/steel posts in accordance with the *Illinois Tollway Standard Drawings* and meet the Project Standards. If the existing ROW fencing is damaged, broken, rusted or leaning, the Design-Builder shall remove the existing fencing and install new ROW fence, a minimum of one-half foot, inside permanent ROW in accordance with Section 2.17 of the *Illinois Tollway RDC Manual*. The Design-Builder shall repair the following locations specified below. If the Design-Builder identifies any additional fencing that is damaged or missing, they should bring it to the attention of the Illinois Tollway.

The Tollway has preliminarily identified locations with defects in the fencing. These defects are specified below in Table 11-10 as Tasks. More details and recommendations are provided for the listed Tasks in Exhibit 11C.

Table 11-10: Fencing Repair Tasks

Task ID	Direction	MP	Defect Description
37676	EB	8.9	ROW fence is damaged about 50 feet
22-39607	EB	11	The culvert opening is behind the ROW fence and cannot be accessed for inspection and maintenance.
15862	WB	6.2	ROW Fence failure at Bridge 1602C (IL 390 over West Branch of DuPage River).
24-191017	6.4	6.4	ROW fence detached from posts.
23-052429	6.4	6.4	ROW fence is down along entire area including across waterway.
25-013351	9.9	9.9	ROW fence is broken and collapsed, surrounded by excessive tree growth.
24-256499	11.2	11.2	Fence is damaged.

The Design-Builder shall not reuse existing fencing, access gates, or other fencing material.

For fence systems on bridges, design requirements shall be per the *Illinois Tollway Structure Design Manual*, Article 23.5.2, Fence Installation.

11.3.5 Base Sheets

The Design-Builder shall utilize the *Illinois Tollway Base Sheets* when preparing the Design Document Submittals and Construction Document Submittals.

11.4 Construction Requirements

11.4.1 General

The Design-Builder shall construct the Roadway Work and Grading Work in accordance with the Illinois Tollway-accepted RFC Documents, Construction Document Submittals, applicable permits, and requirements of the Contract Documents.

11.4.2 Standard Drawings

The Design-Builder shall perform construction Work in accordance with the *Illinois Tollway Standard Drawings, Illinois Department of Transportation Highway Standard Drawings, and Illinois Department of Transportation District One Standard Drawings*.

11.4.3 Model as Legal Document (MALD)

For projects requiring scope to use model as legal document (MALD), the Design-Builder shall use model files identified in Special Provisions 121 as the governing documents for basis of construction. The Design-Builder is responsible for signing and sealing design model files by following the guidelines indicated in the BIM Implementation manual. The Design-Builder shall submit grading as-built model files per requirements indicated in the *Illinois Tollway BIM Implementation Manual*; the underground utilities shall be documented and modeled in accordance with the Digital Utility As-Built Special Provisions Specifications.

11.4.4 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall refer to Section 5, Quality Management, of Book 2, for quality assurance and quality control requirements. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards.

11.4.5 Removal of Miscellaneous Objects

The Design-Builder shall remove all existing pavement, curb and gutter, sidewalk, steps, drainage facilities, soil, rock, and other obstructions within the Project limits necessary to construct the Project. The Design-Builder shall remove all other unused pavements, including temporary facilities, within the Project Limits and grade to match the adjacent grading.

The Design-Builder shall remove and properly dispose of all objects encountered within the ROW that are not otherwise designated for removal, salvage, or reuse, such as abandoned automobiles, furniture, appliances, garbage, and other waste materials.

The Design-Builder shall remove all subsurface elements in accordance with the Project Standards.

11.4.6 Disposal of Materials

The Design-Builder shall assume ownership of all material to be disposed of off-the Project Site.

The Design-Builder shall not remove topsoil from the Site. If excess topsoil is available, the Design-Builder shall grade the material over turf establishment areas within Illinois Tollway's Right-of-Way.

11.4.7 Temporary Requirements

Throughout construction Work, the Design-Builder shall ensure temporary roadways and grading facilities are designed and constructed in accordance with this Section 11, unless explicitly stated in this Section 11.4.7.

The Design-Builder shall identify areas where access for construction equipment may be limited and install Aggregate for Temporary Access in accordance with Section 402 of the IDOT Standard Specifications for Road and Bridge Construction. The Design-Builder will be responsible for ensuring that the Temporary Access Road layout and installation has minimal impacts to environmentally sensitive areas. The Design-Builder shall remove all temporary access roads and restore the area to the pre-existing conditions prior to Final Acceptance.

An access ramp will need to be constructed for access for the Cleaning and Televising work, as described in Section 12.2.5.2 of this Book 2. The ramp will allow for construction access off the side slope of Springinsguth Ramp A1 and will also function as access for the bridge repairs described in Section 13 of this Book 2. The area under the bridge is low-lying and adjacent to wetlands. The temporary access ramp off Springinsguth Road should tie into temporary access road for bridge repairs. The Design-Builder shall provide the layout of any temporary access ramps with the Roadway Plan Submittals. Additional Temporary Access needed for proposed repairs that are determined necessary based on the Cleaning and Televising results is included as part of an Allowance for Drainage Pipe Repair, as described in Section 12.2.5.2 of this Book 2.
The M-16 maintenance facility mentioned access issues in this area during maintenance operations. The Design-Builder shall coordinate with the Illinois Tollway when designing this temporary access road to assess the feasibility of allowing permanent usage for the maintenance yard.

11.5 Section 11 Submittal Requirements

Whenever a Submittal identified in *Table 11-11, Section 11.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 11-11, Section 11.5 Submittal Requirements,* below. This *Table 11-11, Section 11.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 11-11: Section 11.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1c	BWA Master Plan Verification Report	11.3.4.7	PDF	2	10	10	Pre-RFC Document development activities
1d	Earthwork Plan A50	11.2.6	PDF	2	10	10	RFC Document development activities
1g	Barrier Warrant Analysis Report	11.3.4.7.2	PDF	2	10	10	Pre-RFC Document development activities
1h	Roadway and Grading Plan Submittals	11.2.6	PDF	2	10	10	RFC Document development activities
1j	Electronic Data/Model Files	11.4.4	DGN and/or XML	2	10	10	RFC Document development activities

Section 12

12 DRAINAGE

12.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 12, Drainage, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design and construct drainage Work in accordance with:

- The Directive Designs;
- The commitments of the Governmental Approvals and Environmental Approvals; and
- The Project Standards.

12.1.1 Drainage Requirements

The Design-Builder shall perform the necessary Drainage Work, which may include, but is not limited to, the design and construction of Tollway drainage facilities, including but not limited to, pipes, culverts. stormwater storage facilities, manholes, inlets, channels, swales, and ditches.

12.2 Administrative Requirements

12.2.1 Standards

For drainage Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail. The Design-Builder shall use the latest adopted editions of the Primary, Secondary and Tertiary Project Standards at the time of the Setting Date.

Primary Project Standards:

- *Illinois Tollway Drainage Design Manual*
- *Illinois Tollway Standard Drawings*
- *Illinois Tollway Base Sheets*
- *Illinois Tollway Supplemental Specifications to the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction*
- *Illinois Tollway Design Section Engineer's Manual*
- *Illinois Tollway Erosion Control and Landscape Manual*
- *Illinois Tollway Roadway Design Criteria*
- *Illinois Tollway Structure Design Manual*
- *Illinois Tollway Traffic Barrier Guidelines*
- *Illinois Tollway Computer Aided Design and Drafting (CADD) Standards Manual*

Secondary Project Standards

- *IDOT Drainage Manual*
- *IDOT Standard Specifications for Road and Bridge Construction*
- *IDOT Highway Standards*
- *Standard Specifications for Water and Sewer Construction in Illinois*
- *Illinois Urban Manual*
- *FHWA Hydraulic Design Series No. 5, Hydraulic Design of Highway Culverts*
- *FHWA Hydraulic Engineering Circular No. 15 (HEC-15), Design of Roadside Channels with Flexible Linings*

- FHWA Hydraulic Engineering Circular No.18 (HEC-18), Evaluating Scour at Bridges
- FHWA Hydraulic Engineering Circular No. 20 (HEC-20), Stream Stability at Highway Structures
- FHWA Hydraulic Engineering Circular No.23 (HEC-23), Bridge Scour and Stream Instability Countermeasures: Experience, Selection and Design Guidance, Volumes 1 and 2

Tertiary Project Standards:

- FHWA Hydraulic Design Series No. 2, Highway Hydrology
- FHWA Hydraulic Design Series No. 7, Hydraulic Design of Safe Bridges
- FHWA Hydraulic Engineering Circular No. 14 (HEC-14), Hydraulic Design of Energy Dissipators for Culverts and Channels
- FHWA Hydraulic Engineering Circular No. 17 (HEC-17), Highways in the River Environment – Floodplains, Extreme Events, Risk, and Resilience
- FHWA Hydraulic Engineering Circular No.21 (HEC-21), Design of Bridge Deck Drainage
- FHWA Hydraulic Engineering Circular No.22 (HEC-22), Urban Drainage Design Manual
- FAA Hazardous Wildlife Attractants on or near Airports, Advisory Circular 150/5200-33C
- Remaining standards set forth in Book 3

12.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

12.2.3 Equipment/Software

Use only Illinois Tollway-approved drainage design software and spreadsheet output formats for drainage computations, including hydrology, hydraulics, modeling, and runoff spread. The Design-Builder shall refer to the *Illinois Tollway Drainage Design Manual* for software requirements.

The Design-Builder shall follow the equipment requirements of the Project Standards.

The Design-Builder shall refer to the Illinois Tollway CADD Manual for Software Requirements.

The Design-Builder shall prepare plans in accordance with the Illinois Tollway design manuals. The Design-Builder shall prepare plans at a minimum scale of 1” =50’ to clearly show the design intent. The Design-Builder shall submit both a PDF set and MicroStation set of drawings with each plan submittal; the MicroStation file submission shall include all design files, model files, reference files, and geometric data including alignment data and files.

12.2.4 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for the drainage Work, including those necessary for investigations. The Design-Builder shall perform all activities necessary to furnish the drainage Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as Utility Owners, Railroad Owners, Railroad Operators, and permitting and regulatory agencies, as necessary, for drainage Design Document and Construction Document submittals that potentially affect third parties.

The Design-Builder shall obtain IDOT, County, local municipality, township and MWRD approvals, as applicable, for stormwater discharge into local drainage systems.

12.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform field investigations they deem necessary to complete the drainage Work.

12.2.5.1 Data Collection

Identify all water resources issues utilizing available data, including water quality requirements imposed by local, state, and federal government regulations; watershed district rules and regulations; National Wetland Inventory and other wetland/public waters inventories; and official documents concerning the Project, such as the environmental studies. Acquire information on municipal drainage systems that flow into the Project and on watershed standards and rules.

Water resource issues include areas with historically inadequate drainage (flooding or citizen complaints), Area of Environmental Sensitivity, localized flooding, and maintenance problems associated with drainage and areas known to contain contaminated soil or water. Identify watershed boundaries, IDNR-OWR regulated public waters, county ditches, areas classified as wetlands and waters of the US (WOUS), impaired waters (based on total maximum daily load [TMDL]), special waters, contaminated soil areas, groundwater table elevations where water quality volume (WQV) storage and bioswales are proposed, floodways and floodplains.

Acquire existing storm drain plans and survey data, including all data on culverts, drainage systems, and storm sewer systems within the Project area. Determine existing drainage areas that contribute to the highway drainage system and the estimated runoff used for design of the existing system.

Obtain additional photogrammetric and geographic information system (GIS) data for the Project area that depicts the outstanding resource value waters and impaired waters. Conduct surveys for information not available from Illinois Tollway or other sources.

12.2.5.2 Sewer Video Inspections

The Design-Builder will be responsible for Cleaning and Televising the drainage structure and pipe locations specified in Exhibit 12E. The televising Work shall be conducted according to the *Illinois Tollway Special Provision for Television Inspection of Sewer.* Many of the locations where this work is required are below Bridge Structures 1601 and 1602. Due to limited accessibility, it will be the Design-Builder's responsibility to design and construct an access road to allow for construction equipment at the Work locations. More details about the access road are provided in Section 11.4.7 of this Book 2.

If any repairs are deemed necessary after coordinating the Sewer Cleaning and Televising results with the Illinois Tollway, the Design-Builder will be responsible for designing and implementing approved repairs, sewer lining or replacement. This Work will be paid for by the Allowance for Drainage Repair contained as identified in Section 16.2.6 of Book 1. This Work includes, but is not limited to, the design of the drainage repairs, coordination with the Illinois Tollway, construction of the approved repairs, additional access roads beyond those already constructed for the cleaning and televising, grading, turf establishment, erosion control measures, environmental compliance, and quality.

12.2.6 Reports and Plans

The Design-Builder shall prepare the relevant Design Document and Construction Document submittals in accordance with requirements in Book 2, Section 2, Project Management and this Section 12, Drainage.

The Design-Builder shall submit to the Illinois Tollway a report for each of the pipes and drainage structures that are cleaned and televised. The Cleaning and Televising Reports shall be completed according to the Pipeline Assessment Certification Programs (PACP) criteria and formatting. The Televising videos will also be required as a part of the submittal to the *Illinois Tollway.*

Additionally, the Design-Builder shall develop and submit, as necessary, the reports and plans prescribed throughout this Section 12, Drainage.

The Design-Builder shall also be responsible for following the submittal requirements outlined in the *Illinois Tollway Drainage Design Manual, Section 14, as applicable.*

12.3 Design Requirements

12.3.1 General

The Design-Builder shall design drainage facilities that are compatible with existing drainage systems adjacent to, or existing to remain within, the Project Limits and preserve existing drainage patterns wherever possible unless directed otherwise in this Section 12, Drainage, or Approved by the Illinois Tollway. The Design-Builder shall secure all permits and drainage easements.

The Design-Builder shall design drainage to accommodate construction staging and provide drainage during all stages of construction. The Design-Builder shall comply with permits by providing temporary and permanent drainage design details for each stage of construction in the Stormwater Pollution Prevention Plan (SWPPP). The Design-Builder shall include temporary erosion control ponds and other best management practices (BMPs) needed to satisfy the NPDES and other regulatory requirements. See Exhibit 12B for BMPs along IL 390 from Irving Park Road to IL 290.

12.3.2 Design Criteria

The Design-Builder's drainage design shall accommodate, but not be limited to, the following:

- Runoff generated within Illinois Tollway Right-of-Way;
- Runoff from adjacent property that reaches and/or crosses Illinois Tollway Right-of-Way; and
- Subsurface drainage.

The Design-Builder shall be responsible for the listed Design Scope below, at the minimum:

- Drainage structure adjustments, wherever necessary, due to asphalt overlay and resurfacing.
- Review any existing flooding issues or standing water along roadway pavement and/or roadside ditches. If pavement or ditch ponding is identified, an additional drainage study is required.
- Review the need for partial ditch cleaning and/or re-grading that may be required to remove any obstruction to restore conditions to the original design intent.
- Review if existing headwalls meet current Illinois Tollway Standards and barrier warrant guidelines, where applicable within project BWA Limits.
- Tasks Specified in Table 12.1.

- Cleaning and Televising work as described in Section 12.2.5.2
- Work described below in this Section 12.3.2
- Drainage Work specified for structures as described in Section 13.3.4.
- Maintenance of drainage structures during Construction Activities.
- Protection of drainage structures in accordance with Illinois Tollway Standard Drawing K1 – Erosion Control and Landscaping

The Design Builder shall also be responsible for analyzing and providing recommendations and improvements for the following Task Locations specified in Table 12-1. Exhibit 12C provides photos and descriptions of the drainage defects provided below:

Table 12-1: Drainage OMS Tasks

Task ID	Bound	MP	Asset	Defect Description
21-53153	EB	7.16	Bridge 1603	N Abut - Drain structure is 60 % undermined.
18-12135	WB	8.3	Bridge 1612	East Abut, south wingwall has adjacent erosion, from approach runoff, 40’x1’ w x1’ depth
18-12136	EB	8.3	Bridge 1611	East Abut, north wingwall, adjacent erosion, 50’x2’x1’, from approach water runoff
18608	WB	10.3	Non-Asset	Water seeping up between lanes 1 and 2. I-13-4603 plans were reviewed. Under 4603, one interior lane was added in each direction and the shoulders were widened to 12 feet. Sheet REM-2 in Exhibit 12D shows the removal of a pipe underdrain outlet at Station 884+81 LT. Based on field investigations and a review of the 4603 drainage plans, there is no evidence this pipe underdrain outlet was replaced. The seepage occurs just west of the box culvert where the pipe underdrain is interrupted, creating pressure head, which results in water rising from the saturated subgrade and bleeding out of the pavement joint.
22-39607	EB	11	Non-Asset	The culvert opening is behind the ROW fence and cannot be accessed for inspection and maintenance.

The Illinois Tollway previously implemented a Cleaning and Televising Contract from Lake Street to Irving Park Road, and based on the results, have provided repair recommendations at locations shown in Exhibit 12F. The Design-Builder shall implement the repairs in Exhibit 12F by including the proposed design recommendations into the RFC submittal documents and constructing the repairs.

Recommendations in Exhibit 12F include:

- Pipe Lining
    - The Design-Builder will be responsible for recommending the type of liner for the repair locations. Cured-In-Place Pipe Liners are an Approved type of liner and if used, shall be in accordance with the *Illinois Tollway Special Provision for Cured-In-Place Pipe Liner* and the *IDOT GBSP for Cured-In-Place Pipe Liner*. Other pipe lining methods are allowable with Approval from the Illinois Tollway.
- Pipe Replacement
    - The Design-Builder shall design and coordinate all pipe replacement work with the Illinois Tollway, to ensure proper pipe materials and types are included. All Storm Sewer work shall be in accordance with Section 550 of the *IDOT Standard Specifications.*
- Local Concrete Patching of RCP Pipe/Culvert
    - The Design-Builder will be responsible for Local Concrete Patching in accordance with *Illinois Tollway GBSP for Structural Repair of Concrete*.

The Design-Builder shall be responsible for all Drainage Work for Structures per Section 13, Structures, of this Book 2, at the minimum. A list of repairs from Section 13 is provided in Table 12-2 with the Bridge Numbers that are associated with each repair type.

Table 12-2: Drainage Work on Structures

Repair Type	Bridge Numbers (BN)
Cleaning Drainage Systems/Pipes/Structures	1601, 1603, 1604, 1605, 1606, 1606A, 1607, 1608, 1610, 1611, 1612, 1613, 1619
Drainage Structure Adjustments	1602, 1605, 1606, 1606A, 1607, 1608
Repairing/Replacing Damaged Grates as Required	1606A
Culvert Work	1602C
Repair Bridge Drainage System Pipe and Deck Drains	1611, 1612
Repair Existing Concrete Drainage Outlet	1620

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the roadway design meets the drainage design policy and criteria requirements in Section 2 of the *Illinois Tollway Drainage Design Manual* for the drainage scope of work defined for the Design-Builder in this Book 2.

For Task 18608, the Illinois Tollway developed a memorandum to discuss the defect and recommended repairs. The Design-Builder shall analyze location and consider the memorandum recommendations provided when proposing improvements to the Tollway. This memorandum is provided in Exhibit 12D.

The Design-Builder shall have a 30% Concept Review Meeting with the Illinois Tollway to discuss these issues further and provide recommendations. Both the listed general scope of Work and OMS Tasks shall be addressed during the Concept Review Meeting. Coordination with local agencies may be necessary

based on the accepted improvements. The Design-Builder shall ensure that for any drainage being tied into a local system, the proper reference manuals and local ordinances are being followed.

12.3.3 Design Deviations Not Used

12.3.4 Additional Design Requirements- Not Used

12.3.4.1 Floodway/Floodplain Encroachments - Not Used

12.3.4.2 Water Quality

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the drainage design meets the water quality requirements in Section 4 of the *Illinois Tollway Drainage Design Manual*.

12.3.4.3 Hydrology - Not Used

12.3.4.4 Ditch and Channel Design

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the drainage design meets the ditch and channel design requirements in Section 6 of the *Illinois Tollway Drainage Design Manual*.

12.3.4.5 Culvert Design – Not Used

12.3.4.6 Bridge Hydraulics - Not Used

12.3.4.7 Roadway Drainage Design

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the drainage design meets the roadway drainage design requirements in Section 9 of the *Illinois Tollway Drainage Design Manual*.

12.3.4.8 Stormwater Detention Storage - Not Used

12.3.4.9 Toll Plazas, Oases, and Maintenance Facilities - Not Used

12.3.4.10 Soil Erosion and Sediment Control

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the drainage design meets the soil erosion and sediment control requirements in Section 12 of the *Illinois Tollway Drainage Design Manual* and all requirements in the *Illinois Tollway Erosion Control and Landscape Manual* and is designed in accordance with the additional soil erosion and sediment control requirements in Book 2, Section 14, Landscape.

12.3.4.11 Pump Station Design - Not Used

12.3.4.12 Culvert Removal - Not Used

12.3.5 Base Sheets

The Design-Builder shall utilize the Illinois Tollway Base Sheets when preparing the Design Document submittals and Construction Document submittals.

12.4 Construction Requirements

12.4.1 General

The Design-Builder shall construct the Drainage Work in accordance with the Illinois Tollway-Accepted RFC Documents, Construction Document Submittals, applicable permits, and requirements of the Contract Documents.

12.4.2 Construction Reports and Plans - Not Used

12.4.3 Standard Drawings

Unless explicitly stated in this Section 12.4.3., the Design-Builder shall perform construction Work in accordance with the *Illinois Tollway Standard Drawings*.

12.4.4 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards. In addition, the Design-Builder shall follow the methods and materials requirements specified in the subsection(s), below.

12.4.5 Not Used

12.4.6 Not Used

12.4.7 Removal of Miscellaneous Objects

The Design-Builder shall remove all subsurface elements in accordance with the Project Standards.

12.4.8 Disposal of Materials

The Design-Builder shall assume ownership of all material to be disposed of off-the Project Site.

12.4.9 Temporary Requirements

Throughout construction Work, the Design-Builder shall ensure temporary drainage facilities are designed and constructed in accordance with this Section 12, unless explicitly stated in this Section 12.4.9 and subsection 12.4.9.1.

12.4.9.1 Temporary Drainage

The Design-Builder shall design, construct, and maintain temporary drainage in accordance with the requirements of Section 9.10 of the *Illinois Tollway Drainage Design Manual*. The Design-Builder shall maintain drainage to accommodate construction staging and provide drainage during all stages of construction meeting Project and permit requirements.

12.5 Submittal Requirements

Whenever a Submittal identified in *Table 12-3, Section 12.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct

reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 12-3, Section 12.5 Submittal Requirements,* below. This *Table 12-3, Section 12.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 12-3: Section 12.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Proposed Drainage Plans	12.2.3	PDF	2	10	10	RFC Document development activities
2	Sewer Cleaning and Televising Reports	12.2.5.2	PDF	2	10	10	Pre-RFC Document development activities
3	Drainage Design Submittals	12.2.6	PDF	2	10	10	Construction

Section 13

13 STRUCTURES

13.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 13, Structures, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design, repair/rehabilitate and construct Structures Work in accordance with:

- Directive Designs;
- Scope-Validated Reference Information;
- Commitments of the Governmental Approvals and Environmental Approvals; and
- Project Standards.

13.1.1 Structures Requirements

The Design-Builder shall perform the necessary Structures Work, which may include, but is not limited to, the design, repair/rehabilitation, and construction of the necessary structures, including overhead sign structures, culverts, bridges, retaining walls, noise abatement walls, and other structures, in accordance with this Book 2, Section 13, Structures.

13.2 Administrative Requirements

13.2.1 Standards

For Structures Work, the Design-Builder shall adhere to the order of precedence of the Project Standards below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary Project Standards are second in order of precedence, and tertiary standards are third in order of precedence. Any conflict within Project Standards shall immediately be brought to the attention of the Design-Build Project Manager and Design-Build Design Manager for discussion and resolution with the Illinois Tollway. In the event of conflict within Project Standards of the same order of precedence, and unless otherwise directed by the Illinois Tollway, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail. The Design-Builder shall use the latest adopted editions of the primary, secondary, and tertiary Project Standards at the time of the Setting Date.

Primary Project Standards:

- Illinois Tollway Structure Design Manual (SDM)
- Illinois Tollway Geotechnical Manual
- Illinois Tollway Roadway Design Criteria (RDC Manual)
- Illinois Tollway Traffic Barrier Guidelines
- Illinois Tollway Drainage Design Manual
- Illinois Tollway BIM Implementation Manual
- Illinois Tollway Computer Aided Design and Drafting (CADD) Standards Manual
- Illinois Tollway Design Section Engineer’s Manual
- Illinois Tollway Standard Drawings
- Illinois Tollway Base Sheets
- Illinois Department of Transportation (IDOT) Guide Bridge Special Provisions (GBSPs)
- IDOT Standard Specifications for Road and Bridge Construction
- IDOT Supplemental Specifications and Recurring Special Provisions
- Illinois Tollway Supplemental Specifications to the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction

- IDOT All Bridge Designers Memoranda
- IDOT Bridge Manual
- IDOT Culvert Manual
- IDOT Structural Services Manual
- AASHTO Standard Specifications for Highway Bridges
- AASHTO LRFD Bridge Design Specifications
- AASHTO/AWS D1.5 M- D 1.5, Bridge Welding Code
- AASHTO LRFD Bridge Construction Specifications
- AASHTO Manual for Bridge Evaluation
- AASHTO Guide Design Specifications for Bridge Temporary Works
- AASHTO Construction Handbook for Bridge Temporary Works
- AASHTO/NSBA Steel Bridge Fabrication Guide Specification
- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals

Secondary Project Standards:

- AASHTO/NSBA Guide Specification for Application of Coating Systems with Zinc-Rich Primers to Steel Bridges
- AASHTO Guide Specifications for Fracture Critical Non-Redundant Steel Bridge Members
- CEB-FIP Model Code for Concrete Structures (For Time-Dependent Behavior of Concrete)
- FHWA Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines
- FHWA Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes
- FHWA Geotechnical Engineering Circular Number 4 Ground Anchors and Anchored Systems
- FHWA Manual for Design and Construction Monitoring of Soil Nail Walls
- FHWA HI-95-038 Geosynthetic Design and Construction Guidelines
- FHWA Manual for the Design & Construction Monitoring of Soil Nail Walls
- FHWA RD-73-93, Analysis and Design Problems in Modeling Slurry Wall Construction
- FHWA SA-93-068, Soil Nailing Field Inspectors Manual-Soil Nail Walls
- FHWA Hydraulic Design Series (HDS) No. 4, Introduction to Highway Hydraulics
- AASHTO Guide Specifications for Structural Design of Sound Barriers
- IDOT Sign Structures Manual
- American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering
- American Railway Engineering and Maintenance-of-Way Association (AREMA) Practical Guide to Railway Engineering

Tertiary Project Standards:

- Remaining standards set forth in Book 3

13.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

13.2.3 Equipment/Software

Upon receipt of NTP 2, and prior to the start of design Work on the Project, the Design-Build Design Manager shall compile a list of software to be used in structural design and shall submit such list to the Illinois Tollway for Acceptance as indicated in Section 13.5, of this Book 2. The Illinois Tollway does not

support a preapproved list of software but reserves the right to disallow any software on a case-by-case basis.

Load rating shall be performed according to the requirements of Section 6.3.13 of the *Illinois Tollway Structure Design Manual.* Structures within this Project currently requiring load rating have been identified in the individual Scopes of Work set forth in Section 13.3.4.18 of this Book 2. Additional load ratings may be required according to the Scope-Validated Work and as specified by the Illinois Tollway. The following software shall be used to load rate all major and minor Structures on this Project:

AASHTOWare Bridge Rating (BrR):

The Design-Builder shall confirm with the Illinois Tollway which version of the subject software to use.

If a bridge or culvert type within the project cannot be rated using the above-mentioned software package, the Design-Builder shall submit to Illinois Tollway a proposed alternate bridge rating method for acceptance prior to the preparation of bridge or culvert ratings. The proposed alternate bridge/culvert rating method submittal shall include, at a minimum: description of structure, reasons why BrR cannot be used, and proposed alternate method. Any such approval of an alternate rating software for use on a particular structure shall not be construed to apply to other structures on the project without the expressed written consent of the Illinois Tollway.

13.2.4 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to be obtained for Structures Work, including those necessary for Scope-Validation inspections and/or investigations. The Design-Builder shall perform all activities necessary to prepare and obtain the Structures Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals from entities such as Utility Owners, Railroad Owners, and Railroad Operators, as necessary, for structures Design Document Submittals and Construction Document Submittals that potentially affect these third parties.

13.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Book 1 Section 2.3.1, Scope Validation Period, and shall also perform the necessary investigations to complete the Structures Work.

13.2.6 Reports and Plans

The Design-Builder shall prepare the relevant Design Document submittals and Construction Document submittals in accordance with the requirements in Book 2, Section 2, Project Management and this Section 13, Structures.

The Design-Builder shall prepare shop drawings (as applicable) in accordance with Section 25 of the *Illinois Tollway Structure Design Manual*.

Additionally, the Design-Builder shall develop and submit, as necessary, the reports and plans prescribed throughout this Section 13, Structures.

The Design-Builder may request existing record drawings, shop drawings, inspection reports, bridge condition reports, or other historical information deemed useful for the successful completion of this Project through written request of the Design-Build Project Manager to the Illinois Tollway Project Manager. The Illinois Tollway does not guarantee the accuracy of, nor the availability of, any historical documents for structures included within this Project and all documents shall be used at the sole discretion and risk of the Design-Builder.

The Design-Builder is hereby notified that additional information related to structures within the Project may be available at the Illinois Department of Transportation (IDOT) District 1 offices. The Design-Builder shall request appropriate contact information and permission from the Illinois Tollway prior to contacting IDOT District 1.

13.3 Design Requirements

13.3.1 General

The Design-Builder shall perform the Scope-Validated Structures Work in accordance with the Project Standards, Design Document and Construction Document submittals. Such work may include repair/rehabilitation of existing structures. The Design-Builder shall not use masonry, timber, or aluminum as materials for permanent bridge superstructures or substructures. All proposed Materials shall be approved by the Design-Builder Quality Manager and the Illinois Tollway.

13.3.2 Design Criteria

The Design-Builder shall ensure the structure's design meets the design criteria requirements in Section 5.1 of the *Illinois Tollway Structure Design Manual*.

13.3.3 Design Deviations

There are ***no*** pre-Approved Design Deviations pertaining to the Structures Work on this Project.

The Design-Builder shall not be permitted to implement Design Deviations into the Work unless otherwise Approved by the Illinois Tollway, per Section 1, General, of this Book 2.

13.3.4 Additional Design Requirements

13.3.4.1 Minimum Vertical Clearances

The Design-Builder shall ensure the structures design meets the minimum vertical clearances requirements in Section 5.2 of the *Illinois Tollway Structure Design Manual*.

13.3.4.2 Minimum Horizontal Clearances

The Design-Builder shall ensure the structures design meets the minimum horizontal clearances requirements in Section 5.3 of the *Illinois Tollway Structure Design Manual*.

13.3.4.3 Deck Width - Not Used

13.3.4.4 Minimum Number of Beam Lines - Not Used

13.3.4.5 Dead Loads

The Design-Builder shall ensure the structures design and load ratings meet the minimum dead load requirements in Section 5.6 of the Illinois Tollway Structure Design Manual.

13.3.4.6 Fire Protection - Not Used

13.3.4.7 Design Truck - Not Used

13.3.4.8 Seismic Design of Bridges

The Design-Builder shall ensure the structures design meets the seismic design requirements in Section 5.12 of the *Illinois Tollway Structure Design Manual*. This is only required for new or proposed structures.

13.3.4.9 General Notes

The Design-Builder shall ensure the structures design, as necessary, complies with the general notes and requirements in Section 7 of the *Illinois Tollway Structure Design Manual*.

13.3.4.10 Construction Staging

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the structures design meets the construction staging requirements in Section 8 of the *Illinois Tollway Structure Design Manual*.

13.3.4.11 Bridge Type - Not Used

13.3.4.12 Bridge Elements

The Design-Builder shall ensure the structures design, and/or repair/rehabilitation, meets the applicable requirements of the *Illinois Tollway Structure Design Manual,* and other applicable requirements of the Project Standards (as set forth in Section 13.2.1 Standards of this Book 2)*,* for all structural components including, but not limited to, the following:

- Substructure
    - Abutments
    - Piers
- Structural Steel Beams and other members
- Precast Prestressed Concrete (PPC) beams and other members
- Bearings
- Concrete Bridge Decks, Parapets and Barriers
- Deck Drainage
- Bridge Deck Expansion Joints
- Deck Elevations
- Bridge Approach and Transition Approach Slabs

13.3.4.13 Culverts

The Design-Builder shall ensure the culverts design and/or repair/rehabilitation, as necessary, complies with the culvert requirements in Section 21 of the *Illinois Tollway Structure Design Manual*.

13.3.4.14 Retaining Walls

The Design-Builder shall ensure the retaining wall design and/or repair/rehabilitation, as necessary, complies with the retaining walls requirements in Section 22 of the *Illinois Tollway Structure Design Manual*.

13.3.4.15 Not Used

13.3.4.16 Noise Abatement Walls and Railroad Bridge Fencing

Notwithstanding the exceptions noted below, the Design-Builder shall ensure the structures design and/or repair/rehabilitation, as necessary, complies with the noise abatement walls and railroad bridge fencing requirements in Section 23 of the *Illinois Tollway Structure Design Manual*.

Repairs, rehabilitation and partial removal and replacement of Noise Abatement Walls EO8.90N-EB and EO10.10N-EB shall be performed "in kind" according to the Existing Record Drawings and Shop Drawings for the particular structure. In the absence of available information, Section 23 of the *Illinois Tollway Structure Design Manual* and the applicable Project Standards shall govern.

13.3.4.17 Overhead Sign Structures

The Design-Builder shall ensure the structures design, and/or repair/rehabilitation, as necessary, complies with the overhead sign structures requirements in Section 24 of the *Illinois Tollway Structure Design Manual*.

13.3.4.18 Rehabilitation and Repair

The Design-Builder shall rehabilitate and repair the structures listed below in accordance with Section 26 of the *Illinois Tollway Structure Design Manual.* It shall be the Design-Builder's responsibility to validate the proposed Scopes of Work for each structure during the Scope-Validation Period as required in Book 1 Section 2.3. In addition, certain items of Work contained below are included in Book 1 Section 16 as Shared Risk Item Work

- *BN 1600 (SN 022-0208): US Rte. 20 (Lake Street) over IL Rte. 390 (EB)*

  Illinois Department of Transportation (IDOT) Contract 62R91 includes work to be performed on BN 1600 (SN 022-0208) at deck level including, but not necessarily limited to, bridge deck scarification, latex concrete overlay application and expansion joint replacement. The contract letting occurred on April 26, 2024. The Design-Builder shall perform the work below in close coordination and cooperation with the Contractor for IDOT Contract 62R91 as applicable:
  - Clean bridge seats at North and South Abutments
  - Clean and paint all existing girders, bearing stiffeners, diaphragms, cross frames, connection plates and bearings. Cleaning and painting *shall not* be performed until *after* protective shield from IDOT Contract 62R91 has been removed.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider), and perform structural repair of concrete to all spalled and delaminated areas, of the pier, abutments, and curtain walls. Temporary Shoring and Cribbing is required at Girder 5 to perform Structural Repair of Concrete to the North Abutment. Other areas of Temporary Shoring and Cribbing may be required as determined by the Design-Builder.

- Apply concrete sealant to all exposed surfaces of the abutments, curtain walls and pier. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant. Power-washing shall not be performed, and concrete sealant shall not be applied, until after Contract 62R91 joint reconstruction operations have been completed.
- Perform slope wall repairs, slope wall crack sealing and slope wall partial removal and replacement (at isolated broken areas only) at the North and South Abutment slope walls
- Perform Slope Wall Gap Filler Removal and Replacement at the interface of North Abutment and adjacent Slope Wall. Note that due to the size of existing gap between North Abutment and slope wall, structure excavation and placement of concrete may be required prior to slope wall gap filler installation.
- Clean debris at north and south slope wall toes and repair erosion at southwest corner of South Abutment slope wall utilizing porous granular embankment, rip rap or other methods as Approved by the Tollway.
- To prevent future erosion along the curtain walls and slope walls, install turf reinforcement mat or alternative measures as Approved by the Tollway.

- *BN 1601 (SN 016-2565): IL Rte. 390 (EB) over Metra RR and Wetlands*
  - Provide protective shield above the Metra Railroad tracks as required for deck slab repairs.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the east and west parapets and barriers.
  - Perform partial- and full-depth deck and approach pavement repairs, as required.
  - Remove and replace joint seal at North Expansion Joint
  - Clean existing deck drainage scuppers and approach drainage inlets
  - Apply Bridge Deck Concrete Sealer to the bridge deck, approach slabs and the top and inside faces of parapets.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the abutments, wingwalls and piers.
  - Perform slope wall repairs, slope wall crack sealing and slope wall partial removal and replacement (at isolated, broken and depressed areas of the slope walls). Partial removal and replacement are required at the west panel of the South Slope Wall.
  - Clean bridge seats and tighten anchor bolts at North Abutment Bearings.
  - Apply concrete sealant to all exposed surfaces of the abutments, wingwalls and Pier 8. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
  - Remove and replace damaged guardrail at South Approach.

- *BN 1602 (SN 016-2566): IL Rte. 390 (WB) over Metra RR and Wetlands*
  - Provide protective shield above the Metra Railroad Tracks.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the east and west parapets and barriers.
  - Perform ¾” bridge deck scarification and perform full-depth deck and approach slab repairs.
  - Install Light Pole Protection Boxes at the west light standards and extend heights of east and west parapets and barriers, as required, to meet ISTHA minimum height requirements (42” above overlay).

- Load rating of this structure shall be required in accordance with Section 6.3.13 of the *Illinois Tollway Structure Design Manual (March 2025).*
- Remove and reconstruct the modular joints at South Abutment and Pier 8 and remove and replace the Preformed Joint Strip Seal at the North Abutment.
- Remove and reconstruct relief joints at the ends of transition approach slabs. Reconstructed approach/transition approach joints shall include UHPC joint headers unless otherwise directed by the Tollway.
- Clean and adjust existing drainage scuppers and approach drainage inlets.
- Apply a 2½" latex concrete overlay to the bridge deck and apply an SMA overlay to the approach pavements. It should be noted that ¼" additional overlay is included in the specified overlay thickness for smoothness grinding purposes.
- Perform Diamond Grinding and Bridge Deck Grooving (Longitudinal) to the bridge deck.
- Apply protective coat to the bridge deck and to the top and inside faces of the parapets and approach barriers.
- Clean bridge seats at North and South Abutments.
- Remove and replace existing high load multi-rotational (HLMR) pot bearings at 5 locations.
- Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas, of the abutments, wingwalls and piers.
- Perform slope wall repairs, slope wall crack sealing and slope wall partial removal and replacement (at isolated broken and depressed areas) of the slope walls. Partial removal and replacement are required at 2 panels of the South Slope Wall and at the second panel (from west) of the North Slope Wall.
- Remove and replace vertical preformed joint fillers between the abutments and wingwalls.
- Apply concrete sealant to all exposed surfaces of the abutments, wingwalls and Pier 8. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
- Repair eroded embankment at noted areas of the Northwest wingwall utilizing porous granular embankment, rip rap or other methods as approved by the Tollway.
- To prevent future erosion along the NW wingwall, install turf reinforcement mat or alternative measures as approved by the Tollway.
- Perform miscellaneous repairs including electric junction box cover replacement and utility/light pole repair/replacement, in accordance with Sections 6 and 16, of this Book 2
- Wrap separated joints of fiberglass utility conduits at east and west sides of South Abutment to seal out moisture, insects, and rodents in accordance with Section 6 of this Book 2.

- *BN 1602C (SN 022-0205): FAP 35 over DuPage River*
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider), and perform structural repair of concrete to the spalled/delaminated areas, of the culvert sidewalls and headwalls.
  - Remove debris and clean culvert cells and wingwalls.
  - Remove and replace broken fence at north end of the culvert. The proposed fence will be 4 feet in height and follow IDOT Standard Specification Articles 664 and 1006.27 (for materials) unless otherwise directed by the Tollway.
  - Place riprap and filter fabric at each end of culvert to prevent erosion and address exposed utilities.

- *BN 1603 (SN 016-2590): NB Gary Avenue (Ramp B) to EB IL Rte. 390 over IL Rte. 390 Ramp D*

- Provide protective shield as required for deck slab repairs.
- Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the north and south parapets and barriers.
- Perform full- and partial-depth deck and approach slab repairs.
- Remove existing seal and install new gland at expansion joints over North and South Abutments.
- Clean drainage scupper and drainage structure.
- Apply Bridge Deck Concrete Sealer to the entire bridge deck, approach pavement, and to the top and inside faces of parapets.
- Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the abutments, wingwalls and piers.
- Apply concrete sealant to all exposed surfaces of the abutments, wingwalls and piers. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
- Perform slope wall repairs, slope wall crack sealing, and slope wall partial removal and replacement (at isolated broken or settled areas) of the slope walls. Partial removal and replacement are required at 4 locations of the North Abutment Slope Wall.

- *BN 1604 (SN 016-2589): IL Rte. 390 (WB) to SB Gary Ave. (Ramp A) over IL Rte. 390EB/WB & Ramp D*
  - Provide protective shield as required for deck slab repairs.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the east and west parapets and barriers.
  - Perform partial- and full-depth deck and approach slab repairs.
  - Clean existing drainage scuppers and approach drainage inlets.
  - Apply Bridge Deck Concrete Sealer to the bridge deck, approach slabs and to the top and inside faces of the parapets/barriers.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the abutments, wingwalls and piers. Temporary Shoring and Cribbing is required at Girder 4 to perform Structural Repair of Concrete to the South Abutment. Other areas of Temporary Shoring and Cribbing may be required as determined by the Design-Builder.
  - Clean bridge seats at North and South Abutments.
  - Tighten loose anchor bolt nuts at Girders 3 and 4 of the North Abutment.
  - Remove and replace vertical preformed joint fillers between the abutments and wingwalls.
  - Apply concrete sealant to all exposed surfaces of the abutments, piers and wingwalls. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
  - Perform slope wall repairs, slope wall crack sealing, and slope wall partial removal and replacement (at isolated broken or settled areas) of the slope walls. Partial removal and replacement are required at the north half of the North Slope Wall east panel.
  - Perform Slope Wall Gap Filler Removal and Replacement, and/or other appropriate repair as approved by the Tollway, at the interface of both North and South Abutments and adjacent slope walls.
  - Perform miscellaneous repairs including electric junction box cover replacement and utility/light pole repair/replacement in accordance with Sections 6 and 16 of this Book 2.

- *BN 1605 (SN 016-2587): IL Rte. 390 (EB) over Springingsguth Road*
    - Provide protective shield under entire bridge deck per Tollway requirements.
    - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and structural repair of concrete to the spalled/delaminated areas in the north and south parapets and barriers.
    - Perform ¾” bridge deck scarification, full-depth deck slab repairs and partial-depth approach slab repairs.
    - Install Light Pole Protection Boxes at the light standards and extend heights of north and south parapets and barriers, as required, to meet ISTHA minimum height requirements (42” above overlay).
    - Load rating of this structure shall be required in accordance with Section 6.3.13 of the *Illinois Tollway Structure Design Manual (March 2025)*.
    - Remove and reconstruct the existing approach slab expansion joints and remove and replace the joint sealer in the ¼"x¾" formed joints at the abutments. Reconstructed approach/transition approach joints shall include UHPC joint headers unless otherwise directed by the Tollway.
    - Adjust approach drainage inlets and clean drainage system.
    - Apply a 2¼” latex concrete overlay to the bridge deck and apply an SMA overlay to the approach pavements.
    - Apply protective coat to the entire bridge deck and to the top and inside faces of the bridge parapets and approach barriers.
    - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the concrete end diaphragm and stem of both the East and West Abutments, and to the adjacent retaining walls.
    - Replace deteriorated joint filler at abutments and retaining walls as required.
    - Perform slope wall crack sealing and slope wall repair to spalled and broken areas of the slope walls.
    - Perform miscellaneous repairs including electric junction box cover replacement, parapet conduit repair, etc., in accordance with Sections 6 and 16, of this Book 2.
    - To prevent future erosion along the wingwalls and slope walls, install turf reinforcement mat or alternative measures as approved by the Tollway.

- *BN 1606 (SN 016-2588): IL Rte. 390 (WB) over Springingsguth Road*
    - Provide protective shield under entire bridge deck per Tollway requirements.
    - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and structural repair of concrete to the spalled/delaminated areas in the north and south parapets and barriers.
    - Perform ¾” bridge deck scarification.
    - Perform full-depth deck slab repairs and partial-depth approach slab repairs, as required.
    - Install light pole protection box at the southwest light standard and extend heights of north and south parapets and barriers, as required, to meet ISTHA minimum height requirements (42” above overlay).
    - Load rating of this structure shall be required in accordance with Section 6.3.13 of the *Illinois Tollway Structure Design Manual (March 2025)*.
    - Remove existing 100’-long approach slabs at east and west ends of structure.
    - Install temporary shoring at both abutments, and install temporary cross-frames between all girders, to ensure adequate superstructure support and stability during removal operations.
    - Excavate behind existing abutments to a depth of 18” below original bearing seat elevations (1992) and perform removal of existing abutment backwall and end diaphragm, partial removal of existing abutment stem and removal of existing bearings.

- Reconstruct abutment seat and backwall, and install elastomeric expansion bearings, to obtain a jointless structure with semi-integral behavior.
- Construct 30'-long reinforced concrete approach slabs, and 70'-long reinforced concrete transition approach slabs (with transition approach shoulders), per Tollway standards.
- Adjust approach drainage inlets and catch basins and clean drainage system.
- Apply a 2¼" latex concrete overlay to the bridge deck and apply an SMA overlay to the approach slabs.
- Apply protective coat to the entire bridge deck and to the top and inside faces of the bridge parapets and approach barriers.
- Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) in the East and West abutments and to the adjacent retaining walls.
- Perform structural repair of concrete to all spalled/delaminated areas of the abutments and adjacent retaining walls, and replace deteriorated joint filler as required.
- Perform slope wall crack sealing, slope wall repair and slope wall partial removal and replacement (to broken areas) of the slope walls.
- Perform miscellaneous repairs including electric junction box cover replacement, parapet conduit repair, etc., in accordance with Sections 6 and 16, of this Book 2.

- *BN 1606A (SN 016-2576): IL Rte. 390 (WB) Exit Ramp over Springingsguth Road*
  - Provide protective shield under entire bridge deck per Tollway requirements.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and structural repair of concrete to the spalled/delaminated areas in the north and south parapets and barriers.
  - Perform ¾" bridge deck scarification.
  - Perform full-depth deck slab and partial-depth approach slab repairs, as required.
  - Extend heights of north and south parapets and barriers, as required, to meet ISTHA minimum height requirements (42" above overlay).
  - Load rating of this structure shall be required in accordance with Section 6.3.13 of the *Illinois Tollway Structure Design Manual (March 2024).*
  - Remove existing 100'-long approach slabs at east and west ends of structure.
  - Install Temporary Shoring at both abutments, and install temporary cross-frames between all girders, to ensure adequate superstructure support and stability during removal operations.
  - Excavate behind existing abutments to a depth of 18" below original bearing seat elevations (1992) and perform removal of existing abutment backwall and end diaphragm, partial removal of existing abutment stem and removal of existing bearings.
  - Reconstruct abutment seat and backwall, and install elastomeric expansion bearings, to obtain a jointless structure with semi-integral behavior.
  - Construct 30'-long reinforced concrete approach slabs, and 70'-long reinforced concrete transition approach slabs (with transition approach shoulders), per Tollway standards.
  - Adjust existing drainage scuppers, approach drainage inlets, and catch basins, repair/replace damaged grates as required, and clean drainage system.
  - Apply a 2¼" latex concrete overlay to the bridge deck and apply an SMA overlay to the approach pavements.
  - Apply protective coat to the entire bridge deck and to the top and inside faces of the bridge parapets and approach barriers.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) in the East and West Abutments and to the attached wingwalls.
  - Perform structural repair of concrete to all spalled/delaminated areas of the abutments and wingwalls, and replace deteriorated joint filler as required.

- Perform slope wall crack sealing, slope wall repairs, and slope wall partial removal and replacement (to broken and depressed areas) of the slope walls. Partial removal and replacement of slope wall is required at Panels 3 and 4 (from the north) of the West Slope Wall.
- Perform miscellaneous repairs including fiber-optic conduit repair/realignment at connection, etc., in accordance with Section 6 and 16, of this Book 2.
- To prevent future erosion along the wingwalls and slope walls, install turf reinforcement mat or alternative measures as approved by the Tollway.

- *BN 1607 (SN 016-2591): IL Rte. 390 (EB) over Irving Park Road*
  - Provide protective shield under entire bridge deck per Tollway requirements.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas in the north and south parapets and barriers.
  - Perform ¾" bridge deck scarification.
  - Perform full-depth deck and approach slab repairs, as required.
  - Install light pole protection box at the north parapet and extend heights of north and south parapets to meet ISTHA minimum height requirements (42" above overlay).
  - Load rating of this structure shall be required in accordance with Section 6.3.13 of the *Illinois Tollway Structure Design Manual (March 2025).*
  - Remove and reconstruct the expansion joints and relief joints. Reconstructed approach/transition approach joints shall include UHPC joint headers unless otherwise directed by the Tollway.
  - Adjust existing approach drainage inlets and clean drainage system.
  - Apply a 2½" latex concrete overlay to the bridge deck and apply an SMA overlay to the approach pavements.
  - Perform longitudinal bridge deck grooving and diamond grinding and surface smoothness for bridge sections.
  - Apply protective coat to the entire bridge deck and to the top and inside faces of the bridge parapets and approach barriers.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to all spalled/delaminated areas of the abutments, pier, wingwalls and adjacent retaining walls.
  - Clean bridge seats at the East and West Abutments.
  - Apply concrete sealant to all exposed surfaces of the abutments, piers and wingwalls. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
  - Perform slope wall crack sealing, slope wall repairs and slope wall partial removal and replacement (at broken and depressed areas) of the slopewalls. Partial removal and replacement are required at the toes of Panels 2 through 5 (from the north) of the East Slope Wall.
  - Remove and replace guardrails to meet current standards, and perform miscellaneous repairs (including guardrail and impact attenuator repair), in accordance with Section 11, of this Book 2.
  - To prevent future erosion along the wingwalls, install turf reinforcement mat or alternative measures as approved by the Tollway.

- *BN 1608 (SN 016-2592): IL Rte. 390 (WB) over Irving Park Road*
  - Provide protective shield under entire bridge deck per Tollway requirements.

- Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas in the north and south parapets and barriers.
- Perform ¾” bridge deck scarification.
- Perform full-depth deck and approach slab repairs, as required.
- Install light pole protection box at the south parapet and extend heights of north and south parapets to meet ISTHA minimum height requirements (42” above overlay).
- Load rating of this structure shall be required in accordance with Section 6.3.13 of the *Illinois Tollway Structure Design Manual (March 2025).*
- Remove and reconstruct the expansion joints and relief joints. Reconstructed approach/transition approach joints shall include UHPC joint headers unless otherwise directed by the Tollway.
- Adjust existing approach drainage inlets and clean drainage system.
- Apply a 2½” latex concrete overlay to the bridge deck and apply an SMA overlay to the approach pavements.
- Perform longitudinal bridge deck grooving and diamond grinding and surface smoothness for bridge sections.
- Apply protective coat to the entire bridge deck and to the top and inside faces of the bridge parapets and approach barriers.
- Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to all spalled/delaminated areas of the abutments, pier, wingwalls and adjacent retaining walls.
- Clean bridge seats at East and West Abutments.
- Apply concrete sealant to all exposed surfaces of the abutments, piers and wingwalls. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
- Perform slope wall crack sealing, slope wall repairs and slope wall partial removal and replacement (to broken and depressed areas) of the slope walls. Partial removal and replacement are required at the toes of Panels 2 through 8 (from the north) of the East Slope Wall.
- Remove and replace guardrails to meet current standards in accordance with Section 11, of this Book 2.

- *BN 1609 (SN 016-2570): IL Rte. 390 (EB) over Rodenburg Road*
  - Provide protective shield as required for deck slab repairs.
  - Perform low-pressure epoxy injection to open cracks (1/16“-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas in the north and south parapets and barriers.
  - Perform partial-depth accelerated deck slab and approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
  - Apply Bridge Deck Concrete Sealer to the deck, approach slabs and to the top and inside faces of parapets.
  - Replace corroded side retainers with section loss for Beam 8 at the West Abutment, reset Bearings 1 through 8, 9A and 10A at West Abutment, and tighten loose anchor bolt nuts of Fixed Bearings 1 thru 4 at East Abutment. Temporary Shoring and Cribbing is required at all West Abutment bearings due to bearing reset.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to spalled/delaminated areas of the East and West Abutments.
  - Perform slope wall crack sealing and slope wall repairs at the East and West Slope Walls.

- Extend ends of East and West Slope Walls 2' past the edge of deck at each side of the bridge.
- Tighten existing bolts at west end guardrail connection to north parapet in accordance with Section 11, of this Book 2.

- *BN 1610 (SN 016-2571): IL Rte. 390 (WB) over Rodenburg Road*
  - Provide protective shield as required for deck slab repairs.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas in the north and south parapets and barriers.
  - Perform partial-depth accelerated deck slab and approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
  - Apply Bridge Deck Concrete Sealer to the deck, approach slabs and to the top and inside faces of parapets.
  - Replace corroded side retainers with section loss for Beam 9 at the West Abutment and reset Bearings 7A, 8A, and 9 through 17 at the West Abutment. Temporary Shoring and Cribbing is required at all West Abutment bearings due to bearing reset.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to spalled/delaminated areas of the East and West Abutments.
  - Perform slope wall crack sealing and slope wall repairs at the East and West Slope Walls.
  - Extend ends of East and West Slope Walls 2' past the edge of deck at each side of the bridge.
  - Clean drainage system.

- *BN 1611 (SN 016-2568): IL Rte. 390 (EB) over Wright Boulevard*
  - Provide protective shield as required for deck slab repairs.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to the spalled and delaminated portions of the north and south bridge and approach parapets.
  - Perform full-depth accelerated deck slab repairs and perform partial-depth accelerated approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
  - Apply Bridge Deck Concrete Sealer to the entire bridge deck, approach slabs and to the top and inside faces of the bridge and approach parapets.
  - Clean and repair existing drainage system, deck drains and approach drains. Drainage system repair is required for drainpipe at southwest side of deck and two (2) easternmost deck drains along south parapet.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to spalled/delaminated areas of the East and West Abutments and attached curtain walls (as required). Temporary Shoring and Cribbing is required at Girders 5 and 6 to perform Structural Repair of Concrete to the East Abutment. Other areas of Temporary Shoring and Cribbing may be required as determined by the Design-Builder.
  - Clean bridge seats at East and West Abutments.
  - Clean and paint bearings at both abutments.
  - Apply concrete sealant to all exposed surfaces of the abutments and curtain walls. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.

- Perform slope wall crack sealing, slope wall repairs and slope wall partial removal and replacement (to broken and depressed areas). Partial removal and replacement are required at Panel 1 (narrow panel), Panel 2 and the west half of Panel 3 (panel numbering from the north) of the East Slope Wall.
- Extend ends of East and West slope walls 2' past the edge of deck at each side of the bridge.
- Clean debris at East and West slope wall toes.
- Repair eroded embankment at noted areas along the northwest curtain wall, and north and south ends of West Slope Wall, utilizing porous granular embankment, rip rap or other methods as approved by the Tollway.
- To prevent future erosion along the sides of the NE and NW curtain walls, and along the NE, NW and SW sides of slope walls, install turf reinforcement mat or alternative measures as approved by the Tollway.

- *BN 1612 (SN 016-2569): IL Rte. 390 (WB) over Wright Boulevard*
  - Provide protective shield as required for deck slab repairs.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the north and south bridge and approach parapets.
  - Perform full-depth accelerated deck slab repairs and perform partial-depth accelerated approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
  - Apply Bridge Deck Concrete Sealer to the entire bridge deck, approach slabs and to the top and inside faces of the bridge and approach parapets.
  - Clean and repair existing drainage system, deck drains and approach drains. Drainage system repair is required for the drainpipe at north side of deck and two (2) deck drains along the north parapet near midspan.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to spalled/delaminated areas of the East and West Abutments and attached curtain walls (as required).
  - Clean bridge seats at East and West Abutments.
  - Clean and paint bearings at both abutments.
  - Apply concrete sealant to all exposed surfaces of the abutments and curtain walls. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
  - Perform slope wall crack sealing, slope wall repairs and clean debris at slope wall toes.
  - Extend ends of East and West Slope Walls 2' past the edge of deck at each side of the bridge.
  - Repair concrete gutter at back face of west retaining wall (north end).
  - Repair eroded embankment at noted areas of the northeast and southwest curtain walls, south end of West Slope Wall and north end of East Slope Wall, utilizing porous granular embankment, rip rap or other methods as approved by the Tollway.
  - To prevent future erosion along the SW and NE curtain walls, and along the NE, SE and SW sides of slope walls, install turf reinforcement mat or alternative measures as approved by the Tollway.

- *BN 1613 (SN 016-2558): IL Rte. 390 (EB) over Mitchell Boulevard*
  - Provide protective shield as required for deck slab repairs.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled/delaminated portions of the north and south bridge parapets and approach barriers.

- Perform partial- and full-depth accelerated deck slab repairs and perform partial-depth accelerated approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
- Apply Bridge Deck Concrete Sealer to the entire bridge deck, approach slabs and to the top and inside faces of bridge parapets and approach barriers.
- Clean existing bridge deck scuppers and approach drains.
- Remove and replace guardrail blockouts.
- Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the East and West Abutments and attached wingwalls (as required). Temporary Shoring and Cribbing is required at Girders 14 thru 16 at West Abutment, and at Girders 9, 11 and 16 at East Abutment, to perform Structural Repair of Concrete and/or bearing reset. Other areas of Temporary Shoring and Cribbing may be required as determined by the Design-Builder.
- Clean bridge seats at East and West Abutments.
- Reset existing Type I elastomeric expansion bearings at Girders 9, 11 and 16 of the East Abutment, and clean and paint existing fixed bearings at the West Abutment.
- Apply concrete sealant to all exposed surfaces of the abutments and wingwalls. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
- Perform slope wall crack sealing, slope wall repairs and slope wall partial removal and replacement (to broken and depressed areas) of the East and West Slope Walls. Partial removal and replacement are required at both ends of the East Slope Wall.
- Remove and replace Slope Wall Gap Filler at interface of East Slope Wall and East Abutment and clean debris at east and west slope wall toes.
- To prevent future erosion along the southwest wingwall and slope wall, install turf reinforcement mat or alternative measures as approved by the Tollway.

- *BN 1614 (SN 016-2557): IL Rte. 390 (WB) over Mitchell Boulevard*
  - Provide protective shield as required for deck slab repairs.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the north and south bridge parapets and approach barriers.
  - Perform partial- and full-depth accelerated deck slab repairs and perform partial-depth accelerated approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
  - Apply Bridge Deck Concrete Sealer to the bridge deck, approach slabs and to the top and inside faces of the bridge parapets and approach barriers.
  - Clean bridge seats at East and West Abutments.
  - Reset existing Type I elastomeric expansion bearings at Girders 1, 3 and 6 of the East Abutment and clean and paint fixed bearings at the West Abutment.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to the spalled/delaminated areas of the East and West Abutments and attached wingwalls (as required). Temporary Shoring and Cribbing is required at Girders 1, 3, 5 and 6 of the East Abutment, and at Girders 4, 6, 7 and 8 of the West Abutment, to perform Structural Repair of Concrete and/or bearing reset. Other areas of Temporary Shoring and Cribbing may be required as determined by the Design-Builder.
  - Apply concrete sealant to all exposed surfaces of the abutments and wingwalls. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.

- Perform slope wall crack sealing, slope wall repairs and slope wall partial removal and replacement (at broken and depressed areas) of the East and West Slope Walls. Partial removal and replacement are required at the following locations:
  - *West Slope Wall (Panels numbered from south)*
    - Isolated locations of Panels 1 and 3
    - East half of Panel 2
    - West portions of Panels 5 and 6
  - *East Slope Wall (Panels numbered from south)*
    - West half of Panel 3
    - Toe of all Panels
- Perform Slope wall gap filler removal and replacement at the interface of East Abutment and East Slope Wall.
- Repair eroded embankment at noted areas of the northwest and southwest wingwalls and slopewalls utilizing porous granular embankment, rip rap or other methods as approved by the Tollway.
- To prevent future erosion along the northwest and southwest wingwalls and slopewalls, install turf reinforcement mat or alternative measures as approved by the Tollway.

- *BN 1615 (SN 016-2560): IL Rte. 390 (EB) over CPRR Spur*
  - Provide protective shield as required above the CPRR tracks.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and structural repair of concrete to the spalled and delaminated portions of the north and south bridge parapets and approach barriers.
  - Perform full-depth accelerated deck slab repairs and perform partial-depth accelerated approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
  - Remove and replace West Abutment elastomeric expansion bearings for Girders 11, 13, 15 and 16, and East Abutment elastomeric expansion bearings at Girders 11, 13 and 14. Reset bridge expansion bearings at Girders 15 and 16 of East Abutment. Temporary Shoring and Cribbing is required at West and East Abutments for bearing replacement and bearing resetting. Temporary Shoring and Cribbing may be required at other locations as determined by the Design-Builder.
  - Apply Bridge Deck Concrete Sealer to the bridge deck, approach slabs and to the top and inside faces of the bridge parapets and approach barriers.
  - Perform beam end encasement repairs to the webs and bottom flanges of the PPC I-beam ends at Girders 12 through 16 at West Abutment and Girders 12, 14 and 16 at East Abutment. The Design-Builder shall prepare and submit the beam end encasement detail for Tollway Approval prior to the start of construction. Such detail, which may include coping of the new concrete, shall be required to allow full thermal movement of the structure.
  - Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and structural repair of concrete to the spalled/delaminated areas of the East and West Abutments, wingwalls and piers.
  - Clean bridge seats at East and West Abutments.
  - Apply concrete sealant to all exposed surfaces of the abutments, piers and wingwalls. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.

- *BN 1616 (SN 016-2559): IL Rte. 390 (WB) over CPRR Spur*
  - Provide protective shield as required above the CPRR tracks.

- Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to the spalled and delaminated portions of the north and south bridge parapets and approach barriers.
- Perform full-depth accelerated deck slab repairs and perform partial-depth accelerated approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
- Remove and replace West Abutment elastomeric expansion bearings for Girders 1 thru 4 and 6, and East Abutment elastomeric expansion bearings for Girders 1 and 3 thru 5. Reset existing West Abutment elastomeric expansion bearing at Girder 5 and East Abutment elastomeric expansion bearings at Girders 2 and 6. Temporary Shoring and Cribbing is required at West and East Abutments for bearing replacement and bearing resetting. Temporary Shoring and Cribbing may be required at other locations as determined by the Design-Builder.
- Apply Bridge Deck Concrete Sealer to the deck, approach slabs and to the top and inside faces of the bridge parapets and approach barriers.
- Perform beam end encasement repairs to the webs and bottom flanges of the PPC I-beam ends at Girders 1, 2, 4, 5 and 6 of the West Abutment and at Girder 6 of the East Abutment. The Design-Builder shall prepare and submit the beam end encasement detail for Tollway Approval prior to the start of construction. Such detail, which may include coping of the new concrete, shall be required to allow full thermal movement of the structure.
- Perform low-pressure epoxy injection to open cracks (1/16"-wide and wider) and perform structural repair of concrete to spalled/delaminated areas of the abutments, wingwalls and piers.
- Clean bridge seats at East and West Abutments.
- Apply concrete sealant to all exposed surfaces of the abutments, piers and wingwalls. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.

- *BN 1618 (SN 016-2562): Plum Grove Road over IL Rte. 390 EB/WB*
  - Clean bridge seats at North and South Abutments.
  - Clean and paint girders, bearing stiffeners, diaphragms, connection plates and bearings.
  - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to spalled/delaminated areas of the pier, abutments and curtain walls.
  - Temporary Shoring and Cribbing is required for all girders at the South Abutment due to Structural Repair of Concrete. Temporary Shoring and Cribbing may be required at other locations as determined by the Design-Builder.
  - Apply concrete sealer to all exposed surfaces of the abutments, curtain walls and pier. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
  - Perform slope wall crack sealing, slope wall repairs and slope wall partial removal and replacement (at broken and depressed areas) of the North and South slope walls. Partial removal and replacement are required at the southwest end of Panel 1 at the North Slope Wall.
  - Repair eroded embankment at noted areas of the northeast and southeast wingwalls and slope walls utilizing porous granular embankment, rip rap or other methods as approved by the Tollway.
  - To prevent future erosion along the northeast and southeast wingwalls and slope walls, install turf reinforcement mat or alternative measures as approved by the Tollway.

- *BN 1619 (SN 022-0179): IL Rte. 390 (EB) over Meacham/Medinah Road*
    - Provide protective shield as required for deck slab repairs.
    - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled and delaminated portions of the north and south bridge parapets and approach barriers.
    - Perform full-depth accelerated deck slab repairs and perform partial-depth accelerated approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
    - Clean approach drainage inlet at south side of west approach.
    - Apply Bridge Deck Concrete Sealer to entire bridge deck, approach slabs and top and inside faces of bridge parapets and approach barriers.
    - Remove and replace south guardrails at east and west approaches to meet current standards in accordance with Section 11, of this Book 2.
    - Reset existing West Abutment elastomeric expansion bearing at Girders 8A and 14, and perform structural steel repair to south bearing stiffener at Girder 14. Temporary Shoring and Cribbing is required for both Girders 8A and 14 due to resetting of bearing.
    - Clean bridge seats at abutments.
    - Clean and paint girder ends, bearing stiffeners, end diaphragms, connection plates and bearings at East and West Abutments.
    - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to spalled/delaminated areas of the abutments, wingwalls and pier (as required).
    - Apply concrete sealant to all exposed surfaces of the abutments, wingwalls and pier. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to Application of the concrete sealant.
    - Repair eroded embankment at noted areas of the East and West Abutment wingwalls utilizing porous granular embankment, rip rap or other methods as approved by the Tollway.
    - To prevent future erosion along wingwalls, install turf reinforcement mat or alternative measures as approved by the Tollway.

- *BN 1620 (SN 022-0222): IL Rte. 390 (WB) over Meacham/Medinah Road*
    - Provide protective shield as required for deck slab repairs.
    - Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to the spalled and delaminated portions of the north and south bridge parapets and approach barriers.
    - Perform full-depth accelerated deck slab repairs and perform partial-depth accelerated approach slab repairs. Alternate mix designs may be submitted by the Contractor for Tollway Approval.
    - Apply Bridge Deck Concrete Sealer to entire bridge deck, approach slabs and to the top and inside faces of bridge parapets and approach barriers.
    - Reset existing West Abutment elastomeric expansion bearings at Girders 1, 2, 5, 7 and 7A, and East Abutment elastomeric expansion bearings at Girders 1, 2, 4, 6 and 7B. Temporary Shoring and Cribbing is required for Girders 1, 2, 5, 7 and 7A at West Abutment, and for Girders 1, 2, 4, 6, and 7B at East Abutment, due to resetting of bearings.
    - Perform structural steel repair to north bearing stiffener at Girder 1 (West Abutment) and replace missing bolts at Girder 6 diaphragm connection at East Abutment.
    - Clean bridge seats at abutments.

- Clean and paint girder ends, bearing stiffeners, connection plates, end diaphragms and bearings at East and West Abutments.
- Perform low-pressure epoxy injection to open cracks (1/16”-wide and wider) and perform structural repair of concrete to spalled/delaminated areas of the abutments, wingwalls and pier (as required).
- Apply concrete sealant to all exposed surfaces of the abutments, wingwalls and pier. Existing surfaces shall be power washed in accordance with the applicable portions of Section 592 of the IDOT Standard Specifications for Road and Bridge Construction (IDOT SSRBC) prior to application of the concrete sealant.
- Repair existing failed embankment and concrete pipe culvert at Span 2 drainage outfall at east side of ramp roadway below the bridge in accordance with Section 12, of this Book 2.
- Repair eroded embankment at noted areas of the Northeast and Northwest wingwalls utilizing porous granular embankment, rip rap or other methods as approved by the Tollway.
- To prevent future erosion along the wingwalls, install turf reinforcement mat or alternative measures as approved by the Tollway.
- Repair exposed wires at north face of West Abutment in accordance with Sections 6 and 16 of this Book 2.

- *BN 1624 (SN 022-9501): Elgin O'Hare Ramp K1 over Ramps G2 & G3*
  - Clean and reseal Relief Joints.
  - Repair elevation difference (>3“) at joint between bridge and approach slab in Right shoulder at east side of bridge.

- *EO6.0VC, EB: Sign Structure: Cantilever, Vierendeel Truss at MP 6.0*
  - Perform structural repair of concrete at foundation.

- *EO6.9VT, EB: Sign Structure: Span, Vierendeel Truss at MP 6.9*
  - Furnish and install missing vertical support at south portion of sign panel.

- *EO8.2VC, EB: Sign Structure: Cantilever, Vierendeel Truss at MP 8.2*
  - Perform structural repair of concrete at foundation.

- *EO11.1T, EB: Sign Structure: Span, Tri-Chord Truss at MP 11.1*
  - Furnish and install structural steel support members for overhead sign structure such that spacing of vertical sign supports corresponds to Tollway standards.

- *EO8.90N-EB: Noise Wall: Steel Post and Concrete Panel, from MP 8.9 to 9.3*
  - Repair bearing failure at Panel No. 33 from west end of noise wall, near Exit 9, at Toll Plaza 328 and approximately 150 feet from the east end of noise wall. Perform removal, storage, and re-erection of precast concrete noise wall panel sections as required.
  - Perform structural repair of concrete at Panels 15 & 45 from east end of the walls.

- *EO10.10N-EB: Noise Wall: Steel Post and Concrete Panel at MP 10.10*
  - Perform Removal and replacement of noise wall Panels 86 and 87 (from west end of the noise wall) due to impact damage.
  - Perform structural repair of noise wall post damaged by vehicular impact.
  - Repair ditch landscaping damaged from previous vehicular accident and impacted by wall removal/replacement.

13.3.5 Base Sheets

Unless explicitly stated in this Section 13, Structures, the Design-Builder shall utilize the Illinois Tollway Base Sheets when preparing the Design Document submittals and Construction Document submittals.

13.3.6 Aesthetics

The Design-Builder shall ensure that any structural repairs to elements with existing aesthetic treatments (e.g., reveal pattern, fluting, etc.), including but not limited to structural repair of concrete, shall be performed in such a manner as to match the existing aesthetic treatment on the structural element being repaired.

13.4 Construction Requirements

13.4.1 General

The Design-Builder shall construct the Structures Work in accordance with the Illinois Tollway-Accepted RFC Documents, Construction Document submittals, Project Standards, applicable permits, and requirements of the Contract Documents.

The Design-Builder is prohibited from stockpiling materials or construction equipment on any structures within the limits of the Project. Storage and stockpiling of materials and construction equipment at locations away from structures shall be coordinated with, and subject to the approval of, the Illinois Tollway.

13.4.2 Construction Reports and Plans

In addition to the Construction Document submittal requirements of Section 2, Project Management, of this Book 2, the Design-Builder shall prepare the following reports and plans for construction Work:

- Protective Shield System Design in accordance with Section 8.3 of the *Illinois Tollway Structure Design Manual*
- Temporary Shoring Design in accordance with Section 8.4 of the *Illinois Tollway Structure Design Manual*
- Temporary Shoring and Cribbing Design in accordance with all applicable sections of the *Illinois Tollway Structure Design Manual*. The Design-Builder shall submit design calculations and plans, signed, and sealed by a Structural Engineer licensed in the State of Illinois, to the Illinois Tollway for Approval. Plans shall clearly indicate the locations of temporary shoring and cribbing as well as sequences of construction for the safe and effective performance of the work.

13.4.3 Standard Drawings

Unless explicitly stated in this Section 13, Structures, the Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings.

13.4.4 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project

Standards. In addition, the Design-Builder shall follow the methods and materials requirements specified in the subsections below.

13.4.4.1 Not Used

13.4.4.2 Erection Plan - Not Used

13.4.4.3 Concrete

Do not use lightweight concrete.

13.4.4.3.1 Timber (NOT USED)

Timber shall not be used as part of permanent structures.

13.4.4.4 Field and Shop Painting of Structural Steel

Cleaning and painting of existing steel structures and associated attached drainage elements shall be performed in accordance with Sections 12.7 and 16.5, respectively, of the *Illinois Tollway Structure Design Manual*. Existing Plans may be provided as supplemental information in determining the presence of lead paint on the existing structural steel elements (including bearings). However, the Illinois Tollway does not guarantee the accuracy of these existing plans nor their actual implementation in the field at the time of construction. It shall be the Design-Builder's responsibility to make the final determination regarding the presence of lead paint on any and all items to be cleaned and painted within the Project and adjust construction methods accordingly. All existing drawings shall be used at the discretion and sole risk of the Design-Builder.

Paint the insides of closed sections per standards with a single coat of white paint from the IDOT Approved/Qualified Products List.

13.4.4.5 Concrete Finish

If final concrete finishes are not applied prior to roadways being opened to traffic, protect the concrete from snow and salt spray until finishes can be applied. Remove temporary surface protection prior to applying concrete finish. Use high-pressure water blasting or sand blasting of the unfinished surfaces where protection is not effective in protecting unfinished surfaces.

13.4.4.6 Anti-Graffiti Coating - Not Used

13.4.4.7 Full-Depth Monolithic Decks - Not Used

13.4.4.8 Bridge Decks - Not Used

13.4.4.9 Retaining Walls - Not Used

13.4.5 Instrumentation/Monitoring Plan - Not Used

13.4.6 Removal of Miscellaneous Objects - Not Used

13.4.7 Disposal of Materials

The Design-Builder shall assume ownership of all material to be disposed of off-the Project Site.

13.4.8 Temporary Requirements

Throughout construction Work, the Design-Builder shall ensure temporary structures facilities are designed and constructed in accordance with this Section 13, Structures, and the applicable requirements of the *Illinois Tollway Structure Design Manual*.

The Design-Builder shall notify the Illinois Tollway seven (7) Days in advance of reductions in vertical clearances or when lane closures, lane reductions, or lane width restrictions are put into effect.

13.4.8.1 Falsework

Falsework shall be designed in accordance with the AASHTO Guide Design Specifications for Bridge Temporary Works. Shoring areas that are considered a risk to the traveling public shall require an independent design check with calculations signed and sealed by a Structural Engineer licensed in the State of Illinois. Falsework or shoring designs carrying live traffic shall be submitted to the Illinois Tollway for Acceptance ten (10) Days prior to construction.

13.4.8.2 Temporary Retaining Wall Structures - Not Used

13.4.8.3 Temporary Bridges - Not Used

13.5 Submittal Requirements

Whenever a Submittal identified in *Table 13-1, Section 13.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 13-1, Section 13.5 Submittal Requirements,* below. This *Table 13-1 Section 13.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 13–1: Section 13.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Alternate bridge rating software	13.2.3	PDF	3	10	5	Conceptual Design Document submittal
2	Design Equipment/Software List	8.2.3 13.2.3	PDF	2	10	5	NTP 2

Section 14

14 LANDSCAPE

14.1 General

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 14, Landscape, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design and construct landscape Work in accordance with:

- The Directive Designs
- The commitments of the Governmental Approvals and Environmental Approvals; and
- The Project Standards.

14.1.1 Landscape Requirements

The Design-Builder shall perform the necessary landscape Work, which may include, but is not limited to, the design, construction, establishment, and maintenance of landscaping elements and erosion and sediment control elements to ensure the protection of existing water resources, natural areas, and property. The Design-Builder shall perform the landscape Work in an effort to: (i) minimize impacts to water quality, aquatic ecosystems, and sensitive environmental resources before, during and after construction, (ii) prevent erosion and sediment damage to the roadway, and associated right-of-way and adjacent properties, and (iii) provide a landscape that is both visually and environmentally compatible and aesthetically pleasing with the surrounding areas.

14.2 Administrative Requirements

14.2.1 Standards

For landscape Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail.

Primary Project Standards:

- *Illinois Tollway Drainage Design Manual*
- *Illinois Tollway Erosion Control and Landscape Manual and Appendices*
- *Illinois Tollway Standard Drawings – Section K – Erosion Control and Landscape. (K1-12)*

Secondary Project Standards:

- *Illinois Tollway Design Section Engineer's Manual*
- *Illinois Tollway Construction Manager's Manual*
- *Illinois Tollway Computer Aided Design and Drafting (CADD) Standards Manual*

Tertiary Project Standards:

- *USDA-Wildlife Service Illinois Prohibited Airport Plant List*
- *USDA-Wildlife Service Illinois Preferred Airport Plant List*
- *Illinois Tollway Environmental Studies Manual*
- *IDNR – Interagency Wetland Policy Act of 1989 (20 ILCS 830/)*
- *IDOT Design and Engineering Policies*
- *IDOT Chapter 59 Landscape Design*
- *IDOT Standard Specification for Road and Bridge Construction*

- *A Code of Federal Regulations, Title 23 (Highways), Chapter 1, Part 752, Landscape and Roadside Development*
- *AASHTO A Guide for Transportation Landscape and Environmental Design*
- *International Society of Arboriculture and the Council of Tree and Landscape Appraisers Guide for Plant Appraisal, 9th Edition*
- *Remaining standards set forth in Book 3*

14.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

The Design-Builder shall have a 30% Concept Review Meeting with the Illinois Tollway to discuss all the described work, in this Book 2 Section 14, further and provide recommendations. All of the work described for the Design-Builder and Tasks should be addressed during the Concept Review Meeting. Coordination with local agencies may be necessary based on the Approved improvements.

14.2.3 Equipment/Software

The Design-Builder shall follow the Equipment and software requirements of the Project Standards.

14.2.4 Permits/Authorizations

The Design-Builder shall indicate in the Comprehensive Environmental Protection Plan (CEPP) which permits are necessary to obtain for the landscape Work, including those necessary for investigations. The Design-Builder shall perform all activities necessary to furnish landscape Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as Utility Owners, railroad owners, and railroad operators, as necessary, for landscape Design Document and Construction Document Submittals that potentially affect third parties.

14.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform the field investigations they deem necessary to complete the landscape Work.

14.2.6 Vegetative Assets

For any disturbed areas due to the scope of work in this Book 2, the Design-Builder shall inventory notable trees and map all Areas of Environmental Sensitivity (AES) and native vegetation. The Design-Builder shall incorporate this information in the Tree Preservation and Removal Plan sheets in the RFC Documents.

- Notable Trees are specimens and trees of principally native species which measure 6 inches in diameter or greater at 4.5 feet above finished grade. Exotic and or non-native tree species of sizes greater than 6 inches in diameter at 4.5 feet above finished grade will be evaluated on a case-by-case basis for preservation. Provide a reference number, size, genus, and species for each notable tree within or immediately adjacent to the project right of way which could be affected by proposed improvements with notation on inventory map. In cases where large stands of mature trees exist, the limits of the notable trees shall be indicated on the map.

- Noxious Weeds and Invasive Plants shall also be included in the Tree Preservation and Removal Plan for removal by the Design-Builder.

The Design-Builder shall consult the current state list of prohibited noxious weeds and invasive plant species located on the Illinois Department of Natural Resources and as applicable on local County websites.

The Design-Builder shall identify and map any areas of noxious weeds and invasive plant species in accordance with requirements established by Illinois Tollway, the Illinois Department of Natural Resources, and Cook and DuPage Counties to include invasive plants within the Project area that are likely to pose a challenge to native seeding. Noxious weed removal is to be done within areas that are disturbed and receiving seeding and turf restoration as outlined in the RFC plans.

It is not anticipated that the Design-Builder will have to include new plants or trees as part of the Landscape Design. The Design-Builder shall still be responsible for maintaining and replacing any impacted existing plants and trees.

14.2.7 Timber Utilization

If marketable timber on the Project exceeds 1,000 cubic yards, the Design-Builder shall seek to sell it and retain proceeds. If no buyers are located, the Design-Builder shall obtain written proof from three wood-using industries or individuals indicating that the wood is not wanted before disposing of the removed trees.

If disposal is necessary, burning or burial of wood is not allowed. The Design-Builder may chip or grind wood debris from clearing and grubbing operations (if it does not contain invasive or noxious vegetation) and use it for erosion control and compaction control within and around the Project limits.

14.2.8 Reports and Plans

The Design-Builder shall prepare the relevant Design Document and Construction Document Submittals in accordance with minimum requirements in Book 2, Section 2, Project Management and this Section 14, Landscape.

Additionally, the Design-Builder shall develop and submit, as necessary, the reports and plan prescribed throughout this Section 14.

The Design-Builder shall prepare plans in accordance with the Illinois Tollway design manuals. The Design-Builder shall prepare plans at a minimum scale of 1” = 50’ or larger if required to clearly show the design intent. The Design-Builder shall submit both a PDF set and set of drawings with each plan submittal; the file submission shall include all design files, model files, reference files, and Roads geometric data including alignment data and files.

14.3 Design Requirements

14.3.1 General

The Design-Builder shall design all erosion control and landscape in accordance with the *Illinois Tollway Erosion Control and Landscape Manual and Standard Specifications.*

14.3.2 Design Criteria

The Design-Builder shall adhere to the design criteria in the *Illinois Tollway Erosion Control and Landscape Manual,* and the *Illinois Tollway Standard Specifications for Planting Woody Plants, seeding, sodding and for Erosion and Sediment Control.*

14.3.3 Design Deviations (Not Used)

14.3.4 Additional Design Requirements

14.3.4.1 Landscape

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the landscape design meets the minimum permanent seeding/sodding, planting, removal, and care, protection of existing resources, grading and alignment, erosion control, drainage, visual quality, safety, historical influences, planting treatments, protection of existing plants, plant materials, and restoration of staging area requirements in Section 4 of the *Illinois Tollway Erosion Control and Landscape Manual*.

14.3.4.1.1 Erosion and Sediment Control

The Design-Builder shall implement temporary erosion and sediment control measures needed based on the proposed Work. Permanent erosion and sediment control measures will be required, based on investigations of the existing conditions that the Design-Builder will address during the Scope Validation Period, as mentioned in Section 14.2.5 - *Investigations / Supplemental Work.*

The locations shown in Table 14-1 have been identified as having existing erosion or sediment issues that the Design-Builder is required to correct. Exhibit 14B provides photos and descriptions of the Erosion defects provided below. The Design-Builder shall investigate each site, perform an analysis, and provide improvement recommendations to the Tollway for review and Approval. The Design Builder will then implement the improvements.

Table 14-1: Erosion OMS Tasks

Task ID	Direction	MP	Asset	Details
-	WB/EB	Varies	-	There is erosion and/or sediment built up at detention basins located along Westbound IL 390 at approximate MP 7.6, 11.3 and 12.3 and along Eastbound IL 390 at approximate MP 7.7.
-	EB	Varies	-	There is erosion present at the bioswales along Eastbound IL 390 at approximate MP 11.3, 12.4, 12.5 and 12.6.
18-12135	WB	8.3	BN 1612	East Abutment, South wingwall has adjacent erosion, from approach runoff, 40’x1’ w x1’ depth
18-12136	EB	8.3	BN 1611	East Abutment, North wingwall, adjacent erosion, 50’x2’x1’, from Approach water runoff
21-51903	WB	6.3	Non-Asset	Clearing debris and erosion repair.
15214	WB	8.8	Non-Asset	The light pole grading is low. Eroded grading results in a drop-off from the edge of shoulder to the foreslope. Just past the bridge parapet wall departure.

Task ID	Direction	MP	Asset	Details
16203	EB	9.4	Non-Asset	At the Roselle Rd. Off ramp (EB I 390 to Roselle Rd.) near the intersection the slope off the right turn lane to SB Roselle Rd. Heavy Erosion of the light pole grading.
16209	EB	9.5	Non-Asset	Aggregate graded area at light pole washed out in channels. At intersection of Roselle Road & EB exit ramp
21-55524	EB	7.6	Non-Asset	Binding joint with joint sealant missing in gutter at EB Approach at end of SE Wingwall, causing erosion below barrier base and slope erosion. SW wingwall/ barrier wall joint spalling.
15855	WB	9.45	BN 1617	Slope wall cracking and settlement on the north side, north abutment slope protection, 40'x10' panel, to east end, map cracked and settled 2-3", with cracking in adjacent panels
21-53157	WB	7.14	BN 1604	North abutment slopewall - Horizontal cracking. East panel has settled 1" near slope erosion.
25-065907	EB	12	Non-Asset	Erosion and bare areas on foreslope
21-102774	WB	12.1	Non-Asset	Bare area on the right slope
25-065959	EB	12.4	Non-Asset	Large bare area on foreslope
21-103005	EB	9.4	Non-Asset	Eroded area
25-050481	EB	12	Non-Asset	Minor shoulder erosion
24-254792	WB	13	Non-Asset	Large area of erosion
23-085886	EB	13	Non-Asset	Washout on slope

A preliminary field study was also conducted to assess the erosion issues along IL 390 from Lake Street to Meacham Road beyond those included in Table 14-1. A table is provided in Exhibit 14C with the locations found to have existing erosion concerns. Photographs taken during the Field Investigation are provided as well. A plan view is provided in Exhibit 14D with the locations and photos shown.

Similar to the Work for the defect in Table 14-1, the Design-Builder will be responsible for analyzing the defect locations in Exhibit 14D and providing recommendations to the Tollway for review and Approval, The Design-Builder shall include recommendations for these repairs as part of a Concept Submittal, so the Illinois Tollway can understand the extent of Existing Permanent Erosion. Permanent Erosion Improvement Recommendations should have minimal effects to the Wetlands and Waters of the US (WOUS). Any locations that impact an environmentally sensitive area shall be identified by the Design-Builder and

coordinated with the Illinois Tollway. Once Approved by the Tollway, the Design-Builder shall implement the improvements.

The Design-Builder shall also be responsible for all Landscaping and Erosion work for Structures per Section 13, Structures, of this Book 2. A list of repairs from Section 13 is provided in Table 14-2 with the Bridge Numbers that are associated with each repair type.

Table 14-2: Landscaping and Erosion Control Work on Structures

Repair Type	Bridge Numbers (BN)
Erosion Repairs and Turn Reinforcement Mat Installation	1600, 1602, 1604, 1605, 1606A, 1607, 1611, 1612, 1613, 1614, 1618, 1619, 1620
Repairing Eroded Embankments	1602, 1611, 1612, 1614, 1618, 1619, 1620

The Design-Builder shall implement all temporary and permanent Erosion Control and Landscaping measures as required for the Cleaning and Televising work described in Section 12.2.5.2 of this Book 2. Exhibit 12E identifies areas where Ditch Cleaning is needed. The Design-Builder shall provide erosion control measures at locations described in Exhibit 12E and as required to ensure proper erosion control. It will be the Design-Builder's responsibility to ensure that all proper measures are taken to minimize any impacts to wetlands and other environmentally sensitive areas.

14.3.4.1.2 Not Used

14.3.4.1.3 Not Used

14.3.4.1.4 Not Used

14.3.4.1.5 Not Used

14.3.4.1.6 Not Used

14.3.4.1.7 Not Used

14.3.4.1.8 Not Used

14.3.4.1.9 Not Used

14.3.5 Base Sheets

The Design-Builder shall utilize the Illinois Tollway Base Sheets when preparing the Design Document Submittals and Construction Document Submittals.

14.4 Construction Requirements

14.4.1 General

The Design-Builder shall construct the erosion control and landscape Work in accordance with the Illinois Tollway-Accepted RFC Documents, Construction Document Submittals, applicable permits, and requirements of the Contract Documents, and in accordance with the *Erosion and Landscape Manual*, and the *Standard Specifications for Erosion and Sediment control, Woody Plantings, seeding and sodding*.

14.4.2 Construction Reports and Plans

The Design-Builder will be responsible for submitting the Erosion and Sediment Control Plan (ESCP) in accordance with the *Illinois Tollway Erosion Control and Landscape Manual.* The manual includes an Erosion and Sediment Control Plan Technical Review Checklist for each milestone submittal, which is to be included with the ESCP milestone submittals.

14.4.3 Standard Drawings

The Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings.

14.4.4 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards. In addition, the Design-Builder shall follow the methods and materials requirements specified in the subsection(s), below.

14.4.4.1 Vegetation Preservation, Removal and Replacement

The Design-Builder shall follow all requirements of the *Illinois Tollway Erosion Control and Landscape Manual* regarding protection of existing plants, removals, and plant replacements. The Design-Builder shall remove tree protection fencing when the Project has reached Final Acceptance.

Provide supplemental watering and all other post-transplant care for new and transplanted trees during the term of the Contract in accordance with Illinois Tollway specifications.

Remove hazard trees, and any hazardous portions of trees using methods that prevent damage or injury to nearby vegetative assets, as indicated on the Vegetation Preservation and Removal plan sheets.

This work is applicable to areas that are disturbed by the Design-Builder due to the scope of work mentioned in Book 2.

14.4.4.2 Soils Management

The Design-Builder shall clearly mark such herbicide-treated stockpile areas to prevent disturbance prior to the required stockpile period.

14.4.4.3 Turf Establishment

For slopes of 1:3 or greater, the Design-Builder shall roughen existing soils before placement of topsoil so topsoil will bond with existing soil. BMPs for stabilization methods will be defined by Illinois Tollway Erosion Control and Landscape Manual and Illinois Tollway Standard Specifications.

This work is applicable to areas that are disturbed by the Design-Builder due to the scope of work mentioned in Book 2. Not Used

14.4.5 Removal of Miscellaneous Objects

The Design-Builder shall remove all subsurface elements in accordance with the Project Standards.

14.4.5.1 Noxious Weed Invasive Species Control

The Design-Builder shall remove noxious weeds/invasive species or treat areas. This may be done through the use of mowing or herbicides depending on the time in growth of the weeds cycle. The Design-Builder shall maintain maps indicating areas of noxious weed/invasive species control and records indicating name of applicator; date/time and method of application; and herbicide(s) name, strength, and quantity used throughout the Project duration to ensure:

- Treatment of noxious weeds/invasive species in areas left undisturbed.
- Proper placement of weed-infested soil in areas disturbed by construction activities.
- Topsoil treated with certain herbicides (those with residual soil activity) is not relocated to another part of the Project, except as noted in Section 14.4.6.

The Design-Builder shall retain all pesticide (herbicide) application records and maps and submit them to Illinois Tollway.

This work is applicable to areas that are disturbed by the Design-Builder due to the scope of work mentioned in Book 2.

14.4.6 Disposal of Materials

The Design-Builder shall assume ownership of all material to be disposed of off-the Project Site.

14.4.7 Temporary Requirements

Throughout construction Work, the Design-Builder shall ensure temporary erosion control and landscaping are designed and constructed in accordance with this Section 14, Landscape.

14.5 Submittal Requirements

Whenever a Submittal identified in *Table 14-3, Section 14.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 14-3, Section 14.5 Submittal Requirements,* below. This *Table 14-3, Section 14.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 14-3: Section 14.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Erosion and Sediment Control Plan	14.4.2	PDF	2	10	5	Construction
2	Erosion and Sediment Control Plan Technical Review Checklist	14.4.2	PDF	2	10	5	Construction

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
3	Recommendations for Proposed Erosion and Sediment Control Repairs based on Assessment	14.3.4.1.1	PDF	2	10	5	Submittal of RFC Designs

Section 15

15 VISUAL QUALITY MANAGEMENT

15.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 15, Visual Quality Management, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the visual quality management Work in accordance with:

- Directive Designs;
- Commitments of the Governmental Approvals and Environmental Approvals; and
- Project Standards.

15.2 Administrative Requirements

15.2.1 Standards

For visual quality management Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail.

Primary Project Standards:

- *Illinois Tollway Supplemental Specification and Special Provisions*
- *Illinois Tollway Special Provision Noise Abatement Wall Repair.*
- *Illinois Tollway INVEST Project Development Manual*
- *Illinois Tollway Drainage Design Manual*
- *Illinois Tollway Environmental Studies Manual*
- *Illinois Tollway Erosion Control and Landscape Manual*
- *Illinois Tollway Structure Design Manual*

Secondary Project Standards:

- *IDOT Policy and Procedures Public Act 93-0545 Context Sensitive Solutions*
    - *Context Sensitive Solutions Information (CSS)*
- *IDOT Chapter 59 Landscape Design Bureau of Design and Environment Manual*
- *IDOT OA Vegetation and Landscape Control Plan*
- *IDOT Standard Specifications for Road and Bridge Construction*

Tertiary Project Standards:

- *FHWA Flexibility in Highway Design*
- *AASHTO A Policy on Geometric Design of Highways and Streets*
- *American Society of Civil Engineers Practical Highway Aesthetics*
- *Secretary of the Interior's Standards for the Treatment of Historic Properties*
- *Remaining standards set forth in Book 3*

15.2.2 Visual Quality Manager (Not Used)

15.2.3 Meeting Requirements

15.2.3.1 Visual Quality Advisory Committee (Not Used)

15.2.4 Equipment/Software

The Design-Builder shall follow the Equipment and software requirements of the Project Standards.

15.2.5 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for the visual quality management Work, including those necessary for investigations. The Design-Builder shall perform all activities necessary to furnish the visual quality management Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as Utility Owners, railroad owners, and railroad operators, as necessary, for visual quality management Design Document Submittals and Construction Document Submittals that potentially affect third parties.

15.2.6 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform the investigations they deem necessary to complete visual quality management Work.

15.2.7 Reports and Plans

The Design-Builder shall prepare the relevant Design Document and Construction Document Submittals in accordance with minimum requirements in this Book 2, Section 15, Visual Quality Management.

15.2.7.1 Visual Quality Management Plan

Provide a Visual Quality Management Plan (VQMP) that defines the following:

- Methods for coordinating and interacting with Illinois Tollway.
- The role of the Design-Builder and Illinois Tollway in identifying areas or elements of the Project that present opportunities or concerns in the development of a visually acceptable design.
- Process for maintaining the record of visual quality recommendations and decisions throughout the project. Process for preparation of requisite exhibits of visual quality elements, plans, sketches, elevations, perspectives which accurately depict the proposed visual character of the elements suitable for presentation and communication to the Illinois Tollway project team, stakeholders, reviewing agencies and the public.

15.3 Design Requirements

15.3.1 General

This section includes design requirements for elements that will affect the Project's visual quality, which are referred to as visual quality elements in Section 15, Visual Quality Management.

The Design-Builder shall refer to Section 13.3.6, Aesthetics, of Book 2 for additional requirements.

15.3.2 Investigations/Supplemental Work (Not Used)

15.3.3 Design Criteria (Not Used)

15.3.4 Visual Quality Details

Prepare requisite exhibits of visual quality elements, plans, sketches, elevations, perspectives which accurately depict the proposed visual character of the elements suitable for presentation and communication to the Illinois Tollway project team, stakeholders, reviewing agencies and the public.

Include with Released for Construction (RFC) Documents details specifying forms, sizes, patterns, textures, colors, finishes, and any other visual quality components or elements in the Project as included in the Visual Quality Plan. This shall include aesthetic treatment details for the noise abatement wall repairs to match the existing adjacent noise wall panels.

15.3.5 Visual Quality Elements

Develop designs for and construct all visual quality elements of the Project in compliance with Section 15.3.5 and in the Visual Quality Plan described in Section 15.3.7. The Work performed in these elements shall maintain or enhance the visual quality and be in visual harmony with the surroundings.

Do not allow any other disciplines to design visual quality elements prior to Visual Quality Plan (VQP) Approval.

15.3.5.1 Bridges

The painting of the existing structures should be in accordance with Illinois Tollway *Structure Design Manual*, Section 12.7 Painting of Steel Structures and Special Provision *Cleaning and Painting Existing Steel Structures.*

For bridges where all the elements of superstructure (girders, diaphragms, bearings) are being painted (refer to Section 13.3.4.17) the color of the final finish coat for all interior steel surface shall be gray, Munsell No 5B 7/1. The color of the final finish coat for the exterior steel surfaces and bottom flanges of the fascia beams shall be Reddish Brown, Munsell No 2.5YR ¾.

For bridges where paint is applied only to specific areas of the girders, like bearings and end girder, (refer to Section 13.3.4.19) the Design-Builder shall match the existing color.

If no aesthetic enhancement is part of the work scope, the Design-Builder shall maintain the existing form line, color, texture, and pattern after repairs are done in any structural element of the bridge.

15.3.5.2 Retaining Structures (Not Used)

15.3.5.3 Noise Abatement Walls

Repairs and partial replacement of the noise abatement wall shall be in accordance with the Illinois Tollway *Structure Design Manual* Section 23, and Illinois Tollway *Special Provision*s.

The replacement of panel 86 and 87 of the wall E09.90N-EB shall be Ashlar Limestone with the form liner pattern as specified in the Special Provision *Noise Abatement Wall Repair*.

For all other repairs, the Design-Builder shall match and maintain the existing color, texture, and pattern of the wall.

15.3.5.4 Signing

This section applies to all signs installed on Illinois Tollway Right of Way as part of the Project, maintained by Illinois Tollway or other governmental agencies and including regulatory, advisory, directional, service, logo, and attraction signs. The Design-Builder shall consider the following restrictions pertaining to signs:

- Do not mount signs on bridges unless replacing existing signs on the same structure.
- Use uniform sign panel heights when sign placement requires more than one sign panel on a signing structure when possible. If multiple signs or sign structures are required to be mounted on the bridge(s), use signs that have the same vertical dimensions and mount them at the same elevation when possible.
- When mounting signs on bridge(s) required to service motorists passing under the bridge(s), attach the signs in an unobtrusive manner. Do not extend any part of a sign above the top of concrete portion of the bridge rail or below the bottom of the outside girder.

15.3.5.5 Pedestrian Railings (Not Used)

15.3.5.6 Surface Water (Not Used)

15.3.5.7 Slope Protection

This section applies to any non-structural treatment engineered to hold earth in a position equal to or less than a natural angle of repose. Slope protection includes paving, paved berms, riprap, and any bioengineered or vegetative method of slope stabilization.

- Employ the use of paving, riprap, or other engineered slope protection in areas where light and water conditions would adequately support vegetative cover that would stabilize slopes and control erosion unless approved by the Illinois Tollway.
- Provide articulated concrete block revetment protection in areas where natural light and water conditions will not support vegetation.
- On slope protection areas employ a consistent surface treatment or family of complementary surface treatments that are compatible with the overall theme and aesthetic character of the corridor.
- Provide pavement for boulevards that are less than 6 feet wide.

15.3.5.8 Culverts (Not Used)

15.3.5.9 Lighting, Signals, and Utilities

Do not place conduits at the following locations:

- Outboard side of box girders
- Outboard side of precast concrete fascia beams
- Along any external face of substructures, wingwalls abutments, bridge parapets, railings, vehicle barriers or pedestrian protection barriers.
- Along any external face of bridge deck overhang
- Internal or external face of Bicycle/Pedestrian underpass or navigable waterway culverts

15.3.6 Reports and Plans (Not Used)

15.3.7 Visual Quality Plan

Produce a VQP that sets forth design intention and details for bridge painting and noise abatement wall repairs noted in Section 15.3.5 (Visual Quality Elements). Comply with the VQP and Section 15.3 when developing RFC documents for the Project.

Include in the VQP a descriptive narrative and graphic exhibits thoroughly illustrating all aesthetic details to be employed on the Project. Include color palette, texture, and details, such as Plans, elevations, sections, and perspective sketches of all aesthetic details.

Present a draft VQP to the Illinois Tollway. Submit PDF of complete document. Include in the draft VQP all drawings and text necessary to convey the requirements of this Section 15.3.

Revise VQP as needed and, within 10 Days of Illinois Tollway Approval. Submit a complete PDF of the Approved VQP to the Illinois Tollway.

Obtain approval for any visual quality elements not covered in the VQP that the Design-Builder intends to incorporate in the Project design. Approval of any such elements is required; these designs and approvals then become part of the Approved VQP for the Project.

15.3.8 Base Sheets

The Design-Builder shall utilize the Illinois Tollway Base Sheets when preparing the Design Document Submittals and Construction Document Submittals.

15.4 Construction Requirements

15.4.1 General

The Design-Builder shall construct the visual quality Work in accordance with the Illinois Tollway-accepted RFC Documents, Construction Document Submittals, applicable permits, and requirements of the Contract Documents.

15.4.2 Construction Reports and Plans (Not Used)

15.4.3 Standard Drawings

Unless explicitly stated otherwise, the Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings.

15.4.4 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall refer to Section 5, Quality Management, of this Book 2, for quality requirement. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards. In addition, the Design-Builder shall follow the methods and materials requirements specified in the subsection(s), below.

15.4.5 Mock-Ups

Provide mock-ups or samples for the items described in this Section 15.4.5 a minimum of 15 Days prior to construction or installation of each element.

Mock-ups or samples Accepted by Illinois Tollway become the reference standard(s) for the Project. Maintain the reference standard(s) undisturbed until Substantial Completion of the Project.

15.4.5.1.1 Retaining Structures

Construct a minimum 4-foot by 4-foot mock-up for each type of retaining wall as indicated by the VQP for Acceptance by Illinois Tollway. The mockup is to include a full exposure of a 4’x4’ surface of the wall and the full-scale example of the coping. In the case where multiple textures are to be provided on a project, only one coping example is required if a similar design project is wide.

15.4.5.1.2 Bridges (Not Used)

15.4.5.1.3 Noise Abatement Walls

Construct a mock-up of the proposed Project noise wall repair. If applicable, stain shall be applied to front face of mockup of type color and technique to be used in final construction in accordance with Illinois Tollway Supplemental Specifications and Special Provisions.

15.4.6 Instrumentation/Monitoring Plan (Not Used)

15.4.7 Removal of Miscellaneous Objects (Not Used)

15.4.8 Disposal of Materials

The Design-Builder shall assume ownership of all material to be disposed of off-the Project Site.

15.4.9 Temporary Requirements (Not Used)

15.5 Submittal Requirements

Whenever a Submittal identified in *Table 15-1, Section 15.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 15-1, Section 15.5 Submittal Requirements,* below. This *Table 15-1, Section 15.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 15-1 Section 15.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Visual Quality Management Plan	15.2.7.1	PDF	2	10	5	Construction

Section 16

16 SIGNING, PAVEMENT MARKINGS, TRAFFIC SIGNAL, AND LIGHTING

16.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 16, Signing, Pavement Marking, Traffic Control Signal, and Lighting, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design and construct Pavement Markings, Traffic Signal Loop Detectors, and lighting Work in accordance with:

- Directive Design;
- Commitments of the Governmental Approvals and Environmental Approvals; and
- Project Standards.

16.1.1 Pavement Markings, Traffic Signal Loop Detector, and Lighting Requirements

The Design-Builder shall perform the necessary Pavement Markings, Traffic Signal Loop Detector, and Lighting Work.

16.2 Administrative Requirements

16.2.1 Standards

For Pavement Markings, Traffic Signal Loop Detector, and Lighting Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail.

Primary Project Standards:

- *Illinois Tollway Roadway Signing and Pavement Marking Guidelines*
- *Illinois Tollway Guidelines for Roadway Illumination*
- *Illinois Tollway Structure Design Manual*
- *Illinois Tollway BIM Implementation Manual*
- *Illinois Tollway Computer Aided Design and Drafting (CADD) Standards Manual*
- *Illinois Tollway Design Section Engineer's Manual*
- *Illinois Tollway Standard Drawings*
- *IDOT Standard Specifications for Road and Bridge Construction*
- *Illinois Tollway Supplemental Specifications*
- *Illinois Tollway Base Sheet Drawings*
- *Illinois Tollway Design Bulletins*
- *Illinois Tollway Construction Bulletins*
- *Illinois Tollway Roadway Signing and Pavement Marking Guidelines*
- *Illinois Tollway Traffic Generator Sign Policy*
- *Illinois Tollway Traffic Generator Decision Tree*
- *Illinois Tollway Roadway Signing and Pavement Marking Guidelines*
- *Illinois Tollway Standard Drawing Section D*
- *Illinois Tollway Intelligent Transportation Systems (ITS) Deployment Manual*
- *IDOT District One Special Provisions*

- *IDOT District One Traffic Signal Detail Sheets*
- *IDOT District One Traffic Signal Design Guidelines*
- *IDOT Bureau of Design and Environment (BDE) Manual*
- *IDOT District One CADD Standards (Traffic Signal Cell Library)*
- *National Electric Code*
- *Illinois Tollway Guidelines for Roadway Illumination*
- *Illinois Tollway Standard Drawings Section H - Lighting*
- *ANSI/IES RP-8 (latest edition) Recommended Practice: Lighting Roadway and Parking Facilities*
- *AASHTO Roadway Lighting Design Guide*
- *IDOT District One Lighting Design Guidelines*
- *IDOT District One Lighting Detail Sheets*
- *IDOT Bureau of Design and Environment Manual*

Secondary Project Standards:

- *FHWA Manual on Uniform Traffic Control Devices*
- *FHWA Standard Highway Signs and Markings*
- *FHWA Lighting Handbook*
- *AASHTO A Policy on Geometric Design of Highways and Streets*
- *AASHTO Roadside Design Guide*

Tertiary Project Standards:

- *IDOT Illinois Supplement to the FHWA Manual on Uniform Traffic Control Devices*
- *IDOT Sign Structures Manual*
- *IDOT District One Signing Design Guidelines*
- *IDOT District One Traffic Signal Design Guidelines*
- *IDOT District One Lighting Design Guidelines*
- *IDOT Highway Standard Drawings*
- *Remaining standards set forth in Book 3*

16.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2. The Design-Builder shall have a 30% Concept Review Meeting with the Illinois Tollway to discuss this section further and provide recommendations. Coordination with local agencies may be necessary based on the accepted improvements.

16.2.3 Permanent Signing Meetings (Not Used)

16.2.4 Equipment/Software

The Design-Builder shall follow the Equipment and software requirements of the Project Standards.

The Design-Builder shall refer to the Illinois Tollway Roadway Signing and Pavement Marking Guidelines Manual for preparation of sign illustrations, diagrams, and panel layouts.

The Design-Builder shall refer to the Illinois Tollway CADD Manual for Software Requirements.

The Design-Builder shall prepare plans in accordance with the Illinois Tollway design manuals. The Design-Builder shall prepare plans at a minimum scale of 1” = 50’ to clearly show the design intent. The Design-Builder shall submit both a PDF set and MicroStation set of drawings with each plan submittal; the MicroStation file submission shall include all design files, model files, reference files, and geometric data including alignment data and files.

16.2.5 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for pavement markings, and lighting Work, including those necessary for investigations. The Design-Builder shall perform the required activities necessary to furnish the pavement markings, traffic signals, and lighting Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as IDOT, county, Utility Owners, railroad owners, and railroad operators, as necessary for pavement markings, and lighting Design Document and Construction Document Submittals that potentially affect third parties.

16.2.6 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform the field investigations they deem necessary to complete the pavement markings, traffic signals, and lighting Work.

16.2.6.1 Signing Inventory (Not Used)

16.2.6.2 Foundations (Not Used)

16.2.6.3 Photometric Analysis (Not Used)

16.2.7 Reports and Plans

The Design-Builder shall prepare the relevant Design Document and Construction Document Submittals in accordance with minimum requirements in this Book 2, Section 16, Signing, Pavement Marking, Traffic Signal, and Lighting.

The Design-Builder shall submit a Concept Lighting Report outlining the existing conditions and the proposed recommendations from the Design-Build team.

16.3 Design Requirements

16.3.1 General

The Design-Builder shall design Pavement Markings, Traffic Signal Loop Detector, and Lighting to be integrated with streets and roadways adjacent or connecting to the Project, without adversely affecting the adjoining/adjacent roadways.

The Design-Builder shall design transitions to and from the Project Limits, as necessary, accounting for width transitions, roadway geometric changes, and safety appurtenances, at a minimum.

The Design-Builder shall include the following improvements, at a minimum:

- Adjust or install utilities as necessary and in accordance with Section 6, Utilities of these Technical Provisions to accommodate the new Lighting Controller; and
- Maintain roadway access points per the Project Standards.
- All work described in this Book 2, Section 16.

The Design-Builder shall design roadways to incorporate necessary roadway appurtenances, including but not limited to ROW fences, guard rail, barriers, signing, loop detector, highway lighting, and hazard protection as required and as necessary to promote safety for the traveling public and adjacent properties.

16.3.2 Design Criteria

16.3.3 Signing

The Design-Builder shall be responsible for ensuring that wrong-way signing on all exit ramps, not including the IL 390 and I-290 Interchange, meets the standards specified in Section 5.7.18 Wrong Way Sign Assembly (Illustration R-IT18) of the *Illinois Tollway Roadway Signing and Pavement Marking Guidelines*. The Design-Builder will be responsible to install Wrong Way Signing on any of the exit ramps that are missing Wrong Way Signing or have existing Wrong Way Signing that does not meet current Illinois Tollway Standards. This includes a second set of Wrong Way Signs as specified in the *Illinois Tollway Roadway Signing and Pavement Marking Guidelines* listed below. There are also some potentially relevant Sign Placement and Pavement Marking Illustrations in the *Illinois Tollway Roadway Signing and Pavement Marking Guidelines* that the Design-Builder shall follow and are listed below:

- Illinois Tollway Roadway Signing and Pavement Marking Guidelines
    - SP-IT5B Exit Ramp Standard Wrong Way Signage
    - SP-IT5C Exit Ramp Standard Wrong Way Signage
    - SP-IT8 Oasis
    - SP-IT2A Diamond Interchange
    - SP-IT5A Partial Cloverleaf Interchange
    - SP-IT14B Diverging Diamond Interchange (Local Road Signage)
    - SP-IT15 Single Point Urban Interchange
    - SP-IT18 AET Converted Exit Ramp Plaza
    - SP-IT20A Typical All Electronic Toll Signing
    - PM-IT7 Pavement Marking Illustration

This work shall also be in compliance with Illinois Tollway Standard Drawing D4-09 – Roadway Delineators and Reflectors.

The Illinois Tollway did a preliminary review to identify locations where the Wrong Way Signing was damaged, missing or needed to be brought up to standard, and where Pavement Markings regarding Wrong Way were either missing or fading. The systemwide sign shop will manufacture the signs and provide them to the Design-Builder. The Design-Builder will be responsible for installing the proper signage and pavement marking at the locations provided in Table 16-1. If the Design-Builder identifies any other locations where the Wrong Way Signage and Pavement Markings do not comply with Illinois Tollway Standards, these locations will also be part of the Design-Builder's responsibilities.

Table 16-1: Wrong Way Signing and Pavement Marking Locations

Milepost	Exit #	Ramp	Crossroad	Movement	Turn Prohibition (Sign R3-2)	Second WW Sign Assembly (Sign R-IT18)	Delineators (Illinois Tollway	Wrong Way Arrow Marking	Left / Right or Through Lane-Use Arrow	Stop Bar (PM IT-7)
6	6	Lake 4	Lake St	WB IL 390 to Lake St		X	X	X		
7.1	7	B1	Gary Ave	WB IL 390 to SB Gary Ave		X	X	X		
7.3	7	A2	Springinsguth Rd	EB IL 390 to Irving Park Rd and Springinsguth Rd		X	X	X		X
7.3		Collector Road	Irving Park Rd to Springinsguth Rd					X		
7.3		Collector Road	Springinsguth Rd to Irving Park (Frontage Rd)					X		
7.5	7	A4	Irving Park Rd	WB IL 390 to Irving Park Rd			X	X		
8.3	8	C4	Wright Blvd	WB IL 390 to Wright Blvd	X (one facing SB Wright Blvd)		X	X		
9.4	9	D4	Roselle Rd	WB IL 390 to Roselle Rd	X (two facing NB/SB Roselle)	X	X	X		
9.4	9	D2	Roselle Rd	EB IL 390 to Roselle Rd	X (two facing NB/SB Roselle)	X	X	X		
11.2	11	E4	Meacham Rd	WB IL 390 to Meacham Rd	X (two facing NB SB Medinah)	X	X	X		
11.2	11	E2	Meacham Rd	EB IL 390 to Meacham Rd & Rohlwing Rd (IL 53)	X (two facing NB SB Medinah)	X	X	X	X	X
11.2		Collector Road	Meacham Rd to IL-53				X	X		
12	12	K1	IL-53 (Rohlwing Rd)	WB IL 390 to Rohlwing Rd			X	X	X	X

Note: An “X” denotes that the sign or pavement marking is potentially needed for the respective location

16.3.4 Pavement Markings

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the pavement marking design meets, at a minimum, the requirements in Section 11 and 12 of the *Illinois Tollway Roadway Signing and Pavement Marking Guidelines* and follows *Tollway Standard Drawings D5 and D6*.

Provide permanent pavement markings along the IL 390 mainline from Lake Street to Meacham Rd, including the Ramps within those limits. Ramp K1, at Rohwling Road, will also require pavement marking enhancements as described above for the Wrong Way Pavement Markings. The Design-Builder shall remove existing pavement markings prior to placing permanent pavement markings. The Design-Builder for the Project shall follow the *Illinois Tollway Roadway Signing and Pavement Marking Guidelines* and the *Illinois Tollway Special Provision for Multi-Polymer Pavement Marking and for Pavement Marking and Marker Removal*, unless otherwise specified in this Section 16, Signing, Pavement Marking, Traffic Control Signal, and Lighting.

16.3.5 Traffic Signal Existing Loop Detectors

There are 10 Loop Detectors impacted by the Asphalt Overlay and 2 Loop Detectors impacted by Class B Ramp Patching. Out of the 10 Loop Detectors within the overlay limits, 9 have been abandoned by the Tollway. The Design-Builder will not be responsible for any work on the abandoned Loop Detectors.

The Design-Builder will be responsible for replacing any of the impacted Loop Detectors shown below in Table 16-2. These are all related to the Traffic Signal Interconnect Plans and Schematics. The Design-Builder shall minimize the impacts to the overall Existing Traffic Signal Interconnect System and ensure new Loop Detectors are installed according to the Project Standards. Coordination with IDOT and local agencies will be required for these repairs and documentation showing this coordination shall be submitted to the Tollway. Prior to initiating agency coordination, the Design-Builder shall submit all exhibits and documentation to the Illinois Tollway Project Manager. The Design-Builder shall obtain design approval and construction acceptance from IDOT, other agencies, and/or the Illinois Tollway, and obtain any necessary permits based on the coordination.

Table 16-2: Loop Detectors Impacted by Patching

Location	Ramp	Station	Bound	Impact Due To:
1	WB IL 390 Exit Ramp to Wright Blvd	119+30.53	WB	Patching
2	EB IL 390 Exit Ramp to Meacham Rd	214+57.65	EB	Patching

The Design-Builder shall also be responsible for maintaining any functioning existing loop detectors. If any other Roadway or Pavement Work is included by the Design-Builder that impacts loop detectors, it shall be the Design-Builder's responsibility to coordinate with the Tollway and provide repairs for these areas.

16.3.6 Lighting

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the lighting design meets, at a minimum, the requirements in the *Illinois Tollway Guidelines for Roadway Illumination*.

16.3.6.1 Permanent Lighting Released for Construction Documents

At a minimum, include the following in the lighting design Plans:

- General lighting notes, symbol legend, cable tag legend, luminaire distribution type chart, and schedule of quantities.
- Proposed lighting plans.
- Electric service pedestal and service locations as required, including utility transformer type.
- Lighting controller "LC-A" cabinet location as required, including foundation type.
- Required wire, cable, and terminations needed for the complete operation of the lighting system.
- Conduit, manholes, handholes, and junction boxes required for installation.
- Conduit sleeves underneath roadways.
- Single Line Wiring diagrams.
- Details and Standard Drawings.
- Approved Illinois Tollway LED lighting luminaires.
- Lighting poles as specified, including foundations.

16.3.6.2 Permanent Lighting Requirements

Replace any existing lighting impacted by construction. Remove and replace the existing wiring from the lighting unit impacted to the nearest handhole/light pole or the next handhole/light pole not impacted. If the wiring is damaged, provide new wiring. Expected permanent lighting shall include replacement of any luminaires that are non-functional. Replacement lights shall match existing roadway lighting.

16.3.6.3 Project Specific Lighting Requirements

Incorporate the applicable Illinois Tollway Special Provisions in the design, make any necessary modifications, and submit the revised special provisions for the Project to Illinois Tollway for Acceptance prior to submittal of the Released for Construction Documents.

Lighting Controller A "LC-A" shall be relocated from the existing location to a more accessible location by the Design-Builder. The proposed location shall be reviewed and approved by the Tollway prior to any work. The controller shall have a foundation that meets Tollway Standard drawing H7-04 EXTERIOR CONSOLE FOUNDATION DETAILS while the controller shall meet H6-06 EXTERIOR CONSOLE DETAILS.

The power feed shall be metered, with the meter on Tollway property per Tollway Standard drawing H5-06 SERVICE POLE AND PEDESTAL DETAILS.

The Design-Builder shall maintain lighting illumination in the project corridor. When required, temporary lighting shall be installed when permanent lighting is removed for bridge or roadway work. Upon the completion of bridge or roadway work that impacts lighting, the Design-Builder shall install new replacement conduit, wiring and luminaires.

The Design-Builder shall demonstrate to the satisfaction of the Tollway that the lighting system is operational.

Other than LC-A, all remaining Lighting Controllers within the project limits, from Lake Street to I-290, are to have the mechanical relays replaced with electric relays.

In the overlay limits between Lake Street and Irving Park Road, the side slope profile at each lighting unit shall meet the requirements of Standard H1-13, except if two conditions exist concurrently: A guardrail protects the light post and performing regrading would conflict with environmental features. For the lighting work within the project limits, the light pole grading shall be brought to standard except if H1 grading conflicts with Wetlands, Waters of the US (WOUS), existing BMP's and other environmentally sensitive areas.

Between Lake Street (MP 6.0) and Irving Park Road (MP 7.6), the regrading and/or adjusting of helix foundations of light poles to conform with H1 grading standards shall be included as part of the Design-Builder's lump sum cost. Light pole replacement is not included in the scope of work for the Design-Builder.

Pole foundation inspections between Lake Street and Irving Park Road shall include, but are not limited to:

- High grading around base covering breakaway device.
- Low grading exposing >4" at the stub of the breakaway support.
- Pole with exposed foundation.

During activities for the light poles, the Design-Builder shall:

- Verify that all existing unshielded ground mounted light poles to remain include an FHWA approved breakaway device. Any units noted without such device shall be required to have one added regardless of nature of work.
- Verify that all existing structure mounted light poles to remain DO NOT include an FHWA approved breakaway device. Any units noted with such a device shall be required to have the device removed regardless of nature of work.
- Perform field assessment to determine if grading around existing non-shielded ground mounted light poles to remain is in conformance with current Illinois Tollway standards or in need of repair. Perform field assessment to determine if existing lighting infrastructure (i.e., poles, foundations, conduit, and wiring) needs repair.

During activities for Lighting Controllers, the Design-Builder shall:

- Perform field assessment of existing lighting controllers to determine visual condition. Any controller found with mechanically held contactors shall be retrofit with electrically held contactors. Any existing lighting controllers found to have excessive earth built up or without a concrete work platform shall be required to have grading or other means to prevent excessive earth and provide concrete work platform.
- For access to Lighting Controllers identified in Table 16-3, coordinate with Illinois Tollway Roadway Electric a minimum of three (3) weekdays in advance. The point of contact is Eric Johnson (erjohnson@getipass.com) at (630) 361-3275. Roadway Electric hours are 7:00 am to 3:00 pm, therefore the Design-Build team must schedule Plaza work to be completed within these constraints.

Table 16-3: Lighting Controller Contactor Upgrades

Name	STA	EB/WB
LCTP1 (in Plaza 330)	686+75	EB
LCTP2 (in Plaza 328)	814+50	EB
LCTP3 (in Plaza 326)	901+25	EB
LC-H	990+00	WB
LC-I (on Ramp G3)	362+00	EB

The Design-Builder shall design a revised circuit layout for an excessive length of conduit near IL-20 on the EB side of IL-390 from MP 6.25 to Plaza 330. This is identified as a span of cable over 2,000 feet long without a pull point to enable repairs. During activities to correct the excessive conduit lengths, the Design-Builder shall:

- Modify the conduit run so that the maximum permissible distance without a pull point is 500 feet.
- Ensure that wetlands and environmentally sensitive areas are avoided in the proposed layout.
- As part of correcting the circuit layout near IL-20, the Design-Builder shall ensure that a handhole is used if there is a change in direction of conduit which exceeds 45° in the run.
- The Design-Builder shall recircuit the Lake Street (IL-20 EB) ramp lighting between EB IL-20 ramp Station 670+00 and WB IL-20 to IL-390 ramp STA 315+00. The Design-Builder shall review the historical drawings and rewire the specific circuit to remove the field modification. The Design-Builder shall obtain Tollway approval prior to work. The Design-Builder shall bore underneath the roadway and not impact the existing pavement or other equivalent methods as Approved by the Tollway.

The Illinois Tollway has identified general locations where the lighting has a defect described above. In addition to the work described above, the Design Builder shall analyze, provide recommendations and perform improvements for the tasks described in Table 16-4. Exhibit 16G provides photos and descriptions of the lighting defects specified. For the below tasks, the removal and replacement of the light poles to correct grading deficiencies is not included in the scope of work. If the light poles do not conform to the standard H1 grading, the light poles listed below between Irving Park Road (MP 7.6) and I-290 (MP 13.0) that exhibit high, low, or incorrect H1 grading shall be brought to H1 standard grading by excavation or fill, or adjusting the helix foundation less than 6", upon the Resident Engineer's approval. Areas of known non-conformance to standard H1 grading are provided in Table 16-4. Payment for regrading and/or adjusting of helix foundations for light poles to conform with H1 grading standards, between Irving Park Road (MP 7.6) and I-290 (MP 13.0), will be included in the "Allowance for Maintenance Repair".

Table 16-4: Lighting OMS Tasks

Task ID	Bound	Start MP	End MP	Details
16310	EB	7.6	8	Irving Park Rd. On-ramp. Low: 2 poles. Incorrect H1 grading: 2 poles.
16264	WB	7.75	7.5	High: 3 poles. Incorrect H1 grading: 5 poles. Hardware Missing: 1 pole.
16317	WB	7.8	7.55	Irving Park Rd. off-ramp. high: 2 poles. Incorrect H1 grading: 1 pole.
16263	WB	8	7.75	Incorrect H1 grading: 1 pole.
16287	EB	8	8.25	Low: 4 poles. High: 1 pole. Incorrect H1 grading: 2 poles.

Task ID	Bound	Start MP	End MP	Details
16322	EB	8.3	8.8	Low: 2 poles. High: 5 poles. Incorrect H1 grading: 5 poles.
16288	EB	8.5	8.75	Low: 1 pole.
15214	WB	8.8		The light pole grading is low. Eroded grading is resulting in a drop-off from the edge of shoulder to the foreslope. Just past the bridge parapet wall departure.
16311	EB	9.1	9.45	Roselle Rd. off-ramp: Low: 5 poles. Incorrect H1 grading: 8 poles. Missing hardware: 1 pole.
16291	EB	9.25	9.5	Low: 2 poles.
16305	WB	9.4	9.2	Roselle Rd. on-ramp. Incorrect H1 grading: 1 pole.
16203	EB	9.45		At the Roselle Rd. Off ramp (EB I 390 to Roselle Rd.) near the intersection the slope off the right turn lane to SB Roselle Rd. Erosion of the light pole grading, severe.
16257	WB	9.5	9.25	Low: 1 pole. High: 1 pole. Incorrect H1 grading: 2 poles.
16209	EB	9.5	9.5	Aggregate graded area at light pole washed out in channels. At intersection of Roselle Road & EB exit ramp
16312	EB	9.5	9.8	Roselle Rd. on-ramp. Moving EB. Foundation exposed: 1 pole. High: 1 pole. Incorrect H1 grading: 2 poles.
16304	WB	9.8	9.45	Roselle Rd. off-ramp. Low: 1 pole. Incorrect H1 grading: 1 pole.
16256	WB	9.75	9.5	Low: 2 poles. Incorrect H1 grading: 1 pole.
15196	WB	9.85	9.85	L.P. breakaway base buried
16255	WB	10	9.75	Low: 1 pole. High: 1 pole. Incorrect H1 grading: 2 poles. Missing hardware: 1 pole.
16254	WB	10.25	10	Incorrect H1 grading: 1 pole. Missing hardware: 2 poles.
16163	WB	10.5		The pole grading is not per standard H1 due to the slope regrading in an effort to alleviate the negative drainage.
16253	WB	10.5	10.25	Incorrect H1 grading: 2 poles. Missing hardware: 1 pole.
16303	WB	11.2	10.8	Meacham On-ramp. Moving WB. 1 pole with exposed helix.

The Design-Builder shall also be responsible for all Lighting work for Structures per Section 13, Structures, of this Book 2. A list of repairs from Section 13 is provided in Table 16-5 with the Bridge Numbers that are associated with each repair type.

Table 16-5: Lighting Work on Structures

Repair Type	Bridge Numbers (BN)
Install Light Pole Protection Boxes at Light Standards	1602, 1605, 1606, 1607, 1608

16.3.7 Base Sheets

Unless explicitly stated in this Section 16.3.7. The Design-Builder shall utilize the Illinois Tollway Base Sheets when preparing the Design Document Submittals and Construction Document Submittals.

16.4 Construction Requirements

16.4.1 General

The Design-Builder shall construct the Pavement Marking, Traffic Signal Loop Detector, and Lighting Work in accordance with the Illinois Tollway-accepted RFC Documents, Construction Document Submittals, applicable permits, and requirements of the Contract Documents.

16.4.2 Construction Reports and Plans

16.4.2.1 Lighting Shop Drawings

Include the following in shop drawings and product data:

- Poles and mast arms, for each type and size.
- Foundations.
- Service and control cabinets, including their physical arrangement, dimensions, internal components, photoelectric controls, and wiring diagrams.
- LED luminaires, drivers, and surge suppressors.
- Fuse holder kits, fuses, and insulating boots.
- Conduit and cabling.
- Junction boxes and handholes.

16.4.3 Standard Drawings

The Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings.

16.4.4 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards. In addition, the Design-Builder shall follow the methods and materials requirements specified in the subsection(s), below.

Use materials listed in the Illinois Tollway Supplemental Specifications and Special Provisions, along with the Project Standards, for Pavement Markings, Traffic Signal Loop Detector and Lighting unless specified in Section 16.3.1.

16.4.4.1 Signing

Mark in the field locations of the proposed signs and conduct a construction design review with Illinois Tollway before installation. Obtain Illinois Tollway Acceptance of required sign locations in the field prior to installation.

16.4.4.2 Pavement Marking

Provide the retroflectivity of the pavement markings per MUTCD Section 3A.04.

The pavement markings shall also be grooved and follow Section 784 of the *Illinois Tollway Supplemental Specifications and IDOT Standard Specifications for Road and Bridge Construction.* The Design-Builder shall follow the *Illinois Tollway Roadway Signing and Pavement Marking Guide and Illinois Tollway Standard Drawings.*

16.4.4.3 Traffic Signal – (Not Used)

16.4.4.3.1 Electrical Service – (Not Used)

16.4.4.3.2 Operation and Maintenance – (Not Used)

16.4.4.3.3 Signal Salvage – (Not Used)

16.4.4.4 Lighting

Provide the Illinois Tollway with separate lighting systems and separate electrical feed per controller.

Provide separate conduit for lighting. Provide a minimum 2-inch-diameter conduit for lighting systems. If the existing conduit within the Project limits is greater than 2 inches, provide the same size conduit.

Provide maintenance for permanent lighting installations under the Contract until Substantial Completion of the Project.

16.4.4.4.1 Source of Power

Provide required electric service locations. Coordinate with the local electric Utility to provide the power service connection. Coordinate the location and number of sources of power with any public partner maintenance agreements. Place location of sources of power to allow for the appropriate electrical billing of each public Utility. Contact the electric Utility to determine the source of power. Required new and upgraded lighting controllers shall be metered.

Where the power cables traverse underneath a road, the cables shall be run in a minimum 4” RGS sleeve when under the roadway which shall extend a minimum of 3’ beyond each edge of pavement or curb.

Provide utility load letter request forms as required to enable any coordination for the project and the utility.

16.4.5 Removal of Miscellaneous Objects

The Design-Builder shall remove the required subsurface elements in accordance with the Project Standards.

16.4.6 Disposal of Materials

The Design-Builder shall coordinate the salvage of the old Lighting Controller (LC-A) and the meter socket with the Tollway.

The Design-Builder shall also salvage the mechanical relays being replaced with electronic relays and deliver them to the Illinois Tollway M-2 Maintenance Yard. The delivery of any equipment to M-2 requires coordination at least three (3) working days in advance. Coordination efforts will be with Eric Johnson. His contact information is provided below:

Email: erjohnson@getipass.com
Phone Number: (630) 361-3275

The Design-Builder shall assume ownership of the required material to be disposed of off-the Project Site.

16.4.7 Temporary Requirements

Throughout construction Work, the Design-Builder shall ensure temporary roadway and grading facilities are designed and constructed in accordance with this Section 16, unless explicitly stated in this Section 16.4.7 and respective subsections.

16.4.7.1 Temporary Signing

The Design-Builder shall ensure the temporary signing design meets, at a minimum, the requirements in the *Illinois Tollway Roadway Signing and Pavement Marking Guidelines* and the *Illinois Tollway Roadway Traffic Control and Communications Manual*.

16.4.7.2 Temporary Pavement Marking

The Design-Builder shall ensure the temporary pavement marking design meets, at a minimum, the requirements in the *Illinois Tollway Roadway Signing and Pavement Marking Guidelines* and the *Illinois Tollway Roadway Traffic Control and Communications Manual*.

Inspect and replace required damaged or missing pavement markings daily in accordance with Section 8.5 of the *Quality Standard for Work Zone Traffic Control Devices*. Clean or replace required pavement markings when they become damaged or lose reflectivity. Replace or clean temporary pavement markings whenever they become damaged, or the reflectivity of the markings has deteriorated to 80 percent or less of the value specified for the Material when new. Measure reflectance values in accordance with ASTM E1710. Pavement markings used during winter shutdowns shall comply with the requirements of the Illinois Tollway Special Provision for LATE SEASON TEMPORARY PAVEMENT MARKINGS (Illinois Tollway)

Do not grind or use any other method that may damage the new pavement during removal of the temporary markings.

16.4.7.3 Temporary Traffic Signals

The Design-Builder shall ensure the temporary traffic signal design meets, at a minimum, the requirements in the *IDOT District One Traffic Signal Design Guidelines*. Temporary traffic signals are not anticipated on this job.

Provide 72-hour notice to Illinois Tollway prior to implementing temporary signal phasing for IDOT inspection.

Provide signal timing Plans that optimize the signal timing to account for changes in maintenance of traffic schemes for required signal systems within the Project limits impacted by the Design-Builder's MOT. Obtain approval of the Plans from the agency operating the signals 20 Working Days prior to implementation.

The Design-Builder will enter the timing parameters into the signal controller. The Design-Builder will be responsible for the operation and maintenance of the signal controllers and signal controller cabinets for temporary signals.

Maintain required components of the temporary signal systems. Remove required temporary signal system installations upon completion and operation of the new permanent signal systems. Maintain required

Materials not maintained by IDOT of the new and revised permanent signal systems from the first day of construction until Substantial Completion.

16.4.7.4 Temporary Lighting

The Design-Builder shall ensure the temporary lighting design meets, at a minimum, the requirements in the *Illinois Tollway Guidelines for Roadway Illumination, if required*.

If screw-in bases and poles are used for temporary lighting, assume ownership of the bases, poles, and accessories. If wooden poles are used, remove the poles before Substantial Completion and assume ownership of them.

16.4.7.5 Power Service Costs (Not Used)

16.5 Submittal Requirements

Whenever a Submittal identified in *Table 16-6, Section 16.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 16-5, Section 16.5 Submittal Requirements,* below. This *Table 16-6, Section 16.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 16-6: Section 16.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Traffic Signal Loop Detector Impact Report or Memorandum	16.3.5	PDF	3	60	60	Construction
2	Lighting Concept Report	16.2.7	PDF	3	60	60	Construction
3	Traffic Signal Design and Coordination Supporting Documentation	16.3.5	PDF	3	60	60	Construction
4	Project specific lighting special provisions	16.3.6.10	PDF	3	60	60	Construction

Section 17

17 INTELLIGENT TRANSPORTATION SYSTEMS

(Not Used)

Section 18

18 MAINTENANCE OF TRAFFIC

18.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 18, Maintenance of Traffic, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design and construct Maintenance of Traffic Work in accordance with:

- Design Deviations;
- The Approved Pre-Accepted Element (PAE) for Maintenance of Traffic;
- Commitments of the Governmental Approvals and Environmental Approvals; and
- Project Standards in section 18.2.1 of this Book 2 except as modified in this section.

18.1.1 Maintenance of Traffic Requirements

Vertical clearance during MOT shall meet the minimum requirements of the latest Illinois Tollway Structure Design Manual per the highway classification for Other Illinois Tollway Routes over the Illinois Tollway.

The Design-Builder shall perform the necessary Maintenance of Traffic (MOT) Work, which may include, but is not limited to, the design and construction of temporary erosion and sediment control facilities, temporary roadways, detours, temporary drainage, temporary ITS, temporary signals, temporary signing and pavement markings, and other pertinent temporary facilities necessary to achieve Final Acceptance. As the Illinois Tollway is a fee-based transportation system, it is important that the Design-Builder exhibit extra effort towards maintaining as free a traffic flow as safety guidelines will allow.

18.2 Administrative Requirements

18.2.1 Standards

For Maintenance of Traffic Work, the Design-Builder shall adhere to the order of precedence of the Project Standards below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail.

Primary Project Standards:

- *Illinois Tollway Roadway Traffic Control and Communications Manual (MOT Manual)*
- *Illinois Tollway Quality Standard for Work Zone Traffic Control Devices*
- *Illinois Tollway Work Zone Speed Limit Flow Chart*
- *Illinois Tollway AADT Lane Closure Guide*
- *Illinois Tollway Lane Closure Reference Guide*
- *Illinois Tollway Lane Closure Forms*
- *Manual on Uniform Traffic Control Devices (MUTCD)*
- *Illinois Supplement to the National Manual on Uniform Traffic Control Devices (IL MUTCD)*
- *Traffic Barrier Guidelines*
- *Illinois Tollway Roadway Design Criteria*
- *Illinois Tollway Drainage Design Manual*
- *Illinois Tollway Guidelines for Roadway Illumination*
- *Illinois Tollway Intelligent Transportation Systems (ITS) Deployment Guide*

- *Illinois Tollway Computer Aided Design and Drafting (CADD) Standards Manual*
- *Illinois Tollway Design Section Engineer's Manual*
- *Illinois Tollway Standard Drawings*
- *Illinois Tollway Special Provisions*
- *IDOT Standard Specifications for Road and Bridge Construction*
- *Illinois Tollway Supplement to the IDOT Standard Specifications for Road and Bridge Construction*
- *Illinois Tollway Design Bulletins*
- *Illinois Tollway Construction Bulletins*
- *Illinois Tollway Construction Manager's Manual*
- *Illinois Tollway A- Forms*
- *Illinois Tollway Structural Design Manual*

Secondary Project Standards:

- *IDOT Standard Drawings*
- *IDOT BDE Special Provisions*
- *AASHTO Roadside Design Guide*
- *AASHTO Policy on Geometric Design of Highways and Streets*
- *Illinois Tollway Roadway Signing and Pavement Marking Guidelines*

Tertiary Project Standards:

- Remaining standards set forth in Book 3

18.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

The Design-Builder shall facilitate MOT meetings with Illinois Tollway in accordance with Section 3 of the *Illinois Tollway Roadway Traffic Control and Communications Manual.*

18.2.3 Equipment/Software

The Design-Builder shall refer to the Illinois Tollway *Computer Aided Design and Drafting (CADD) Standards Manual* for Software Requirements.

Design documents shall be prepared in accordance with the Illinois Tollway CADD Manual.

18.2.4 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for the Maintenance of Traffic Work, including those necessary for investigations. The Design-Builder shall perform all activities necessary to furnish Maintenance of Traffic Work-applicable permits, if any.

The Design-Builder shall obtain third-party Approvals, such as Utility Owners, railroad owners, and railroad operators, as necessary, for Maintenance of Traffic Design Document Submittals and Construction Document Submittals that potentially affect third parties.

18.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform the necessary investigations to complete the Maintenance of Traffic Work.

18.2.5.1 Video Record

Before the start of construction, video-record the entire Project Site and surrounding areas to document the pre-construction condition. Provide an electronic copy of the video to Illinois Tollway prior to the commencement of construction Work.

Video-record all potential detour and haul routes prior to routing traffic on these routes.

Any damage to haul routes resulting from Design Builder activities shall be restored by the Design Builder to pre-construction conditions or better.

Illinois Tollway will have the right to review the videos at any time with 24-hour notice to the Design-Builder.

18.2.6 Reports and Plans

The Design-Builder shall prepare the relevant Design Document Submittals and Construction Document Submittals in accordance with minimum requirements in this Book 2, Section 18, Maintenance of Traffic.

18.2.6.1 Transportation Management Plan

Develop, implement, and maintain a Transportation Management Plan (TMP), signed by the Traffic Engineer, which includes the following items:

- Descriptions of the duties of the Traffic Engineer, Traffic Control Supervisor, Public Information Liaison, and other personnel with MOT responsibilities. Include a description of how these personnel will interact and share duties with their Illinois Tollway counterparts.
- Description of the design methods used for temporary roadways.
- Procedures to identify and incorporate the needs of transit operators and Utility Owners in the Project corridor.
- Procedures for obtaining Acceptance and implementation of temporary lane closures according to the Illinois Tollway Lane Closure Reference Guide and Lane Closure Forms provided on the Illinois Tollway website.
- Procedures & notification requirements for stage changes and switching of traffic configurations, including 21-Calendar Day and 2-Calendar Day meetings, required prior to every stage change. A written switching procedure for each traffic control stage change shall be identified in the Transportation Management Plan. The switching procedure must consist of methods, actions, and signing necessary to complete the switch and the number and duties of traffic personnel assigned to perform the switch.
- Process for signing and pavement marking transitions during construction from one stage to the next and from interim to permanent signing and permanent pavement marking.
- Procedures to identify and incorporate the needs of emergency service providers, Illinois State Police (ISP) District 15 personnel along with adjacent ISP districts and municipal law enforcement personnel, and other related corridor users. Also include procedures to ensure all information needed by these agencies is available to protect the public.
- Methods and frequency of inspection and maintenance of all traffic control throughout the Project's limits for compliance with the requirements of the Illinois Tollway *Quality Standard for Work Zone Traffic Control Devices.*
- Descriptions of contract methods, personnel available, and response times to address any conditions needing attention during off-hours.

- Accommodation of special events per coordination with local entities.
- Identification of measurable limits for repair and replacement of traffic control devices, including pavement markings.
- Process to identify, produce, and receive Acceptance for designs of any necessary temporary traffic signals. The Design-builder must coordinate with the agency that maintains the existing traffic signals, incorporating their requirements for any temporary signals required at interfaces with the local system. Determine the need for revised traffic signal timings. If revisions are required, detail the procedures for the development, Acceptance, implementation, testing, and maintenance of all affected signals.
- An Emergency Communication Plan (ECP) as described in Section 18.2.6.1.1, includes the process of receiving Acceptance of stakeholders of the ECP.
    - Design-Builder shall ensure that the ECP is coordinated with the Illinois Tollway's Corridor Project Manual & Emergency Communication Plan. A template is provided as Exhibit 18B.
- Provisions to maintain existing access to all properties within the Project limits for the duration of the Project, except as provided elsewhere in the Contract Documents. Provide appropriate information about access modifications to the appropriate parties.
- Procedures to modify the Plans as needed to adapt to current Project circumstances.
- Procedures to communicate TMP information to the Design-Builder's public information personnel and to notify the public of MOT issues in conjunction with the requirements of Book 2, Section 3, Public Information.

Use the procedures developed in the TMP to create the MOT Plans, including details of all stages, all required switching procedures, and the ECP.

18.2.6.1.1 Emergency Communication Plan

During construction Equipment malfunctions, crashes, inclement weather, special events, and other incidents can significantly affect traffic within the Project limits. As part of the TMP, the Design-Builder shall prepare and implement an ECP for all types of potential incidents. Identify methods for incident detection and verification, response, site management, clearance, and collection of motorist information. If any local agencies along the corridor have adopted incident management guidelines, coordinate with local policies and procedures. Ensure this Emergency Communication Plan related to the Project's TMP is created in coordination with the Illinois Tollway's Corridor Project Manual & Emergency Communication Plan. The Design-Builder shall fill out the template in Exhibit 18B for Approval by the Illinois Tollway prior to the start of any Construction.

Include proposed construction staging in the ECP. Modify and implement the ECP in conjunction with planned special events. Provide a mechanism in the ECP to review and capture lessons learned from all incidents. Include specific time limits for the detection, verification, and classification of incidents, as well as for the dissemination of information about the incidents. Identify and provide for the incorporation of design elements to aid incident management, including turnarounds for emergency vehicles, emergency access points, incident investigation sites, and signing to help motorists report the location of incidents in the Project.

18.2.6.2 Temporary Signal Plans

See Section 18.2.6.5 for the adjustment of traffic signal timing.

18.2.6.3 MOT Plans

Prepare and submit MOT Plans and MOT Plan revisions, signed by the Traffic Engineer. The Illinois Tollway will respond to the MOT Plan submittals within ten (10) Business Days. Distribute the Accepted MOT Plans to stakeholders at least ten (10) Business Days prior to implementation, as directed by the Illinois Tollway.

Use the procedures in the TMP to provide for all construction staging, work zone protection, and access to the construction site. Prepare Plans under the direction of the Traffic Engineer and submit them as RFC Plans. Include the following items:

- Complete Plan sheets and details for construction staging, detours, construction access, security, and appropriate traffic control.
- Plan sheets or details for handling construction operations, such as Material delivery and storage, access and exit of construction and delivery vehicles, haul roads, and other items that may impact traffic.
- The appropriate details when temporary construction of any of the following is required to maintain traffic: traffic signals, haul routes, detour roadways, bridges, retaining structures, drainage, and other miscellaneous construction.
- MOT Plan sheets shall show all in-place traffic control devices that need to be retained, relocated, or removed and all temporary traffic control devices (including any required directional business signing) that need to be installed, retained, relocated, or removed.
- Drawings showing dimensions on how to fabricate any sign not detailed in the Illinois Tollway Roadway Signing and Pavement Marking Guidelines, the Manual on Uniform Traffic Control Devices (MUTCD) or the Illinois Supplement to the National Manual on Uniform Traffic Control Devices (IL MUTCD), including background color, and legend.

The MOT plans shall specify the size and color of all standard traffic control devices.

MOT Plan sheets shall indicate the exact location of each sign, so it can be easily read in relation to the roadway and other traffic control devices. Do not use numbers and letters on the MOT Plan sheets as a substitute for sign placement.

Requirements for using temporary guardrails, temporary concrete barriers, or attenuators to protect the traveling public shall follow the Standards in Section 18.2.1.

Detailed modifications to the Project MOT plans shall be required to address wintertime conditions or periods of suspended Work.

MOT Plans shall indicate the type and location of all signage to be installed, removed, or covered that conflict with traffic patterns.

The MOT Plans shall indicate the type and location of all pavement markings to be installed, removed, or renewed for each stage and for MOT operations and location of the final pavement markings. The MOT Plans shall indicate the location of all required traffic delineators.

18.2.6.4 Not Used

18.2.6.5 Detour Coordination

Anticipated Proposed Detour Routes shown in Exhibit 18C and listed in Table 18-1 are Approved in concept by the local road authorities for use as detour routes with the understanding that the Design-Build team will present the detours again once they are fully detailed and include detour schedules. The Design-Builder shall provide detour plans for use of any of the proposed detour routes.

The Design-Builder shall coordinate detours with the adjacent contracts.

The Design-Builder shall obtain the proper permits to set up traffic control for detours.

The Design-Builder shall submit detour plans, including detour signing to Illinois Tollway for review and Acceptance.

Detours will not be allowed during the Winter Season beginning December 1st and ending April 30th.

Any Modification to the approved Detour routes shall be Approved by the Illinois Tollway and any other affected roadway authority having jurisdiction. The Design-Builder shall inform the Illinois Tollway if any detours listed in Table 18-1 will not be used, will be modified, or if new detours are proposed.

If any new detour routes are proposed, the Design-Builder shall verify that the alternative detour routes meet minimum structure vertical clearance requirements, and that truck turning movements of the existing route that is being detoured can be accommodated. If the Detours do not meet these requirements, the Design-Builder shall propose alternate detour routes for the Illinois Tollways Approval. The Design-Builder may be required to present the new detour routes to the Tollway and IDOT detour committees.

The Design-Builder must obtain Approvals from the Illinois Tollway and any other affected road authority jurisdictions when proposing alternative detour routes, or modifications to the detour routes specified in Table 18-1. Any coordination with Cook County will be done through the Illinois Tollway. The Design-Builder shall contact Alfred Pebler (apebler@getipass.com) to initiate the coordination.

Table 18-1: Approved Detour Routes

Roadway or Ramp Closure	Maximum Closure Allowed (Calendar Days)	Detour Route
Detour Ramp B1 WB IL-390 to SB Gary Ave	14 days	From WB IL 390: Take WB IL 390 to Ramp D4 to SB Roselle Road to WB Central Ave to Gary Ave
Detour Ramp A1 Springinsguth Road To WB IL-390	35 days	From SB & NB Springinsguth Road: Take WB Irving Park Road (IL 19) to SB Barrington Road to Lake Street (US 20)
Detour Ramp B2 NB Gary Ave To EB IL-390	14 days	From NB & SB Gary Ave: Take EB Central Ave to NB Roselle Road to Ramp D3
Detour Ramp A2 WB IL-390 To Springinsguth Road	14 days	From Lake Street (US 20): Take NB Barrington Road to EB Irving Park Road (IL 19) to SB Springinsguth Road
Detour Ramp Lake 3 EB on-ramp for Lake St (US 20)	One (1) Weekend Closure	From Lake Street (US 20): Take NB Barrington Road to EB Irving Park Road (IL 19) to Ramp A3

Roadway or Ramp Closure	Maximum Closure Allowed (Calendar Days)	Detour Route
Detour ramp C4 WB IL-390 to Wright Blvd	One (1) Weekend Closure	From WB IL 390: Take WB IL 390 to Ramp A4 to WB frontage road to EB Irving Park Road (IL 19) to EB Frontage Road to Wright Blvd
Detour ramp E1 Meacham/Medinah Rd to WB IL-390	Two (2) Weekend Closure	From Medinah/Meacham Road: Take WB Nerge Road to SB Roselle Road to Ramp D1 to WB IL-390
Detour ramp C3 Wright Blvd to EB IL-390	One (1) Weekend Closure	From Wright Blvd: Take WB Frontage Road to EB Irving Park Road to EB frontage Road to Ramp A3 to EB IL-390
Detour ramp A3 IL 19 (Irving Park Rd)) to EB IL-390	One (1) Weekend Closure	From Irving Park Road: Take EB Frontage Road to Ramp C3 to EB IL-390
Detour Ramp E2 EB IL-390 to Meacham/Medinah Rd	One (1) Weekend Closure	From EB IL 390: Take EB IL 390 to Ramp D2 to NB Roselle Road to EB Nerge Road to Meacham/Medinah Rd

The following detours shall not be in effect at the same time:

- Ramp Lake 3 and Ramp A3 Detours
- Ramp A3 and Ramp C3 Detours

The detour for the Ramp A2 utilizes roadways under the Village of Schaumburg's jurisdiction. The contractor will be allowed for a consecutive 14-calendar day period to detour traffic for Ramp A2 closure. Upon the release of the 2027 Boomers schedule, the Design-Builder shall obtain the approval from the Village of Schaumburg for the dates of Ramp A2 closure. The proposed closure shall be such to impact the least number of Boomer's home games.

The Design-Builder is required to perform temporary traffic signal timing adjustment for DuPage County along the detour routes for Ramps B1 and B2. Timing shall be coordinated with the Engineer, IDOT District 1 Bureau of Traffic, Illinois Tollway, DuPage County and local municipalities. The Design-Builder shall coordinate any temporary signal timing for Ramps B1 and B2 with DuPage County. To begin the coordination process, the Design-Builder shall contact the DuPage County Permits staff at (630) 407-6900 or by email at hwypermits@dupagecounty.gov. Prior to any timing adjustments, the Design-Builder shall contact DuPage County at least 2 working days in advance. See Exhibit 18D for the IL 390 Detour Analysis for Ramp B1 and B2 Closures.

The Design-Builder is also required to perform temporary traffic signal timing adjustment for IDOT along the detour routes for Ramps A1, A2, and C3. Each Timing shall be coordinated with the Engineer, IDOT District 1 Bureau of Traffic, Illinois Tollway, any applicable County and local municipalities. The Design-Builder shall coordinate any temporary signal timing for Ramps A1, A2 and C3 with the IDOT D1 Bureau of Traffic. To begin the coordination process, the Design-Builder shall contact the Jonathan Karabowicz of D1/Traffic Permits, in a timely manner, to obtain a permit during construction by email at jonathan.karabowicz@illinois.gov.

Detour Routes using Roselle Road between Devon Rd and Irving Park Rd. will not be permitted during the weekend of the annual Rose Parade, typically held the first Sunday of June.

The Design-Builder shall refer to Section 18.3.4.12 Pedestrian Access for Pedestrian detours.

Detour Utilization Plan

For each detour the Design-Builder elects to utilize from Table 18-1 Approved Detour Routes, the Design-Builder shall submit for Illinois Tollway Approval, a Detour Utilization Plan that specifies the following:

- The Work that will be completed while the detour is utilized.
- The maximum duration of use of the detour, not to exceed the duration included in the Design B-Builder's PAE for MOT for the specific detour, if applicable.
- A critical path schedule of activities with daily interim milestones from which Work progress can be measured, including assumptions made for weather impacts.
- Critical pieces of equipment that could affect the Work if breakdowns occur and a backup plan should, said breakdown actually occur.
- Recovery plan details the Design-Builder will employ should they get behind schedule for the Work.

The Design-Builder shall not utilize a detour until the Illinois Tollway Approves the Detour Utilization Plan. The Illinois Tollway reserves the right to require the Design-Builder to implement a Recovery Plan to get back on schedule at any time during utilization of a detour route. In addition, the Illinois Tollway reserves the right to terminate use of any detour should Design-Builder get behind schedule and not be able to recover.

18.3 Design Requirements

18.3.1 General

The Design-Builder shall design and implement MOT to minimize impacts to traffic flow, and access points throughout the duration of the Contract. The Design-Builder shall coordinate with other adjacent and impacted construction projects, as necessary.

The Design-Builder shall design and implement MOT in accordance with *Section 18.2.1.*

18.3.2 Design Criteria

Unless specifically stated within this Section 18, Maintenance of Traffic, or unless otherwise Approved by Illinois Tollway in its sole discretion, the Design-Builder shall follow the final condition design requirements stated in section 18.3.4. MOT will be scope dependent.

18.3.3 Design Deviations

The Illinois Tollway has approved the following Design Deviations for MOT:

- Reduced Lane Width
- Rollover and Lane Straddling

The Approved Design Deviations pertaining to the MOT work are included in Exhibit 1B of this Book 2.

The Design-Builder shall not be permitted to implement into the Work Additional Design Deviations unless otherwise Approved by the Illinois Tollway, per Section 1, General, of this Book 2.

Any Modification (such as changes to limits, etc.) to the Approved Design Deviations shall be approved by the Illinois Tollway. The Design-Builder shall inform the Illinois Tollway if any Approved Design Deviations listed in Exhibit 1B will not be used.

18.3.4 Additional Design Requirements

18.3.4.1 Temporary Pavement

Unless specifically addressed in this Section 18, Maintenance of Traffic, of Book 2, the Design-Builder shall refer to Section 10, Pavements and Roadway Materials, for temporary roadway pavement requirements.

18.3.4.2 Temporary Drainage

The Design-Builder shall refer to Section 12, Drainage, of this Book 2 for temporary drainage requirements.

18.3.4.3 Temporary Structures and Geotechnical Elements

The Design-Builder shall refer to Section 13, Structures, of this Book 2 for temporary structures requirements.

18.3.4.4 Temporary Signing, Pavement Marking, Traffic Signals, and Lighting

The Design-Builder shall refer to Section 16, Signing, Pavement Markings, Traffic Signals, and Lighting, of this Book 2 for temporary signing, pavement marking, traffic signals, and lighting requirements.

18.3.4.5 Temporary ITS (Not Used)

18.3.4.6 Temporary Easements (Not Used)

18.3.4.7 Temporary Utilities (Not Used)

18.3.4.8 Temporary Erosion and Sediment Control

The Design-Builder shall refer to Section 14, Landscape, of this Book 2 for temporary erosion and sediment control requirements.

18.3.4.9 Temporary Bicycle and Pedestrian Facilities (Not Used)

18.3.4.10 Project Communications

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the MOT design and implementation meets the minimum project communication requirements in Section 3 of the Illinois Tollway *Roadway Traffic Control and Communications Manual*.

18.3.4.10.1 Information to Report

The Design-Builder shall notify Illinois Tollway of MOT activities, as defined in Sections 3.1 and 11.1.4 of the Illinois Tollway *Roadway Traffic Control and Communications Manual*.

18.3.4.11 Use of Positive Protection Devices

Use temporary guardrail, temporary concrete barrier, temporary impact attenuators or other necessary positive protection devices in accordance with Section 7.0 of the *Illinois Tollway Roadway Traffic Control and Communications Manual* and with the *Illinois Tollway Traffic Barrier Guidelines.*

The treatment of drop-off conditions shall be in accordance with Section 8.0 of the *Illinois Tollway Roadway Traffic Control and Communications Manual* and with the *Illinois Tollway Traffic Barrier Guidelines.*

18.3.4.12 Pedestrian Access

Maintain pedestrian access on all existing sidewalks, paths, and intersections unless Approved by the Illinois Tollway or otherwise noted.

The Design-Builder must demonstrate that pedestrian access cannot be maintained before a pedestrian detour is considered by the Illinois Tollway. All proposed pedestrian detours or access closures must be Approved by the Illinois Tollway, shall be ADA compliant and any/all local agencies having jurisdiction that would be affected.

The alignment of the existing sidewalk or path can be temporarily relocated within Illinois Tollway Right of Way to avoid pedestrian conflicts with the Work area. Provide a safety buffer between the temporary sidewalk or path location and the Work area. The temporary shift in the alignment of the sidewalk or path would not be considered a detour and would not require signing or Approval by the Illinois Tollway.

Throughout construction Work, the Design-Builder shall ensure temporary bicycle or pedestrian facilities are designed and constructed in accordance with Project Standards.

Locations of possible sidewalk impacts are listed below:

- Springinsguth Road under IL-390
- Meacham/Medinah Road under IL-390

18.3.4.13 General Requirements

The project is broken up into the following segments:

- Segment 1 is the area from Lake Street (US20) to east of Irving Park Road (IL 19) where Pavement and Bridge overlay and patching activities will occur. Single lane closures shall be in accordance with the allowable lane closure hours provided in Section 18.3.4.5.

- Segment 2 is the area from East of Irving Park Road (IL 19) to I-290 where Pavement and Bridge patching activities will occur. Temporary lane closures shall be in accordance with the allowable lane closure hours provided in Section 18.3.4.15.

Lane widths shall be in accordance with Section 5.3.13 of the Illinois Tollway *Roadway Traffic Control and Communications Manual*, if necessary, although 12-foot lanes should be used wherever practical, especially in areas where alignment shifts.

Submit temporary pavement designs to the Illinois Tollway for review and comment before or with any associated RFC package.

Portable Changeable Messages Signs (PCMS) shall be provided where advance warning information, traffic configuration or other pertinent information is needed. PCMS's shall be in accordance with Section 6.0 of the Illinois Tollway *Roadway Traffic Control and Communications Manual.*

The Work Zone Speed Limit along the mainline shall be 45 mph and trailer mounted radar display units shall be placed according to Section 6.7.6 of the Illinois Tollway Roadway Traffic Control and Communications Manual.

18.3.4.14 Road Specific Requirements

At a minimum, the following number of lanes shall remain open at all times in accordance with the allowable lane closure hours in Section 18.3.4.15. For the left turn restrictions mentioned below, the closure of a turning movement will be acceptable only if it leads to a ramp that is being detoured.

18.3.4.14.1 I-290

- 4 NB through lanes and 4 SB through lanes
- Ramps (direct system-to-system movements requirements, with no yield conditions):
    - SB I-290 to EB TH IL-390 (Ramp G1)
    - SB I-290 to WB TH IL-390 (Ramp G2)
    - NB I-290 to EB TH IL-390 (Ramp G6)
    - NB I-290 to WB TH IL-390 (Ramp G5, two lanes)

18.3.4.14.2 Toll Highway IL-390

- 1 EB through lane and 1WB through lane.
- Ramps (direct system-to-system movements requirements, with no yield conditions):
    - WB TH IL-390 to NB I-290 (Ramp G8)
    - WB TH IL-390 to SB I-290 (Ramp G7)
    - EB TH IL-390 to SB I-290 (Ramp G4)
    - EB TH IL-390 to NB I-290 (Ramp G3)
    - WB TH IL-390 to Roselle Road (Ramp D4)
    - EB TH IL-390 to Roselle Road (Ramp D2)
- Ramps (with yield conditions):
    - WB TH IL-390 to Roselle Road (Ramp D4)
    - EB TH IL-390 to Roselle Road (Ramp D2)

18.3.4.14.3 Springinsguth Road under IL-390

- 1 through lane and 1 left turn lane in NB direction.
- 1 through lane and 1 left turn lane in SB direction.

18.3.4.14.4 Irving Park Road (IL 19) under IL-390

- 1 through lane and 1 left turn lane in NB direction.
- 1 through lane and 1 left turn lane in SB direction.

18.3.4.14.5 Rodenburg Road under IL-390

- 1 through lane and 1 left turn lane in NB direction.
- 1 through lane and 1 left turn lane in SB direction.

18.3.4.14.6 Wright Blvd under IL-390

- 1 through lane and 1 left turn lane in NB direction.
- 1 through lanes and 1 left turn lane in SB direction.

18.3.4.14.7 Mitchell Blvd under IL-390

- 1 through lane in NB direction.

- 1 through lane in SB direction.

18.3.4.14.8 Meacham / Medinah Road under IL-390

- 1 through lane and 1 left turn lane in NB direction.
- 1 through lane and 1 left turn lane in SB direction.

18.3.4.14.9 Rohlwing Road over IL-390

- 2 through lanes and 1 left turn lane in NB direction.
- 2 through lanes and 1 left turn lane in SB direction.

18.3.4.15 Allowable Lane Closure Hours

The Design-Builder is to provide the Illinois Tollway for Approval, interim completion dates specifying when and for how long these closures will occur and ensure the lane restrictions are minimized.

The Design-Builder will be allowed for temporary lane closure(s) within the Project limits in accordance with Table 18-2 through Table 18-11. The Design Builder shall verify all allowable times in the Tables below and strictly adhere to these temporary lane closure hours throughout the duration of the contract, unless noted otherwise by the Illinois Tollway.

Temporary lane closures will not be allowed or must be removed, if so, directed by the Illinois Tollway, due to inclement weather or heavy traffic.

No lane closure signs shall be erected any earlier than one-half (1/2) hour before the starting hours listed below. Also, these signs should be taken down within one-half (1/2) hour after the closure is removed. Should the Design Builder fail to completely open and keep open all traffic lanes, the Design Builder will be subject to a penalty in accordance with Art. 701.08(e) of the Illinois Tollway Supplemental Specifications.

Temporary lane closures on non-tollway roadways shall be allowed according to the special provision "Keeping arterial roadways open to traffic (Lane closure only)". Arterial lane closures not shown in the staging plans will not be permitted during peak traffic volume hours. Peak traffic volume hours are defined in the special provision for "Keeping arterial roadways open to traffic (Lane closure only)".

Potential non-tollway road temporary lane closures

- Lake Street (US 20)
- Springinsguth Road
- Irving Park Road (IL 19)
- Rodenburg Road
- Wright Blvd
- Mitchell Blvd
- Meacham/Medinah Road

Table 18-2: Allowable Temporary One Lane Closures (M.P. 5.8 to M.P. 7.1)

DAY	POSSIBLE 1 OF 2 LANE CLOSURE TIMES (LAKE ST TO GARY AVE/IRVING PARK RD) M.P. 5.8 TO M.P. 7.1

	Eastbound	Westbound
Monday	9:00 AM – 6:00 AM Tues	7:00 PM – 3:00 PM Tues
Tuesday	9:00 AM – 6:00 AM Wed	7:00 PM – 3:00 PM Wed
Wednesday	9:00 AM – 6:00 AM Thurs	7:00 PM – 3:00 PM Thurs
Thursday	9:00 AM – 6:00 AM Fri	7:00 PM – 2:00 PM Fri
Friday	9:00 AM – 11:59 AM Sat	7:00 PM – 11:59 AM Sat
Saturday	12:00 PM – 11:59 AM Sun	12:00 PM – 11:59 AM Sun
Sunday	12:00 PM – 6:00 AM Mon	12:00 PM – 3:00 PM Mon

Table 18-3: Allowable Temporary One Lane Closures (M.P. 7.1 to M.P. 8.3)

DAY	POSSIBLE 1 OF 3 LANE CLOSURE TIMES (GARY AVE/IRVING PARK ROAD TO WRIGHT BLVD.) M.P. 7.1 TO M.P. 8.3	
	Eastbound	Westbound
Monday	8:00 AM – 7:00 AM Tues	6:00 PM – 5:00 PM Tues
Tuesday	8:00 AM – 7:00 AM Wed	6:00 PM – 5:00 PM Wed
Wednesday	8:00 AM – 7:00 AM Thurs	6:00 PM – 5:00 PM Thurs
Thursday	8:00 AM – 11:59 AM Fri	6:00 PM – 11:59 AM Fri
Friday	8:00 AM – 11:59 AM Sat	6:00 PM – 11:59 AM Sat
Saturday	12:00 PM – 11:59 AM Sun	12:00 PM – 11:59 AM Sun
Sunday	12:00 PM – 7:00 AM Mon	12:00 PM – 5:00 PM Mon

Table 18-4: Allowable Temporary One Lane Closures (M.P. 8.3 to M.P. 9.4)

DAY	POSSIBLE 1 OF 3 LANE CLOSURE TIMES (WRIGHT BLVD TO ROSELLE RD)	
	Eastbound	Westbound
Monday	9:00 AM – 7:00 AM Tues	6:00 PM – 4:00 PM Tues
Tuesday	9:00 AM – 7:00 AM Wed	6:00 PM – 4:00 PM Wed
Wednesday	9:00 AM – 7:00 AM Thurs	6:00 PM – 4:00 PM Thurs
Thursday	9:00 AM – 7:00 AM Fri	6:00 PM – 4:00 PM Fri
Friday	9:00 AM – 7:00 AM Sat	6:00 PM – 11:59 AM Sat
Saturday	8:00 PM – 11:59 AM Sun	12:00 PM – 11:59 AM Sun
Sunday	12:00 PM – 7:00 AM Mon	12:00 PM – 4:00 PM Mon

Table 18-5: Allowable Temporary One Lane Closures (M.P. 9.4 to M.P. 11.2)

DAY	POSSIBLE 1 OF 3 LANE CLOSURE TIMES (ROSELLE RD TO MEACHAM/MEDINAH)	
	Eastbound	Westbound

Monday	9:00 AM – 7:00 AM Tues	6:00 PM – 4:00 PM Tues
Tuesday	9:00 AM – 7:00 AM Wed	6:00 PM – 4:00 PM Wed
Wednesday	9:00 AM – 7:00 AM Thurs	6:00 PM – 4:00 PM Thurs
Thursday	9:00 AM – 7:00 AM Fri	6:00 PM – 4:00 PM Fri
Friday	8:00 AM – 11:59 AM Sat	6:00 PM – 11:59 AM Sat
Saturday	12:00 PM – 11:59 AM Sun	12:00 PM – 11:59 AM Sun
Sunday	12:00 PM – 7:00 AM Mon	12:00 PM – 4:00 PM Mon

Table 18-6: Allowable Temporary One Lane Closures (M.P. 11.2 to M.P. 12.5)

DAY	POSSIBLE 1 OF 2 LANE CLOSURE TIMES (MEACHAM/MEDIAN TO INTERSTATE 290)	
	Eastbound	Westbound
Monday	6:00 PM – 5:00 AM Tues	8:00 AM – 11:59 AM Tues
Tuesday	6:00 PM – 5:00 AM Wed	12:00 PM – 11:59 AM Wed
Wednesday	7:00 PM – 5:00 AM Thurs	12:00 PM – 11:59 AM Thurs
Thursday	7:00 PM – 5:00 AM Fri	12:00 PM – 11:59 AM Fri
Friday	7:00 PM – 8:00 AM Sat	12:00 PM – 11:59 AM Sat
Saturday	7:00 PM – 10:00 AM Sun	12:00 PM – 11:59 AM Sun
Sunday	4:00 PM – 5:00 AM Mon	12:00 PM – 8:00 AM Mon

Table 18-7: Allowable Temporary One Lane Closures (M.P. 12.5 to M.P. 13.8)

DAY	POSSIBLE 1 OF 2 EB LANE CLOSURE TIMES (INTERSTATE 290 TO PROSPECT AVE)	
	Eastbound	Westbound
Monday	10:00 AM– 6:00 AM Tues	8:00 AM – 11:59 AM Tues
Tuesday	10:00 AM– 6:00 AM Wed	12:00 PM – 11:59 AM Wed
Wednesday	10:00 AM– 6:00 AM Thurs	12:00 PM – 11:59 AM Thurs
Thursday	10:00 AM– 6:00 AM Fri	12:00 PM – 11:59 AM Fri
Friday	10:00 AM– 11:59 AM Sat	12:00 PM – 11:59 AM Sat
Saturday	12:00 PM – 11:59 AM Sun	12:00 PM – 11:59 AM Sun
Sunday	12:00 PM – 6:00 AM Mon	12:00 PM – 8:00 AM Mon

Table 18-8: Allowable Temporary Two- Lane Closures (M.P. 7.6 to M.P. 8.3)

DAY	POSSIBLE 2 OF 3 LANE CLOSURE TIMES (IRVING PARK ROAD TO WRIGHT BLVD)	
	Eastbound	Westbound
Monday	6:00 PM – 5:00 AM Tues	7:00 PM – 8:00 AM Tues

Tuesday	6:00 PM – 5:00 AM Wed	7:00 PM – 8:00 AM Wed
Wednesday	7:00 PM – 5:00 AM Thurs	8:00 PM – 8:00 AM Thurs
Thursday	7:00 PM – 5:00 AM Fri	8:00 PM – 8:00 AM Fri
Friday	7:00 PM – 8:00 AM Sat	8:00 PM – 11:00 AM Sat
Saturday	7:00 PM – 10:00 AM Sun	7:00 PM – 1:00 PM Sun
Sunday	4:00 PM – 5:00 AM Mon	5:00 PM – 8:00 AM Mon

Table 18-9: Allowable Temporary Two- Lane Closures (M.P. 8.3 to M.P. 9.4)

DAY	POSSIBLE 2 OF 3 LANE CLOSURE TIMES (WRIGHT BLVD TO ROSELLE RD)	
	Eastbound	Westbound
Monday	7:00 PM – 5:00 AM Tues	8:00 PM – 7:00 AM Tues
Tuesday	7:00 PM – 5:00 AM Wed	8:00 PM – 7:00 AM Wed
Wednesday	7:00 PM – 5:00 AM Thurs	8:00 PM – 7:00 AM Thurs
Thursday	7:00 PM – 5:00 AM Fri	9:00 PM – 7:00 AM Fri
Friday	8:00 PM – 8:00 AM Sat	9:00 PM – 10:00 AM Sat
Saturday	7:00 PM – 10:00 AM Sun	7:00 PM – 12:00 PM Sun
Sunday	4:00 PM – 5:00 AM Mon	6:00 PM – 7:00 AM Mon

Table 18-10: Allowable Temporary Two-Lane Closures (M.P. 9.4 to M.P. 11.2)

DAY	POSSIBLE 2 OF 3 LANE CLOSURE TIMES (ROSELLE RD TO MEACHAM/MEDINAH)	
	Eastbound	Westbound
Monday	7:00 PM – 5:00 AM Tues	8:00 PM – 7:00 AM Tues
Tuesday	7:00 PM – 5:00 AM Wed	8:00 PM – 6:00 AM Wed
Wednesday	7:00 PM – 5:00 AM Thurs	8:00 PM – 7:00 AM Thurs
Thursday	7:00 PM – 5:00 AM Fri	9:00 PM – 7:00 AM Fri
Friday	8:00 PM – 7:00 AM Sat	9:00 PM – 9:00 AM Sat
Saturday	8:00 PM – 9:00 AM Sun	8:00 PM – 11:00 AM Sun
Sunday	5:00 PM – 5:00 AM Mon	8:00 PM – 7:00 AM Mon

Table 18-11: Allowable Temporary Two-Lane Closures (M.P. 11.2 to M.P. 12.5)

DAY	POSSIBLE 2 OF 3 LANE CLOSURE TIMES (MEACHAM/MEDIAN TO INTERSTATE 290)	
	Eastbound	Westbound
Monday	Not Allowed	8:00 PM – 8:00 AM Tues

Tuesday	Not Allowed	8:00 PM – 8:00 AM Wed
Wednesday	Not Allowed	8:00 PM – 8:00 AM Thurs
Thursday	Not Allowed	8:00 PM – 8:00 AM Fri
Friday	Not Allowed	8:00 PM – 11:00 AM Sat
Saturday	Not Allowed	7:00 PM – 11:59 AM Sun
Sunday	Not Allowed	12:00 PM – 8:00 AM Mon

Table 18-12: Allowable Temporary Two-Lane Closures (M.P. 12.5 to M.P. 13.8)

DAY	POSSIBLE 2 OF 3 LANE CLOSURE TIMES (INTERSTATE 290 TO PROSPECT AVE)	
	Eastbound	Westbound
Monday	Not Allowed	12:00 PM – 11:59 AM Tues
Tuesday	Not Allowed	12:00 PM – 11:59 AM Wed
Wednesday	Not Allowed	12:00 PM – 11:59 AM Thurs
Thursday	Not Allowed	12:00 PM – 11:59 AM Fri
Friday	Not Allowed	12:00 PM – 11:59 AM Sat
Saturday	Not Allowed	12:00 PM – 11:59 AM Sun
Sunday	Not Allowed	12:00 PM – 11:59 AM Mon

18.3.4.16 Not Used

18.4 Construction Requirements

18.4.1 General

The Design-Builder shall construct the Maintenance of Traffic Work in accordance with the Illinois Tollway-accepted RFC Documents, Construction Document Submittals, applicable permits, and requirements of the Contract Documents.

The Work associated with work zone traffic control and protection shall be in accordance with the Illinois Tollway Supplemental Specification Section 701 – WORK ZONE TRAFFIC CONTROL AND PROTECTION.

Provide Maintenance of Traffic devices, markings, and signing starting at 12:01 a.m. on the day Work begins on the Project. Continually monitor and maintain the traffic control devices to ensure proper placement and the safe and efficient flow of all construction traffic into and out of the Project. Assume this responsibility and perform maintenance until 11:59 p.m. on the day of Substantial Completion, unless Punch List items, Work required for the Design-Builder to receive Final Acceptance, or Warranty work items that necessitate Maintenance of Traffic are required. Maintain and monitor Maintenance of Traffic related to Punch List items, items required for the Design-Builder to receive Final Acceptance, or Warranty Work during all times that these items impact traffic. The Illinois Tollway may, in writing, temporarily suspend such responsibility in conjunction with an official suspension for weather or other reasons.

18.4.2 Construction Reports and Plans

In addition to the Construction Document Submittal requirements of Section 2, Project Management, of this Book 2, the Design-Builder shall prepare the following reports and plans for construction Work:

- Contract Information Page
- Lane/Shoulder Closure Request
- Long Term Lane/Shoulder Closure Request
- 10 Day Advance Request/Notification
- Trooper Assistance Form
- Trooper Assistance Contingency Form

18.4.3 Standard Drawings

The Design-Builder shall perform Construction Work in accordance with the Illinois Tollway Standard Drawings.

18.4.4 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary Construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards. The Design-Builder shall ensure that the Construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards. In addition, the Design-Builder shall follow the methods and materials requirements specified in the subsection(s), below.

18.4.4.1 Project-Specific Items

A minimum of fourteen (14) Calendar Days prior to beginning Work on the Project, place Portable Changeable Message signs in advance of the construction area on TH IL-390 for both directions.

Provide written notice to Illinois Tollway, Illinois Department of Transportation, Cook and DuPage Counties, the municipalities; Hanover Park, Schaumburg, Roselle, Elk Grove Village, and Itasca, Schaumburg township and other affected parties, as requested by Illinois Tollway, in accordance with section 3.4.1 of the Illinois Tollway Roadway Traffic Control Communications manual. Obtain all traffic control permits from the appropriate roadway authority. Have all necessary Released for Construction (RFC) Documents and MOT Plans reviewed and Approved or Accepted (as required by the Contract Documents) by Illinois Tollway prior to providing the ten (10) Calendar Day notice.

Notify Illinois Tollway and other appropriate governing agencies ten (10) Calendar Days prior to pedestrian access closures and provide advanced signing notifying all users of the closure. Erect signing a minimum of seven (7) Calendar Days prior to the closure and note the closure duration on signing.

Provide a flagger at all work area access locations in accordance with Illinois Tollway Standards Section E – Maintenance of Traffic – Design-Builder Access to Work Area.

If the Design-Builder restricts traffic beyond the allowable lane closure times of this Section 18, the Design-Builder will be subject to a penalty in accordance with Article 701.08(e) of the Illinois Tollway Supplemental Specifications.

Maintain access to all properties within the Project limits at all times unless otherwise arranged with the property owner.

18.4.4.2 Pedestrian Access

The Design-Builder shall provide pedestrian access if work activities obstruct any designated pedestrian path (Sidewalks). After obtaining Approval for any pedestrian detour routes, notify Illinois Tollway and other appropriate governing agencies ten (10) Calendar Days prior to pedestrian access closures.

18.4.4.3 Access

The Design-Builder shall provide temporary access to all properties if the existing access is closed or restricted due to construction activities. At a minimum, provide and install material approved by the Illinois Tollway and local road authorities having jurisdiction for temporary access surfacing.

18.4.4.4 Towing

Refer to section 18.2.6.1.1.

18.4.4.5 Design-Builder Response Time

The Design-Builder's Traffic Control Supervisor shall be available on a 24-hour per day, seven days per week basis and shall have access to all Equipment and resources to repair any deficiencies in accordance with Section 701.04(d) of the Illinois Tollway Supplemental Specifications.

The response times shall be in accordance with the requirements of Section 701.08 of the Illinois Tollway Supplemental Specifications.

The Design-Builder will be assessed a penalty in accordance with Section 701.08 of the Illinois Tollway Supplemental Specifications if the Design-Builder fails to meet the response time requirements.

18.4.4.6 Staging And Fill Site Requests

A Staging and Fill Site Request (A-50) shall serve as a checklist of required items for a Design-Builder's requested alternative use of the Illinois Tollway ROW outside the project limits. The Design-Builder shall provide a written request utilizing the A-50 Staging and Fill Site Request process of the WBPM system (Trimble Unity Construct). The Illinois Tollway reserves all rights to approve or reject the request at its sole discretion.

- Provide reasonable and safe access to the Staging and Fill Sites. Apply configurations in accordance with Illinois Tollway Standards Section E – Maintenance of Traffic – Design-Builder Access to Work Area
- Ensure that Design-Builder's Project-related staging locations outside Illinois Tollway Right of Way are in accordance with local ordinances.
- Comply with the requirements of Article 701 of the Illinois Tollway Supplemental Specification Section – WORK ZONE TRAFFIC CONTROL AND PROTECTION.

18.4.4.7 Pull Out Areas

It is not anticipated that pull-out areas will be needed within the project limits. If the Design-Builder implements roadway segments that reduce the traveled way width to less than 20' wide for more than 0.5 miles in length, then provide emergency and enforcement pull-out areas in accordance with Section 5.3.7 of the MOT Manual and Illinois Tollway Standard E7.

18.4.5 Removal of Miscellaneous Objects

The Design-Builder shall remove all existing items necessary to construct the Project. The Design-Builder shall remove all temporary facilities they install within the Project Site. The Design-Builder shall notify the

Illinois Tollway if objects obstruct construction activities and obtain permission to remove the objects. Objects shall be reinstalled to an equal or better condition as directed by the Illinois Tollway. The Design-Builder shall remove all subsurface elements in accordance with the Project Standards.

18.4.6 Disposal of Materials

The Design-Builder shall coordinate with the Illinois Tollway to return items that have been removed that are deemed salvageable by the Illinois Tollway. The Design-Builder shall return salvaged items to a location specified by the Illinois Tollway.

18.4.7 Not Used

18.5 Submittal Requirements

Whenever a Submittal identified in *Table 18-5, Section 18 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 18-5 - Section 18 Submittal Requirements,* below. This *Table 18-5 - Section 18 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 18-5: Section 18 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Contract Information Page	MOT Manual Appendix B	PDF	1	1	1	Construction
2	Emergency Communication Plan, including Corridor Project Manual and Emergency Communications Plan	18.2.6.1.1	PDF	1	1	1	Construction
3	Lane/Shoulder Closure Request	18.4.2	MS Word	2	2	1	Lane /Shoulder Closure
4	Long Term Lane/Shoulder Closure Request	MOT Manual Section 3.4.1	PDF	2	1	1	Lane /Shoulder Closure
5	10 Day Advance Request	MOT Manual Section 3.4.1	MS Word	1	1	1	As Needed
6	Trooper Assistance Form	MOT Manual Section 3.4.1	MS Word	2	1	1	As Needed
7	Trooper Assistance Contingency Form	MOT Manual Section 3.4.1	MS Word	2	1	1	As Needed

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
8	MOT Plans	18.2.6.3	PDF	3	15	15	Construction
9	Detour Utilization Plan	18.2.6.5	PDF	3	15	15	Construction that includes a Detour

Section 19

19 MAINTENANCE DURING CONSTRUCTION

19.1 General Requirements

At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall be responsible for Maintenance During Construction Work as described in this Section 19 in accordance with:

- The Directive Design
- Commitments of the Governmental Approvals and Environmental Approvals; and
- Project Standards.

19.2 Administrative Requirements

19.2.1 Standards

For maintenance during construction Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail.

Primary Project Standards:

- *Illinois Tollway Supplemental Specs*
- *IDOT Standard Specifications for Road and Bridge Construction*
- *IDOT Special Provisions*

Secondary Project Standards:

Tertiary Project Standards:

- Remaining standards set forth in Book 3

19.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

19.2.3 Equipment/Software

The Design-Builder shall follow the Equipment and software requirements of the Project Standards.

19.2.4 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for maintenance during construction Work, including those necessary for investigations. The Design-Builder shall perform all activities necessary to furnish the maintenance during construction Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as property owners, Utility Owners, railroad owners, and railroad operators, as necessary, for maintenance during construction activities that potentially affect third parties.

19.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform the necessary investigations to complete the maintenance during construction Work, including a Pre-Construction Condition Assessment Survey, which shall include a:

- Video recording of the site both during daytime and nighttime
- Photo documentation of all existing assets and surroundings

19.2.6 Reports and Plans

The Design-Builder shall prepare the relevant Design Document and Construction Document Submittals in accordance with minimum requirements in this Book 2, Section 19, Maintenance During Construction.

19.2.6.1 Maintenance During Construction Plan

As part of the PMP, the Design-Builder shall prepare and implement a Maintenance During Construction Plan (MDCP) that includes, at a minimum, the following:

- List of all proposed routine maintenance activities and responsibilities for either the Design-Builder or Illinois Tollway;
- Schedule of proposed routine maintenance activities; and
- Names and contact information of the Contractor's staff who will oversee maintenance efforts.

19.2.6.2 Monthly Maintenance Report

On a monthly basis, and within five Business Days of the last day of a reporting period, beginning at NTP 3 and ending at Final Acceptance, the Design-Builder shall prepare and submit to Illinois Tollway a Monthly Maintenance Report detailing all maintenance activities performed. The Monthly Maintenance Report shall include, at a minimum:

- List of the reporting period's activities
- Sum of quantities used in maintenance activities, with associated item numbers
- Sum of hours spent on maintenance activities
- List of upcoming maintenance activities

19.3 Design Requirements

The Design-Builder shall design the Work and staging of the Work to reasonably accommodate the Maintenance During Construction and the Illinois Tollway's post-Final Acceptance maintenance activities.

19.4 Maintenance Requirements

19.4.1 General

Unless otherwise stated in this Section 19, Maintenance During Construction, the Design-Builder shall assume maintenance responsibilities within the Project Limits at 12:01 a.m. on the first Day of commencement of Construction and assume this maintenance responsibility until 11:59 p.m. on the date of Final Acceptance.

The Design-Builder shall perform maintenance on temporary facilities to provide a safe, effective, and aesthetically pleasing transportation corridor.

Perform non-routine maintenance, including the following:

- Maintain temporary facilities.
- Maintain roadways open to traffic, including removal of any silt.
- Replace/repair existing shoulders if used for temporary traffic control or hauling.
- Replace/repair temporary roadways, bridges, and crossovers.
- Replace/repair temporary traffic attenuators and temporary guardrail damaged during construction.
- Maintain temporary delineators, temporary signing, and temporary pavement marking.
- Replace/repair pavements/shoulders within the Project limits under any of the following conditions:
    - The Contractor's construction operations damage in-place pavements/shoulders.
    - The Contractor's staging or routing of traffic results in pavement/shoulder damage above normal maintenance incurred under existing traffic configuration.
- Maintain drainage/erosion control related to construction activities.
- Maintain haul routes.
- Maintain permanent lighting, temporary lighting, and all parts of traffic signal systems impacted by detours or loop installations from the first Day of construction until Substantial Completion. This work is limited to signal timing impacts and loop impacts.
- Maintain temporary fence.
- During the growing season in both 2026 and 2027, mow a minimum of two times or at the approximate height requirements for the entire project limits in accordance with the "Erosion Control and Landscape Manual - Appendix G Illinois Tollway – Roadside Mowing Guide." Mowing may also be used as a method to remove weeds specified in Section 14.4.6.1 (*Noxious Weed Invasive Species Control*).
- Removal and disposal of litter, debris, and dead animals.
- Remove graffiti:
    - Within 48 hours for vulgar or obstructive graffiti.
    - Within 10 Working Days for all other graffiti.
- Maintain storm sewer system related to construction activities.
- Replace/repair temporary barrier wall.
- Maintain traffic control devices supplied by the Contractor, including any that are displaced by Illinois Tollway snow removal.
- Locate any Contractor installed or existing Illinois Tollway Utilities within the Project limits for J.U.L.I.E. (Joint Underground Locating Information for Excavators).

19.4.2 Construction Criteria

The Design-Builder shall perform maintenance in accordance with the Project Standards.

19.4.2.1 Winter Maintenance

19.4.2.1.1 Contractor Responsibilities

The Design-Builder will not be required to perform any snow or ice removal on active roadways, except to allow or expedite construction operations. Such removal to allow or expedite construction shall be entirely at the Contractor's option and expense. Such removal, if undertaken, may require removal of snow and ice placed by Illinois Tollway operations. Do not place or store snow or ice removed by the Contractor adjacent to any active travel way to restrict Illinois Tollway's ability to utilize these areas for placement of material removed by its operations.

19.4.2.1.2 Illinois Tollway Responsibilities

Illinois Tollway will be responsible for snow and ice control and removal for all active travel lanes open to traffic prior to and during a snow event. Such responsibility will only require removal to allow the use of the roadway by the public and will only be accomplished to the degree deemed necessary by Illinois Tollway, Counties, and Cities. Illinois Tollway, Counties, and Cities will not remove snow or ice from active or inactive lanes in order to provide access for construction operations or access of construction Equipment to the various construction segments. Illinois Tollway, Counties, and Cities may deposit snow and ice materials adjacent to the lane being cleaned, even though such adjacent areas may be active Work zones. Illinois Tollway reserves the right, because of Equipment, labor, or weather constraints, to forgo any snow and ice removal from all or a portion of the Project for extended periods.

19.4.3 Construction Reports and Plans - (Not Used)

19.4.4 Standard Drawings (Not Used)

19.4.5 Construction Methods and Materials, Inspection and Testing Requirements (Not Used)

19.4.6 Removal of Miscellaneous Objects

The Design-Builder shall remove all temporary maintenance facilities within the Project Site before Final Acceptance.

19.4.7 Disposal of Materials

The Design-Builder shall assume ownership of all material and dispose of off the Project Site.

19.5 Submittal Requirements

Whenever a Submittal identified in *Table 19-1, Section 19.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 19-1, Section 19.5 Submittal Requirements,* below. *Table 19-1, Section 19.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 19-1: Section 19.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Maintenance During Construction Plan	19.2.6.1	PDF	2	10	5	Construction
2	Monthly Maintenance Report	19.2.6.2	PDF	2	10	5	N/A

Section 20

20 BICYCLE AND PEDESTRIAN FACILITIES

20.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 20, Bicycle and Pedestrian Facilities, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design, and construct bicycle and pedestrian facilities Work in accordance with:

- Directive Designs;
- Commitments of the Governmental Approvals and Environmental Approvals; and
- Project Standards

20.2 Administrative Requirements

20.2.1 Standards

For bicycle and pedestrian facilities Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the jurisdictional agency with higher quality or value shall prevail.

20.2.2 Bicycle Facilities

Primary Project Standards:

- IDOT BDE Chapter 17- Bicycle and Pedestrian Accommodations
- IDOT Special Provisions

Secondary Project Standards:

- AASHTO Guide for the Development of Bicycle Facilities
- AASHTO Roadside Design Guide
- Manual on Uniform Traffic Control Devices (MUTCD)

Tertiary Project Standards:

- Remaining standards set forth in Book 3

20.2.3 Pedestrian Facilities

Primary Project Standards:

- IDOT BDE Chapter 17- Bicycle and Pedestrian Accommodations
- IDOT Special Provisions

Secondary Project Standards:

- AASHTO Guide for the Planning, Design and Operation of Pedestrian Facilities
- AASHTO Roadside Design Guide
- Manual on Uniform Traffic Control Devices (MUTCD)

Tertiary Project Standards:

- Remaining standards set forth in Book 3

20.2.4 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

20.2.5 Equipment/Software

The Design-Builder shall refer to the Illinois Tollway CADD Manual for software requirements.

The Design-Builder shall follow the equipment and software requirements of the Project Standards.

20.2.6 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for bicycle and pedestrian facilities Work, including those necessary for investigations. The Design-Builder shall perform all activities necessary to furnish the bicycle and pedestrian facilities Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as local agencies, Utility Owners, Railroad Owners, and Railroad Operators, as necessary, for bicycle and pedestrian facilities Design Document Submittals and Construction Document submittals that potentially affect third parties.

20.2.7 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform the investigations deemed necessary to complete bicycle and pedestrian facilities Work.

20.2.8 Reports and Plans

The Design-Builder shall prepare the relevant Design Document and Construction Document submittals in accordance with minimum requirements in this Book 2, Section 20, Bicycle and Pedestrian Facilities.

20.3 Design Requirements

20.3.1 General

Design and construct all temporary non-motorized facilities including shared-use paths, bikeways, sidewalks, and crosswalks within Project ROW to maintain bicycle and pedestrian facilities. Preserve or replace, if damaged by construction (to meet current standards), all existing non-motorized facilities to remain within the Project Limits.

20.3.2 Design Criteria - (Not Used)

20.3.3 Project Specific Design Criteria - (Not Used)

20.3.4 Crosswalks - (Not Used)

20.3.5 Pedestrian Ramps

Provide pedestrian ramps for any ramps that are removed, damaged, or otherwise impacted by Construction activities.

20.3.6 Pavement Marking and Signing

Provide pavement marking and signing for bicycle and pedestrian facilities in areas where permanent pavement marking and signing is removed, damaged, or otherwise impacted by Construction activities.

20.3.7 Pavement Design - (Not Used)

20.3.8 Design Deviations

Design Deviation coordination shall be per requirements of the local agency that has jurisdiction over improvement limits.

20.3.9 Reports and Plans - (Not Used)

20.4 Construction Requirements

20.4.1 General

The Design-Builder shall construct the temporary Bicycle or Pedestrian Facilities Work in accordance with the Illinois Tollway-accepted RFC Documents, Construction Document Submittals, applicable permits, and requirements of the Contract Documents.

20.4.2 Construction Reports and Plans – (Not Used)

20.4.3 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards. In addition, the Design-Builder shall follow the methods and materials requirements specified in the subsection(s), below.

20.4.4 Removal of Miscellaneous Objects

The Design-Builder shall remove all temporary facilities within the Project Site before Final Acceptance.

20.4.5 Disposal of Materials

The Design-Builder shall assume ownership of all material to be disposed of off-the Project Site.

20.5 Submittal Requirements

Whenever a Submittal identified in *Table 20-1, Section 20.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 20-1, Section 20.5 Submittal Requirements,* below. This *Table 20-1, Section 20.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 20-1 Section 20.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
N/A	NO SUBMITTALS ANTICIPATED	N/A	N/A	N/A	N/A	N/A	N/A

Section 21

21 RAILROADS

21.1 General Requirements

The Design-Builder shall conduct all Work necessary to meet the requirements of this Section 21, Railroads, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design and construct Railroad Work in accordance with:

- Commitments of the Governmental Approvals and Environmental Approvals;
- Railroad Standards and Project Standards; and
- In the absence of specific Railroad or Project Standards, the American Railway Engineering and Maintenance-of-Way Association (AREMA) Standards.

21.1.1 Railroad Requirements

The Design-Builder shall perform the necessary Railroad Work to satisfy the requirements of the Contract Documents, as further specified within this Book 2, Section 21.

The Design-Builder shall maintain and provide to Illinois Tollway all coordination documentation, including all definitive cost estimates and invoice/ billing information necessary to distinguish between the cost of Railroad-requested Betterments and the cost of the Railroad Work necessary to complete the Project.

21.1.2 Preliminary Railroad Coordination

The Illinois Tollway has performed Preliminary Railroad Coordination with Railroads affected by the Project.

21.2 Administrative Requirements

The Design-Builder shall perform the Work with the understanding that the safety and continuity of operations of railroad traffic shall be of primary importance and shall be protected and safeguarded at all times. The Design-Builder shall, always, comply with directives of a Railroad Owner and Railroad Operator concerning its facilities and operations. In the event of conflict between directive from the Railroad Owner and Railroad Operator, the Design-Builder shall convene a meeting with the Railroad Owner, Railroad Operator, and an Illinois Tollway representative to resolve the conflict.

Whenever safety within the railroad Right-of-Way is concerned, the Railroad's Engineer or Railroad's representative will have jurisdiction over safety measures to be taken. The Railroad's decision as to methods, procedures, and measures used in the design and construction of Work near, below, or above the railroad shall be final and mandatory on the Design-Builder. Directives to the Design-Builder by a Railroad may be given directly or through the Illinois Tollway. The Design-Builder shall notify the Illinois Tollway or Illinois Tollway's representative immediately of any direction received by the Railroads.

The Design-Builder shall be responsible for additional costs accrued or delays encountered by the Illinois Tollway or the Design-Builder due to the Design-Builder's failure to follow the applicable Railroad's Standards. The Illinois Tollway may seek reimbursement for such costs by withholding payment per Section 14, Payment, of Book 1.

21.2.1 Standards

For Railroad Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary Project Standards are second on the order of precedence, and tertiary Project Standards are the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers to the Illinois Tollway higher quality or value Work shall prevail.

Primary Project Standards:

- *Applicable federal or state railroad standards and safety requirements (AREMA)*

Secondary Project Standards:

- *Illinois Tollway Design Section Engineer's (DSE) Manual*
- *Illinois Tollway Construction Manager's (CM) Manual*
- *Illinois Tollway Supplemental Specifications*

Tertiary Project Standards:

- *IDOT Standard Specifications for Road and Bridge Construction*
- *All other Project Standards listed in Book 3.*

21.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2. The Design-Builder shall facilitate meetings with Railroad Owners and Railroad Operators as necessary to complete the Work in accordance with the requirements of the Contract Documents, or as deemed necessary by the Illinois Tollway, a Railroad Owner, a Railroad Operator, and the Design-Builder. In addition, the Design-Builder shall, at a minimum, facilitate the following meetings with Illinois Tollway and the affected Railroad parties:

- A meeting with each affected Railroad Owners and Railroad Operators to discuss requirements and procedures for accessing the Railroad property;
- A resolution meeting within three Business Days of receiving a stop work notice ordered by a Railroad Owner, Railroad Operator, or Illinois Tollway, a resolution meeting;
- The Railroad shall be invited to a Construction kickoff meeting at least 15 Business Days prior to accessing Railroad property;
- Construction close-out meeting, within five Business Days after the Design-Builder has completed work within the Railroad property and vacated the Railroad property;

Following completion of work on a given Railroad property, the Design-Builder shall facilitate a meeting with Illinois Tollway to discuss lessons learned through performance of the Railroad Work, if any prior to project completion.

Within three (3) Business Days of a railroad meeting occurring, the Design-Builder shall develop and circulate meeting minutes to each of the meeting attendees. The Design-Builder shall be responsible for resolving comments on the meeting minutes and shall facilitate meetings to resolve such comments, if necessary. The Design-Builder shall allow attendees at least three Business Days to review meeting minutes. Within ten (10) Business Days of the meeting, the Design-Builder shall circulate the final meeting minutes, addressing attendees' comments.

21.2.3 Equipment/Software

The Design-Builder shall refer to the Illinois Tollway CADD Manual for Software Requirements.

The Design-Builder shall follow the equipment and software requirements of the Project Standards.

21.2.4 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for the Railroad Work, including those necessary for investigations, Right-of-Entry, and railroad flagging. The Design-Builder shall be responsible for all activities necessary to achieve such permits, including cost and schedule implications thereof.

The Design-Builder shall be responsible for coordinating the Work with Railroads, including obtaining necessary Railroad approvals on Design Document Submittals and Construction Document Submittals, among other submittals required in these Contract Documents. The Design-Builder shall include the Illinois Tollway on all correspondence between the Design-Builder and Railroad Owners and Railroad Operators.

Railroads shall have Approval rights of the Work; however, Railroad Approvals shall not relieve the Design-Builder of any liabilities or responsibilities with respect to the proper design and construction of the Project and the obligations under this Contract.

21.2.4.1 Railroad Agreements

Existing Railroad Agreements are provided in Exhibits 21C of this Book. During the coordination, planning, and design of the Railroad Work, the Design-Builder shall follow the requirements of the Railroad Agreements in anticipation of such agreements being part of the Contract Documents upon execution thereof. After the Effective Date of this Contract, changes to the Railroad Agreements, caused by either (i) Illinois Tollway or (ii) a Railroad, will be basis for a Change Order.

The Design-Builder will be responsible for all Railroad Agreements associated with temporary work.

For the permanent work under the contract, the following responsibilities apply to Railroad Agreements, if required:

- The Tollway is responsible for Railroad Construction and Maintenance (C&M) Agreements;
- The Design-Builder is responsible for Railroad Preliminary Engineering Agreements, however, any Railroad design review costs paid to the Railroad is reimbursable to the Design-Builder through the Allowance for Railroad Flagging and Services item; and
- The Tollway is responsible for Utility License Agreements.

21.2.4.2 Illinois Commerce Commission Order

The Tollway will be responsible for any coordination with the Illinois Commerce Commission (ICC)

21.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations to complete the Railroad Work in accordance with Project requirements which shall include, at a minimum: survey/verification of the existing railroad facilities and utility's locations, review of existing as-builts and record drawings, geotechnical borings, and condition assessments and documentation of the existing railroad facilities.

21.2.6 Reports and Plans

The Design-Builder shall prepare the relevant Design Document Submittals and Construction Document Submittals in accordance with minimum requirements in this Book 2, Section 2, Project Management.

21.2.6.1 Railroad Work Plan

As part of the Project Management Plan (PMP), as described in Section 2.1, Project Management Plan of this Book 2, the Design-Builder shall develop, implement, and maintain a Railroad Work Plan (RWP). The Design-Builder shall revise the RWP as necessary to reflect the current scope and status of the Work. The RWP shall identify, at a minimum:

- Scope of Railroad Work, including the agreement and permitting requirements for each affected Railroad.
- Contact information of affected Railroad Owners and Railroad Operators
    - Design-Builder shall ensure that the RWP is coordinated with the Illinois Tollway's Project Manual & Emergency Communication Plan, to ensure proper emergency contacts for Railroad Work are provided.
- Roles and responsibilities of parties, including Design-Builder and Illinois Tollway, and any 3rd party involvement as noted in Section 21.2.7 of this Book 2.
- Railroad Work communication procedures and processes.
- Identification of railroad coordination and investigation activities.
- Plan to address Railroad Betterments, if any, requested by Railroad; and
- The schedule of Work that will affect Railroads, inclusive of design and permitting submittal deadlines, submittal review and resubmittal timelines, and construction start and end dates.

21.2.7 Affected Railroads

The Design-Builder shall refer to Section 21.2.7.1 for Railroad Owner and Railroad Operator information.

The Design-Builder shall specifically note the Right of Entry permit review times, which specifies the respective Railroad's approximate turnaround time for a permit application submittal. The permit review times shown are approximate and will depend on the level of completeness, accuracy, and familiarity the Design-Builder has with such permit application; permit applications submitted by the Design-Builder that show a clear lack of understanding of the Railroad's standard operating procedures will likely result in longer permit review times.

Railroad ROW may include public and/or private underground utilities. The Design-Builder shall call the respective "Call before you dig" phone numbers listed in each subsection, below, and follow the direction of such phone conversation.

21.2.7.1 Metra and Canadian Pacific Kansas City (CPKCR)

The Design-Builder is responsible for contacting the Railroad Owners and obtaining any necessary Right of Entry Permits for the work associated with this contract. The Railroad Owners are specified below in Tables 21-1 and 21-2. Proposers can contact the Railroad Owner contact persons listed below during development of their Technical and Price Proposals. Table 21-1 shows that the CPKCR operates on the Metra owned track. Coordination of work with the CPKCR should also take place on that line.

Table 21-1: Railroad Information, Metra

Railroad Owner:	Metra
Operated on by:	CPKCR
Facility Location (Approximate):	Sta. 693+25 to Sta. 699+26, Running East and West. Crossing under IL 390 at approximately Sta. 696+00
Scope of Railroad Work:	Coordination on repairs for IL 390 Structures (BN 1601 and BN 1602) and permits necessary for field investigations and any work correlated to the Design and Construction.
Contact Information:	Contact Person(s): Lynn M. Dion and Ann Hammo Phone: (312) 322-2987 and (312) 322-1455 Address: 547 W. Jackson Blvd, Chicago, IL, 60661
Right of Entry Permit Review Times (Approximate):	Initial Permit Submittal: 90 days Permit Resubmittal: 30 days
Railroad Standards:	Metra Project Permit Guidebook, Design and Construction Manuals, Temporary Shoring Guidelines, and Environmental Procedures Manual
Permit required for Railroad Right of Way entry	Yes
Agreement required for Construction Work to begin within Railroad ROW or on Railroad facilities.	Yes
"Call before you dig" contact:	JULIE and Contact Information Mentioned Above

Table 21-2: Railroad Information, Canadian Pacific Kansas City (CPKC)

Railroad:	CPKC Spur
Facility Location (Approximate):	Sta. 808+00 to Sta. 810+00, Running North and South. Crossing under IL 390 at Sta. 809+00.
Scope of Railroad Work:	Coordination on repairs for IL 390 Structures (BN 1615 and BN 1616) and permits necessary for field investigations and any work correlated to the Design and Construction.
Contact Information:	Contact Person(s): Charles Kretchman Address: 120 South 6th Street – Suite 700, Minneapolis, MN 55402 and 1010 Shop Road, Minneapolis, MN 55106
Right of Entry Permit Review Times (Approximate):	Initial Permit Submittal: 90 days Permit Resubmittal: 30 days
Railroad Standards:	N/A
Permit required for Railroad Right of Way entry	Yes
Agreement required for Construction Work to begin within Railroad ROW or on Railroad facilities.	Yes
"Call before you dig" contact:	JULIE and Contact Information Mentioned Above

21.3 Design Requirements

The Design-Builder shall maintain and provide to Illinois Tollway all coordination documentation, including all definitive cost estimates and invoice/ billing information necessary to distinguish between the cost of Railroad-requested Betterments and the cost of the Railroad Work necessary to complete the Project.

The Design-Builder shall advance the design of Railroad Work to accommodate the comments and requests of the Railroads resulting from the Preliminary Railroad Coordination. For the avoidance of doubt, the Design-Builder shall be responsible for the design of the Railroad Work, including resolving any errors or omissions within the drawings provided to the Railroads in the Preliminary Railroad Coordination.

Upon identification of an error or omission within the drawings, the Design-Builder shall within 24 hours notify Illinois Tollway.

In its sole discretion, the Illinois Tollway will coordinate any notice of errors or omissions to the affected Railroad.

The Design-Builder shall be responsible for delay and cost implications due to Design-Builder-initiated changes to the drawings in the Preliminary Railroad Coordination.

21.3.1 General

The Design-Builder shall be responsible for furnishing the design of the Railroad Work, in accordance with the applicable Project Standards and Railroad Standards. The Design-Builder shall ensure the design of the Railroad Work is coordinated, through monthly meetings, with both Illinois Tollway and the affected Railroad entities.

The Design-Builder shall mitigate operational impacts on Railroad facilities and shall design the construction staging in accordance with the permitted work hours and other restrictions in accordance with the applicable Railroad agreements and permits.

21.3.2 Design Criteria

The Design-Builder shall design the railroad facilities in accordance with the Project Standards and respective Railroad Standards.

21.3.3 Design Procedures (Not Used)

21.3.4 Design Document Submittals

The Design-Builder shall prepare and submit to Illinois Tollway the design of the Railroad Work in accordance with the requirements and schedule specified in Book 2, Section 2, Design Document Submittals.

Unless specified elsewhere, the Preliminary Design Document submittal shall include, at a minimum, all structure plans or track plans to be owned and maintained by the Railroad.

Unless specified elsewhere, the Pre-RFC Design Document submittal shall include, at a minimum, all structure plans, track plans, signal plans, or crossing plans to be owned and maintained by the Railroad. This shall include all temporary signal work or temporary crossing work proposed by the Railroad or the Design-Builder.

21.3.5 Railroad Design Submittals

The Design-Builder shall prepare and submit to Illinois Tollway the Railroad Design Submittals prescribed in the Railroads' Standards. The Design-Builder shall obtain Illinois Tollway approval of such submittals prior to the Design-Builder submitting them to the Railroad(s).

The Design-Builder shall revise such Railroad Design Submittals as many times necessary to achieve Illinois Tollway and Railroad Approval.

The Design-Builder shall facilitate comment resolution meetings with the Railroad, as deemed necessary by Illinois Tollway or the Railroad.

21.4 Construction Requirements

21.4.1 General

The Design-Builder shall construct the Railroad Work and Work within Railroad ROW in accordance with the applicable RFC Documents, Project Standards, Railroad Standards, railroad permit(s), railroad agreement(s), and requirements of the Contract Documents.

Work performed adjacent to or within any Railroad ROW shall be subject to advanced approval of the applicable Railroad and to inspection by its properly designated representative(s). All such work shall be performed at such times and in such manner as not to unnecessarily interfere with the movement of trains or traffic upon the tracks of such railway company. The Design-Builder shall use all care and caution in order to avoid accidents, damage, and unnecessary delay and interference with the railroad company's operations and property. The Design-Builder shall conduct operations upon the railroad right-of-way in full compliance with the rules, regulations, and requirements of such railroad.

The Design-Builder shall furnish the necessary railroad protective insurance as may be required by the Project Standards and Railroad Standards.

Should the Design-Builder require a temporary crossing over the tracks of any railroad for its own convenience, the Design-Builder shall make its own arrangements with that railroad for the construction or use of any such crossing.

The Design-Builder shall acquaint itself with and comply with all terms and provisions contained within existing agreements between Illinois Tollway and Railroads, as provided in Exhibits 21C of this Book 2, and, to the extent there is any conflict, the terms of such agreement shall control over the other provisions contained within this Book 2. The Design-Builder shall comply with all railroad safety requirements, including any safety training, eRailSafe certification or other transportation security requirements required by the railroad.

Before commencement of any work within the Railroad ROW, the Design-Builder shall give written notice to the Railroad at the address provided within this Section 21, Railroads. Such notice shall be in compliance with any agreement between the railroad and the Illinois Tollway. Whenever such work, in the opinion of the Railroad or its duly authorized representative, may affect the safety of railroad operations or personnel, the method of doing such work shall be submitted to the Railroad for written approval and no such work shall be commenced or prosecuted without such written approval. The approval of the Railroad shall not be considered as a release of the Design-Builder from responsibility or liability for any damage which the Railroad may suffer, or for which it may be held liable by the acts of the Design-Builder or its subcontractors or their employees or agents.

21.4.2 Instrumentation/Monitoring Requirements

The Design-Builder shall provide vibration monitoring devices and an alert system on existing railroad piers, columns, and abutments within 100 yards of construction activities. The vibration monitoring devices and alert system shall meet the requirements of the Railroad's Standards.

21.4.3 Construction Reports and Plans

The Design-Builder shall be responsible for developing and obtaining Railroad approval for any construction submittals necessary to complete the Railroad Work, in accordance with the Railroads' Standards and Project Standards.

The Design-Builder shall prepare Construction Document Submittal as per the requirements of Section 2, Project Management, of this Book 2.

21.4.4 Standard Drawings

The Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings.

21.4.5 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall plan, schedule, perform, and document the necessary construction methods and material inspection and testing in accordance with Section 5, Quality Management, of this Book 2, and in accordance with the Project Standards and Railroad Standards. The Design-Builder shall ensure the construction methods and materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards and Railroad Standards.

All materials for, and each part or detail of the Work shall also be subject at all times to inspection by representatives of the applicable Railroad insofar as Railroad interests are concerned, but such inspection shall not make the Railroad a party to the Contract, nor relieve the Design-Builder of its responsibility for the Work.

21.4.6 Removal of Miscellaneous Objects

The Design-Builder shall remove all existing pavement, curb and gutter, sidewalk, steps, drainage facilities, soil, rock, and other obstructions within the Project Limits necessary to construct the Project. The Design-Builder shall remove all other unused pavements, ballasts, track, ties, including temporary facilities, within the Project Site and grade to match the adjacent grading.

The Design-Builder shall perform all excavation and removal activities that impact the Railroad in accordance with Railroad Requirements.

21.4.7 Disposal of Materials

Unless otherwise stated within the Railroad Standards, the Design-Builder shall assume ownership of all material to be disposed of off-the Project Site.

21.4.8 Temporary Requirements

Throughout construction Work, the Design-Builder shall ensure temporary railroad facilities are designed and constructed in accordance with this Section 21, Railroads.

21.4.8.1 Temporary Track (Not Used)

21.4.8.2 Railroad Flagging Protection and Inspector Services

When, in the opinion of the Railroad, the Construction Work causes a hazard to the safe operation of trains, the Railroad may place at the site of the Work, trainmen, flaggers, trackmen, watchmen or other employees deemed necessary by the Railroad to protect its interests; however, the providing of such employees and other precautions shall not relieve the Design-Builder or its subcontractors of any liability for injury or damages arising in connection with their operations.

Any flagging protection or inspector service required by the Railroad for the safety of railway operations because of work being performed by the Design-Builder or in connection therewith, will be provided by the affected Railroad Owner or Railroad Operator; the cost thereof shall be reimbursed to the Railroad entities by the Design-Builder through Allowance item Allowance for Railroad Flagging as included in Book 1 Section 16.2.5. The Design-Builder shall notify the Railroad of the minimum time designated by the Railroad in advance of when the protective services are required. The Design-Builder shall make every effort to notify the Railroad sufficiently in advance if previously requested flagger or inspection services will not be needed for any reason. In the event the Design-Builder requests flagging protection or inspector services for a specific date but does not use such services on said date, the Design-Builder shall be responsible for the costs of the provided services for that date; to recoup such costs, Illinois Tollway may deduct payment to the Design-Builder in accordance with Book 1.

The Railroads may perform inspections and acceptance of the Work, however, providing such inspections and acceptances shall not relieve the Design-Builder of its responsibilities to meet the requirements of the Contract Documents, including the responsibilities set forth in Book 2, Section 5, Quality Management.

21.5 Submittal Requirements

Whenever a Submittal identified in *Table 21-3, Section 21.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 21-3, Section 21.5 Submittal Requirements,* below. This *Table 21-3, Section 21.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management

Table 21-3: Section 21.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
1	Railroad Work Plan	21.2.6.1	PDF	2			Design
2	Railroad Design Submittals	21.3.5	PDF	2			Construction

Section 22

22 TOLLING INFRASTRUCTURE

22.1 General Requirements

The Design-Builder shall conduct the required Work necessary to meet the requirements of this Section 22, Tolling Infrastructure, of this Book 2. At a minimum, and without limiting other requirements of the Contract Documents, including this Book 2, the Design-Builder shall design and construct tolling infrastructure Work in accordance with:

- Directive Designs;
- Commitments of the Governmental Approvals and Environmental Approvals; and
- Project Standards.

22.2 Administrative Requirements

22.2.1 Standards

For tolling infrastructure Work, the Design-Builder shall adhere to the order of precedence of the Project Standards, below. Regarding Project Standards, primary Project Standards are of the highest precedence, secondary project Standards are second on the order of precedence, and tertiary is the third order of precedence. In the event of conflict within Project Standards of the same order of precedence, the stricter requirement or the requirement that delivers the Illinois Tollway with higher quality or value shall prevail. The Design-Builder shall use the latest adopted editions of the Primary, Secondary and Tertiary Project Standards at the time of the Setting Date

Primary Project Standards:

- *Illinois Tollway Business Systems Toll Plaza Manual*
- *Illinois Tollway ITS Deployment Guide*
- *Illinois Tollway ITS Labeling Guide*
- *Illinois Tollway Toll Plaza and ITS Special Provisions*
- *Illinois Tollway Base Sheets (Sections M-BUS, M-ITS, and M-RDY)*
- *Illinois Tollway Design Bulletins*
- *Illinois Tollway Construction Bulletins*
- *Illinois Tollway ITS Maintenance Manual*

Secondary Project Standards:

- *National Fire Protection Agency National Electric Code (NEC) Standards, including Listing Requirements*
- *U.S. Department of Transportation National ITS Architecture*
- *National Electrical Manufacturers Association (NEMA) Standards*
- *National Transportation Communications for ITS Protocol (NTCIP) Standards*
- *EIA/TIA Fiber Optic Test Procedure (FOTP) Standards*

Tertiary Project Standards:

- *Remaining standards set forth in Book 3*

22.2.2 Meeting Requirements

The Design-Builder shall follow the meeting requirements in Section 2, Project Management, of this Book 2.

22.2.2.1 Tolling Design Workshop

Schedule a tolling design workshop prior to initiation of design Plans or any Work that disrupts existing tolling and ITS infrastructure. Include Illinois Tollway's Project Manager and Illinois Tollway tolling staff in the tolling design workshop. Coordinate with Illinois Tollway to determine if additional stakeholders such as roadway maintenance, facilities, or others should be invited to participate in the workshop. At the tolling design workshop discuss the following topic areas:

- Temporary tolling/ITS infrastructure including Design-Builder's plan for construction staging specific to the tolling/ITS infrastructure, the plan for maintaining toll collection for existing facilities, the plan for maintaining communication to devices, and the length of down time for unavailable devices.

22.2.3 Equipment/Software

The Design-Builder shall refer to the *Illinois Tollway CADD Standards Manual* for CADD equipment and Software Requirements.

22.2.4 Permits/Authorizations

The Design-Builder shall indicate in the CEPP which permits are necessary to obtain for the tolling infrastructure Work, including those necessary for investigations. The Design-Builder shall perform the required activities necessary to furnish the tolling infrastructure Work-applicable permits, if any.

The Design-Builder shall obtain third-party approvals, such as Utility Owners, FAA, Railroad Owners, and Railroad Operators, as necessary, for tolling infrastructure Design Document and Construction Document submittals that potentially affect third parties.

22.2.5 Investigations/Supplemental Work

The Design-Builder shall perform the necessary investigations during the Scope Validation Period to satisfy the Scope Validation clauses (i) and (ii) in Section 2.3.1, Scope Validation Period, Book 1.

The Design-Builder shall perform the field investigations deemed necessary to complete any tolling infrastructure Work.

22.3 Design Requirements

22.3.1 Design Deviations

No Design Deviations pertaining to the Tolling Work are anticipated.

The Design-Builder shall not be permitted to implement into the Work additional Design Deviations unless otherwise approved by the Illinois Tollway, per Section 1, General, of this Book 2.

22.3.2 Additional Design Requirements

Notwithstanding the Approved Design Deviations in Exhibit 1B of this Book 2, the Design-Builder shall ensure the Tolling design meets the minimum requirements listed in the *Illinois Tollway Business Systems Toll Plaza Manual, ITS Deployment Guide,* and the *Illinois Tollway Intelligent Transportation Systems (ITS) Labeling Guide*.

22.3.3 Base Sheets

The Design-Builder shall utilize the Illinois Tollway Base Sheets when preparing the Design Document submittals and Construction Document submittals.

22.4 Construction Requirements

22.4.1 General

The Design-Builder shall construct the tolling Work in accordance with the Illinois Tollway-accepted RFC Documents, Construction Document Submittals, applicable permits, and requirements of the Contract Documents.

22.4.2 Standard Drawings

The Design-Builder shall perform construction Work in accordance with the Illinois Tollway Standard Drawings.

22.4.3 Construction Methods and Materials, Inspection and Testing Requirements

The Design-Builder shall refer to Section 5, Quality Management, of Book 2, for quality assurance and quality control requirements. The Design-Builder shall ensure the construction methods and Materials are in conformance with the requirements of the Contract Documents, inclusive of the Project Standards. In addition, the Design-Builder shall follow the methods and materials requirements specified in the subsection(s), below.

22.4.4 Disposal of Materials

The Design-Builder shall assume ownership of the required material to be disposed of off-the Project Site.

22.5 Submittal Requirements

Whenever a Submittal identified in *Table 22-1, Section 22.5 Submittal Requirements* of this Book 2 becomes necessary for the Work, the Design-Builder shall prepare and submit it to the Illinois Tollway. The Design-Builder shall ensure that each Submittal is identified within the Submittal Packaging Requirements Database described within this Book 2, *Section 2, Project Management*. The Illinois Tollway will conduct reviews and provide review comments in accordance with *Section 2, Project Management* and *Table 22-1, Section 22.5 Submittal Requirements,* below. *Table 22-1, Section 22.5 Submittal Requirements* excludes the necessary Design Document Submittals required under this Book 2, Section 2, Project Management.

Table 22-1: Section 22.5 Submittal Requirements

Item	Submittal Name	Applicable Section	Format	Submittal Type	Time Period for Initial Illinois Tollway Review (Business Days)	Time Period for each Follow-up Illinois Tollway Review (Business Days)	Illinois Tollway acceptance a Condition to Commencement of
N/A	NO SUBMITTALS ANTICIPATED	N/A	N/A	N/A	N/A	N/A	N/A