

# ERRATA

## ***Nebraska Department of Transportation***

### ***Roadway Design Manual***

#### **Chapter Two: Roadway Design Process**

June 2016

① February 2017

② July/August 2017

③ February 2018

④ June 2018

⑤ August 2018

⑥ December 2018

The last update to the Roadway Design Manual (RDM) was in 2006. In the intervening years some design guidance has become obsolete, new/updated guidance has become available, offices of responsibility have changed, design procedures have been streamlined, etc. The NDOT is in the process of updating the *RDM* but, in the interim, the obsolete/incorrect guidance is being addressed through this document and a re-issued *RDM*. Page numbers cited in this document are referenced to the December 2018 Errata RDM. Deleted text in the December 2018 Errata RDM is in green with a strike through (~~errata~~) and new/corrected text is in red (**correct**). The following chapters have already been addressed:

- ⑥ Contents (updated in December 2018)
- ⑥ List of Exhibits (updated in December 2018)
- Chapter Three: Roadway Alignment (updated on June 17, 2011)
- Chapter Four: Intersections, Driveways and Channelization (updated on April 19, 2012)
- Chapter Six: The Typical Roadway Cross-Section (updated on February 18, 2016)
- ⑤ Chapter Seven: Earthwork: (updated on August 2, 2018)
- Chapter Eight: Surfacing (updated on December 15, 2015)
- ⑥ Chapter Nine: Guardrail and Roadside Barriers (updated on December 13, 2018)
- ① Chapter Eleven: Highway Plans Assembly (updated on February 21, 2017)
- ② Chapter Twelve: Cost Estimating & Funding (updated on August 16, 2017)
- ① Chapter Fourteen: Traffic (updated on October 19, 2016)
- ③ Chapter Fifteen: Right-of-Way (updated on February 26, 2018)
- Chapter Sixteen: Pedestrian and Bicycle Facilities (added on February 8, 2016)
- Chapter Seventeen: Resurfacing, Restoration and Rehabilitation (3R) Projects (added on March 26, 2014)
- ⑥ Index (updated in December 2018)

The following items pertain to the entire manual:

- June 2016 and all subsequent changes – Chapter and EXHIBIT citations have been updated to the latest edition of the *RDM*
- ② July 2017 - All references to the **Nebraska Department of Roads (NDOR)** have been changed to the **Nebraska Department of Transportation (NDOT)**
- ⑥ December 2018 – Plan Sheet numbering updated (See Chapter Eleven, EXHIBIT 11.1)

Page	Existing Text	Corrected Text
<b>Chapter Two</b>		
2-1	<p><b>Section 1: DESIGN PROCESS OUTLINE –</b>  “These design process activities are included in the Project Scheduling System (PSS). Each activity number corresponds to an activity on the PSS. The PSS includes average times for completion of each activity associated with a project for project scheduling. The <b>Project Scheduling and Program Management Section</b> tracks the progress of all projects on the PSS, maintains this information and then updates the actual project schedule as activity completion dates are supplied. Estimated letting dates, based on the activity completion dates, are provided to other decision makers for prioritization and funding.”</p>	<p>“These design process activities are included in Clarity. Each activity number corresponds to an activity in Clarity. Clarity includes average times for completion of each activity associated with a project for project scheduling. The <b>Project Scheduling and Program Management Division</b> tracks the progress of all projects in Clarity, maintains this information and then updates the actual project schedule as activity completion dates are supplied. Estimated letting dates, based on the activity completion dates, are provided to other decision makers for prioritization and funding.”</p>
2-1	<p><b>Section 1: DESIGN PROCESS OUTLINE –</b>  “The dates of completion for each activity should be entered on the PSS.”</p>	<p>“The dates of completion for each activity should be entered in Clarity.”</p>
① 2-2	<p><b>Section 1: DESIGN PROCESS OUTLINE –</b> “On the DPO, (Reference 2.1), some activities have more than one activity number. The second number should be used when consultants are used to perform the activity and when a designer reviews consultants’ work related to that activity for time sheet purposes. For example, preliminary roadway is activity 5307/5309. If a consultant is hired to complete this work on a project, the activity number is 5309.”</p>	<p>Remove this text.</p>

Page	Existing Text	Corrected Text
<b>Chapter Two</b>		
2-2	<p><b>Section 1: DESIGN PROCESS OUTLINE –</b>  “While not part of the PSS system, the same activity numbers are also used on time sheets for employee timekeeping and payroll purposes.”</p>	<p>“While not part of Clarity, the same activity numbers are also used on time sheets for employee timekeeping and payroll purposes.”</p>
① 2-2	<p><b>Section 2: ENGINEERING REVIEW (ACTIVITY 5202) –</b> “The <b>Planning and Project Development Division</b> or the <b>Roadway Design Division</b> prepares an engineering review and scope determination for Now and Reconstructed projects and for major 3R projects, (See <b><u>EXHIBIT ‘O’</u></b> of the DPO, Reference 2.1).”</p>	<p><b>REVIEW (ACTIVITY 5202) –</b> “The <b>Planning and Project Development Division (PDD)</b> or the <b>Roadway Design Division</b> prepares an engineering review and scope determination for Now and Reconstructed projects and for major 3R projects, (See <b><u>EXHIBIT ‘O’</u></b> of the DPO, Reference 2.1).”</p>
2-2	<p><b>Section 3: INITIAL PROJECT REVIEW AND SETUP (ACTIVITY 5308) –</b> “On rural projects that require an initial project review and setup, the rural project definition flow chart (See <u>EXHIBIT 1.4</u>) should be used to determine the proper course of action for a project, (See also Chapter One: <u>Design Standards</u>, Section 2). <u>EXHIBIT 2.1</u> should be used to record the initial project scoping data. Consult the <b>Corridor Studies Engineer</b> in the <b>Planning and Project Development Division</b> for additional information.”</p>	<p>Remove this text.</p>

Page	Existing Text	Corrected Text
<b>Chapter Two</b>		
2-2	<b>Section 3: INITIAL PROJECT REVIEW AND SETUP (ACTIVITY 5308)</b> – “The last action in Activity 5308 occurs when the designer submits the initial project review to the <b>Project Scheduling and Program Management Section</b> for incorporation into PSS.”	“The last action in Activity 5308 occurs when the designer submits the initial project review to the <b>Project Scheduling and Program Management Division</b> for incorporation into Clarity.”
① 2-4	<b>Section 5.A: <u>Obtain Preliminary Data</u></b> – “The roadway designer will create a project file, including information obtained from the <b>Planning and Project Development Division</b> .”	“The roadway designer will create a project file, including information obtained from <b>PDD</b> .”
① 2-5	<b>Section 5.B: <u>Project Scope Review and Scoping Changes</u></b> – “Any changes in project cope which are initiated by the roadway designer or <b>Roadway Design Unit Head</b> , which are not included in the Engineering Review, (See Section 2), and/or the Plan-in-Hand Report, (See Section 8), require approval at different <b>NDOR</b> administrative levels depending upon the magnitude of the change in terms of funding required, length of project, etc. (changes from the Engineering Review that affect alignment or add temporary roads should be coordinated with the <b>Planning and Project Development Division</b> ).”	“Any changes in project cope which are initiated by the roadway designer or <b>Roadway Design Unit Head</b> , which are not included in the Engineering Review, (See Section 2), and/or the Plan-in-Hand Report, (See Section 8), require approval at different <b>NDOT</b> administrative levels depending upon the magnitude of the change in terms of funding required, length of project, etc. (changes from the Engineering Review that affect alignment or add temporary roads should be coordinated with <b>PDD</b> ).”

Page	Existing Text	Updated Text
<b>Chapter Two</b>		
① 2-5	<p><b>Section 5.B: <u>Project Scope Review and Scoping Changes</u></b> – “Copies of the approved changes in scope of the project which occur after the Engineering Review, (Section 2), but before the Plan-In-Hand field inspection, (See Section 7.C), shall be furnished to the <b>Deputy Director – Engineering, Division Head, District Engineer, the Utilities and Environmental Permits Units of the Planning and Project Development Division, and the Project Scheduling and Program Management Engineer.</b>”</p>	<p>“Copies of the approved changes in scope of the project which occur after the Engineering Review, (Section 2), but before the Plan-In-Hand field inspection, (See Section 7.C), shall be furnished to the <b>Deputy Director – Engineering, Division Head, District Engineer, the Utilities Unit of Roadway Design, the Environmental Permits Units of PDD, and the Project Scheduling and Program Management Engineer.</b>”</p>
2-7	<p><b>Section 5.D: <u>Request Information from Other Divisions</u></b> – “The <b>Transportation Planning Division</b> will provide the design year traffic data, e.g., ADT, DHV, percent trucks, etc., upon request. Once traffic data has been obtained, the information should be forwarded to the <b>Materials and Research Division</b> on a Pavement Determination Request Form (See Chapter Eight: <u>Surfacing</u>, Section 1 and <u>EXHIBIT 8.1</u>).”</p>	Remove this text.
① 2-7	<p><b>Section 5.D: <u>Request Information from Other Divisions</u></b> – “See Chapter Fourteen: <u>Traffic Engineering</u>, Section 1, for additional information.”</p>	<p>“See Chapter Fourteen: <u>Traffic</u>, Section 1, for additional information.”</p>

Page	Existing Text	Updated Text
<b>Chapter Two</b>		
③ 2-7	<b>Section 5.D: <u>Request Information from Other Divisions</u></b> – “Ordinarily, the <b>Utilities Section</b> of the <b>Planning and Project Development Division</b> keeps track of utility locations and will check surveys they receive from the <b>Roadway Design Division</b> .”	“Ordinarily, the <b>Utilities Unit</b> of <b>Roadway Design</b> keeps track of utility locations and will check surveys they receive from <b>PDD</b> .”
2-7	<b>Section 5.D: <u>Request Information from Other Divisions</u></b> – “3. Enter 21 to select Use and Occupancy Permits.”	“3. Enter 22 to select Use and Occupancy Permits.”
① 2-7	<b>Section 5.D: <u>Request Information from Other Divisions</u></b> – “The <b>Utilities Section</b> makes a final check of the locations of all utilities. Contact the <b>Permit Section</b> of the <b>Right-of-Way Division</b> and the <b>Utilities Section</b> for assistance with details about permits.”	“The <b>Utilities Unit</b> makes a final check of the locations of all utilities. Contact the <b>Permit Section</b> of the <b>Right-of-Way Division</b> and the <b>Utilities Unit</b> for assistance with details about permits.”
④ 2-8	<b>Section 5.F: <u>Initiate Special Investigations</u></b> – bullet points eight and nine <ul style="list-style-type: none"> <li>• “Erosion control from the <b>Roadside Development Unit</b> of <b>Planning and Project Development</b>.”</li> <li>• “Hazardous materials, electric substations, underground storage tanks, etc. from the <b>Planning and Project Development Division</b>.”</li> </ul>	<ul style="list-style-type: none"> <li>• “Erosion control from the <b>Roadside Development &amp; Compliance Unit (RDC)</b> of <b>PDD</b>.”</li> <li>• “Hazardous materials, electric substations, underground storage tanks, etc. from <b>PDD</b>.”</li> </ul>

Page	Existing Text	Updated Text
<b>Chapter Two</b>		
2-9	<b>Section 5.J: <u>Review Design Checklist</u></b> – “Note the completion date on the DPO, (Reference 2.1), for the project and enter the date in the PSS.”	“Note the completion date on the DPO, (Reference 2.1), for the project and enter the date in Clarity.”
2-10	<b>Section 6: COST UPDATE 1 – STATUS 30 (ACTIVITY 5403)</b> – “Enter the date of completion on the PSS. Please note that Activity 5403 should not be used for annual cost updates on PSS. PSS does not schedule annual cost updates.”	“Enter the date of completion in Clarity. Please note that Activity 5403 should not be used for annual cost updates in Clarity. Clarity does not schedule annual cost updates.”
① 2-11	<b>Section 7.A: <u>Plan-in-Hand Plans</u></b> – “Contact the <b>Utilities Section</b> to coordinate activities related to any utility conflicts.”	“Contact the <b>Utilities Unit</b> to coordinate activities related to any utility conflicts.”
2-12	<b>Section 7.C: <u>Conduct the Plan-in-Hand Inspection</u></b> – “Enter the completion date on the PSS.”	“Enter the completion date in Clarity.”
2-12	<b>Section 8: PIH REPORT (ACTIVITY 5318/5338)</b> - “Enter the completion date on the PSS.”	“Enter the completion date in Clarity.”
① 2-13	<b>Section 9.B.1: City Agreements</b> – “The <b>Planning and Project Development Division</b> prepares city agreements based on information obtained from the <b>Roadway Design Division.</b> ”	“ <b>PDD</b> prepares city agreements based on information obtained from the <b>Roadway Design Division.</b> ”

Page	Existing Text	Updated Text
<b>Chapter Two</b>		
① 2-13	<b>Section 9.B.1: City Agreements</b> – “City agreements will not be required, with the <b>District Engineer’s</b> approval, on Pavement Extension Projects (PEP) and on Maintenance Resurfacing Projects.”	“City agreements will not be required, with the <b>District Engineer’s</b> approval, on Maintenance Resurfacing Projects.”
① 2-14	<b>Section 9.B.2: Irrigation Agreements</b> – “The <b>Planning and Project Development Division</b> works with the appropriate <b>Water Districts</b> regarding irrigation agreements.”	“ <b>PDD</b> works with the appropriate <b>Water Districts</b> regarding irrigation agreements.”
① 2-14	<b>Section 9.B.3: Railroad Agreements</b> – “The <b>Railroad Liaison Engineer</b> in the <b>Rail and Public Transportation Division</b> is responsible for all agreements, easement documents, and railroad special provisions.”	“The <b>Highway Liaison Manager</b> in the <b>Intermodal Planning Division</b> is responsible for all agreements, easement documents, and railroad special provisions.”
① 2-14	<b>Section 9.C: <u>Design Access Control</u></b> – “Document the results of the access control meetings in the project file and route the information through the <b>Roadway Design Engineer, Planning and Project Development Engineer, Right-of-Way Manager</b> and the <b>Highway Right-of-Way Associate</b> .”	“Document the results of the access control meetings in the project file and route the information through the <b>Roadway Design Engineer, Project Development Engineer, Right-of-Way Manager</b> and the <b>Highway Right-of-Way Associate</b> .”



Page	Existing Text	Updated Text
<b>Chapter Two</b>		
① 2-15	<b>Section 9.D: <u>Receive Additional Documentation</u></b> – “If the project has a Class I or Class III environmental classification, a draft environmental impact statement (DEIS) or draft environmental assessment (DEA), as appropriate, will be submitted to the <b>Roadway Design Division</b> from the <b>Planning and Project Development Division</b> .”	“If the project has a Class I or Class III environmental classification, a draft environmental impact statement (DEIS) or draft environmental assessment (DEA), as appropriate, will be submitted to the <b>Roadway Design Division</b> from <b>PDD</b> .”
2-15	<b>Section 9.G: <u>Submit Functional Plans</u></b> - “Enter the completion date on the PSS.”	“Enter the completion date in Clarity.”
2-16	<b>Section 11: COST UPDATE 2 – STATUS 40 (ACTIVITY 5406)</b> – “Enter the completion date on the PSS. Do not sign off on Activity 5406 on PSS when completing an annual cost update.”	“Enter the completion date in Clarity. Do not sign off on Activity 5406 in Clarity when completing an annual cost update.”
2-18	<b>Section 12.A: <u>Public Hearings</u></b> – “Enter the completion date on the PSS at this time. Other divisions share responsibility for the rest of the tasks in Activity 5323. Designer time associated with public hearing tasks should be charged to Activity 5323 even after the completion date has been entered on PSS.”	“Enter the completion date in Clarity at this time. Other divisions share responsibility for the rest of the tasks in Activity 5323. Designer time associated with public hearing tasks should be charged to Activity 5323 even after the completion date has been entered in Clarity.”
① 2-21	<b>Section 12.C.1: <u>Public Information Meetings</u></b> – “Public information meetings are scheduled coordination with the <b>District Engineer</b> and/or the <b>Planning and Project Development Division</b> .”	“Public information meetings are scheduled coordination with the <b>District Engineer</b> and/or <b>PDD</b> and the <b>Communication Division</b> .”

Page	Existing Text	Updated Text
<b>Chapter Two</b>		
2-25	<b>Section 13: ROADWAY DESIGN (ACTIVITY 5325/5327)</b> – “Enter the completion date on the PSS.”	“Enter the completion date in Clarity.”
④ 2-25	<b>Section 14.A: <u>Limits of Construction Plans</u></b> – “The limits of construction plans should show the final limits of construction including all culverts, driveways, intersections, dikes, etc. and taking into account the needs of <b>Lighting, Utilities, Roadside Development, Wetlands, and Traffic.</b> ”	“The limits of construction plans should show the final limits of construction including all culverts, driveways, intersections, dikes, etc. and taking into account the needs of <b>Lighting, Utilities, RDC, Wetlands, and Traffic.</b> ”
① 2-26	<b>Section 14.A: <u>Limits of Construction Plans</u></b> – “ <b>R.O.W. Design, Utilities</b> and any other affected sections shall be notified when work is beginning on a change. Send an E-mail to: <ul style="list-style-type: none"> <li>• <b>R.O.W. Engineer.</b></li> <li>• <b>ROW Designer.</b></li> <li>• <b>Utilities Engineer.</b></li> <li>• <b>Utility Coordinator.</b></li> <li>• <b>Wetlands Unit.</b></li> <li>• Other affected sections.”</li> </ul>	“ <b>R.O.W. Design, Utilities</b> and any other affected sections/units shall be notified when work is beginning on a change. Send an E-mail to: <ul style="list-style-type: none"> <li>• <b>R.O.W. Engineer.</b></li> <li>• <b>ROW Designer.</b></li> <li>• <b>Utilities Unit ADE.</b></li> <li>• <b>Utility Coordinator.</b></li> <li>• <b>Wetlands Unit.</b></li> <li>• Other affected sections.”</li> </ul>
2-26	<b>Section 14.B: <u>Other Tasks in Activity 5335</u></b> – “Enter the completion date on the PSS.”	“Enter the completion date in Clarity.”
2-26	<b>Section 15: COST UPDATE 3 – STATUS 45 (ACTIVITY 5408)</b> – “Do not use Activity 5408 to record annual cost updates on PSS.”	“Do not use Activity 5408 to record annual cost updates in Clarity.”

Page	Existing Text	Updated Text
<b>Chapter Two</b>		
2-27	<b>Section 16: DESIGN REVIEW SUPPORT PROCESS (ACTIVITY 5340)</b> – “The designer should review the scheduled letting date, the anticipated time to construct the project, etc. on the PSS to be certain the schedule is still on track.”	“The designer should review the scheduled letting date, the anticipated time to construct the project, etc. in Clarity to be certain the schedule is still on track.”
2-27	<b>Section 16: DESIGN REVIEW SUPPORT PROCESS (ACTIVITY 5340)</b> – “Enter the completion date on the PSS.”	“Enter the completion date in Clarity.”
2-27	<b>Section 17: PRELIMINARY RIGHT-OF-WAY PLAN REVIEW (ACTIVITY 5345)</b> – “Enter the completion date on the PSS.”	“Enter the completion date in Clarity.”
① 2-28	<b>Section 18: DESIGN PLANS TO UTILITIES SECTION (ACTIVITY 5350)</b>	<b>Section 18: DESIGN PLANS TO UTILITIES UNIT (ACTIVITY 5600)</b>
① 2-28	<b>Section 18: DESIGN PLANS TO UTILITIES UNIT (ACTIVITY 5600)</b> – “The designer should transmit a set of the most recent reproducible plans to the <b>Utilities Section</b> for them to distribute the plans to affected utilities.”	“The designer should transmit a set of the most recent reproducible plans to the <b>Utilities Unit</b> for them to distribute the plans to affected utilities.”
2-28	<b>Section 18: DESIGN PLANS TO UTILITIES UNIT (ACTIVITY 5600)</b> – “Enter the completion date on the PSS.”	“Enter the completion date in Clarity.”
2-28	<b>Section 20.A: <u>Check on Other Agreements</u></b> – “Enter the completion date on the PSS.”	“Enter the completion date in Clarity.”

Page	Existing Text	Updated Text
<b>Chapter Two</b>		
2-31	<p><b>Section 22.A: <u>Assemble Project Data</u> –</b></p> <ul style="list-style-type: none"> <li>“Status of utilities, (See Appendix I, “Projects Not Usually Requiring a Status of Utilities”).”</li> </ul>	<ul style="list-style-type: none"> <li>“Status of utilities”</li> </ul>
2-31	<p><b>Section 22.A: <u>Assemble Project Data</u> –</b>  “Computer books for the <b>District Engineer</b> should be prepared including slope stake book, blue top book and paving grades, (See Appendix D, “Earthwork Books”).”</p>	<p>“Computer books for the <b>District Engineer</b> should be prepared including slope stake book, blue top book and paving grades.”</p>
2-32	<p><b>Section 22.B: <u>Percentage of Work Near Railroad</u></b></p>	<p>Moved to Chapter Twelve: <u>Cost Estimating &amp; Funding</u>, Sub-section 1.A.5.</p>
2-32	<p><b>Section 22.C: <u>Check Earthwork and Notes</u></b></p>	<p><b>22.B: <u>Check Earthwork and Notes</u></b></p>
2-32	<p><b>Previous Section 22.C: <u>Check Earthwork and Notes</u> –</b> “Enter the completion date on the PSS.”</p>	<p>“Enter the completion date in Clarity.”</p>
2-33	<p><b>Section 22.D: <u>Checking Plans for Conflicts</u></b></p>	<p><b>22.C: <u>Checking Plans for Conflicts</u></b></p>
2-33	<p><b>Section 22.E: <u>Final Plan Review For PS&amp;E</u></b></p>	<p><b>22.D: <u>Final Plan Review For PS&amp;E</u></b></p>
2-33	<p><b>Previous Section 22.E: <u>Final Plan Review for PS&amp;E</u> –</b> “Enter the completion date on the PSS when the project is given to <b>PS&amp;E</b>.”</p>	<p>“Enter the completion date in Clarity when the project is given to <b>PS&amp;E</b>.”</p>

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**Chapter Two**

① 2-34

**Section 23.A.1: Plan Revisions** – “If the Assistant Design Engineer approves of the proposed revision, the Roadway Unit Head will forward the notification to the following:

- **District Engineer**
- **District Construction Engineer**
- **Roadway Design Plans Manager**  
(responsible for unlocking CADD files)
- **Construction Engineer**
- **District Project Manager**
- **Bridge** (if applicable)
- **Traffic**
- **ROW Design Engineer**
- **Utilities Engineer**
- **Roadway Design CADD Applications Engineer**
- **FHWA** (on federal oversight projects only)
- Any other affected Divisions/Sections”

**Post Section 25: REFERENCES**

“If the Assistant Design Engineer approves of the proposed revision, the Roadway Unit Head will forward the notification to the following:

- **District Engineer**
- **District Construction Engineer**
- **Roadway Design Plans Manager**  
(responsible for unlocking CADD files)
- **Construction Engineer**
- **District Project Manager**
- **Bridge** (if applicable)
- **Traffic**
- **ROW Design Engineer**
- **ADE** for the **Utilities Unit**
- **CADD Applications Engineer**
- **FHWA** (on federal oversight projects only)
- Any other affected Divisions/Sections”

Add Policies DES 09-01 and DES 09-03