SECTION I – GENERAL

CHAPTER 1 - PROJECT RECORDS

CHAPTER 2 – DESIGN PROCEDURES

SECTION I – GENERAL

CHAPTER 1 - PROJECT RECORDS

1-100.00 PROJECT FOLDER (See 2-100.00)

Each designer will be required to maintain an up-to-date digital project folder for each project. The typical roadway design project folder shall consist of traffic data, geological reports, calculations (drainage, quantities, sight distance, guardrail length of need, etc.) correspondence (emails and letters, especially those with outside agencies) kept in chronological order by dates, daily verbal communications relating to the production of project plans, and all other pertinent information regarding design development. It is the responsibility of the designer or design manager (consultant designed projects) to maintain the project folder until the construction project is complete.

At Construction Turn-in the designer shall place a pdf file containing the entire project folder onto FileNet up to that point with the naming convention: nnnnnn-nn-ProjectFolder.pdf.

Upon receipt of the Notice of Completion from the Regional Operations Office, the designer shall upload any additional project information pertaining to the project (revisions, requests, correspondence with construction division, etc.) that has occurred since the initial construction turn-in with the naming convention nnnnnn-nn-ProjectFolder-addendum.pdf

The project folder shall remain on FileNet a minimum of five years after receipt of Notice of Completion, after which it may be removed.

1-103.00 LETTING TO CONTRACT - DESIGN RECORDS

Assemble the following design records for the finalized project, which are to be maintained by the designer or design firm.

1. Final grade computations
2. Final grading quantity computations
3. Final right-of-way computations
4. Final hydraulic computations
5. Final roadway quantity computations

The file containing the items mentioned above will be combined with any office correspondence file on the project, to become a complete "Design Records" file and a part of the legal documents substantiating the final Construction Plans.

1-105.00 ROADWAY DESIGN CHECKLIST (See 2-105.00, 3-100.00 and 4-105.00)

In order to reduce plan revisions, errors, and standardize the preparation, format and content of plans, the following Roadway Design Checklist shall be used by all Designers, Consultants, Managers, Supervisors and personnel checking plans. This form shall be used on all projects.

The procedure for use of the form is as follows:

1. Download the latest Roadway Design Checklist in Word format from TDOT website.
2. Fill in the heading information on each sheet.
3. The designer or project supervisor will check off each blank when sure that each item is completed on the plans. NA (not applicable) may be used if an item is not required in a project.
4. Before submitting plans for a field review, the checklist shall be completed down to that particular stage of plans development.

1-110.00 PROJECT ACTIVITY STATUS SHEET (See 2-110.00 and 4-110.00)

Designers on all projects shall use the Project Activity Status Sheet that follows. This list is intended to help reduce plan errors. An up-to-date copy of this status sheet shall be kept in the project folder at all times.

This sheet shall be handled as follows:

1. Download the latest Project Activity Status Sheet in Word format from TDOT website.
2. Fill in heading information.
3. Each item is listed in the order in which it shall be accomplished and completion dates filled in as the activities are completed.
4. The heavy printed items are those normally shown in the “A&E” schedules and those dates shall be filled in under the "original" column by the TDOT supervisor and/or manager.
5. The other items shall have dates filled in by the designer and his supervisor under the "original" column, which fit within the “A&E”, schedule dates.

6. If schedule problems develop so that the “A&E” dates cannot be met, the Program Development and Scheduling Office shall be notified and the new dates entered on this "Status Sheet" under the revisions column.
7. The TDOT managers and/or supervisors will be responsible for keeping this "Status Sheet" up to date and furnishing an updated copy of this form to each TDOT or Consultant Designer for their information.

1-115.00 FILENET ARCHIVING

Design Managers are responsible for archiving project development files for all new construction, reconstruction and resurfacing projects on the FileNet server utilized by the Department. This includes any consultant design projects being monitored by the Design Manager. For guidance in creating a composite plan set in the *.pdf format, please download the document entitled “Creating PDFs from DGNs.pdf” from the TDOT Roadway Design Division website at the following address:

https://www.tdot.tn.gov/PublicDocuments/\DesignDivision\assistant_engineer_design\design\v8\CreatingPDFsfromDGNs.pdf

FileNet archiving is required for all projects (including resurfacing plan sets) and shall include all project deliverables or plan sets completed. The requirement for FileNet archiving began April 3, 2009. All projects should have the most recently completed plan set, estimate file, approved design exception and transportation management plan on the FileNet server. **Table 1-1 – FileNet Project Deliverables and Plan Sets,** should be used as a guide for project deliverables or plan sets that are to be loaded on the FileNet server.

A complete plan set (including cross-sections) in *.pdf format and any required *.xls, *.dgn, *.sht, *.tin, and *.gpk files is required for archiving as defined in the attached table. The project design files (*.dgn, *.sht, *.tin, and *.gpk) will be archived with a software program having the capability of making a compressed (*.zip) file. This compressed (*.zip) file shall not be password protected.

Plan sets in *.pdf format shall include all roadway plans sheets normally found in the deliverable. Construction field review and construction plans plan sets should include any signal, lighting, signing, geotechnical, landscaping, mitigation sheets, retaining wall or other sheets supplied by structures to be placed in the roadway plans. Structure plans, standard structure drawings and standard drawings are not required. Preliminary structure layout sheets should be included in right-of-way and construction field review plans sets. Utility plans will be placed on FileNet by the Utility Section of the Right-of-Way Division.

For all plan sets added to FileNet as a revision or revised plan set, the revision letter(s) shall be included in the PDF file as the first sheet of the plan set. For subsequent revisions all prior revision letters should be included after the current revision letter.

TABLE 1-1 – FileNet Project Deliverables and Plans Sets

Deliverable / Plan Set	File Format	File Naming Convention (*nnnnnn-nn* is the project PIN)	Comments	PPRM Activity
Structural Grade Approval Plans	*.pdf and *.zip (Includes: *.dgn, *.sht, *.tin, *.gpk)	***nnnnnn-nn-*** **StructuralGradeApproval.pdf** ***nnnnnn-nn-*** **StructuralGradeApproval.zip** The file naming convention for the Bentley MicroStation and Geopak files are defined in the TDOT CADD Standards document entitled "CADDV8.pdf" at the Roadway Design Division website.	See Footnotes 1, 2, 3 and 4.	340
Preliminary Field Review Plans	*.pdf Only	***nnnnnn-nn-*** **PreliminaryFieldReview.pdf**	Include a copy of the Field Review Notification Memorandum in the pdf document.	375
Preliminary Plans	*.pdf and *.zip (Includes: *.dgn, *.sht, *.tin, *.gpk)	***nnnnnn-nn*****-Preliminary.pdf** ***nnnnnn-nn*****-Preliminary.zip** The file naming convention for the Bentley MicroStation and Geopak files are defined in the TDOT CADD Standards document entitled "CADDV8.pdf" at the Roadway Design Division website.	See Footnotes 1, 2, 3 and 4.	390
Soils and Geological Report	*.pdf and *.zip (Includes: *.dgn, *.sht, *.tin, *.gpk)	***nnnnnn-nn-*** **GeologicalReportRequest.pdf** ***nnnnnn-nn-*** **GeologicalReportRequest.zip** The file naming convention for the Bentley MicroStation and Geopak files are defined in the TDOT CADD Standards document entitled "CADDV8.pdf" at the Roadway Design Division website.	See Footnotes 1, 2, 3 and 4.	445

Deliverable / Plan Set	File Format	File Naming Convention (*nnnnnn-nn* is the project PIN)	Comments	PPRM Activity
Right-of-Way Field Review Plans	*.pdf and *.zip (Includes: *.dgn, *.sht, *.tin, *.gpk)	***nnnnnn-nn*-ROWFieldReview.pdf** ***nnnnnn-nn*-ROWFieldReview.zip** The file naming convention for the Bentley MicroStation and Geopak files are defined in the TDOT CADD Standards document entitled "CADDV8.pdf" at the Roadway Design Division website.	See Footnotes 1, 2, 3 and 4. Include a copy of the Field Review Notification Memorandum in the pdf document.	540
Incidentals	*.pdf Only	***nnnnnn-nn*-Incidentals.pdf**	See Design Guidelines Section 3-400.15	425
Preliminary Estimate	*.xls Only	***nnnnnn-nn*-PreliminaryEstimate.xls** ***or*** ***nnnnnn-nn*-PreliminaryEstimate-Rev-mm-dd-yy.xls**	See Design Guidelines Section 3-400.15	585
Right-of-Way Plans	*.pdf and *.zip (Includes: *.dgn, *.sht, *.tin, *.gpk)	***nnnnnn-nn-ROW.pdf*** ***nnnnnn-nn*-ROW.zip** ***nnnnnn-nn*-ROW-Rev-mm-dd-yy.pdf** ***nnnnnn-nn*-ROW-Rev-mm-dd-yy.zip** The file naming convention for the Bentley MicroStation and Geopak files are defined in the TDOT CADD Standards document entitled "CADDV8.pdf" at the Roadway Design Division website.	See Footnotes 1, 2, 3 and 4. ROW Plans revisions, if any, will necessitate another uploaded plan set in entirety. (See naming conventions for revisions.) The revision letter should be included as the first page of the pdf document.	600
Permit Sketches	*.pdf Only	***nnnnnn-nn*-PermitSketches.pdf**	See Design Guidelines Section 3-410.00	575
Permit Application Plan Set	*.pdf Only	***nnnnnn-nn*-ROW.pdf** ***or*** ***nnnnnn-nn*-ROW-Rev-mm-dd-yy.pdf**	This will be either the original or as revised ROW plans which have incorporated the ecology and permit assessment.	575

Deliverable / Plan Set	File Format	File Naming Convention (*nnnnnn-nn* is the project PIN)	Comments	PPRM Activity
Construct-ability Field Review Plans	*.pdf Only	***nnnnnn-nn*-ConstructabilityFieldReview.pdf**	Include a copy of the Field Review Notification Memorandum in the pdf document. This plans set will be used for NPDES application and for NEPA Reevaluation	710
PS&E Review Plans	*.pdf Only	***nnnnnn-nn*-PSE.pdf**	Include a copy of the Field Review Notification Memorandum in the pdf document.	711
Information Only Plan Set	*.pdf Only	***nnnnnn-nn*.info.pdf**	Unofficial set without engineers seal or signature. One single continuous (non-portfolio) set copy of the construction turn-in. No revisions are necessary.	715

Deliverable / Plan Set	File Format	File Naming Convention (*nnnnnn-nn* is the project PIN)	Comments	PPRM Activity
Construction Plans	*.pdf and *.zip (Includes: *.dgn, *.sht, *.tin, *.gpk)	***nnnnnn-nn*-Construction.pdf** ***nnnnnn-nn*-Construction.zip** ***nnnnnn-nn*-Construction-Rev-mm-dd-yy.pdf** **nnnnnn-*nn*-Construction-Rev-mm-dd-yy.zip** The file naming convention for the Bentley MicroStation and Geopak files are defined in the TDOT CADD Standards document entitled "CADDV8.pdf" at the Roadway Design Division website.	See Footnotes 1, 2, 3 and 4. These plans will be the final sealed plans set, including the ROW Title Sheet. Construction Plans revisions, if any, will necessitate another uploaded plan set in entirety. See naming convention for revisions. The revision letter should be included as the first page of the pdf document. Signal and Signing Sheets developed for roadway projects should be submitted to the Design Manager for inclusion in this deliverable.	715
Construction Estimate	*.xls Only	***nnnnnn-nn*-ConstructionEstimate.xls** or ***nnnnnn-nn*-ConstructionEstimate-Rev-mm-dd-yy. xls**	See Design Guidelines Section 4-140.05	715

Deliverable / Plan Set	File Format	File Naming Convention (*nnnnnn-nn* is the project PIN)	Comments	PPRM Activity
Utility Plans	*.pdf Only	***nnnnnn-nn*-Utility.pdf** ***nnnnnn-nn*-Utility-Rev-mm-dd-yy.pdf**	See Footnotes 1, 2, 3 and 4. These plans will be the final sealed plans set. Utility Plans revisions, if any, will necessitate another uploaded plan set in entirety. See naming convention for revisions.	755
	*.zip (Includes: *.dgn, *.sht, *.tin, *.gpk)	***nnnnnn-nn*-Utility.zip** ***nnnnnn-nn*-Utility-Rev-mm-dd-yy.zip** The file naming convention for the Bentley MicroStation and Geopak files are defined in the TDOT CADD Standards document entitled "CADDV8.pdf" at the Roadway Design Division website		
Utility Rainbow Plans	*.pdf Only	***nnnnnn-nn*-UtilityRainbows.pdf** or ***nnnnnn-nn*-UtilityRainbows-Rev-mm-dd-yy.pdf**	**Utility Plans, CADD , Specifications, and Estimate Files Will Be Loaded onto FileNet by the Utility Section of the Right-of-Way Division**. The Roadway Design Division will be responsible for loading Estimated Utility Quantity Sheets developed by the Roadway Design Division and included in the Construction Plans.	
Utility Specifications	*.pdf Only	***nnnnnn-nn*-UtilitySpecs.pdf** or ***nnnnnn-nn*-UtilitySpecs-Rev-mm-dd-yy.pdf**		
Utility Estimate	*.xls Only	***nnnnnn-nn*-UtilityEstimate.xls** or ***nnnnnn-nn*-UtilityEstimate-Rev-mm-dd-yy.xls**		
SWPPP	*.pdf Only	***nnnnnn-nn*-SWPPP.pdf**	Final Signed SWPPP submitted by Environmental Division	681

Deliverable / Plan Set	File Format	File Naming Convention (*nnnnnn-nn* is the project PIN)	Comments	PPRM Activity
Natural Stream Design Plan	*.pdf Only	***nnnnnn-nn*-NSD.pdf**	Final sealed plan set submitted by Environmental Division	570
Initial Work Zone Significance Determination & Transportation Management Plan	*.pdf Only	***nnnnnn-nn*-InitialTMP.pdf**	Signed copy. See TDOT Work Zone Safety and Mobility manual and Transportation Management Plan Workbook.	n/a
Secondary Work Zone Significance Determination & Transportation Management Plan	*.pdf Only	***nnnnnn-nn*-SecondaryTMP.pdf**	Signed copy. See TDOT Work Zone Safety and Mobility manual and Transportation Management Plan Workbook.	n/a
Approved Design Exceptions (if any)	*.pdf Only	***nnnnnn-nn*-DesignExceptions.pdf**	Signed copy. See Design Guideline section 3-110.02	n/a
Project Folder	*.pdf Only	***nnnnnn-nn*-ProjectFolder.pdf** ***nnnnnn-nn*-ProjectFolder-addendum.pdf**	See Section 1-100.00 for required information	n/a

Footnotes:

1. The Bentley MicroStation files required for placement on the FileNet Server are all sheet files (*.sht) that make up a plan set and all reference files to those sheet files including, but not limited to, the *Survey.dgn, *Alignments.dgn, *Proposed.dgn, and *MainlineXSections.dgn files.
2. The Bentley Geopak *.gpk file required for placement on the FileNet Server is the project *.gpk file containing all project geometry including, but not limited to, all existing and proposed alignments, existing and proposed profiles, and proposed ROW and easements. Documentation concerning how to create proposed ROW and easements in Bentley's Geopak software can be found at the following link: https://www.tdot.tn.gov/PublicDocuments/\DesignDivision\assistant_engineer_design\design\v8\ProposedROW.pdf
3. The Bentley Geopak *.tin files required for placement on the FileNet Server are the existing ground surface, and all proposed surfaces for the project.

4. The ROW Acquisition Excel file should be included in the executable file.

1-115.10 FILENET PLAN SIZE

PDF plans to be uploaded to FileNet shall be full-size plans (ANSI D, 34" x 22").

Refer to the document 'Creating PDFs from DGNs' for further guidance.
Creating PDFs from DGNs.pdf

1-115.15 PROJECT LATITUDE AND LONGITUDE

The project latitude and longitude shall be taken at the midpoint of the mainline of the project. Designers may use Google Earth to locate latitude and longitude. TDOT personnel may also access the following intranet link for instructions on how to convert latitude and longitude from GIS.

https://www.tdot.tn.gov/PublicDocuments/\DesignDivision\assistant_engineer_design\design\v8\StatePlaneCoordinates_to_LatLong.pdf

1-115.20 PLAN PHASE STAMPS

All roadway plans sets and sheets plotted and placed on FileNet or supplied to others shall have a stamp identifying the appropriate stage of development on each sheet.

The stamp should be located on the right side above the signature block on the title sheet and on the right side above the description block on all other sheets in the plans. If adequate space is not available above the description block, the stamp may be placed where space is available. No stamp is required on the final construction plans or revisions to the construction plans.

Stamps shall match the name of the FileNet deliverable as shown below.

1) STRUCTURAL GRADE APPROVAL
2) PRELIMINARY FIELD REVIEW
3) PRELIMINARY PLANS
4) FIELD REVIEW
5) ROW PLANS
6) ROW PLANS – PERMIT APPLICATION PLAN SET
7) CONSTRUCTABILITY FIELD REVIEW PLANS
8) PS&E REVIEW
9) CONSTRUCTION PLANS (STAMP IS NOT REQUIRED)

For ROW plans and ROW Field Review Plans where no right-of-way is to be acquired and plans are being submitted for "Utilities Only", the designer should use the following stamp.

1) ROW FIELD REVIEW (UTILITIES ONLY)
2) ROW PLANS (UTILITIES ONLY)

Sheets sent outside the Department may also have the following stamp added when clarification that the plans are subject to change is needed.

1) CAUTION - PRELIMINARY PLANS – SUBJECT TO CHANGE

Guidance for placing stamps on pdf files can be found in the document “Adding the Plan Phase Stamp Watermark to the PDF Plan Set” found at this link: Adding the Plan Phase Stamp Watermark.pdf

1-120.00 FIELD REVIEW PROCEDURES (See 2-330.00, 3-140.00 and 4-145.00)

All personnel will follow the following steps when arranging, conducting, and documenting field reviews:

1. Place project files on FileNet (see Section 1-115.00)
2. Develop the Field Review Notification Memorandum (see Figure 1-1)
3. Distribute Field Review Notification Memorandum electronically
4. Distribute Field Review Notification Memorandum and plans by mail
5. Develop and distribute the field review report
6. Place field review documentation in project file

The plans, when placed on FileNet, shall be complete through the appropriate stage of development in accordance to the Roadway Design Checklist. Plans for Construction Field Review that involve a bridge shall include preliminary bridge layout drawings.

1-120.01 SCHEDULING FIELD REVIEWS

All field reviews shall be scheduled, plans placed on FileNet, e-mail notification sent, and plans distributed **a minimum of three weeks** prior to the scheduled date of the field review. The beginning of the three weeks will start on the date the plans are e-mailed and mailed from the Roadway Design Division.

Field reviews for new and reconstruction projects on the Interstate System and projects which are part of the current FHWA Stewardship and Oversight Agreement (full federal oversight and partial federal oversight) shall be scheduled in coordination with FHWA. Appropriate project plans should be forwarded to FHWA for review. FHWA is not requiring a Field Review Notification Memorandum for any other Federal-Aid projects.

Field reviews for Demonstration Projects shall be scheduled in coordination with FHWA prior sending the Federal Highway Administration (FHWA) a Field Review Notification Memorandum.

1-120.10 TYPES OF FIELD REVIEWS

There will be four field reviews held. The designer shall consult the Roadway Design Checklist to ensure that everything required at each phase is complete.

Preliminary Field Review: The project should be at approximately **40%** complete. The horizontal and vertical alignment shall have been set and a preliminary estimate of ROW Acquisition shall be completed. (See 2-320.20). A site visit by the designer is required at this field review.

Right-of-Way Field Review: The project should be approximately **80%** complete. All aspects of the roadway design needed for ROW identification and purchase and Utility relocation shall be complete including EPSC plans with contours (See Sections 3-400.35, 3-400.40) A site visit is only required if no Preliminary Field Review was held.

Constructability Field Review: The project should be approximately **95%** complete. All phases of the roadway plans (including estimated quantities), structures plans, draft permit application packet and utility rainbow plans (utility relocations plans if available) shall be included in the review. This field review should be held approximately half way between the Right-of-Way Field Review and the PS&E Review but not less than 180 days following ROW distribution.

All outstanding issues are to be discussed and resolved at this meeting including Right-of-Way/Utilities, Structures, Constructability (Project Phasing, Traffic Control, etc.), NEPA, Environmental Permit Application Requirements, and draft SWPPP comments. A comparison of the construction estimate shall be made at this time to determine the necessity of a TIP amendment. A site visit by all parties is required at this field review. At the completion of the field review all parties should clearly understand the remaining items that are necessary to produce final plans that are constructible, clear and accurate.

Plans, Specification and Estimate (PS&E) Review: The projects should be **100%** complete. This review will be a final check of the plans to ensure all issues have been resolved including final SWPPP comments.

1-120.20 FIELD REVIEW DISTRIBUTION

Field review notifications and documentation will be distributed to all departmental personnel by e-mail. Field review plans will not be provided but will be available on FileNet. For invitees without access to FileNet including FHWA, county officials and local officials, a field review notification letter along with half size plans will continue to be provided by mail or direct distribution. For projects with FHWA oversight the designer shall copy the FHWA Area Engineer on all field review notification emails but also mail a half size set of plans.

1-120.21 FIELD REVIEW DISTRIBUTION BY E-MAIL

The e-mail distribution will consist of an e-mail notification (see Figure 1-1). The e-mail notification should contain the Field Review Invitation Memorandum (see Figure 1-2) in MS Word (*.docx) or *.pdf format included as an attachment, the file name of the plans set stored in FileNet, and the date the plans set was added to FileNet. The e-mail notification shall be sent to the recipients using e-mail addresses shown in Table 1-2. The field review distribution by e-mail should occur on the same day as the field review distribution by mail.

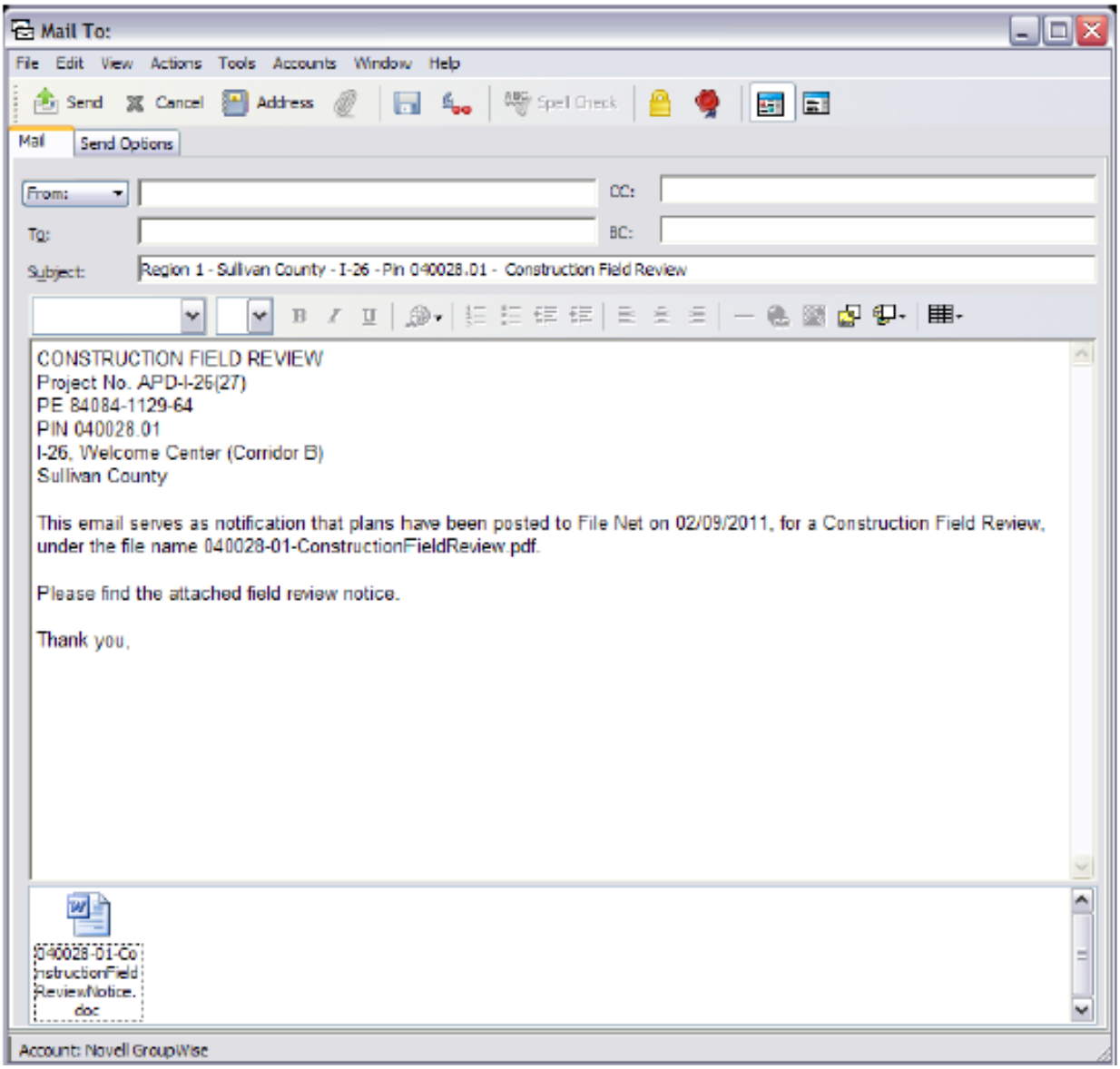

FIGURE 1-1
Sample Email Notification

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
NASHVILLE, TENNESSEE 37243-1402

MEMORANDUM

TO: Address to the each TDOT division or section as directed in Table 1-2 and external agency or municipality as directed in Table 1-3.

FROM: Design Manager overseeing the project

DATE:

SUBJECT: Type of field review
Project No (Federal and PE) and PIN No
Project Description
County

This will confirm arrangements made regarding a Field Review for the subject project. Persons desiring to attend this review will meet at (location), (address) on (date) at (time).

The plans have been uploaded to FileNet under the file name: List the field review plan .pdf as it appears on FileNet
List the field review file .zip as it appears on FileNet (if Req'd)

For those addressees without FileNet access, prints of the plans are enclosed.

Please review the plans and have your comments ready before the field review is made.

Enclosure

FIGURE 1-2
Template Field Review Notification Memorandum

TO:	E- MAIL ADDRESS / NOTES
HQ Design Office, CE Manager II over Consultants	Use Individual email address** **Only projects developed by consultants*
Regional Director	Use Individual email address**
Regional Design Office, CE Manager I	Use Individual email address**
Regional Director of Project Development	Use Individual email address**
ITS, Traffic, and Standards Section **Constructability Field Review on all projects.*	TDOT.ITS.SignalDesign@tn.gov **Preliminary and Right-of-Way Field Review only on projects included traffic signals and/or roadway lighting. (See sections 2-315.00 and 2-315.05)*
Pavement Design Section	TDOT.PavementDesign@tn.gov
Quality Assurance Section	TDOT.QualityAssurance@tn.gov
Structures Division	TDOT.Structures@tn.gov
HQ Right-of-Way Office HQ Utilities Office	TDOT.HQ.ROW@tn.gov
Regional ROW Offices Regional Utilities Office	TDOT.RG1.ROW@tn.gov TDOT.RG2.ROW@tn.gov TDOT.RG3.ROW@tn.gov TDOT.RG4.ROW@tn.gov
Railroad Coordinator	Use Individual email address** **Only projects involving Railroads*
Geotechnical Engineering Section Section Manager	Use Individual email address**
Geotechnical Engineering Section Manager over Region	Use Individual email address** **Only projects for their Region*
HQ Construction Division	TDOT.HQ.Construction@tn.gov
Regional Construction Supervisor/Assistants	Use Individual email address**
Environmental Division	TDOT.EnvironmentalDoc@tn.gov Permits.Filenet.TDOT@tn.gov Ecology.Plans@tn.gov TDOT.Historians@tn.gov
Regional Environmental Coordinator	Use Individual email address**
HQ Maintenance Office	TDOT.HQ.Maintenance@tn.gov **Constructability Field Review Only*
Regional Maintenance Office **Constructability Field Review Only*	TDOT.RG1.Maintenance@tn.gov TDOT.RG2.Maintenance@tn.gov TDOT.RG3.Maintenance@tn.gov TDOT.RG4.Maintenance@tn.gov
Regional Safety Coordinator	Use individual email address**
Regional Traffic Engineer	Use individual email address**
Program Development & Scheduling Office	TDOT.PDSO@tn.gov
Project Manager	Use Individual email address
CONSULTANT	Use individual email address
FHWA Area Engineer **see table 1-3 for list of required projects*	Use individual email address**

** See Contact List at: http://www.tn.gov/tdot/topic/chief-engineer-design-staff

Table 1-2
Field Review Email Distribution List

1-120.22 FIELD REVIEW PLANS DISTRIBUTION OUTSIDE THE DEPARTMENT

Due to FileNet availability, plan file sizes, and printing considerations, it will be necessary to continue to provide paper copies of the plans to field review invitees outside the department. The distribution should consist of the Field Review Notification Memorandum (see Figure 1-2) and a half size set of plans. The mailing shall be sent to the recipients in accordance to Table 1-3. Field review distribution by mail should occur on the same day as the field review distribution by email.

Design Managers shall also have the option to e-mail field review notifications and provide electronic plans as an attachment or on other electronic media provided the individual has the capability to print the plans and has agreed to the electronic distribution.

TO:	NOTES
FHWA	Letter and ½ size set of plans * *Interstate System Projects, Stewardship and Oversight Agreement Projects, and Demonstration Projects*
Local Utility Offices Electric Gas Water/Sewer Cable Phone	Letter and ½ size set of plans
City and/or County Mayor	Letter and ½ size set of plans
Director of Public Works	Letter and ½ size set of plans
Highway Chief Administration Officer	Letter and ½ size set of plans
Others as directed by Design Manager	Letter and ½ size set of plans

TABLE 1-3
Field Review Mailed Distribution List

1-120.23 FIELD REVIEW PLANS DISTRIBUTION OUTSIDE THE DEPARTMENT

Field Review sets shall be removed from FileNet after the corresponding design phase is complete.

- Preliminary and Right-of-Way Field Review sets shall be removed at Right-of-Way Turn-in
- Constructability and PS&E Field Review sets shall be removed at Construction Turn-in.

1-120.30 FIELD REVIEW REPORT

A complete field review report shall be distributed **within two weeks** of the review to all attendees, individuals providing comments, and personnel sent a Field Review Notification Memorandum. Field review reports should be distributed by e-mail except to those outside the department whose e-mail address is not available. Field review reports should be in MS Word (*.doc) or *.pdf format. FHWA has requested the field review reports not be sent for projects which were not attended by a representative of the FHWA.

The Design Manager should review all field review reports prepared by consultants and then prepare a cover letter to attach to the report for distribution. The cover letter should indicate that the report has been reviewed and is acceptable for distribution.

The Right-of-Way Field Review report shall include at a minimum, a list of comments received during the field review, a statement to the Structures Division if the proposed roadway horizontal and vertical geometry is adequate to continue bridge design, and the number of sets of final right-of-way distribution prints requested by the Regional Right-of-Way Office.

All comments received during the field review should be evaluated and changes shall be included in the plans prior to submission for right-of-way or construction for authorization.

1-120.40 FIELD REVIEW DOCUMENTATION

The following documentation shall be included in the project file:

1. Email Notification
2. Field Review Notification Memorandum
3. Field Review Report (including the Design Manager's cover letter)

1-130.00 INSTRUCTIONS REGARDING PUBLIC HEARING AND PUBLIC MEETING REQUIREMENTS

In order to meet all legal requirements for advertising public hearings or public meetings, the Community Relations Division requests that all information pertaining to public hearings be received 45 days prior to the hearing and all information pertaining to public meetings 20 to 25 days prior to the meeting.

The manager requesting the hearing will be required to submit a cover letter, hearing notice, and location map. The cover letter and notice shall include the date of the hearing or meeting, the place the hearing or meeting is to be held, the project number, the description of the project, and the county in which the project is located. The cover letter shall additionally include the telephone number and address of the contact person. No action can be taken by the Community Relations Office to advertise the hearing or meeting if any of this information is not included in the notice and on the cover letter. Examples of the cover letter, hearing notice, and location map are attached.

The Tennessee Press requires that all advertisements be sent to their office in electronic format. Therefore, the Community Relations Office will need an e-mail of the notice as well as the location map for each project.

The Community Relations Office has requested that the location map be submitted as a Microsoft Word document. TDOT designers and managers may obtain information for converting MicroStation drawings into Microsoft Word at:

https://www.tdot.tn.gov/PublicDocuments/\DesignDivision\assistant_engineer_design\design\v8maps\locationmaps.pdf

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
NASHVILLE, TENNESSEE 37243-1402

MEMORANDUM

TO: Ms. Judy B. Steele, Director, Community Relations Division

FROM: Michael Agnew, Assistant Director, Roadway Design Division

DATE: May 19, 2006

SUBJECT: REQUEST FOR ADVERTISEMENT OF A DESIGN MEETING

Project No. IM-81-1(102)7, 32001-1124-44, PIN 101203.00

I-81, Interchange @ State Route 32 (US 25E) Exit 8

Hamblen and Jefferson Counties

We are requesting you to advertise this project for a design meeting as described in the attached document.

I have arranged with Ms. Janice Brown, principal of North Middle School, at (865-986-9944, ext. 302) to have the school cafeteria available at 421 Hickory Creek Road, Morristown, TN 37771, from 4:30 p.m. to 8:00 p.m. for a 5:00 p.m. to 7:30 p.m. design meeting on Wednesday, December 15, 2004.

A copy of the project location map is attached for your use.

MA/AR/et

Attachment

cc: Jeff C. Jones
Amanda K. Tidwell
Derrick Tibbs
(Regional Design Manager)
(Regional ROW Manager)
File

Figure 1-3
Example Cover Letter

NOTICE OF HIGHWAY DESIGN MEETING

The Tennessee Department of Transportation (TDOT), an equal opportunity affirmative action employer, will conduct a Highway Design Meeting on the 28th day of February 2006 in the gymnasium of Witt Elementary School, 4650 S. Davy Crockett Parkway, Morristown, TN 37814, to discuss project number IM-81-1(102)7, I-81 Interchange (Exit 8) at SR-32 (US-25E) in Hamblen County as shown on the general location map.

The project proposes to modify the I-81/SR-32 interchange and reconstruct SR-32 (US 25E) with five 12' travel lanes and two 12' shoulders within project limits. Out of the five lanes on SR-32, one will be the north bound third lane. The existing west bound I -81 on ramp will be replaced by a new free flow ramp at the northwest quadrant of the interchange. Northbound to westbound traffic from SR-32 to I-81 will also be routed through this new ramp. The existing east bound on and off ramps of I-81 will be realigned. Existing dual bridges on SR-32 will be replaced by a single bridge. Additional right-of-way and easements will be required along SR-32 and I-81.

This meeting will be held from 5:00 – 7:00 p.m. during which time there will be a presentation followed by a question and answer session. The public is invited to ask questions and make comments during the meeting. Representatives of TDOT will be present to answer questions on any aspect of the project.

Plans are available for public inspection at the offices of:

Mr. John Barrett
7345 Region Lane
Knoxville, TN 37914
Phone: (865) 594-2484

or

Mr. Ataur Rahman
1300 James K. Polk Bldg.
Nashville, TN 37243-0348
Phone: (615) 741-7958

Persons with a disability, who require aids or services to participate at the meeting, may contact Ms. Margaret Mahler at the following address:

Ms. Margaret Mahler
ADA/Safety Coordinator
Tennessee Department of Transportation
Suite 400, James K. Polk Building
505 Deaderick Street
Nashville, TN 37243

or e-mail: Margaret.Z.Mahler@tn.gov
Phone: (615) 741-4984
Fax: (615) 253-1477
TTY Relay: (877) 831-0298

A court reporter will be available to receive oral statements to be included in the project transcript. In addition, comment sheets are available for those who prefer to make written statements. Written statements and other exhibits to be included in the project transcript may be submitted within ten (10) days after the meeting date to the following address:

Project Comments

Tennessee Department of Transportation

Suite 700, James K. Polk Building

505 Deaderick Street

Nashville, Tennessee 37243-0332

Figure 1-4

Example Hearing Notice

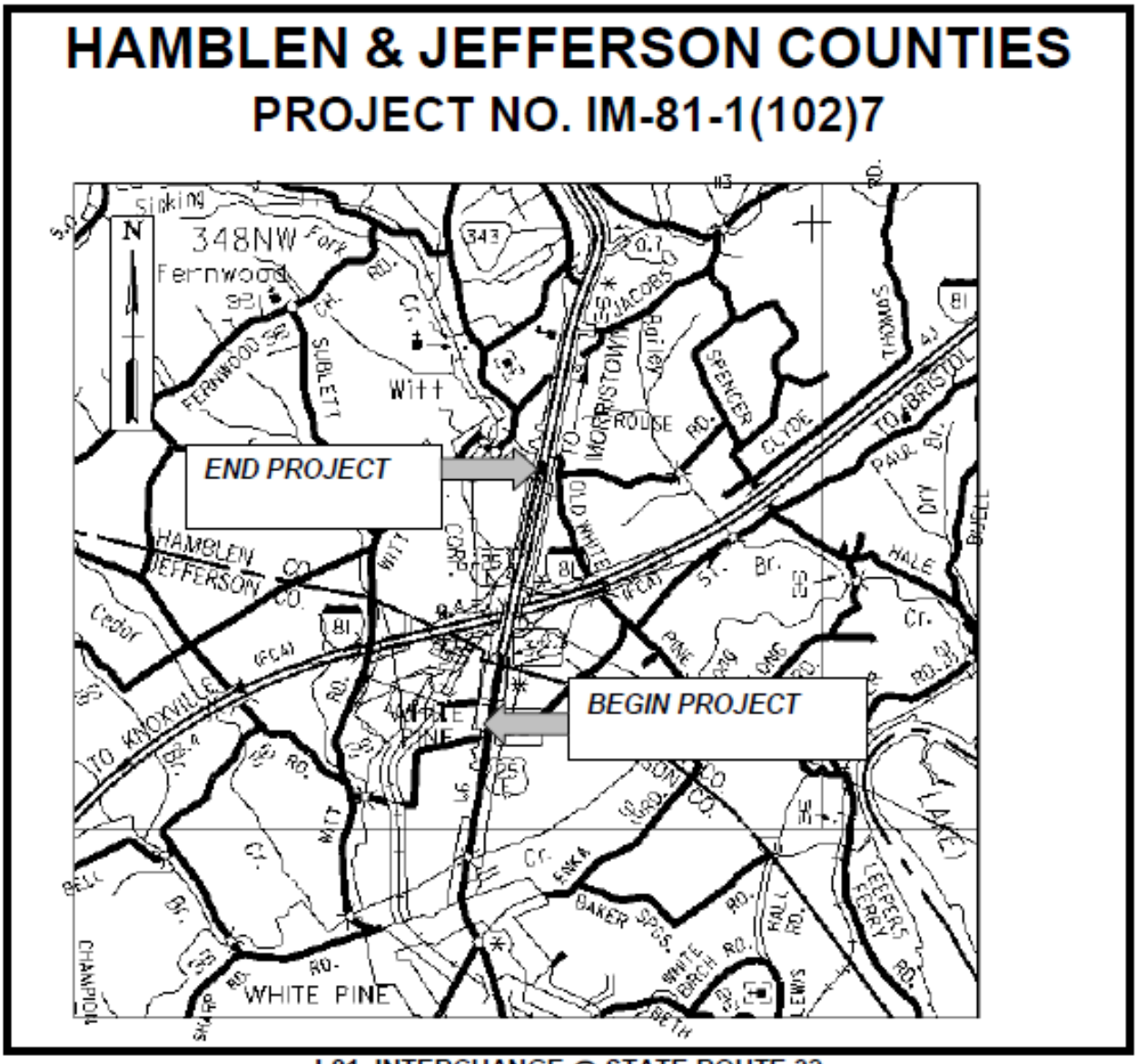

Figure 1-5

Example Hearing Notice

CHAPTER 2 – DESIGN PROCEDURES

1-200.00 ROADWAY DESIGN STANDARDS AND GUIDELINES

A list of documents used to design roadways in Tennessee can be found as part of TDOT Department Policy. This policy indicates the current recognized design standards for new construction or reconstruction of existing highways and should be utilized while giving due regard to topography, natural conditions, availability of road material, and prevailing traffic conditions.

1-200.05 LOW VOLUME (ADT ≤ 400) LOCAL ROAD

Standard drawing RD01-TS-1A should be used for the design of low-volume (current ADT ≤ 400) roadways classified as local roads. For additional guidance not covered on the standard drawing, designers should reference AASHTO "Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤ 400)," 2001. For projects with design speeds greater than 40 mph, designers shall continue using standard drawing RD01-TS-1. Any exception to the use of standard drawing RD01-TS-1A on low volume local roads should be approved by the Roadway Design Division Director or the appropriate Assistant Director.

1-200.10 RESURFACING PROJECTS

1-200.11 RESURFACING PLANS SCOPE OF WORK CERTIFICATION

A certification memo (See Figure 1-6) will be submitted in lieu of plans to the Environmental Division for resurfacing projects limited to paving and/or installation of safety related items. The Design Manager shall request the memo from the Regional Resurfacing Coordinator at the beginning of the project development and review and sign the memo prior to forwarding it to Environmental Division.

This section **does not apply** to projects involving work on drainage or grading. Projects involving grading, drainage or otherwise expanded scopes of work will follow the normal plans submittal process to Environmental Division.

In the event a scope of work is modified during plans development, it will be the responsibility of the Design Manager to submit an addendum memo (See Figure 1-6A) to the Regional Resurfacing Coordinator for certification and then submit the memo to the Environmental Division.

1-200.12 PEDESTRIAN ACCESSIBILITY (ADA) AND BICYCLE ACCOMMODATION DURING RESURFACING PROJECTS

In order to assist local governments with compliance with the Americans with Disabilities Act, it will now be the department's intent to repair or install handicap ramps which meet the Americans with Disabilities Act (ADA) Accessibility Guidelines whenever possible when encountered on resurfacing projects. Designers should refer to Section 3-310.05 and the RP-H-series Standard drawings for additional guidance regarding design requirements and installation of handicap ramps. Additionally, improvements for pedestrian safety and improvements for safety of the disabled shall be evaluated (continuity of the facility should be

considered ie. Include entire intersection if part is improved). Coordinate with the ADA Coordinator and the Bike/Pedestrian Coordinator for additional guidance and recommendations.

Current and future bicycle accommodations for the route should be identified. Coordinate with TDOT Bike/Pedestrian Coordinator for further guidance if bike lane or bike route is proposed. On designated bike routes or other state routes if bicycle traffic is common route and when practical within the scope and budget of the resurfacing project, accommodation for bicycle traffic should be included. Accommodations may include striping a bike lane, widened shoulders or adding signing and striping. Coordinate with the Bike/Pedestrian Coordinator for recommendations.

The applicable use of the above various bicycle/pedestrian improvements will be guided by the "Resurfacing Pedestrian Accessibility and Bicycle Accommodation Checklist" (Figure 1-6B) and will be completed by the team responsible for each resurfacing project. This checklist will be used as documentation for decisions regarding bicycle/pedestrian and ADA low cost safety improvements on resurfacing projects.

1-200.15 SAFETY IMPROVEMENTS ON RESURFACING PROJECTS

To enhance safety on state routes, low cost safety improvements should be included on all state route resurfacing projects. Eligible safety improvements include the following: installation of skid-resistant surfaces in intersections or curves, evaluation of guardrail length of need and adjustment of guardrail length as necessary; upgrade of guardrail end terminals to TL-3; installation of centerline rumble stripes; sign replacement or upgrades; replacement of non-frangible sign posts with breakaway posts; installation of safety headwalls, removal of roadside objects inside the clear zone if it can be accomplished without additional grading or right-of-way purchase; correcting super elevation rates; improvements (such as vegetation removal) to improve sight distance without purchasing ROW or relocating utilities; and widening shoulders without purchasing ROW or relocating utilities.

The applicable use of the above various safety improvements will be guided by the "Resurfacing Safety Checklist" (Figure 1-6C) and will be completed by the team responsible for each resurfacing project. This checklist will be used as documentation for decisions regarding low cost safety improvements on resurfacing projects.

Installation of shoulder rumble strips or stripes, and raised pavement markers (RPM) are also considered low cost safety improvements. These are to be installed per the current pavement marking policy in section 4-716.05. All low cost safety improvements including rumble stripes/strips and RPMs may be paid for under safety project funding should the project meet the safety upgrade threshold.

Items for low cost safety improvements shall be funded separately from other resurfacing plan items in both federally funded and 100% state funded resurfacing projects if the total estimated costs of the safety upgrades are greater than $10,000.

Therefore, designers should have an additional project number set up for payment of safety improvement items.

Designers will be responsible for obtaining the additional federal project number by advising the Programming Development and Scheduling Office the additional project number is needed for the inclusion of safety improvements in the resurfacing project and correctly

identifying items by funding source in the resurfacing plans. If the project meets the threshold for separate safety funding, the designer shall submit the resurfacing plans and Resurfacing Safety Checklist to the Regional Safety Coordinator.

If the total estimated costs of the safety improvements are less than or equal to $10,000, a separate project number will not be required. Safety improvements shall be funded using the same project number and resurfacing funds used for other items in the project.

1-200.17 PLANS FOR RESURFACING PROJECTS

Resurfacing projects that do not include grading or drainage work, only require a title sheet, typical section showing proposed pavement schedule, estimate and notes sheets. An Engineer's stamp and signature is required.

If safety improvements are to be completed under a separate project number, then the designer shall add the following special note to the plans:

ALL SAFETY IMPROVEMENTS TO BE PAID FOR UNDER PROJECT NUMBER: _____.

1-200.18 NEPA PROGRAMMATIC CATEGORICAL EXCLUSION SUBMISSION FOR RESURFACING PROJECTS

All resurfacing projects, including those covered in section 1-200.11, shall email a pdf title sheet to TDOT.EnvironmentalDoc@tn.gov eight weeks prior to turn-in or as early in the plans development as possible to facilitate Environmental Division obtaining Programmatic Categorical Exclusion for resurfacing projects. If the project begin and end stations are extended for any reason after the initial submission then a new title sheet shall be emailed.

CERTIFICATION OF SCOPE OF WORK FOR RESURFACING PLANS

PROJECT NO: PIN: Project Length (Mile):
DESCRIPTION:
COUNTY:

Disturbed Acreage: ___ Less Than 1 Acre ____Greater Than 1 Acre
Row or Easements Required: ___ Yes ____ No

The subject resurfacing project is limited to the following items:

___ Cold Planning Existing Asphalt
___ Resurfacing
___ Safety Edge
___ Pavement Markings
___ Installation of Rumble Strips / Stripes
___ Raised Pavement Markings
___ Sign Replacement or Upgrades

Safety Upgrades

___ Center Line Rumble Stripe
___ Installation of Skid Resistant Surfaces
___ Existing Guardrail height adjustment
___ End Terminal (Type 38, 21, and 13) Remove, Upgrade, or new Installation
___ Install Earth Pad
___ Install new or upgrade existing to self-restoring / low maintenance attenuator
___ Remove, Install, and/or Repair Substandard Bridge Rail
___ Add 2 ft. wide shoulder at locations where there is no existing shoulder
___ Improve roadway superelevation (No Grading or Pavement Reconstruction)
___ Sight distance correction (intersection and/or stopping)
___ Install Breakaway Sign Support hardware
___ Remove, relocate, delineate Road Side obstacles (i.e. trees) located within the clear zone

Drainage Maintenance

___ Clean/ reshape roadside Ditch
___ Stabilize eroded channel/bank
___ Install a drainage pipe safety head wall (parallel or Perpendicular) if inlet or outlet located within the clear zone

Pedestrian Accessibility and Bicycle Accommodation

___ Install Handicap Ramps
___ Install Handicap Rams on side roads to maintain continuity/accessibility
Refer to TDOT Long Range Multimodal Transportation Plan *(contact Bicycle/Pedestrian Coordinator)* if the subject highway is planned to incorporate,
___ Pavement Marking and Signing for Bike Route
___ Pavement Marking and Signing for Bike Lane

Work Zone Safety

___ Significant Project Determination
___ Temporary Traffic Control
___ Detour
___ Other:
___ Other:

I certify that the scope of the subject resurfacing and safety project is limited to the items listed above.

_____ _____
Regional Resurfacing Coordinator Date

_____ _____
Civil Engineering Manager 1 Date

In the event that additional items are added to the scope of work during plans development, complete the section below and resubmit to the Environmental Office.

ADDENDUM TO SCOPE OF WORK FOR RESURFACING PLANS

The following has been added to the original scope of work for the subject resurfacing project:

_____

_____ _____
Regional Resurfacing Coordinator Date

_____ _____
Civil Engineering Manager 1 Date

Figure 1-6

Resurfacing Scope of Work Certification Memo

PEDESTRIAN ACCESSIBILITY & BICYCLE ACCOMMODATION CHECKLIST

County	Route	PIN	Begin Log Mile	End Log Mile

Curb Ramps and Crosswalks

All sidewalks at intersections inside the resurfacing project shall have ADA compliant ramps, (r*efer to RP-H-series drawings)* and marked crosswalks (refer to the standard drawing *T-M-4) Coordinate with both the ADA Coordinator and the Bicycle/Pedestrian Coordinator for recommendations.*

Pedestrian Facility Intersections				
Intersection/Crossing Roadway*	Number of Ramps to Built	Type of Ramp	Number of Crosswalks	Signalized Intersections**

*Add a sketch to clarify the type and location of the proposed ramps on side roads or intersections in order to maintain continuity/accessibility.

**Provide accessible pedestrian signals in non-visual formats (i.e. audible tones and/or vibrotactile surfaces) and pedestrian pushbuttons

Bike Route/ Bike Lanes

1. Is the Highway designated as a bike route or a bike lane in accordance with the Long Range Multimodal Transportation Plan per *the Bicycle/Pedestrian Coordinator*?

   Bike route☐

   Refer to the standard drawing T-M- 11 for bike route signing and pavement markings.

   Bike Lane ☐

   Evaluate the existing roadway lane and shoulder widths and refer to the standard drawings T-M-12 thru 14 for bike lane signing and pavement markings.

2. Indicate location(s) where the proposed bike lane may be interrupted due to the narrowed shoulders such as bridge crossings or intersections.

Interrupted Bike Lane Locations		
Begin Log Mile	End Log Mile	Left/Right

Figure 1-6B

Pedestrian Accessibility and Bicycle Accommodation Checklist

RESURFACING SAFETY REVIEW CHECKLIST

County	Route	PIN	Begin Log Mile	End Log Mile	AADT	Design Speed

Crash History

Contact the Project Safety Office and/or Regional Traffic Engineering Office to obtain the below information.

Years Reviewed	Total Crashes	Fatal Crashes	Injury Crashes
VMT	Crashes/VMT	Fatal Crashes/VMT	Injury Crashes/VMT

Shoulders

1. Is the paved shoulder width greater than 2 feet?

Yes ☐ No ☐ (If no, continue on next question)

2. Is there a history of roadway departure crashes based on crash history?

Yes ☐ No ☐ (If yes, continue on next question)

3. Can shoulder be widened to 2 feet with minimal grading and no right-of-way acquisition or utility relocations?

Yes ☐ No ☐ (If yes, indicate location(s) of min. 2 ft. shoulder widening in table)

Locations to Widen Shoulder to 2 Feet		
Begin Log Mile	End Log Mile	Left / Right

Horizontal Curves

Indicate in the below table any curves that pose a safety issue based on crash history or that are substandard geometrically. *Refer to RD01-TS series Standard Drawings*

Horizontal Curves of Concern			
	Can Superelevation be corrected with paving? Yes ☐ No ☐	Candidate Location for High Friction Surface Treatment? Yes ☐ No ☐	Delineate Curve with Chevrons and Advanced Warning Signs Yes ☐ No ☐
Log Mile of PC			

Safety Edge Paving

1. Will resurfacing result in an edge drop off exceeding 1.75 inches?

Yes ☐ No ☐ (If yes, continue on next question)

2. Specify safety edge paving and include paving general note 3 (See Section 6-150.01 of the Roadway Design Guidelines)

Refer to section 4-416.00 in the Roadway Design Guidelines.

Figure 1-6C
Resurfacing Safety Checklist (1 of 4)

Centerline Rumble Stripe

For projects with undivided two way traffic only, indicate in the below table any location (or entire project length) in which there is a crash history of crossover crashes in which the addition of centerline rumble stripe may improve safety. *See standard drawing T-M-16A for details*

Centerline Rumble Stripe Location	
Begin Log Mile	End Log Mile

Signing

Indicate in the table below any existing signs needing to be replaced or adjusted due to visibility, damage, height, vegetation, placement, breakaway/bend-away post etc.

Refer to T-S series Standard Drawings

Signs Needing Attention			
Log Mile	Left/Right	Sign Type	Replace/Adjust

Sight Distance

Indicate in the below table any locations where stopping sight distance or intersection sight distance is not adequate. *Refer to RD01-SD-series drawings*

Stopping Sight Distance and Intersection Sight Distance		
Log Mile / Cross Road	Remove Vegetation	Advanced Warning Signs
	Yes ☐ No ☐	Yes ☐ No ☐

Guardrail, Guardrail End terminals & Attenuators

Existing Guardrail at Bridge Ends

Replace any guardrail at bridge ends transitions that are inadequate.
Refer to Standard Drawings S-GRC-1 or S-GRC-2

Guardrail End Terminals to be Replaced		
Log Mile	Left / Right	Type 12 / Type 38

Existing Guardrail End Terminals

Replace any existing guardrail end terminal on National Highway System not meeting TL-3 NCHRP 350 or MASH requirements with TDOT Type 12 (Buried in Backslope) or Type 38 (Tangential Energy Absorbing).
Refer to Standard Drawings S-GRT-1 or S-GRT-2, and section 4-705.00

Guardrail End Terminals to be Replaced		
Log Mile	Left / Right	Type 12 / Type 38

Figure 1-6C
Resurfacing Safety Checklist (2 of 4)

Guardrail, Guardrail End terminals & Attenuators (Continued)

Existing Guardrail Height Adjustments*

Any existing guardrail that will be less than 27" in height (measured from the shoulder extended) after resurfacing shall be raised to between 28" to 29" inch height.

Guardrail Locations to be Adjusted		
Begin Log Mile	End Log Mile	Left / Right

*** Guard Rail height adjustment may not be required for locations where the posted speed limit is less than 45mph.**

Proposed Guardrail

Indicate any additional locations that warrants new guardrail or existing locations where the guardrail height cannot be adjusted due to limitations such as post length or steep fill slope (requires longer post).
Refer to Sections 4-705.10 through 4-705.15

Guardrail Locations to be Installed		
Begin Log Mile	Left / Right	Type 12 / Type 38

Attenuator

Indicate any location that warrants new installation, replacement or upgrade to low maintenance/self- restoring category of an attenuator.

Locations Attenuator to be Installed		
Begin Log Mile	End Log Mile	Left / Right/Median

Roadside Obstacles

Indicate any roadside obstacles inside the clear zone that can be removed, relocated or delineated without purchasing additional right-of-way. *Refer to sections 4-705.13 and 4-705.15*

Roadside Obstacles to be Mitigated			
Log Mile	Left / Right	Hazard	Remove / Relocate / Delineate

Drainage Improvements

Indicate any roadside ditch that could be reshaped or otherwise improved without relocation of utilities or purchase of right-of-way. *Refer to Chapter 5 of the Drainage Manual.*

Ditches to be Improved			
Begin Log Mile	End Log Mile	Left / Right	Description of Improvement

Figure 1-6C
Resurfacing Safety Checklist (3 of 4)

Pipe Culvert Head Walls

Indicate any pipe culvert within the clear zone without proper safety headwalls.
Refer to Section 6.04.3 of the Drainage Manual and D-PE-series Standard Drawings

Log Mile	Offset, Left / Right	Pipe Diameter

Railroads

Is there a railroad crossing within the project limit or within 200' of the project limits either on the mainline or on side roads?

Yes ☐ No ☐ (If no, skip to next section)

Coordinate with TDOT Railroad Coordinator at Headquarters for recommendation on the adequacy of warning systems.

Railroad Crossings		
Begin Log Mile	End Log Mile	Left / Right

Is the total estimated costs of the safety upgrades are greater than $10,000?

Yes ☐ No ☐

If yes, proposed safety improvements shall be funded separately from other resurfacing plan items in both federally funded and 100% state funded resurfacing projects. Therefore, designers should have an additional project number set up for payment of safety improvement items.

Figure 1-6C
Resurfacing Safety Checklist (4 of 4)

1-200.30 PROJECTS OF LIMITED SCOPE

Projects of limited scope will permit implementation of projects addressing safety and operational concerns in a timely manner without requiring design exceptions for those elements of the roadway that are beyond the scope of purpose and funding for the projects such as, traffic engineering, spot improvements, road safety audit review (RSAR) projects, and safety projects such as signing, marking, signalization, roadway lighting and traffic barriers which include very minor or no roadway work as permitted under 23 CFR 625.3 (e).

1-200.31 ROAD SAFETY AUDIT REVIEW (RSAR) PROJECTS

The primary purpose of Road Safety Audit Review program is to reduce the number of injuries and fatalities on public roads. A RSAR report is written for each RSAR project and should be used as guidance for the development of RSAR plans. Projects currently selected for the program are spot or section locations on interstates, state routes, and functionally classified local roads for the Highway Safety Improvement Program list. Projects may also be selected if qualified for the High Risk Rural Roads funds. Currently project funding comes from either Highway Safety Improvement Program funds ($1,000,000 limit per project) or High Risk Rural Roads funds (approximately $50,000 limit per project).

Scope of work for RSAR projects is developed by a RSAR Team and will consist of a Pre- Briefing Meeting, Onsite Visit, and Post Meeting or Conference Call of team members. A representative from either Headquarters Design or the Regional Design Office will be included on each team. The Assistant Director will coordinate with the Headquarters and Regional Design Managers to ensure Design is represented at each meeting. The representative will be responsible for ensuring design issues are addressed prior to finalizing and submitting the RSAR for approval.

Except as noted herein, guidance provided in the Design Guidelines do not apply to the development of RSAR projects. Proposed improvements should be designed in accordance with current design standards; however, it is not the intent of the RSAR program to bring all design elements up to current standards.

In order to provide consistency in the development of RSAR projects the following guidance should be used during the development of RSAR plans:

1. Plans should be developed in accordance with the approved RSAR report.

2. Scope of the project should be limited to items addressed in the RSAR report.

3. Any deviation from the RSAR report will require a revision to the report and estimate. Proposed changes should first be approved by the Roadway Design Division director prior to initiating a request to change the approved RSAR report.

4. Additional improvements should not be added to the project unless required to meet the objective outlined in the RSAR report.

5. Improvements to add additional capacity (except where identified in the RSAR report) should not to be added to RSAR projects.

6. Design Exceptions should only be requested when the proposed element to be improved cannot be brought up to current standard. Design Exceptions shall not be requested for other controlling elements of design that are not addressed in the RSAR report. Designers should document to the project file other controlling elements of design or design criteria identified that are not brought up to current standard.

7. Plans should be developed using the minimal amount of survey and plans detail necessary to provide sufficient detail to acquire right-of-way (if required) and construct the project. Example: Topography of adjacent properties is not needed when the improvement is going to be constructed inside existing right-of-way. However, erosion prevention and sediment control plan may need to be developed to the same detail as a typical roadway project.

8. The acquisition of additional right-of-way and easements and the relocation of utilities should be addressed in the RSAR report. Designs for RSAR projects not proposing additional right-of-way and/or easements or utility relocations acquisition should avoid additional right-of-way or utility relocations whenever possible. In the event that the need for additional right-of-way and/or utility relocation is identified during project development, the Design Manager shall immediately notify the Project Manager or RSAR Coordinator.

9. The Work Zone Significance Determination shall be completed and procedures in the Work Zone Safety and Mobility Manual shall be followed for all RSAR projects.

10. RSAR project development shall follow guidance regarding permits and submittals to the Environmental Division found in the Design Guidelines.

11. Signing and marking shall be in compliance with the current edition of the *Manual on Uniform Traffic Control Devices*.

12. The following note will be place on the Title Sheet directly above the Chief Engineer's signature. **"RSAR Project – Project of Limited Scope"**

1-200.35 LOCAL PROGRAM DEVELOPMENT PROJECTS

The Local program is intended to help Tennessee's Local Governments conduct environmental processes and clearances, design, construct, and maintain transportation facilities. The TDOT Local Program Development Office is the single TDOT point of contact for project correspondence between the department and local governments. The detailed information about the program may be found at The Local Government Guidelines (LGG) Manual.

Locally Managed Projects may be located on the National Highway System, State Routes, or Local Routes. In addition, the funding for each Locally Managed Project may come from Federal-aid and/or State Funds combined with Local Funds, or solely from Federal-aid, State Funds, or Local Funds. Projects to be designed under the local program are primarily on local roads. In general, they should not involve the state highway system, the national highway system or the interstate system.

All projects developed under the Local Program which involve a roadway shall be designed in accordance to TDOT Design Policies and Procedures, and Federal Regulations.

A TDOT Design Manager will manage all projects on the NHS System, other projects as well may be assigned a manager to provide full oversight. The TDOT Design Manager is responsible for ensuring all TDOT Design Policies and Procedures have followed. The TDOT Design Manager is not responsible for providing guidance or assistance in the actual design of the project. A "Design Certification Letter" will be required for all roadway projects. Any comments provided by the Department shall be incorporated into the design of the project.

Projects such as Bridge Replacement (BRZ) Projects, State Industrial Access (SIA), Local Interstate Connector (LCI), Intersection Improvements, Roadway Resurfacing, Roadway features or Auxiliary to Roadway Features, Roadway Signing and Striping Improvements, as well as Sidewalks-ADA Improvements, Bikeways, Shared-use Paths, Safe Routes to Schools, and Landscape Projects should be considered as a Roadway Project since the project scope would involve roadway design elements.

Projects such as Building Projects, Parking Improvements are non-roadway projects and they are covered under The Local Government Guidelines (LGG) Manual-Chapter 10: Non-Traditional Projects.

Refer to *Local Program Guidelines*, Chapter 5, "Roadway Design Procedures, Including Structural Design" for more information.

1-205.00 SURVEY REQUIREMENTS

1-205.15 COORDINATE VALUES

Survey procedures require that all surveys shall be tied to the State Plane Coordinate System using the Tennessee Geodetic Reference Network (TGRN). All surveyed coordinate values will be based on the North American Datum 1983 (NAD/83) (1995 adjustment) coordinates and appropriate notes indicating such shall appear on the topography plot.

All design computations shall be based on these adjusted coordinate values. This will ensure that all computed points on the project would have coordinate values tied to the State Plane System. Assumed coordinates will not be used.

Coordinate values for all PI's shall be shown on present and proposed (if any are shown) layout sheets within each curve data table. Coordinate values shall also be listed for the beginning and ending points of the project. A **notation** near the title block in lower right hand corner for each sheet on which coordinates appear shall read, **"Coordinates are NAD/83 (1995), are datum adjusted by the factor of 1.000XXX" and tied to the TGRN. All elevations are referenced to the NAVD 1988.** The "1995" refers to the year of the most recent adjustment of coordinate values in Tennessee and 1.000XXX refers to the actual datum adjustment factor used for the project.

1-205.20 DIMENSIONS AND DIRECTIONS ON PLANS

In order to provide consistency and maintain accuracies, the following criteria are to be adopted for the roadway plans.

1. Distances shown on the plans shall be no more accurate than the nearest 0.01 foot (35 ft, 35.0 ft, and 35.00 ft, are acceptable: 35.001 ft is not acceptable).

2. Bearings shown on the plans shall be no more accurate than 1 second (for example N 35 00' 01" E is acceptable; N 35 00' 01.1" E is not acceptable). P. I. coordinates shall be computed to four decimal places, and then bearings recomputed to even seconds. Bearings and the beginning coordinate point are then held constant and P. I.'s and ending coordinates recomputed to four decimal places.

3. Coordinates of P. I.'s and G. P. S. control points shall be shown to an accuracy of 0.0001 foot. Any other coordinates shall be shown to an accuracy of 0.01 foot.

1-205.30 TRACT NUMBERS ON PLANS

On all design projects, tract, and/or parcel numbers assigned during the survey process **shall not** be deleted, changed, or renumbered. Tract numbers are assigned during the survey process and have the same parcel number in the GEOPAK "GPK" file. The parcel information contained in the GPK file is used in survey and plan preparation and right-of-way processes. There should not be any duplicate tract numbers on any one project.

All survey assigned tract numbers and property owner information will be retained on the plans through the preliminary field review, if one is conducted. After that time the tract information can be removed from the acquisition table, property map, and plan sheets but the previously assigned tract numbers shall not be changed nor deleted from the GPK file. Tract numbers shall not be renumbered on the plans.

No tract shall be deleted after the plans have been submitted for incidental or printed for a design public hearing. The information in the acquisition table, property map, and layout sheets shall be crossed out in all places using a single line to indicate that no acquisition is

required. This will insure that all tract information is retained in the GPK file and not deleted nor written over. The tract information is then recoverable and can be used by other sections as the information is passed to the Right-of-Way and Construction Divisions or returned to the Survey Office for updating.

1-210.00 RAILROAD COORDINATION

1-210.02 GRADE SEPARATED RAILROAD CROSSINGS (See 1-210.05 and 2-325.00)

In order to facilitate and expedite the Railroad's review of all future highway plans, which include a highway-railroad grade separation, the following information must be included to the preliminary plans, which are to be sent to the railroad for comments and/or approval:

1. A minimum of five railroad cross-sections shall be provided at the following locations.

    - The roadway grade at the proposed bridge
    - Both faces of the proposed bridge
    - ROW limits (minimum 100 ft.) from face of the proposed bridge (perpendicular to the railroad alignment)

a. The proposed bridge toe of abutment fill slopes, existing railroad drainage structures and ditches, and roadside ditches should be shown on applicable all cross-sections.

b. For any proposed structure (example: retaining wall, end wall); a cross section view showing the location of such structures in relation to the location of a railroad track shall be shown.

c. Cross sections need to show any changes proposed during grading operations to the railroad embankment, drainage ditches, or sub-track structures.

Note: If the distance between the subject cross sections exceeds 50 feet an additional cross sections are required to adequately depict conditions along the tracks. See Figure 1-7 sections are required to adequately depict conditions along the tracks. See Figure 1-7

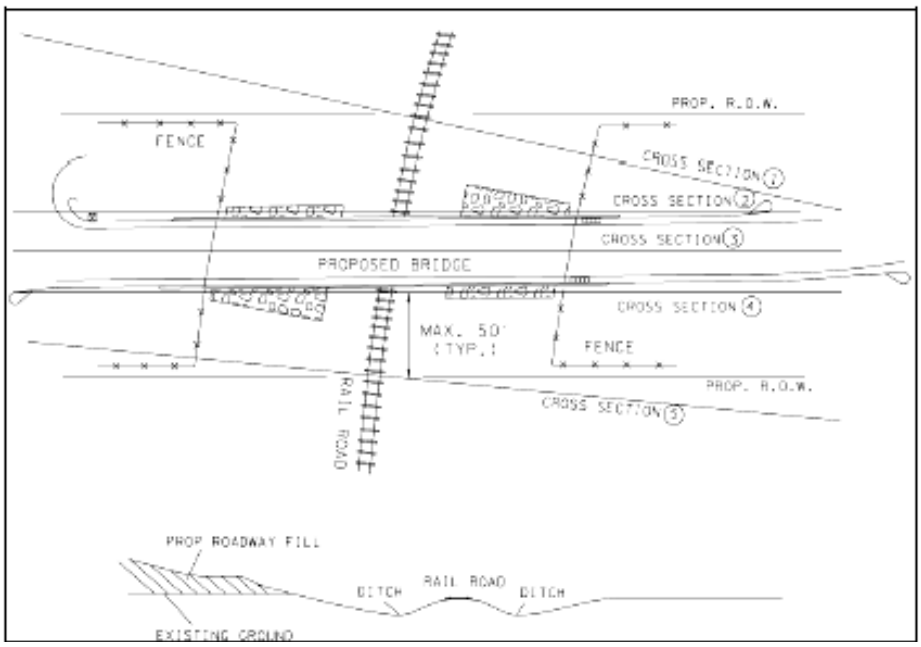

Figure 1-7
Example Cross Section Locations

2. The following information must be on the preliminary plans,

    a. Proposed minimum vertical clearance and horizontal clearance on both sides of track

    b. At skewed crossings, drawing must include a structure elevation view normal to the track

    c. Proposed distance from centerline of track to toe of end slopes at their intersection with natural ground
    d. If end slopes are to be paved, indicate limits of paving

    e. Location of pole lines on railroad right-of-way
    f. Existing and proposed drainage structures
    g. Railroad station at highway-railroad intersection, or distance in feet from nearest railroad mile pole

In general, the information listed above is the minimum information needed by the railroad to enable them to make a logical investigation of the proposed project. To furnish less information would only serve to delay the railroad's approval of the plans. Include easement note as shown in 1-210.05.

Figure 1-8 indicates a method of showing the easement for a roadway bridge crossing over railroad.

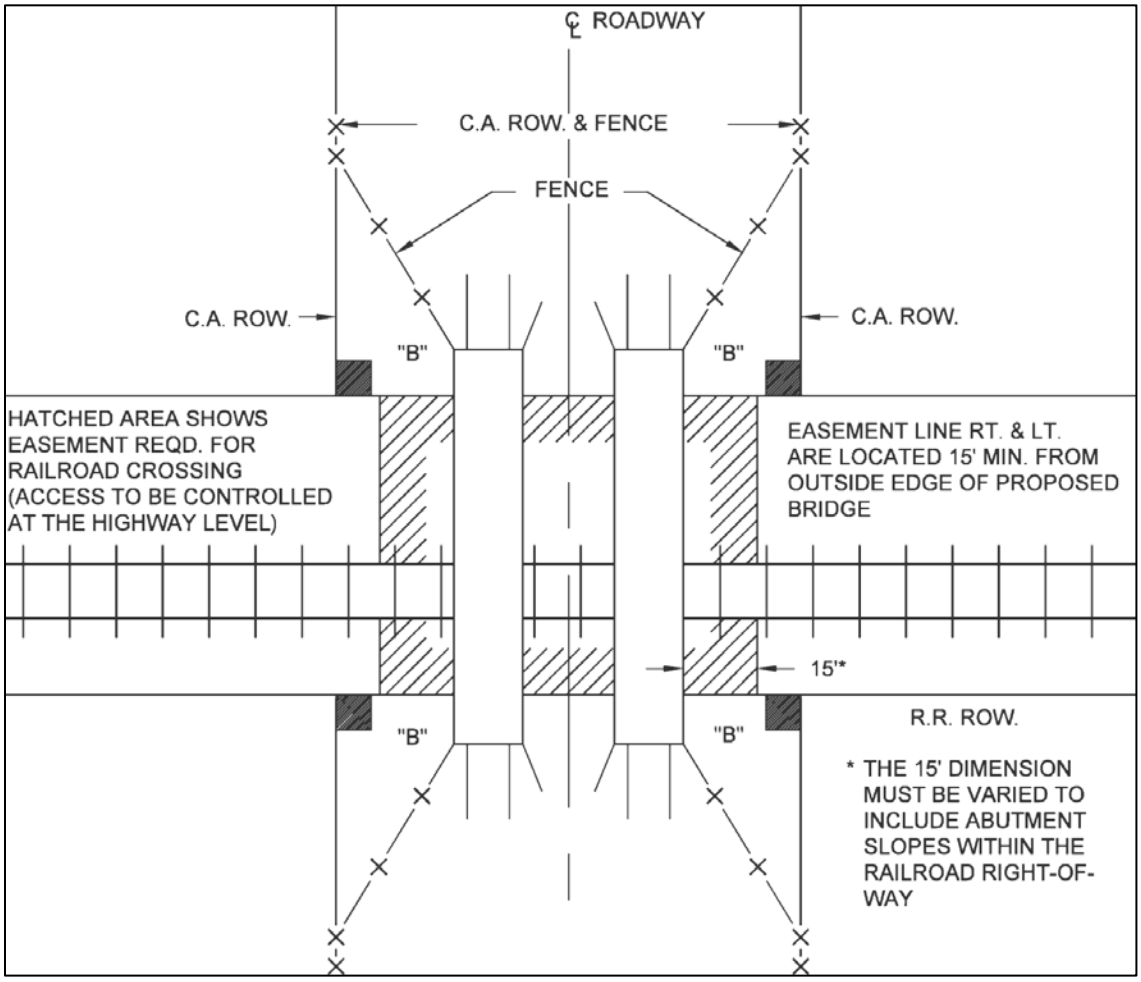

Figure 1-8
Method of Showing “Easement” for Railroad Crossings

1-210.05 AT-GRADE RAILROAD CROSSINGS (See 1-210.00 and 2-325.00)

All designers shall prepare plans for at-grade railroad crossings using the following design criteria where feasible:

Alignment: 90 degrees to the railroad desirable, 70 degrees minimum, with good sight distance in both directions.

Grade: Where crossings involve two or more tracks, the top of rails for all tracks shall be brought to the same plane where practicable. The surface of the highway shall be in the same plane as the top of rails for a distance of 2 feet outside of rails for either multiple or single-track crossings. The top of rail plane shall be connected with the grade line of the highway each way by vertical curves (if necessary) of such length as is required to provide

riding conditions and sight distances normally applied to the highway under consideration. It is desirable that the surface of the roadway be not more than 3 inches higher or 6 inches lower than the top of the nearest rail at a point 30 feet from the rail measured at right angles, thereto, unless track superelevation dictates otherwise. Desirable grades on the tangent immediately adjacent to the grade across the rails of the track shall be 5% or less but no steeper than 7%.

Curbs: Proposed roadway curbs and/or curbs and gutter shall terminate no less than 13 feet from the centerline of the nearest tracks for at-grade railroad crossings.

The roadway right-of-way lines will terminate at the railroad right-of-way as shown on Figure 1-9. No easement will be shown on the plans for this crossing. The easement note as given below will be added to the present layout sheet near the crossing.

> "Easement required for the railroad crossing is to be obtained by the Utilities Engineer by provisions contained in the crossing agreement negotiated with the railroad."

Bearings and distances will be provided along both the railroad right-of-way and the proposed roadway right-of-way lines. The distance to the nearest milepost will be shown at the intersection of the centerlines of the roadway and railroad.

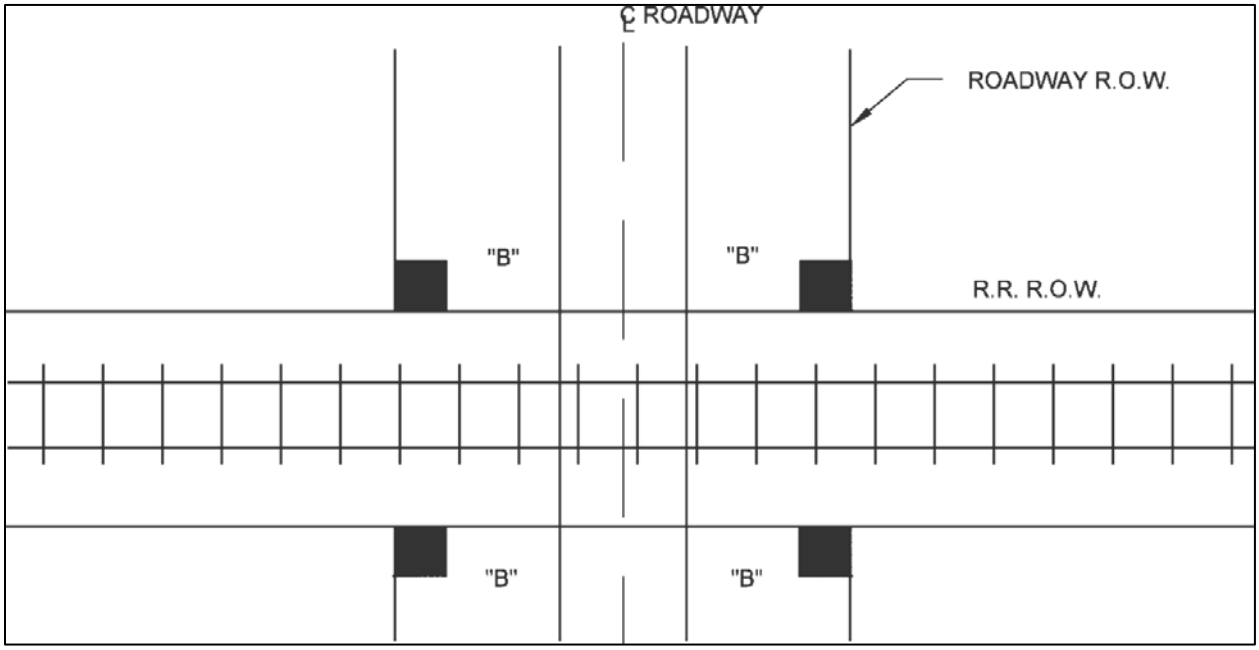

Figure 1-9
Method for Showing Right-of-Way at an At-Grade Railroad Crossing

1-210.10 RAILROAD RIGHT-OF-WAY ENCROACHMENT – PARALLEL CONSTRUCTION

When the proposed roadway is parallel to the railroad, as shown on Figure 1-10, the railroad shall be given a tract number and included in the right-of-way tabulation block as permanent easement to be acquired by the Right-of-Way Division.

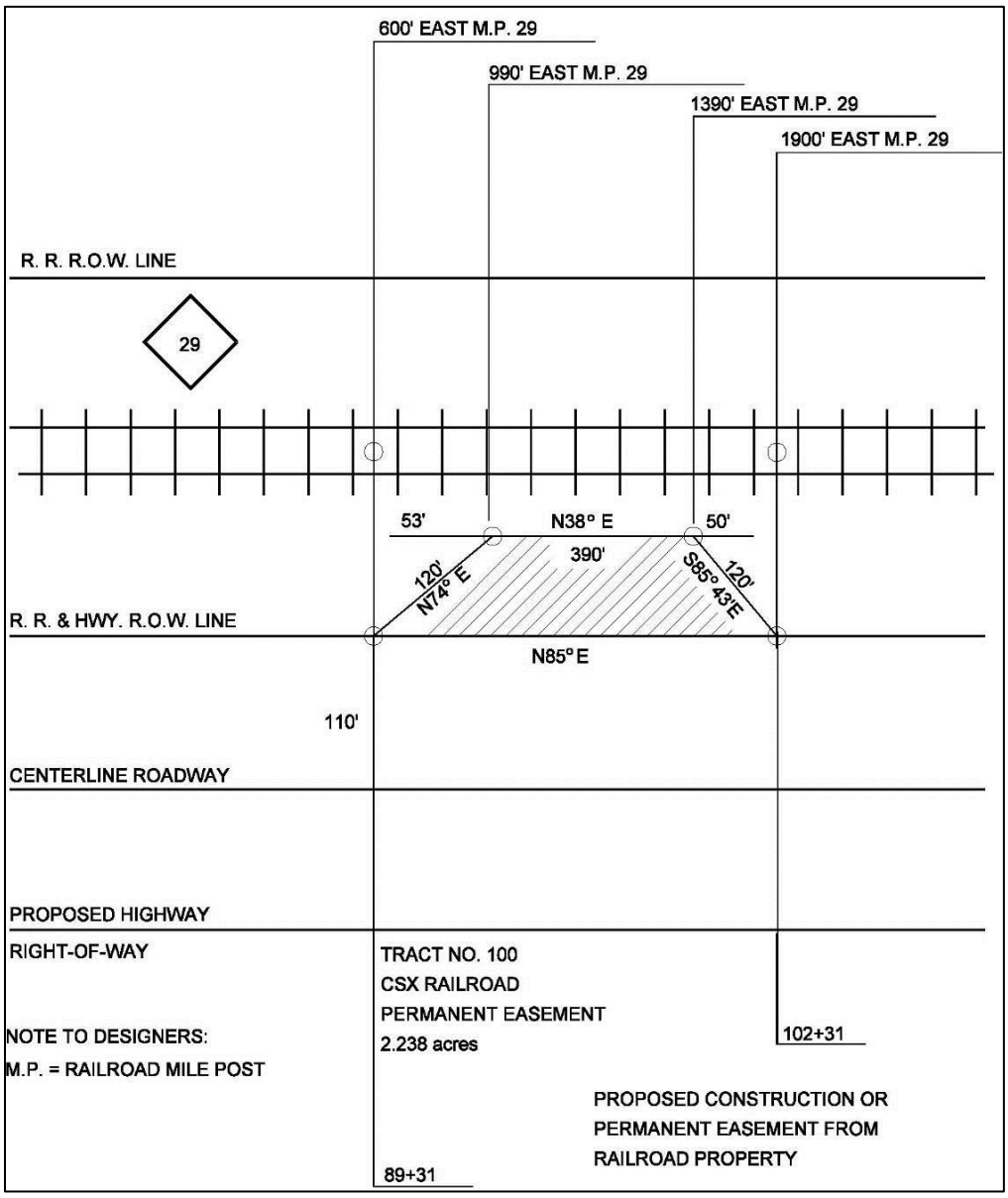

Figure 1-10
Example for Preparation of Right-of-Way Details when Encroachment is Parallel to the Railroad

When constructing a roadway parallel to a track roadbed, if work is required inside the railroad right-of-way, the preferred construction limit (toe of slope) shall be no closer than 50 feet from the centerline of the nearest track.

If it is necessary to encroach nearer than the 50 feet described above, a set of preliminary plans, including cross-sections, showing how the proposed work ties to the existing railroad roadbed, are to be sent to the Utility Section of the Right-of-Way Office for review, comment and submittal to the railroad. An example is shown in Figure 1-11 below.

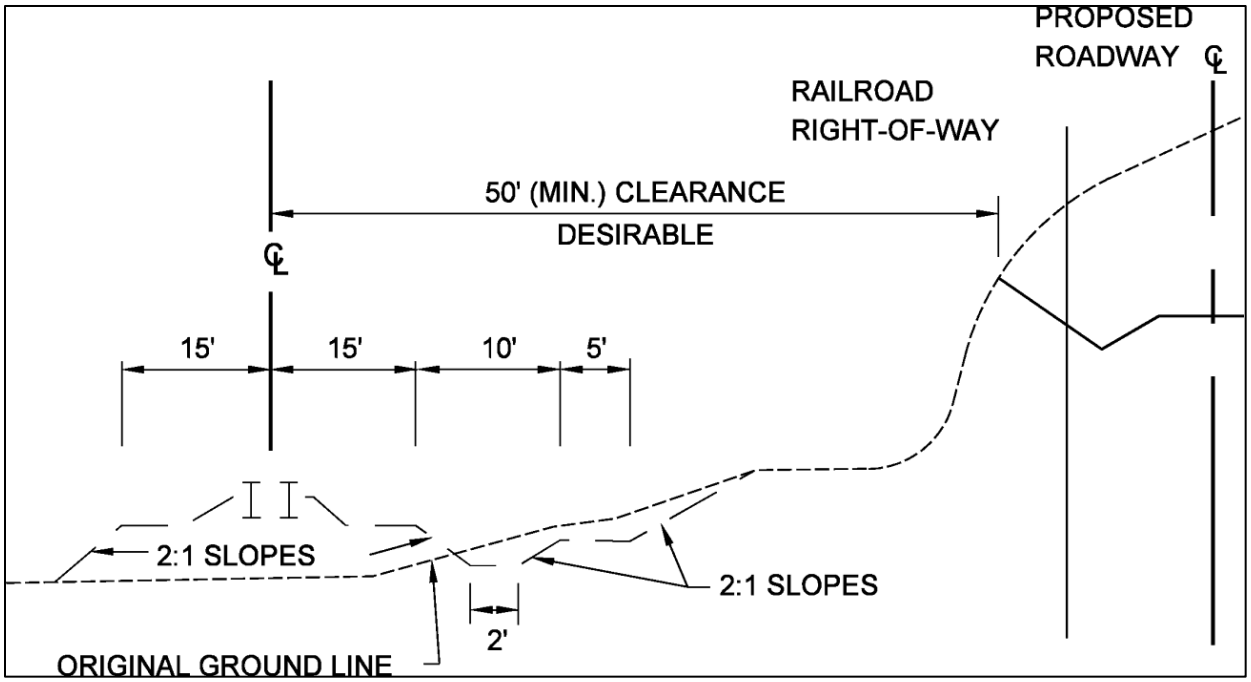

Figure 1-11
Sketch Showing the Minimum Requirement for Railroad Typical Roadbed Section. To Be Used as a Reference for Designers Working Inside Railroad Right-of-Way.

1-215.00 KNOWN ENVIRONMENTAL CONSTRAINTS

Any known environmental constraints identified in the environmental document or other expert sources should be indicated on the plans and brought to the Project Manager's attention as soon as the constraints are recognized. Constraints may include, but are not limited to the following: blue line steams, wetlands, endangered or protected species, registered historical or archeological sites, etc. Ecology, permit assessment, and SWPPP review items encountered are to be addressed prior to the right-of-way plan submittal.

1-216.00 EXISTING BUILDINGS OR BRIDGES

On all projects where an existing building and/or bridge is located inside the proposed right-of-way, the roadway designer shall notify the TDOT Hazardous Materials Office by email of the station and offset of the building(s) and/or bridge(s) prior to grade approval or preliminary field review, so that a Hazardous Materials Survey may be scheduled prior to beginning demolition or repair work. (See section 3-412.00, 3-413.00)