

I-10.01 Policy

All major highway construction projects will normally undergo three plan reviews from the outset of the preliminary design stage to completion of the final plans. These reviews are:

- Preliminary Plan Review
- Plans, Specifications, and Estimates (PS&E) Plan Review
- Final Office Review

Preliminary Plan and PS&E Reviews may be conducted either formally or informally:

- Informal reviews consist of interested parties submitting comments via email and no formal meeting is held.
- Formal reviews have a meeting time and place set aside for discussion and comments can be made either electronically before hand or at the meeting itself. There are two methods of conducting a formal plan reviews:
 1. The first and preferred way is to set up VNNDOT (video conferencing network) meeting between the Central Office and the applicable District.
 2. The second option is to conduct an onsite review either near the project location, at the applicable District, or at the Central Office. This alternative should only be used for complex projects or projects in which site visits may be necessary. The designer should coordinate appropriate transportation to allow for proper input from the various members of the review team.

All projects, except for Preventive Maintenance Projects, should have a minimum of one plan review prior to the Final Office Review. This review typically would be a PS&E review.

For Preventive Maintenance and smaller scale projects, the requirements for plan reviews should be made on a case-by-case basis.

I-10.02 Preliminary Plan Review

This review should be conducted at a time when the plans have progressed sufficiently, 25% to 50% complete, to allow for proper review of the following design features by the designer and the accompanying members of the review team. The intent of the Preliminary Plan Review is to insure all major changes are made at this stage.

- Horizontal and Vertical Alignments: The preliminary alignments should be established and a preliminary earthwork summary is available to allow the evaluation of the

geometry, drainage, borrow requirements, etc. The earthwork summary should indicate end areas, volumes, and limits or tie points of the cut and fill slopes.

- **Borrow:** Special emphasis should be given to evaluating borrow requirements, identifying possible locations for sources of borrow, and optimizing utilization of material from the existing highway right of way.
- **Access:** The existing and future access needs should be evaluated. Access points should be established to the fullest extent possible, subject to concurrence by the Design Engineer and by the landowner, when contacted by a representative from the ETS Division - Right of Way Services.
- **Right of Way:** The existing right of way and need for new right of way, permanent sight easements, permanent drainage easements, temporary construction easements, etc. should be evaluated.
- **Utilities:** An effort should be made to identify and locate those utilities within the project area prior to conducting this review. The type and location of the utilities should be evaluated and recommendations for the necessary adjustments determined. The designer should note any utilities not identified on the survey. If utilities are found in the field, the designer should coordinate additional surveying to update plans as necessary.
- **Safety Improvements:** The safety review should be evaluated to determine or verify any special conditions that may need to be addressed in the final design.
- **Drainage Improvements:** The drainage features should be evaluated to determine or verify any special conditions that may need to be addressed in the final design.
- **The Bridge Division or lead structural designer** will normally conduct a Type, Size, and Location (TS&L) inspection for the proposed structures located within the project limits. The TS&L review is discussed in Section V-02.06 of this manual.
- **Constructability Issues:** The design should be evaluated for any constructability issues or special conditions that may need to be addressed in the design, construction phasing, schedule, etc.

Coordination

A Preliminary Plan Review Checklist is provided in Appendix III-01 B.

The Designer or Technical Support Contact assigned to the project will be responsible for all coordination required in scheduling, transportation, and notification of participants.

Review participants should be identified from the Plan Review Notification, Distribution, and Attendance List in Appendix I-10 A.

The plans should be made available to all review participants a minimum of 7 calendar days prior to the date of the review. The plans shall be placed on the public ftp site following the procedure below:

1. Create a black and white .pdf file of the plans.
2. Launch Internet Explorer, or Windows Explorer, and type "<ftp://ftp.state.nd.us/public/PPR>" in the address bar and press Enter.
3. The "Log On As" dialog box will appear after you press Enter. If the dialog box doesn't open, try typing in the ftp address again.
4. Contact the CADD Support Specialist or NDDOT Technical Support Contact for questions or password needed for the ftp site.
5. Create a new folder using the project number as the folder name, and place the .pdf file inside.
6. Email a link to the plans to the reviewers identified in Appendix I-10A.

For consultant designed projects, the plans shall be placed on their assigned consultant ftp site, and the NDDOT Technical Support Contact will follow the procedure above.

The Designer will be responsible to record all comments, questions, and/or items requiring further study or resolution by preparing a Preliminary Plan Review comments memorandum. The Preliminary Plan Review comments memo will be placed in FileNet, and the FileNet link will be sent to everyone invited to the review as shown in Appendix I-10 A. All comments shall be responded to, and resolved to the fullest extent possible within the memo. Any issues not resolved between any division and/or district, or any issues that are considered a change in scope of work, or increased cost compared to the approved environmental document will be referred to the Director - Office of Project Development and Deputy Director for Engineering.

I-10.03 Plans, Specifications, and Estimates (PS&E) Plan Review

This review should be conducted when the plans are 90% to 100% complete. This normally occurs approximately one month prior to the scheduled plan completion date, but can take place earlier if the plans are sufficiently complete. This review should provide for proper review of the design features and plan sheets by the designer and the accompanying members of the review team, and allow sufficient time for the Designer to make the necessary plan revisions.

All projects should have a PS&E Plan Review. Generally, all grading, urban, and non-preventive maintenance projects will have formal review. Preventive maintenance projects would normally have an informal review. If there is any doubt as to the need for a formal or informal review, the Designer should contact the District Engineer for their recommendation.

A follow-up review will be conducted if more than one year has passed due to changes in the bid opening schedule.

This review is very important and should include all the major components of the plan sheets and project proposal as follows:

- Title Sheet
- Note Sheets
- Quantity Sheets
- Detail Sheets
- Typical Section Sheets
- Plan and Profile Sheets
- Work Zone Traffic Control Sheets
- Signing, Marking, Guardrail, Lighting, and Signal Sheets
- Structural Sheets
- Cross Section Sheets
- Special Provisions
- Cost Estimates
- Recommendations for contract completion date or guaranteed number of working days.

Coordination

A PS&E Plan Review Checklist is provided in Appendix III-01 B.

The Designer or Technical Support Contact assigned to the project will be responsible for all coordination required in scheduling, transportation, and notification of participants.

Review participants should be identified from the Plan Review Notification, Distribution, and Attendance List in Appendix I-10 A.

The plans should be made available to all review participants a minimum of 14 calendar days prior to the date of the review. The plans shall be placed on the public ftp site following the procedure below:

1. Create a black and white .pdf file of the plans.
2. Launch Internet Explorer, or Windows Explorer, and type "<ftp://ftp.state.nd.us/public/PS&E>" in the address bar and press Enter.
3. The "Log On As" dialog box will appear after you press Enter. If the dialog box doesn't open, try typing in the ftp address again.
4. Contact the CADD Support Specialist or NDDOT Technical Support Contact for questions or Password needed for the ftp site.
5. Create a new folder using the project number as the folder name, and place the .pdf file inside.
6. Email a link to the plans to the reviewers identified in Appendix I-10A.

For consultant designed projects, the plans shall be placed on their assigned consultant ftp site, and the NDDOT Technical Support Contact will follow the procedure above.

The Designer will be responsible to record all comments, questions, and/or items requiring further study or resolution by preparing a PS&E comments memorandum. The PS&E comments memo will be placed in filenet, and the filenet link will be sent to everyone invited to the PS&E review as shown in Appendix I-10 A. All comments shall be responded to, and resolved to the fullest extent possible within the memo. Any issues not resolved between any division and/or district, or any issues that are considered a change in scope of work, or increased cost compared to the approved environmental document will be referred to the Director - Office of Project Development and Deputy Director for Engineering.

I-10.04 Final Office Plan Review

The Final Office Plan Review should be conducted when the plans are 100% complete. A copy of the plans should be submitted 7 calendar days prior to the Final Office Plan Review date to provide for advance review of the plans. The final original sealed paper hard copy plans shall be brought to the Final Office Plan Review for signature, approval, and processing.

The Final Office Plan Review is conducted by the Design Program Manager and/or Design Engineer for all projects, except for Local Government and Preventive Maintenance projects. The Final Office Plan Review shall be conducted with the Director – Office of Project Development for all strategic projects. Review participants should be identified from the Plan Review Notification, Distribution, and Attendance List in Appendix I-10 A. The Final Office Plan Review will not be conducted for Preventive Maintenance projects.

- The lead Designer and/or their supervisor shall schedule and attend the Final Office Plan Review for Design Division projects.
- The Technical Support Contact and Consultant shall schedule and attend the Final Office Plan Review for Consultant projects.
- The Technical Support Contact shall schedule and attend the Final Office Plan Review for District projects. The District shall attend if possible.

For Local Government projects, the Final Office Plan Review is conducted by the Director – Office of Project Development.

- The Technical Support Contact(s) and Consultant shall schedule and attend the Final Office Plan Review for Local Government projects.

The Final Office Plan Review Checklist shall be completed as much as possible by the designer prior to this meeting, and required to be brought to the Final Office Plan Review meeting for completion. The Final Office Plan Review Checklist is provided in Appendix III-01 C, or found on the Reference and Forms page of the Design Manual.

Special emphasis will be given, but not limited to, the following considerations:

- Review of PS&E Comments
- Plan Development Checklist
- Review of Project Concept Report
- Conformance to NDDOT Specifications and Standards
- Quality of Construction
- Suggested Improvements to Design Features

The Final Office Plan Review may be followed up with a memorandum providing any findings of significance from the review. This report will be submitted to the Design Engineer and Director - Office of Project Development when the project plans are submitted for signature.

I-10.05 Plan Review and Design Development Checklists

The following checklists are provided in Appendix III-01 A:

- Plan Design and Development Checklist - General
- Plan Design and Development Checklist - Traffic Control Design (Signing, Pavement Marking, Guardrail, Lighting, Traffic Signals)

The following checklists are provided in Appendix III-01 B:

- Preliminary Plan Review Checklist
- PS&E Plan Review Checklist

The following checklists are provided in Appendix III-01 C:

- Final Office Plan Review Checklist – Required, bring to the Final Office Plan Review.