



Plan Review

Standard Operating Procedure

DES Division April 2022

Introduction

Clarity, accuracy, and consistency in plans specifications and estimates (PS&E) are critical to the development and operation of an integrated transportation system that provides reliable and accessible mobility and enables economic growth. In order to achieve this goal all districts must have a written policy for the review of PS&E throughout the project development process. This SOP is intended to outline recommendations and minimum expectations for consistent, quality reviews that should be performed on all PS&E. This SOP can either be adopted directly or it can be used to ensure that current district procedures meet the minimum expectations.

District Action Item

Every district should have documented procedures for the review of construction cost estimates, how it will be documented, and where it will be stored.

Types of review

For the purposes of this procedure PS&E reviews will be separated into engineering reviews and contract reviews.

Engineering Reviews

Engineering reviews should consist of a thorough examination of the PS&E package to ensure that it meets the scope of the project, meets the requirements of current design manuals/policies, and that each piece of the PS&E is ready to be used by the contractor for constructing the project. The following is a high-level list of areas that should be included in most if not all engineering reviews. For a more detailed checklist of items to consider in an engineering review refer to Appendix A. The most recent version of the engineering review checklist can be download at <https://www.txdot.gov/content/txdot/en/inside-txdot/division/design/pse-pre-submittal-preparation.html/>.

Constructability

- Consistency in plan presentation
- Adherence to geometric design criteria (Vertical, Horizontal, Cross Section, Superelevation, etc)
- Proper drainage during and after construction
- Proper application of roadside safety guidelines
- Appropriate traffic handling during construction
- Construction phasing
- Appropriate selection of construction standards
- Proper selection of bid items for the work to be completed
- Correctness of the quantities for each bid item selected
- Consistency of quantities between plans and the engineer's estimate
- Appropriate selection of unit bid prices
- Appropriate selection of general notes

Engineering reviews must be completed and documented for every project. These reviews should be conducted at regular scheduled milestones throughout the project development cycle. Although the frequency of the review milestones will vary depending on the complexity of the project, it is recommended that review milestones be scheduled at interim stages (e.g. 30%, 60%, 90%) and the final stage (100%) of PS&E development for most typical projects. Engineering review milestones should be determined and documented at project kickoff. The documentation should be maintained and updated as milestones are added or deleted during the project development process.

Engineering reviews must be completed by staff members with sufficient knowledge and experience. The level of experience required to perform an adequate review is loosely related to the size and complexity of the project.

Engineering reviews should include a review by district Subject Matter Experts (SMEs) or their designated staff. SME reviews can be completed at every review milestone but a minimum of one SME review must be completed for every project. Careful consideration of the scope and complexity of the project should be used in the selection of the SMEs that will review each project. See below for a list of typical SMEs that should be considered.

- Area Engineer
- Maintenance Supervisor (over project area)
- Director of Construction
- Director of Transportation Planning & Development
- Director of Maintenance
- Director Traffic Operations
- District Design Engineer
- District Traffic Engineer
- District Planning Engineer
- District Bridge Engineer
- District Hydraulic Engineer
- District Pavement Engineer
- District Advance Transportation Planning Coordinator
- District Environmental Coordinator
- District Railroad Coordinator
- District Utility Coordinator
- District Right-of-Way Coordinator
- District Plan Review Staff
- District Landscape Architect
- District ADA liaison

In addition to the milestones show above many projects can benefit from a Safety Review Team (SRT) review. SRT reviews generally focus on safety for the traveling public during construction by specifically reviewing the traffic control plans and project phasing. SRT should also review the overall safety of the design of the project including. This should include reviewing crash data and the predictive safety analysis of the proposed design.

NOTE: Interim review milestones are extremely beneficial. They should be identified and completed for every project. Final engineering reviews are required for every project and must be completed prior to submittal of PS&E to the Design Division for letting.

Contract Reviews

Contract reviews should consist of a thorough review of the entire PS&E package to ensure that it is ready to advertise for bidding. The following is a high-level list of areas that should be included in all contract reviews. For a more detailed checklist of items to consider in an engineering review refer to Appendix B. The most recent version of the contract review checklist can be download at <https://www.txdot.gov/content/txdot/en/inside-txdot/division/design/pse-pre-submittal-preparation.html/>.

Completeness & accuracy TxDOTCONNECT data

- Completeness & accuracy of Proposal
- Completeness of plan set
- Completeness & accuracy of supporting documentation
- Completeness & accuracy of ROW/UTL/RTR certifications
 - Approved Construction Management Plan
- Approval of critical action items required for RTL
 - Project agreements
 - STIP/TIP approval
 - ENV clearance
 - FHWA coordination

- Design exceptions/waivers

Contract reviews must be completed and documented for every project. These reviews must be conducted by both district review staff and Design Division review staff. While contract reviews at interim stages (30%, 60%, 90%) of PS&E can be beneficial they most critical and at the final stage (100%). Contract reviews at the Design Division are completed by staff in the Final PS&E Processing Section.

NOTE: Interim contract reviews should be considered at early project milestones but final contract reviews are mandatory for every project and must be completed prior to submittal to the Design Division for letting.

Review Documentation and Retention

Documentation

It is critical to develop and maintain proper documentation of engineering and contract reviews. The method of documenting reviews may vary but at a minimum a review checklist must be filled out for every review. In addition to the required checklist, the following are good options to consider for PS&E review documentation:

- Red lined plan sheets
- Comment log matrix
- Saved Blue Beam Review sessions

Once each review is complete the documentation of the review must be stored in a central file storage location where it will be easily accessible. It is recommended that reviews be stored as PDF files. ProjectWise is the preferred location for the storage of engineering and contract reviews as it is accessible statewide.

Retention

As a minimum the documentation for the last engineering review and the last contract review must retained until replaced by an updated review. Final engineering and contract reviews must be retained as part of the final project documentation.