

DRAFT SECTION 5 VALIDATION OF COMPLETE PLANS, SPECIFICATIONS AND ESTIMATES - 2012

5.1 PURPOSE

This Section provides guidance to validate that the PS&E is full, complete and accurate.

5.2 RESPONSIBILITIES

5.2.1 DISTRICT PE

Ensures that the PS&E is full, complete and accurate.

5.2.2 STRUCTURE PE

Ensures that the structure portion of the PS&E adheres to Department standards.

5.2.3 SOE

- Verifies that the structure plans are full, complete and accurate.
- Prepares the structure portion of the Estimate.
- Prepares and approves the structure portion of the project special provisions.

5.2.4 DOE

ALL projects

- Verifies that the project submittal to DES-OE is complete and conforms to the Department's standards.
- Combines structure and highway portions of the project special provisions.
- Submits both AAOE and AADD projects to DES-OE.
- Ensures responses to draft contract comments are provided to DES-OE.

5.2.5 DES-OE

For AAOE projects:

- Provides QA on the project submittal to verify that the project meets the Department's standards.
- Recommends approval of Section 2 of the RTL Certification.
- Performs an IA review after advertisement to verify that the DES-OE QA process assures that AAOE projects meet the Department's standards.

For AADD projects

- Performs an IA review after advertisement to verify that the District's QA process assures that AADD projects meet the Department's standards.
- Provides feedback of the IA findings to DOE.
- Recommends corrective action to non-compliance of a district certified draft contract.

5.3 PROJECT PLANS CERTIFICATION

Project plans prescribe the details for completion of the work, including details for items not covered by the current Standard Plans, including new and revised Standard Plans published by DES-OE. Project plans are prepared following the standards in the Plans Preparation Manual (see Appendix D, "*Websites*") and the CADD Users Manual of Instructions. All project plans are developed on CADD and must conform to the Department's standards.

The project engineer may need to modify a standard plan detail for unique project requirements. Portions of the standard plans can be copied, modified, and added to the appropriate project plan detail sheet. For detail modification, the Microstation (dgn file) versions of the standard plans are available on the DES-OE Web site.

STRUCTURE PLANS AND DETAILS

DES-SD has the responsibility for preparing structure plans. Plans are sent to the districts for a check on data pertaining to horizontal and vertical alignment and clearances. The final electronic files are submitted to the district. The district is responsible for submitting the combined roadway and structures CADD files to DES-OE with the PS&E submittal.

FINAL PAY ITEMS

Final pay items are not designated as final pay items on the plans. Items of work are ~~not~~ designated as final pay items ~~on the plans are designated~~ as (F) ~~or (S-F)~~ in the Bid Item List and are sufficiently dimensioned on the plans for an estimator to precisely calculate their quantity. ~~Items of work are not designated as final pay items on the plans.~~

5.4 PROJECT SPECIFICATIONS CERTIFICATION

Specifications prescribe the details for the construction, completion and payment of the work. Contract special provisions are an essential part of the contract and govern over all the other parts of the contract. Project specifications conform to Department standards (see Section 6).

5.5 PROJECT ESTIMATE CERTIFICATION

The Project Estimate of Cost conforms to Department standards (see Section 7).

5.6 PS&E CONSISTENCY

PS&E consistency reviews ensure competitive bids, preclude errors and omissions and provide for efficient contract administration. The reviews are conducted using the Best Bid Standards (BBS) that require consistency within contract components (i.e. layout plans versus drainage plans) and between contract components (i.e. plans versus specifications). Common PS&E consistency BBSs are identified below:

PLANS

- All plans, including Log of Test Boring, Structure Plans, and new, revised or revised new Standard Plans are included. RSP's, NSP's and RNSP's are added prior to RTL.
- Cross-referenced details, drawings and plans are included.
- Plan notes provide biddable information (e.g. do not use "as directed by the Engineer" language) with the exception of Construction Area Signs
- Details do not conflict with details shown on other project plan sheets.
- Work quantities on plans match the Summary of Quantities sheet.

PLANS-ESTIMATE

- All plan work is called out and callout matches item descriptions in the engineers estimate BEES
- Work Quantity totals on the Summary of Quantity sheets match the engineers estimate BEES quantities unless rounded in accordance with Section 7 of the RTL Guide or are a (F) pay item.

SPECIFICATIONS

- Special Provisions do not have conflicting specifications within them.

SPECIFICATIONS-ESTIMATE

- Work covered by a full compensation clause does not have an individual bid item: to avoid double payment.
- There is a measurement and payment clause in the special provisions or Standard Specifications for each item in the engineers estimate BEES item

PLANS-SPECIFICATIONS-ESTIMATE

- All bid item quantities can be calculated by bidders from plan details and specifications.
- Bid Item descriptions are consistent throughout the contract componentsdocuments.
- Quantities are consistent throughout the contract componentsdocuments.

- Unit of measurement is consistent throughout the contract components ~~contract documents~~.

5.7 PERMITS, LICENSES, AGREEMENTS AND CERTIFICATIONS (PLAC)

Permits, licenses, agreements, and certifications (PLAC) control portions of the work performed by the contractor. PLACs are used for:

- Environmental mitigation
- Relocation or moving of utilities
- Work performed in or around railroad property

Examples of PLACs include:

- Cooperative Interagency and Maintenance agreements,
- Railroad Construction and Maintenance (C&M) Agreements, and
- Right of Way Certification 3 with Workarounds (3W)
- Temporary Construction Easements (TCE).

Additional information on PLAC can be found in Section 13, Article 2 of the PDPM. For PLACs that result in contractor work, the contract documents should have sufficient information to comply with all PLAC requirements by ensuring that:

- The language in the Environmental permit is addressed in the Special Provision and any conflicts between permits from various agencies have been resolved
- The permit or certification dates are valid through construction.
- If right of way certification is 3W, workarounds are addressed in the specifications
- The supplemental project information specification and, "Information Handout" (Section 10.8), provides a list of permits and agreements that specify restrictions and operational requirements on contract work and provide additional information necessary for prospective bidders to bid the work.

5.8 DES-OE SYSTEM REQUIREMENTS

DES OE develops Final bid documents using various computer systems, software and manual preparation procedures that require information to be properly entered and validated to ensure a consistent, full, complete and accurate contract. Important DES-OE System Requirements for PS&E submittals include:

- Project Description information on the Title Sheet of the plans matches the AADD and the OE project database.
- The Title Sheet Strip Map Post Miles match the Submittal, AADD, or OE Project database.

- ~~Specification that require a contact, only provide contact title, address and phone number. Do not use proper names except in Section 13~~
"Railroad" Professional seals should be combined on one sheet with a maximum of 4 per sheet.
- SSPs are current at submittal to DES-OE and are updated at DCR or are current as of the RTL date for AADD projects.
- Verify that the appropriate Standard Plans Year is in the amendments to the Standards.
- Index of Plan Sheets Matches Actual Sheets
- No Missing, Duplicated, or Blank Sheets
- Plan sheet naming conventions are followed on CADD Submittal Form
- Plan sheet orientation is correct when plotted.
- Signed and Dated Plan Approval matches Project Database

5.9 DESIGN, SAFETY CONSTRUCTABILITY CONSIDERATIONS

While validating that a PS&E is full, complete and accurate using the above, the review may encounter areas where design or safety standards or constructability issues may have been overlooked. The reviewer may make a Draft Contract Comment for consideration and provide a justification as part of the QA review.

SPECIALTY ELECTRICAL CONSIDERATIONS

There are structural details and facilities shown on electrical plan sheets that require the signature of a licensed Civil engineer. For example, the size and embedment of overhead sign structures where heavier design loads or longer spans exceed those in the Standard Specifications.

- Approval from Structures is required for modifying standard sign, signal and lighting structures.
- Approval is required from Structures for equipment, pull boxes and conduits to be installed in or on existing bridge structures.
- Electrical plan sheets with any structural details ~~work~~ cannot be stamped by an electrical engineer but must be signed by a licensed Civil Engineer.
- Modified Standard Plans' structure items with electrical system must be either an SES or SDS sheet with a PE seal from Structures.
- Utility notes require a variance or exception from Division of Design.
- "Auxiliary lane" is not used.