

Appendix D-3: Final Design Deliverables

Project Deliverables	Project Type			
	Conceptual Design	Preliminary Design	Final Design	Construction Project ¹
Conceptual Design Report and Drawings	✓	Application	Application	Application
Preliminary Design Report and Drawings		✓	✓	✓
Landownership Certification Form	✓	✓	✓	✓
Permit Applications		Optional	Optional	✓
Design Review Comments		Optional	✓	✓
Final Design Report and Drawings			✓	✓
Technical Specifications			✓	✓
Construction Quantities and Costs	3		✓	✓
Bidding Documents			✓	✓
Permits		Optional	Optional	✓
Cultural Resources Compliance	2	2	2	✓
Control and Tenure Documents				✓
As-Built				✓

¹Design-build construction projects have an abbreviated set of design requirements before construction. See Appendix D-4.

²Cultural resources compliance may be required if sponsor is conducting ground-disturbing activities during the design phases.

³Rough cost estimate of the preferred alternative.

Conceptual Design

For restoration projects and preliminary and final design projects, the application requirements in the project proposal should comprise an adequate conceptual design.

Preliminary Design

RCO uses the term “preliminary project design” as either a final deliverable in a preliminary design project or an intermediate deliverable in the design process of a final design or restoration project. Submit the preliminary design deliverables to the RCO grants manager before progressing to the final design and restoration phases. See the preceding Appendix D-2: Preliminary Design Deliverables for detailed information on the preliminary design process.

Final Design

The final design will incorporate comments provided by stakeholders, landowners, RCO, and/or permit agencies about the preliminary design report and on-site review. The final design process must address and resolve all substantial issues raised in the permitting and stakeholder review process, so that all stakeholders agree on the final plans.

The final project design process converts the preliminary design drawings and report into a stand-alone and comprehensive set of final design drawings (construction drawings) and technical specifications for project construction. A licensed professional engineer must supervise the preparation of the final design unless the project design is straightforward and sponsor liability concerns are minimal. In that case, a licensed professional engineer may not be required and individuals with applicable experience and technical knowledge may complete the design.

Final Design Deliverables

While the design team may tailor the design process to suit the unique circumstances of each project, the following are required deliverables for final design and restoration projects. The RCO grants manager must accept these required deliverables before moving forward to construction.

- Design review comments
- Final design report and drawings (refer to Section D-2 for a list of items to include in the design report)
- Landownership Certification Form ([Appendix E](#)), if not already provided
- Technical specifications
- Final construction quantities and costs
- Contract bidding documents and general contract conditions (unless the project will be built by sponsor crew)
- Construction permits (optional)

The following section provides more details on the final design deliverables.

Design Review Comments

Include the design review memo in the final design report or submitted as a separate document.

Submit a memo that consolidates stakeholder comments and other considerations received during preliminary design review. The memo should explain how the comments and other feedback have, or have not, been included in the final design. Distribute this memo to all entities involved with design review. This step may have been completed during the preliminary design phase.

Final Design Report and Drawings

Revise the preliminary design report and drawings to address the review and permitting comments, as needed. RCO may need additional detailed drawings to clarify the design of specific work items. Final designs should define the project elements considered essential to meet the project's goals and objectives in sufficient detail to minimize changes made during construction.

Technical Specifications

Technical specifications may be included in the final design report or as a separate document.

Support all work shown on project drawings with one or more technical specifications to further describe and/or control the work. The construction contractor should know about project materials, technical requirements, project elevations, permit requirements, or any other elements of the proposed project. Clear and detailed technical specifications reduce on-the-ground adjustments and changes that may deviate from the original project objectives.

Final Construction Quantities and Costs

Include construction quantities and costs in the final design report or as a separate document.

SRFB-funded projects require a detailed list of work items and quantities as part of the final project design; the practice of listing a lump sum cost for the entire project is not acceptable. A detailed breakdown of work quantities typically includes 10 to 40 separate work items, matched with respective estimated quantities. Generate a construction cost estimate for comparison with contractor bids to ensure a competitive bid; any experienced project designer can produce this estimate, traditionally termed "engineer's estimate."

Contract Bidding Documents and General Contract Conditions

Include contract bidding documents and contract conditions in the final design report or as a separate document.

If the sponsor's construction crew will build the project then bidding documents and contract conditions are not required; however, the requirements for technical specifications and a detailed list of work items (above) still apply.

Bidding documents should include: A bid form, definitions, a proposed agreement (to be between the sponsor and contractor), general conditions, special provisions, technical specifications, and the project drawings (usually bound separately).

Sponsors should select contractors using good business practices, which could include selective negotiations with known contractors, public advertisement for bidding, or competitive bidding using some combination of proposed price and contractor qualifications. The contractor selection process should be objective and defensible in case of contest by companies not selected for the construction work. Follow all applicable state and/or required federal procurement procedures.

Construction Permits (Optional at the Final Design Phase)

Provide permit applications, or proof of permit receipt (e.g. copies of permits or permit numbers and issue dates) to the RCO grants manager or in a PRISM progress report. This step is optional at the final design phase because, for some sponsors, this step is more practical during the construction phase.