



---

## OSFP Information and Procedures Guide

April 2022

### 2.7 Complex Bridges

OSFP has oversight responsibilities for Complex Bridge structures within the State right-of-way that are designed by others. For Complex Bridge definition, see STP 1.3 titled Complex Bridges.

Typical bridge project delivery policies, procedures and requirements do not explicitly address added risk and technical challenges associated with Complex Bridges. Recent projects, both statewide and nationwide, have demonstrated the need for special technical and quality control and assurance policies to mitigate the risks and to ensure bridge and public safety. To ensure that Complex Bridges receive broad-based input and an appropriate level of quality assurance during delivery of the project, they are required to have the following:

- Project Specific Design Criteria
- Peer Review Panel
- Independent Check Free of Conflict of Interest

#### Project Specific Design Criteria:

Projects involving Complex Bridges will require a Project Specific Design Criteria (PSDC). The Draft PSDC shall be included for review as part of the Type Selection Package. Approval of the final PSDC, by OSFP and the Peer Review Panel is required before 100% PS&E.

#### Peer Review Panel:

The sponsoring agency will be required to retain a Peer Review Panel (PRP) comprising of 3 to 6 members (determined by the bridge complexity) for all Complex Bridge Projects. The PRP shall:

- Not be part of the design or independent check teams.
- At a minimum, be comprised of members that are experts with relevant and extensive design, construction and operations experience of the subject bridge type and be approved by OSFP.
  - The panel member/members representing construction of the subject bridge type shall be an expert with relevant and extensive construction experiences in fields of specifications, contract administration, and means and methods for the subject bridge type.
- Review the PSDC, Type Selection Package and PS&E.
- Provide assistance to the design team addressing complex technical issues, provide advice on analytical methodology and provide pertinent state-of-the art research.



---

## OSFP Information and Procedures Guide

April 2022

- Provide their comments and recommendations on the PSDC, the Type Selection Report and the 65% Unchecked Details submittal.
- Develop a draft and final report noting their recommendations for review by OSFP and the sponsoring agency.
  - Draft Report at 95% PS&E
  - Final Report at 100% PS&E

### Independent Check:

Due to the complexity of the structure, it is imperative that the independent check be free from any conflict of interest or appearance of conflict of interest. Therefore, the independent check shall:

- Be performed by engineers not familiar with the project and working out of a different office from that of the design team.
  - If this is not possible, a separate consulting firm shall perform the independent check.
  - The OSFP Liaison Engineer may require the independent check to be performed by another staff if a conflict of interest or lack of independence is identified.
- Be performed by engineers familiar with the selected structure type.
- Utilize different software than that used by the design team for the superstructure and substructure design.
- The Independent Check comments along with documentation on how the comments were resolved shall be provided to the OSFP Liaison Engineer.

### Additional Requirements:

This Guide (California Department of Transportation's Office of Special Funded Projects Information and Procedures Guide) is to be followed including items noted above and the following:

- Designer and Independent Checker experience with similar type structures should be provided in the Type Selection Report subject to Caltrans approval.
- Electronic copies of the calculations, independent check calculations, design and check computer files, contract plans, and special provisions shall be provided to the OSFP Liaison Engineer.
- Review times noted in this manual will be increased for Complex Bridge Projects.

The Sponsoring Agency and/or Consultant shall contact the OSFP Liaison Engineer in the early stages of the project to discuss the Complex Bridge Structure so that the necessary project delivery arrangements and requirements can be determined and considered in the project schedule.