



1-31 CONSTRUCTABILITY REVIEWS FOR STRUCTURES PROJECTS

Process for Structures Constructability Review Checkpoints

ROLES:

- Structure Design Task Manager – Design TM
- Structure Design Project Engineer – Design PE
- Structure Office Engineer – SOE
- DES Project Delivery Team – DES PDT
- Constructability Review Functional Reviewers – FR

In general, functional reviewers will include the following:

- Structure Design – Structure Project Engineer
- Structure Construction – Field Representative
- Structure Office Engineer – Specification Engineer and/or Project Estimator
- Geotechnical Services – Geotechnical Designer
- Structures Hydraulics – Hydraulics Designer
- Structures Maintenance – Area Bridge Maintenance Engineer
- District – District Project Engineer

PRODUCTS:

- Advance Planning Study – APS
- Project Approval and Environmental Document – PAED
- General Plan - GP



ATTACHMENT 1

FORMS:

DES Constructability Review Feedback Form – CR Feedback

Constructability Review Check Lists – Check Lists.

Review Stage	Process	Desired Outcome
Advance Planning Studies	<ol style="list-style-type: none"> 1. Design TM to identify applicable functional Offices. 2. Each functional office to identify CR FR. 3. Optional field review at discretion of Design PE 4. Design PE to consult with FR during the development of the APS and incorporate comments as applicable. 5. Design PE to transmit completed APS to FR for comment. 6. FR to provide comments on plans and summarize on DES CR feedback form. 7. Design PE to complete response portion of CR feedback form, respond to FR and file. 8. Comments that do not impact project programming or PA&ED will be incorporated at the next APS update or during the development of the General Plans. 	<ol style="list-style-type: none"> 1. Identify issues that impact project programming, specifically issues related to scope and capital costs. 2. Identify fatal flaws 3. Identify proper scope 4. Input for project risk management plan 5. Identify proprietary systems or potential unusual specification issues. 6. Identify issues that impact the development of PA&ED or the Project Report.



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Review Stage	Process	Desired Outcome
General Plans	<ol style="list-style-type: none"> 1. Update list of FR, if needed. 2. Mandatory field review at project site prior to Type Selection for Level 1 projects. 3. Design PE to consult with functional reviewers during the development of the GP and incorporate comments as applicable. 4. Design PE to schedule Type Selection meeting and distribute package to all FR. 5. All FR to attend Type Selection meeting (mandatory CR review meeting) 6. Design Project Engineer to transmit completed GP to FR for comment 7. FR to provide comments on plans and summarize on DES CR feedback form. 8. Design PE to complete response portion of CR feedback form, respond to FR and file. 9. Comments not incorporated prior to General Plan Distribution (Milestone 275) will be incorporated at the Unchecked Details stage. 	<ol style="list-style-type: none"> 1. Identify issues that impact project programming, specifically issues related to scope, schedule and capital costs. 2. Identify fatal flaws and risks. 3. Update project risk management plan. 4. Assess risk for: staging, traffic control, permits, environmental, clearances, site access and utility conflicts. 5. Evaluate foundation recommendations. 6. Evaluate aesthetic issues. 7. Identify potential CRIPs 8. Identify proprietary systems or potential unusual specification issues. 9. Check material availability



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Review Stage	Process	Desired Outcome
<p>Unchecked Details</p>	<ol style="list-style-type: none"> 1. Update list of FR, if needed. 2. Design Project Engineer to transmit Unchecked Details to FR for comment 3. FR to provide comments on plans and summarize on DES CR feedback form. 4. Design PE to complete response portion of CR feedback form, respond to FR and file. 5. Comments received will be incorporated at the Draft Structures PS&E (Milestone 378) 	<ol style="list-style-type: none"> 1. Identify issues that impact project programming, specifically issues related to scope, schedule and capital costs. 2. Resolve previously identified issues 3. Identify proprietary systems or potential unusual specification issues. 4. Determine status of all permits 5. Review non-standard details
<p>Draft Structures PS&E</p>	<ol style="list-style-type: none"> 1. Update list of FR, if needed. 2. SOE to provide draft SPS&E package to FR. 3. Design TM to schedule Project Review meeting (CR review meeting). 4. All FR to attend Project Review meeting (mandatory CR review meeting), reviewed SPS&E package and make final comments 5. All FR to incorporate recommendations into their respective functional deliverables (i.e. Hydraulic Report, Foundation Reports, Special Provisions, Type Selection Report) during Project Review. 6. All FR to concur that all applicable constructability comments have been properly incorporated into the final Structures PS&E 7. Design TM to send final CR Feedback forms and CR Check List to RE Pending File. 	<ol style="list-style-type: none"> 1. Identify issues that impact project programming, specifically issues related to scope, schedule and capital costs. 2. Resolve previously identified issues 3. Review and resolve conflicts with roadway plans: geometry, staging, permits, construction easements 4. Identify and resolve construction impacts on plans or specifications: working day estimates, foundation review, utilities. 5. Final review and updating of all project documents. 6. Concurrence by FR that project is ready for final SPS&E.