# 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 | 1. Design TM to identify applicable functional Offices.<br>2. Each functional office to identify CR FR.<br>3. Optional field review at discretion of Design PE<br>4. Design PE to consult with FR during the development of the APS and incorporate comments as applicable.<br>5. Design PE to transmit completed APS to FR for comment.<br>6. FR to provide comments on plans and summarize on DES CR feedback form.<br>7. Design PE to complete response portion of CR feedback form, respond to FR and file.<br>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. | 1. Identify issues that impact project programming, specifically issues related to scope and capital costs.<br>2. Identify fatal flaws<br>3. Identify proper scope<br>4. Input for project risk management plan<br>5. Identify proprietary systems or potential unusual specification issues.<br>6. Identify issues that impact the development of PA&ED or the Project Report. |

# ATTACHMENT 1

| Review Stage | Process | Desired Outcome |
|---|---|---|
| General Plans | 1. Update list of FR, if needed.<br>2. Mandatory field review at project site prior to Type Selection for Level 1 projects.<br>3. Design PE to consult with functional reviewers during the development of the GP and incorporate comments as applicable.<br>4. Design PE to schedule Type Selection meeting and distribute package to all FR.<br>5. All FR to attend Type Selection meeting (mandatory CR review meeting)<br>6. Design Project Engineer to transmit completed GP to FR for comment<br>7. FR to provide comments on plans and summarize on DES CR feedback form.<br>8. Design PE to complete response portion of CR feedback form, respond to FR and file.<br>9. Comments not incorporated prior to General Plan Distribution (Milestone 275) will be incorporated at the Unchecked Details stage. | 1. Identify issues that impact project programming, specifically issues related to scope, schedule and capital costs.<br>2. Identify fatal flaws and risks.<br>3. Update project risk management plan.<br>4. Assess risk for: staging, traffic control, permits, environmental, clearances, site access and utility conflicts.<br>5. Evaluate foundation recommendations.<br>6. Evaluate aesthetic issues.<br>7. Identify potential CRIPs<br>8. Identify proprietary systems or potential unusual specification issues.<br>9. Check material availability |

# ATTACHMENT 1

| Review Stage | Process | Desired Outcome |
|---|---|---|
| Unchecked Details | 1. Update list of FR, if needed.<br>2. Design Project Engineer to transmit Unchecked Details to FR for comment<br>3. FR to provide comments on plans and summarize on DES CR feedback form.<br>4. Design PE to complete response portion of CR feedback form, respond to FR and file.<br>5. Comments received will be incorporated at the Draft Structures PS&E (Milestone 378) | 1. Identify issues that impact project programming, specifically issues related to scope, schedule and capital costs.<br>2. Resolve previously identified issues<br>3. Identify proprietary systems or potential unusual specification issues.<br>4. Determine status of all permits<br>5. Review non-standard details |
| Draft Structures PS&E | 1. Update list of FR, if needed.<br>2. SOE to provide draft SPS&E package to FR.<br>3. Design TM to schedule Project Review meeting (CR review meeting).<br>4. All FR to attend Project Review meeting (mandatory CR review meeting), reviewed SPS&E package and make final comments<br>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.<br>6. All FR to concur that all applicable constructability comments have been properly incorporated into the final Structures PS&E<br>7. Design TM to send final CR Feedback forms and CR Check List to RE Pending File. | 1. Identify issues that impact project programming, specifically issues related to scope, schedule and capital costs.<br>2. Resolve previously identified issues<br>3. Review and resolve conflicts with roadway plans: geometry, staging, permits, construction easements<br>4. Identify and resolve construction impacts on plans or specifications: working day estimates, foundation review, utilities.<br>5. Final review and updating of all project documents.<br>6. Concurrence by FR that project is ready for final SPS&E. |