



Attachment 2

TYPE SELECTION ISSUES, TOPICS, AND ITEMS FOR CONSIDERATION

- Project Description**
 - EA and CO-RTE-PM
 - Structure Names and Numbers
 - Vicinity Map
 - Purpose
 - General Plans for all structures and alternatives
 - Project Engineer and Architect
- Project Schedule**
 - Design Hours for each structure
 - Structures P&Q and PS&E dates
 - Critical dates for other functional units
 - Ability to meet schedule
 - Missing Design Data
- Previous Advance Planning Studies**
- Design Alternatives**
 - List Alternatives Considered
 - Structure Depth
 - Span Arrangements
 - Material Alternatives
 - Construction Alternatives
 - Describe Pros and Cons
- Accelerated Bridge Construction (ABC)**
 - ABC Decision Making Guidance (ABC Design Impact Questionnaire & ABC Decision Flowchart)
 - (see Structure Policy and Innovation intranet site)
- Physical Constraints**
 - Horizontal Clearance
 - Vertical Clearance
- Loads**
 - Special Loading Requirements
 - Construction Overloads
- Adjacent Structures**
 - Clearances
 - Transition to other structures
- Existing Bridge**
 - Removal/Replacement
 - Strengthening
 - Widening Methods
- Future Widening**
 - Superstructure
 - Lower Roadway
 - Impacts on Current Project
- Frame Layout**
 - Hinge Locations
 - Selection Process
- Abutment**
 - Embankment Slopes
 - Seat, diaphragm, bin, strutted, rigid frame
 - Embankment surcharge and settlement
 - Approach Slabs
 - Slope Protection
 - Skew



- Bent/Pier Wall Types**
 - Number of Column/Bent
 - Drop Cap/Integral Cap
 - Column Fixity
 - Superstructure Fixity
 - Outrigger/C Bents
 - Skew
- Railing and Barriers**
 - Type
 - Rail Replacement Requirements
- Corrosion Issues**
- Signs and Lighting**
- Joints Seals**
- Deck Surfacing**
 - Additional Thickness for Quiet Deck Retrofit
 - Recommended surfacing (Polyester concrete, Multi-Layer Polymer, or AC)
 - Removal of existing surfacing (AC and deck membrane protective system)
 - Condition of existing deck (have cores been taken and evaluated by Translab?)
- Sidewalks/Medians**
- Hinge Access**
- Bearing Systems**
- Deck Drainage**
 - Design Rainfall Intensity
 - Inlet/Piping/Outlet Locations
 - Access openings
- Retaining Walls and Soundwalls**
 - Construction Materials
 - Special Design Required
- Utilities**
 - Type and location of utilities carried by structure
 - Future Utility Opening requirements
 - Interfering Underground and Overhead Utilities
 - Soffit openings
- Permits and Agreements Required**
- Railroad Requirements**
- Structure Type Recommendations**
 - Construction Costs
 - User-delay Costs

DISTRICT ISSUES

- ADA Compliance**
- Presentations required for Outside Agencies**
- Commitments to outside Agencies**
- Environmental Constraints**
 - EIR Requirements
 - Protected species
 - Mitigation measures
 - Monitoring requirements
 - Construction Windows
 - Hazardous Waste
- Complete Streets**
- Context Sensitive Solutions**
- Construction Noise Issue**
- Noise Sensitive Area**



AESTHETICS ISSUES

- Requirements of EIR, District, or other Agencies
- Sketches of architectural treatment

FOUNDATION ISSUES (Bridge and Earth Retaining Structures)

- Preliminary Report
- Groundwater
- Soil Profile
- Foundation Testing Requirements
- Foundation and Pile Types
- Risks and Potential Construction Issues

SEISMIC ISSUES

- Seismic Performance Criteria
- Seismic Analysis Methods
- Fault Magnitude and Distance from structure
- PGA & ARS
- Liquefaction Potential and Design methods
- Retrofit requirements
- Isolation Systems
- Critical Seismic Issues
- Peer Review Requirements
- Proposed New Criteria

MAINTENANCE ISSUES

- Utilities
- Widen ability of existing bridges
- Repair/Rehabilitation
 - Deck Condition
 - Deck Seals
 - Joint Seals
 - Approach Slabs
 - Bearing Systems
- Hydraulics/Hydrology
 - Final Hydraulic Report
 - Waterway Area requirements
 - Scour depths and protection
 - Bank Protection
 - Construction Methods in Waterway
 - Pier Shapes, location and skew
 - Sea level Rise or Tsunami
- Special Railing Requirements
- Life-cycle Analysis

CONSTRUCTION ISSUES

- Constructability
- Stage Construction
- Storage Facilities
- Distance to Nearest Batch Plant
- Construction Sequence Access



- Falsework**
 - Temporary Vertical Clearances
 - Temporary Opening Widths
 - Temporary Support Locations
- Traffic Control Issues**
 - Detours
 - Lane Reductions and Closures
 - Column/Footing Construction Requirements
 - K-Rail and Crash Cushions
 - Stage Construction
- Bridge Construction Impact**
(See Attachment 3)
- Possible Risk with Proposed Structure Type**

Risk Register

- Update Project Risk Register (from APS Phase)**
- Identify New Risk from All Aformentioned Issues**
- Include Updated Project Risk Register During General Plan Distribution**