

# Introduction to the Design Project

Roy Bibbens  
Supervising Transportation Engineer  
Office of Geotechnical Design North

## MTD 1-35



MEMO TO DESIGNERS 1-35 • JUNE 2008

Table 2 - Overview of Tasks and Responsibilities of the SD and GS Design Staff

WBS Elements	Tasks	Structure Design Staff	GS Design Staff
Advance Planning Study (APS) (WBS 101, 101)	Request Structure Preliminary Geotechnical Report (SPGR) from GS	Advance Planning Study (APS) (WBS 101, 101)	Advance Planning Study (APS) (WBS 101, 101)
	Request Preliminary Foundation Report (PFR) from GS	Request Preliminary Foundation Report (PFR) from GS	Request Preliminary Foundation Report (PFR) from GS
Site Study for Surface Exploration	Site Study for Surface Exploration	Site Study for Surface Exploration	Site Study for Surface Exploration
	Draft Structure General Plan	Discuss a feasible foundation type prior to Type Selection with GS staff, include GS design staff to the Type Selection Meeting	Discuss a feasible foundation type and recommended foundation types. Attend the Type Selection Meeting
	Request Foundation Report (FR)	Request Foundation Report (FR)	Request Foundation Report (FR)
	Confirm or update the design basis and project schedule to GS design staff	Confirm or update the design basis and project schedule to GS design staff	Confirm or update the design basis and project schedule to GS design staff
Foundation Reports	Confirm or update foundation design data, including structure loads	Confirm or update foundation design data, including structure loads	After drafting, contact Structure PE to discuss foundation design data
	Verify/provide final foundation design data, including design structure loads to GS	Verify/provide final foundation design data, including design structure loads to GS	Verify/provide final foundation design data
	Review FR, Contact GS design staff with comments	Review FR, Contact GS design staff with comments	Provide FR, including LOTs to Structure PE
Draft Structure Plans	Request Draft Plans (Unchecked Details) review by GS design staff	Request Draft Plans (Unchecked Details) review by GS design staff	Send review comments to SD
Draft SP&SE	Request Draft SP&SE package review by GS design staff	Request Draft SP&SE package review by GS design staff	Review Draft SP&SE. Send comments to SD and Structure Office Engineer (SOE)
Final Structure PS&E Package (WBS 200)	Request review of final PS&E including accountability by GS. Review FR	Request review of final PS&E including accountability by GS. Review FR	Update FR (if necessary). Issue foundation review/consentance
Awarded & Approved (Final Contract) (WBS 200)	Advertised Contract	SO&OE request GS to respond to bid for contract	Provide bidder inquiry response to SD and/or SOE
Construction Engineering and General Contract (WBS 270)	Construction Engineering Work	SO&OE Representative request technical support during construction i.e., OPR review, pile installation, foundation testing and CCO support	Provide technical support to SD and Structure Representative

# Design Project

## Project Scope:

Replace aging and scour  
susceptible bridge

Planning for 3 span bridge

05 SB 2 PM 33.63

Retaining wall part of the project, but  
we will not part of todays discussion

# Design Project

existing Dry Creek Bridge (to be replaced)



## Design Project



Abutment 1



## Design Project

Pier 2



## Design Project



Pier 3

## Design Project



Abutment 4



# Geotechnical Services

## Project Scope:

May or will need resources for:

- Geotech. Design Office; Geotech Support (lab, geophysics, instrumentation, foundation testing); Drafting and Drilling Services

Factors you may wish to consider:

- Getting site ready for drilling
- Distance from Sacramento
- Lane closures for drilling
- Permits for drilling (environmental and ROE)
- Type of geology at site

- Instrumentation (installation; reading, data reduction, interpretation)
- Possible foundation types
- Preliminary reports
- Project Reviews
- Construction Support (testing such as Pile Load Test (PLT) or gamma gamma; problem support)
- Project Management Activities