



2-3 Foundation Report

A Foundation Investigation is required for all structures (bridges, tunnels, retaining walls, sound walls, tie-back walls, overhead signs, maintenance stations, culverts, pumping plants/stations, toll plazas, etc.) when new, widening, retrofit, or modifications to existing structures are proposed. A Foundation Report is required to summarize the findings of the investigation and to provide foundation recommendations for the structure design and construction.

A separate Foundation Report for each structure shall be developed in accordance with Caltrans requirements including the two following publications and webtool:

- *Foundation Report Preparation for Bridges*
- *Soil and Rock Logging Manual, Classification, and Presentation Manual*
- Caltrans ARS Online

Foundation reports shall conform to generally accepted standards of professional practice and all applicable rules and regulations of the California Board of Registration for Professional Engineers and Land Surveyors and the California Board of Registration for Geologists and Geophysicists.

The Foundation Investigation shall be conducted and the Foundation Report developed and signed by a Registered Civil Engineer or Certified Engineering Geologist, who specializes in foundation engineering for bridge structures. The geotechnical professional of record shall include his/her State of California registration seal, license number, expiration date and signature on all submittals of Foundation Reports, addenda and/or amendments to the Foundation Report, and Log of Test Boring (LOTB) sheets.

A Preliminary Foundation Report (PFR) is used during the early stages of a structure project, and shall be included as part of an Advance Planning Study (APS) and Type Selection submittal. The PFR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations and studies. An electronic copy of the PFR in .pdf format shall be submitted with the APS and Type Selection submittals.

Prior to conducting boring explorations in the field, consultants are encouraged to submit a boring plan for comment. This submittal is not mandatory but is recommended as an attempt to ensure the planned number, location, depths of borings, types of borings, soil tests, testing frequency, etc. appear sufficient. The review time for the boring plan will normally be less than two weeks.

The Foundation Report shall contain foundation recommendations that are complete, concise and definite. The recommended foundation systems shall be cost-effective, performance-proven, and constructible. However, alternative foundation types shall be briefly discussed and



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the reasons for those being excluded clearly stated. When construction problems for the recommended foundation types are anticipated, solutions to these problems shall be discussed.

It is imperative that the structure Project Engineer, geotechnical professional, engineering seismologist, corrosion engineer, hydrology and hydraulics engineer, and specification engineer maintain close communication during the development of the Foundation Report, Contract Plans, and Special Provisions. Foundation recommendations as shown in the Foundation Report, Contract Plans, and Special Provisions must be adequate, consistent, complete, and made with the Design Engineer's concurrence.

LOTB sheets shall be drafted and submitted as part of the Foundation Report and Contract Plans. As-Built LOTB sheets shall also be included as part of the Foundation Report and Contract Plans.

Draft foundation reports are required as part of the Unchecked Details (65%) submittal and through the subsequent PS&E submittals until review comments are resolved. Once resolved, the consultant shall submit a Final Foundation Report. Electronic copies of draft foundation reports and final foundation reports, in .pdf format on CD disk, are required with each submittal. The disk shall be labeled with the District, EA, date prepared, and a description of the contents. Multiple reports may be on a disk. The electronic file names on the disk shall include the structure number.

Construction contract change orders that revise, modify, or affect original foundation recommendations shall be submitted to Caltrans for review and approval prior to any action taken by the contractor. Additional foundation investigations and reports shall be prepared and submitted as necessary to support the change. The final version of the report shall be submitted in hardcopy and as a .pdf file on a disk.

Upon completion of construction, As-Built structure foundation documentation, including pile driving logs and construction notes, shall be submitted to Caltrans for record keeping.

<u>Item</u>	<u>Number of Copies¹</u>				
	<u>APS²</u>	<u>PSE Phases</u>			
		<u>Type Selection</u>	<u>65%</u>	<u>Initial PSE</u>	<u>Interim and Final</u>
Preliminary Foundation Report	2	4	--	--	--
Preliminary Foundation Report--electronic (.pdf)	1	1	--	--	--
Draft Foundation Report	--		5	--	--
Draft Foundation Report--electronic (.pdf)	--		1	--	--
Final Foundation Report	--		--	6	-- ³
Final Foundation Report—electronic (.pdf)	--		--	1	-- ³

¹ Verify the number of copies with the OSFP Liaison Engineer prior to submitting.

² For Advance Planning Studies at the Project Study Report or Project Report phase.

³ Assumes all comments are previously resolved.