Communications and Reporting

This section documents the standards of practice for geotechnical communication and reporting. The consistency achieved by using standard report formats benefits our clients by providing similar and familiar format and content.

Communications need to be timely and in accordance with the DES management’s expectations as presented in the DES Agreement on Timely Response.

Geotechnical Reports and Professional License Requirements

Reports must be prepared under the direction of a licensed professional registered in California. The licensed professional(s) in responsible charge must include his/her State of California registration seal, license number, registration certificate expiration date, and signature on all written correspondence that provide or discuss professional engineering, geotechnical or geologic interpretations, findings, or recommendations.

Structure Preliminary Geotechnical Reports (SPGR), Preliminary Foundation Reports (PFR), Foundation Reports (FR), District Preliminary Geotechnical Reports (DPGR), Geotechnical Design Reports (GDR), and Geological and Geotechnical Evaluation for Scour Critical Program must be stamped by both a Professional Engineer - Civil (PE) and a Professional Geologist (PG).

Geotechnical Instrumentation Reports do not need a professional stamp unless they contain interpretations or recommendations. In those instances where a professional stamp is needed the appropriate (PG or PE) stamp is used.

Foundation Testing Reports and Seismic Reports (when done separately from Foundation Reports) must have a PE stamp.

Geologic Hazard Reports, Paleontology Reports, and Fault Rupture Reports must have a PG stamp. Geophysical Reports require a Professional Geophysicist stamp. Where such reports address geologic interpretations, then a PG stamp must be included (consult the Geophysics and Geology Branch for appropriate usage).

Reviews and work pertaining to Encroachment Permits, Legal or Local Assistance do not normally require stamping, unless the requested work or information provided requires a professional opinion by the reviewing geoprofessional. In that case the professional doing the review stamps the work product.
During construction, should issues arise that require contract changes to the planned work for which Geotechnical Services provided the initial recommendations, revised recommendations should be documented (typically a memo), and signed and stamped by the person who was in responsible charge for the original geotechnical design recommendations. In the event that new work is added through a Contract Change Order (CCO), then the stamping requirements for the type of equivalent design product produced (FR, GDR, etc.) must be followed.

Verbal or email recommendations may be appropriate to initially address emergencies, storm damage or other maintenance issues. Verbal or email recommendations are followed up with a memo or report. The memo or report must have a PG and/or PE professional stamp. The stamp used will be that of the person in responsible charge.

Reports are developed in accordance with the requirements in the Geotechnical Manual.

**Report Format**

Reports prepared by Geotechnical Services staff should use the current departmental memorandum format with the subject line of “Report Name for Structure/Project/location Name.” For example, “Foundation Report for Little Creek Bridge”, or “Geotechnical Design Report for Oakdale Bypass”, or “Gamma-Gamma Logging Results for Pier 3.”

In situations where the memorandum format is not desirable, such as a lengthy Geotechnical Design Report (GDR), the format for consultant prepared reports (e.g., Section 1.6.1 Foundation Report for Bridges) is used with a cover sheet and table of contents to better organize the information presented. In these cases, the report is sent to the client with a transmittal memorandum using the current departmental format.

Memorandums providing recommendations to Maintenance or other non-programmed work, such as Local Assistance or Legal, use a descriptive title such as “Slope Grading Recommendations for Highway 49”, or “Encroachment Permit Review for Napa Winery Entrance.”

Reports are typically addressed to whoever signed the work request. However, the geoprofessional should inquire with the client to determine the appropriate addressee.

**Revisions**

When reissuing a report to provide modified recommendations, begin the memorandum subject line with “Revised”, such as “Revised Foundation Report for Little Creek Bridge.”
Revised reports are issued as complete reports that supersede all previous versions so that only one report is included in the construction contract. Include a statement in the Scope of Work section of the report to indicate that the revised report supersedes all previous versions. A brief explanation of why the revisions are necessary, and perhaps the scope of revisions, should be included.

**Draft Reports**

“Draft” reports may be issued in order to reduce the incidence of revised reports. Draft reports are forwarded to the client unsigned with a “DRAFT” watermark on all pages. Allowing the client to review a draft report will many times result in an improved final product and is a recommended practice.

**Report Types**

The following reports are prepared for Structures Design (SD) to support design of structure foundations, retaining walls and buildings.

- **Structure Preliminary Geotechnical Report (SPGR):** Provides preliminary recommendations used by SD in the preparation of an Advanced Planning Study.

- **Preliminary Foundation Report (PFR):** Provides new or updated preliminary recommendations used by SD to develop the Draft Structure General Plan and to support structure type selection.

- **Foundation Report (FR):** Provides recommendations used by SD to develop the Structure Plans, Specifications, and Estimates. The FR is included in the Supplemental Project Information Handout provided to bidders.

The preparation standards for the SPGR, PFR, and FR are documented in the Foundation Report for Bridges, Foundation Report for Earth Retaining Structures (forthcoming) and Foundation Report for Buildings and Miscellaneous Structures (forthcoming).

The following reports are prepared for the District Project Engineer (PE) to support design of highways, standard plan structures, earthwork, and related items.

- **District Preliminary Geotechnical Report (DPGR):** Provides preliminary recommendations used by the PE to develop the Project Initiation Document, Environmental Document, and Project Report.
**Preliminary Geotechnical Design Report (PGDR):** Provides geotechnical design input to the PE for the early phase of design.

**Geotechnical Design Report (GDR):** Provides recommendations to the PE for the development of District Plans, Specifications, and Estimates. The GDR is included in the Supplemental Project Information Handout provided to bidders.

Preparation standards for the DPGR, PGDR, and GDR are documented in the Guidelines for Preparing District Preliminary Geotechnical Reports, the Preliminary Geotechnical Report guidelines (forthcoming) and Guidelines for Preparing Geotechnical Design Reports.

Other reports or correspondence prepared by GS include:

**Preliminary Seismic Report:** Provides preliminary recommendations when an SPGR, PFR, DPGR or PGDR is not prepared.

**Seismic Report:** Provides Seismic Design Recommendations when these recommendations are not included in the FR or GDR. Example items included are:
- Fault information
- Peak ground acceleration and may include peak bedrock acceleration
- Site geologic information including $V_{s30}$
- Ground water information
- Response spectra and recommended response spectrum

More specific Seismic Reports include:
- Soil springs (PY/TZ/QZ curves)
- Site specific response spectra and time histories
- Liquefaction/down drag and lateral spreading analysis

**Geologic Hazard Report:** Provides recommendations relating to geologic hazards, such as landslides, flooding, seismicity and fault rupture.

**Fault Rupture Report:** Provides recommendations for bridges relating to fault rupture as outlined in Memos to Designers (MTD) 20-10, 20-8 and California Geological Survey (CGS) Note 49.

**Maintenance Recommendations:** Provides geotechnical and geological recommendations to address problematic locations on the State highway system. The recommendations are typically used by Maintenance to seek programming and funding for remedial projects at problem locations, or in response to emergencies.
Non-Programmed Work Recommendations: Provides recommendations to clients such as Local Assistance, Permits, Legal, etc. to address geotechnical or geologic issues.

Foundation Testing Reports: Documents foundation testing results and related recommendations, usually addressed to Structure Construction, such as:
- Gamma-gamma logging test results
- Cross-hole sonic logging test results
- Pile load test results
- Dynamic monitoring test results
- Pile drivability test results

Geotechnical Instrumentation Reports: Documents results from geotechnical instrumentation installations and monitoring, such as:
- Slope inclinometer results
- Settlement monitoring results
- Cone Penetration Test (CPT) results


Geophysics Report: Documents results of geophysical investigations, such as:
- Shear wave velocity
- Rippability of rock
- Void detection

Report Writing

A well-prepared report succinctly communicates information pertinent to the recommendations in accordance with the report preparation requirements. To achieve that end the following rules should be followed:

- Use proper grammar, spelling and punctuation.
- Present only useful specific information that is relevant to the recommendations.
- Reference or cite existing standards, specifications or policy only when clarifying, modifying, or disallowing the standard, specification or policy.
- Do not include unsubstantiated disclaimers.
- Eschew verbosity.
- Provide titles for all figures and tables.
- Tables must be included within the body of the report and located as near as possible to the place where they are first referenced. Figures may be included in
the attachments when necessary. It is preferable to place the figures within the report body.

The *Gregg Reference Manual* is the Department’s correspondence and writing guide.

**Log of Test Borings**

The Log of Test Borings (LOTB) is a project plan sheet that presents subsurface information. An LOTB and/or As-Built LOTB is prepared for structure work involving foundation construction, such as bridges, standard plan and special design retaining walls, sound walls, buildings, and overhead signs, and is prepared in accordance with the *Soil and Rock Logging, Classification, and Presentation Manual*.

The LOTB and/or As-Built LOTB sheets are not attached to the geotechnical report, but must be referenced in the report. Approved Microstation LOTB files and copies of the As-Built LOTB sheets are sent electronically by the Engineering Graphics Unit to the designer for inclusion in the project plans.

**Boring Records**

The Boring Record presents subsurface information in letter (8 ½” x 11”) format and is attached to a Geotechnical Design Report. Boring Records are prepared for non-structural work such as, earthwork, excavations, fills, drainage, and landslides. Boring Records are prepared in accordance with the *Soil and Rock Logging, Classification, and Presentation Manual*.

Do not attach Boring Records to the Foundation Report or any other product that has an accompanying LOTB. Prepare only one form of subsurface presentation, either an LOTB or a Boring Record, for a borehole.
Report Distribution

Reports are distributed electronically in PDF format via e-mail and archived. Hard copies may also be sent to the client if requested.

All District Preliminary Geotechnical Reports (DPGR), Preliminary Geotechnical Design Reports (PGDR), Geotechnical Design Reports (GDR), Structure Preliminary Geotechnical Reports (SPGR), Preliminary Foundation Reports (PFR) and Foundation Reports (FR) use the following distribution (copy) list:

<table>
<thead>
<tr>
<th>Addressee</th>
<th>Report Title(s)</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Project Manager</td>
<td>All</td>
<td></td>
</tr>
<tr>
<td>Project Liaison Engineer</td>
<td>DPGR, PGDR, SPGR, PFR</td>
<td></td>
</tr>
<tr>
<td>District Environmental Planning (optional)</td>
<td>DPGR, PGDR, SPGR, PFR</td>
<td></td>
</tr>
<tr>
<td>Structure Construction R.E. Pending File</td>
<td>FR</td>
<td><a href="mailto:RE_Pending_File@dot.ca.gov">RE_Pending_File@dot.ca.gov</a></td>
</tr>
<tr>
<td>Structures Office Engineer</td>
<td>FR</td>
<td></td>
</tr>
<tr>
<td>District Materials Engineer</td>
<td>All</td>
<td></td>
</tr>
<tr>
<td>Geotechnical Archive</td>
<td>All</td>
<td><a href="http://svgcgeodog.dot.ca.gov/">http://svgcgeodog.dot.ca.gov/</a></td>
</tr>
</tbody>
</table>

District Hydraulics and Structure Hydraulics are copied as appropriate if the project specifics warrant their involvement.

Revisions

- Supersedes “Communication and Reporting” dated March 2012.