

Formal (Group) Report (revised July 18, 2011)

A common purpose of the formal report is to communicate important information from an organization to one or more entities outside the originating organization involved in some project. Typical civil engineering projects include buildings, commercial developments, public roads or other public use facilities, environmental impact studies and restoration projects, and many others. The intended audience is frequently the project's owner, but could also be the architect, engineer, regulatory agency or perhaps the financial backer for the project. Since any documentation related to a project may be used in litigation, you must be very careful to accurately report the pertinent facts, especially regarding the use of standard and non-standard procedures.

The scope of information may be either very limited or very broad depending on the project or the aspect(s) covered by the scope of the original purpose for which the report (or series of reports) was ordered. Since this type of communication is likely to be read by people with a wide range of technical expertise in various disciplines, the report's author(s) must attempt to explain the topics in the report in ways that are more easily understood by a broad audience. This may require specific sections of the report be written for a specified intended audience using terminology and explanations that are most likely to be understood by that audience. The types of tests and analyses conducted may also be described to explain how they relate to the project and why they are important.

For example, a geotechnical report for a commercial building project might have sections intended for the owner summarizing the major findings and recommendations that will affect the cost and viability of the project, describing to the building contractor what type of soils were encountered and the kinds of site preparation techniques will be required, and provide to the structural engineer how the site soils were examined and analyzed and the recommended net allowable footing bearing stresses, the potential for consolidation settlement as well as how to deal with soils that might be prone to volume (shrink/swell) changes. Frequently there is some repetition of items in the report because they may need to be addressed at various points in the design, building and maintenance processes. It may also be a good idea to provide a glossary of technical terms and other reference material to help the readers more fully understand the technical information provided in the report.

The formal report typically includes:

- experiment name and a client (if the client is external to the organizations)
- purpose of the inquiry, analysis or test and how it relates to the overall project;
- the names of the key personnel involved in the work;
- standard references used (specific ASTM, AASHTO, or other standards used);
- differences between referenced standard(s) procedures and the way the analysis, test, etc. was conducted;
- key engineering terms that may need to be defined (use your judgment about which ones should be included depending on your report's intended audience);

- if there were multiple parts, components or properties involved, each should be addressed in a separate paragraph with an appropriate subheading;
- do not include excessive detail about the test procedures, but do mention any assumptions or unusual observations about the tests that you think the client should know about;
- explain how the data were analyzed and how the results are shown in the attachments (plots, tables, illustrations, etc.);
- conclusions and comments that extensively summarize the key findings for all of the work described above, and mention in particular differences in properties among various materials tested (for example, one soil had a low plasticity index while another had a much higher index) one or more paragraphs
- list the applicable standards used in the work covered by the memo in a list using *American Psychological Style (APA)* format (<http://www.asce.org/Audience/Authors,--Editors/Books/General-Book-Information/Quick-Guide-to-Common-Types-of-Referenced-Material/> for examples)
- attachments relevant to the work done (see http://www.ce.siu.edu/Writing%20Requirements/Report_Attachments.pdf)