

Weber County's Review Comments

RE: GeoStrata's February 22, 2016 "Work Plan"

The Highlands, Lot 127 (Hannoy)

We have reviewed GeoStrata's proposed Work Plan. We find it to be incomplete. Please address the following comments and re-submit:

1. Revise submittal to be an official Work Plan submitted to Weber County and not a proposal to your client. Have geotechnical engineer and pre-qualified engineering geologist sign the Work Plan.
2. Include a site plan showing the locations of the proposed subsurface investigations (test pits, boring, etc.) and the proposed development (residence, driveway, etc.) on a topographic base map.
3. In our scoping meeting, we alerted you to the presence of a progress map by the UGS. We recommend you follow up on that lead.
4. Explain what is meant by "geologic field reconnaissance." Field reconnaissance is not sufficient in order to assess geologic hazards.
5. Provide additional detail on "perform geologic mapping."
6. Provide detail on methods of evaluating the back tilting in the vicinity of the site as shown by King and McDonald (2014)¹ and the significance to geologic hazards.
7. Provide detail on your methods of evaluating the lineaments trending towards the site as shown by King and McDonald (2014) and the significance to geologic hazards.
8. Explain why the test pit depths are proposed to be 10 to 15 feet deep when it was agreed in the "scoping meeting" that they would be 15 feet deep.
9. Explain what "If bedding or other horizontal layering is identified in the test pits which would be of use in our assessment of the geologic hazards" means with regard to excavation of a trench. What criteria will be used to make the decision to excavate a trench?
10. The work plan should indicate that the proposed report will include field logs prepared by the qualified engineering geologist.

¹ King, J.K., and McDonald, G.N., 2014, Progress report geologic map of the Huntsville quadrangle, Weber and Cache Counties, Utah: Utah Geological Survey files, scale 1:24,000. [bedrock geology revised from Sorensen, M.L., and Crittenden, M.D., Jr., 1979, Geologic map of the Huntsville quadrangle, Weber and Cache Counties, Utah: U.S. Geological Survey Geologic Quadrangle Series Map GQ-1503; unpublished mapping in Utah Geological Survey files by Coogan, J.C., scale 1:24,000, and unpublished reconnaissance geologic mapping by Yonkee, W.A.]

11. Please note that a representative of the County Engineering Department will be observing all trenches and test pits prior to backfilling. At the time of the field visit by the representative of the County Engineering Department, it is expected that the field logs will essentially be complete and the trench walls cleaned in accordance with standard geologic practice for field review.
12. The work plan should indicate that the proposed report will include a photo-mosaic of the test pits and trench and photos of the samples obtained from the boring.
13. Provide detail on drilling methods, and particularly on how you intend to drill and sample at depths of 50 feet in coarse-grained materials with boulders likely present.
14. Explain how you plan to obtain samples below boulders without terminating the boring due to auger refusal on boulders. The boulders may have rafted in a slide mass with a potential slip plan below the boulders.
15. In your work plan, please address how you will analyze the stability of the slope located below the lot and how you will relate your analysis to a safe building pad location where the slope has a Factor of Safety of 1.5 static conditions and 1.0 under seismic conditions. It should be noted that input and output files of the global slope stability analyses will be included with the report.
16. Indicate the type of shear strength tests you plan to complete. Do you plan on obtaining residual strengths of clay soil if encountered?
17. The work plan should indicate that you will provide all calculations to substantiate foundation and lateral earth pressure recommendations.