COLORADO GEOLOGICAL SURVEY

1801 19th Street
Golden, Colorado 80401

Karen Berry
State Geologist

March 17, 2017

Lonna Thelen
City of Colorado Springs
30 S. Nevada #105
Colorado Springs, CO 80903

Location:
SE ¼ Sec. 25,
T14S, R67W of the 6th PM
38.7983, -104.8402

Subject: 28 Polo Filing No. 1 Geologic Hazards Study Review
Colorado Springs, CO; CGS Unique No. EP-17-0042

Dear Ms. Thelen:

Per your request, the Colorado Geological Survey has reviewed the Geologic Hazard Study for 28 Polo Drive in the city of Colorado Springs. Proposed development consists of demolishing the existing residence and subdividing the existing lot into two equal sized lots for new residential construction. Included with this referral were a request for CGS review, description of proposed development (28 Polo LLC Development), Final Drainage Report (MVE, Inc., January 30, 2017), Geologic Hazard Investigation 28 Polo Drive Colorado Springs, Colorado (Entech Engineering, Inc. Job No. 162406, January 26, 2017), Preliminary Plat 28 Polo Drive (2-sheets, Polaris Surveying, Inc., January 10, 2017), and Final Plat (1-sheet, Polaris Surveying, Inc., January 10, 2017). CGS visited the site on March 17, 2017 and observed site conditions from outside the property fence line.

Entech identified **expansive soils**, **downslope creep** areas, **potentially unstable slopes**, **seasonal shallow groundwater**, and **artificial fill** as geologic hazards and/or geotechnical constraints to construction at the site; CGS agrees with this list. Entech has made appropriate recommendations to mitigate each of these hazards. **Entech's recommendations regarding avoidance, prevention, and mitigation of these hazards, especially downslope creep, expansive soils, and potentially unstable slopes should be followed diligently to avoid potentially costly damage.**

Because the existing lot is located adjacent to the steep mesa edge, **the location of new construction on the proposed lots is critically important to reduce risk of damage from creep and potentially unstable slopes**. This is especially important on Lot 1. The proposed building envelopes shown on the preliminary plat generally correspond to the location of the existing structure; CGS did not observe evidence of movement-related damage to the brick structure during the March 17 site visit. Construction of the residences described in the proposed development plan within the proposed envelopes would minimize potential for movement-related damage. **The proposed building envelopes currently shown on the Preliminary Plat should be included on the Final Plat.**

The applicant's geotechnical consultant should identify setbacks from the crest of the slope on both proposed lots, to reduce potential hazards associated with erosion, slope instability, and shallow failures such as creep and slumping. The 2012 International Building Code (Section 1808.7.2 "Foundation setback from descending slope surface") specifies a setback equivalent to 1/3 the height of the slope or 40 feet, whichever is smaller, from the crest of any slope to the foundation of any proposed structure. **CGS recommends identifying (1) setback zones designated as non-buildable, and (2) zones requiring special**

foundation design for structures that encroach into the zone to account for creep as described in the Entech Report. These zones should be included on the Final Plat.

Finally, The Geologic Hazard Investigation report is currently not identified on the Final Plat. **The Final Plat should include reference to the most up-to-date Geologic Hazard Investigation Report.**

Thank you for the opportunity to review and comment on this project. If you have questions, please contact me by phone at 303-384-2632 or e-mail kemccoy@mines.edu.

Sincerely,

Kevin McCoy
Engineering Geologist