COLORADO GEOLOGICAL SURVEY

1801 19th Street
Golden, Colorado 80401
303.384.2655

Karen Berry
State Geologist

February 19, 2018

Kari Parsons
El Paso County Development Services Dept.
2880 International Circle, Suite 110
Colorado Springs, CO 80910

Location:
Portions of Lot 2 and 3 of Sec 7 and
SE NE and NE SE of Sec 12
T13S, R64W of the 6th PM
38.933°, -104.608°

Subject: Largent Subdivision
File Number SF183; El Paso County, CO; CGS Unique No. EP-18-0043

Dear Kari:

Colorado Geological Survey has reviewed the subject referral. For this review we received: Application (1.23.18), Letter of Intent (Hammers Construction, Undated), Plat (Ridgeline Land Surveying, 10.25.17), Final Drainage Report (JPS Engineering, 1.18.18), Erosion Control Plan and Map (JPS Engineering, 1.18.18), Subsurface Soil Investigation (Entech, 10.20.17), and various other documents.

Geologic Hazards: The subsurface soils investigation submitted, while providing useful information for the project, is not a geology hazard report. There are several geologic hazards that CGS identifies within this site. However, our review is not a substitute for a lot-specific geologic hazard report with mapping of site geology and areas of identified geologic hazards. The hazards identified by CGS review include collapsible and/or loose soils, erosion, undocumented fill, and the potential for shallow groundwater and expansive clays. All of these identified geologic hazards can be mitigated with specific engineering as outlined in the soils and erosion reports.

Per El Paso County Land Development Code 8.4.2 (B*) "Lots or tracts subject to natural hazards which may be eliminated through specialized engineering shall be identified on the plat."* The plat should include the listing of these identified geologic hazards. The soils report includes engineering mitigation for loose soils, undocumented fill, and potential expansive clay and provides surface and subsurface drain recommendations for shallow groundwater. The erosion control plan and map includes design to control erosion.

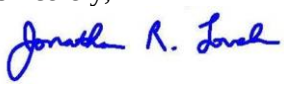
Shallow groundwater: Entech reports groundwater levels in their borings of 10 and 10.5 feet below the ground surface. One of the borings caved at 6 feet below ground surface between times of measurements. Caving is typical at groundwater level. The groundwater levels reported were measured in September, a typically dry time of year. This location is in an area generally known for shallow groundwater issues. Groundwater levels typically fluctuate throughout the year and are generally highest in the spring and summer months. Without specific groundwater monitoring throughout the year it cannot be determined what groundwater levels may be over the engineered life of the planned structures. However, groundwater should be expected to be shallower than 6 to 10 feet below existing ground level on a seasonal basis. Entech's recommendations on perimeter drains must be strictly adhered to.

Geotechnical observation: As stated on page 5 of Entech's report, observation by the geotechnical engineer of overall foundation excavation and any overexcavated subgrade is critical to determine specific engineering requirements that may be necessary for the long-term performance of the foundation system.

Provided the recommendations of this letter and those of the geotechnical engineer are followed, CGS has no objections to this plat request.

Thank you for the opportunity to review and comment on this project. If you have questions or need additional review, please call at (303) 384-2643, or e-mail jlovekin@mines.edu.

Sincerely,



Jonathan R. Lovekin, P.G.
Senior Engineering Geologist