

# COLORADO GEOLOGICAL SURVEY

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Golden, Colorado 80401  
303.384.2655



Karen Berry  
State Geologist

February 13, 2018

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

**Location:**  
Portions of Sections 29, and 30,  
T12S, R64W of the 6<sup>th</sup> PM  
38.9762°, -104.5889°

**Subject: Enclaves at Stonebridge PUD Development/ Preliminary Plan;  
File Number PUDSP183; El Paso County, CO; CGS Unique No. EP-18-0038**

Dear Nina:

Colorado Geological Survey has reviewed the subject referral. For this review we received: Letter of Intent (NES, 1.18), Grading and Erosion Control Plan (Tech Contractors, 12.17), Preliminary Plans (NES, 1.4.18), Subsurface Soil Investigation (Entech, 11.8.17), and various other documents.

Geologic Report. Per El Paso County Land Development Code (8.4.9) "*All sketch plans and preliminary plans submitted for review shall be accompanied by geology and soils report.*" The subsurface soils investigation submitted, while providing useful information for the project, is not a geology and soils report. **This submittal is incomplete without the geology and soils report as required by County Code.** If the submittal is relying on a previously submitted geologic hazard report it should be provided for review and referenced in the subsurface soils report.

The subsurface investigation includes mapping of fill on the site. The site specific geologic report should include mapping of surficial geology including areas with loose and potentially collapsible soils and all other relevant surface geologic materials at this location. The mapping should also indicate locations of potential geologic hazards such as wind and water erosion, shallow groundwater and shallow bedrock. *The proposed lots should be overlaid on the geologic and geologic hazard maps prepared as part of the required geology and soils report.*

**Groundwater:** Shallow groundwater has been encountered in the subsurface investigation. Groundwater depths are reported from August, the time of drilling. Seasonal fluctuations of groundwater depth are normal and should be expected with higher groundwater levels typically occurring in spring and early summer. Monitoring of water levels through a full yearly season is necessary to estimate the range of water fluctuation and even that will not provide data on fluctuation during wetter and drier years. The Subsurface Soil Investigation states that "*Perimeter below grade foundation drain systems should be anticipated.*" It also states "*Temporary and permanent dewatering systems may be necessary at various foundation excavations.*" The requirement of perimeter below grade foundation drain systems and the potential for temporary and/or permanent dewatering systems for this development should be stated in the Plat and Development Plans. A maintained underdrain system may be required depending on final site grading and excavation and foundation plans.

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Due to shallow groundwater basements may not be feasible in some locations.

- The applicant's geotechnical consultant should make lot-specific basement feasibility determinations based on a systematic groundwater level monitoring program consisting of monthly water level observations over at least on complete spring-summer-fall cycle, to determine maximum anticipated water levels across the site. Basements should be allowed only if these indicate that a *minimum* three foot (preferably five foot) separation distance between maximum seasonal water levels and lowermost floor and crawl space elevations can be maintained year-round.

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](mailto:jlovekin@mines.edu).

Sincerely,



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