COLORADO GEOLOGICAL SURVEY

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Karen Berry
State Geologist

August 8, 2017

Kari Parsons
El Paso County
Planning and Community Development
2880 International Circle
Colorado Springs, CO 80910

Location:
NE¼ , Section 23,
T11S, R66W of the 6th P.M.
39.078°, -104.7443°

Subject: Settlers View Subdivision (EA Number EA16-43, File Number SP17006), El Paso County, CO; CGS Unique No. EP-17-0060

Dear Kari,

Colorado Geological Survey has reviewed Settlers View Subdivision Preliminary Plat referral. We understand the applicant proposes 14 residential lots on 40.61 acres. The proposed subdivision is located in the Black Forest region in the general area northeast of Hodgen Road and the intersection Timber Meadow Drive which is east of Highway 83. There is an existing residence on Lot 2 and an existing driveway on Lot 14, otherwise the property is undeveloped. With this submittal we received, an application form (5.11.17), a letter of intent (Hannigan and Associates, Inc, 6.13.17), a Natural Features Report (ERO Resources Corporation, 3.16.17), Final Drainage Report (JPS Engineering, 2.17.17), Preliminary Plan (Hannigan and Associates, Inc, 11.09.16), and a Soil, Geology, Geologic Hazard and Wastewater Study (Entech Engineering, Inc., 2.2.17).

Geologic Hazards. The geologic hazard report identified shallow groundwater, seasonally shallow groundwater, erosion, expansive clayey sandstone and claystone and conditions favorable for "perched" groundwater to develop at the soil/bedrock interface as potential geologic hazards at this location. We concur with the geologic hazards identified by Entech and offer the following comments.

Soil and bedrock engineering properties. Entech's geologic hazard study contains appropriate *preliminary* recommendations for mitigating the potential hazards at the site based on three profile holes, three test pits, and limited laboratory testing. As recommended by Entech, site-specific investigations should be conducted for each lot. The additional geotechnical investigations and analysis is necessary to more accurately characterize lot-specific soil and engineering properties such as expansion/consolidation potential, density, corrosion potential, etc. This information is needed to determine subgrade preparation requirements and to design individual foundations, and floor systems.

Groundwater. Entech identifies shallow groundwater, the potential for seasonally shallow groundwater and discuss the potential for development of "perched" groundwater along the soil/bedrock interface. The soil/bedrock interface can be shallow as encountered in one of Entech's test pit from 4 to 11 feet below the ground surface. *It may not be feasible to have standard septic systems or basements in some lots in this subdivision.* As Entech has noted, some septic systems

may need to be engineered. Additionally, full-depth basements, if planned, should be considered feasible only if site-specific water level observations indicate that a 3-foot separation between lowermost floor or crawlspace levels and the maximum anticipated groundwater surface can be maintained year-round.

Site Drainage. The drainage report prepared by JPS Engineering states that "Developed flows from the subdivision will be detained to historic levels through an on-site private stormwater detention pond." A detention pond is shown within the development as shown on Sheet D1.1 that appears to be located in Lot 11 of the Preliminary Plan. *This proposed detention pond should be shown on the Preliminary Plan.*

Erosion has been identified as a significant geologic hazard on this property. Recommendations in the drainage report for the control of drainage and erosion include implementation and maintenance of erosion control measures, as specified in Chapter V Section F (page 9-10). These recommendations must be strictly adhered to.

Summary. The site is not undermined, does not contain steep slopes, and does not appear to contain or be exposed to any geologic hazards that would preclude the proposed residential use and density. **Provided the recommendations of this letter and those of the Geologic Hazard and Drainage Reports are strictly adhered to CGS has no objection to approval of the Preliminary Plan of the minor subdivision.**

Thank you for the opportunity to review and comment on this project. If you have questions or require further review, please call me at 303-384-2654, or e-mail jlovekin@mines.edu.

Sincerely,

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