STATE OF COLORADO

COLORADO GEOLOGICAL SURVEY

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COLORADO
DEPARTMENT OF NATURAL RESOURCES

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May 23, 2012

Ms. Cathie Pagano, AICP CEP
Gunnison County Community Development
221 N. Wisconsin St. Suite D
Gunnison, CO 81230
cpagano@gunnisoncounty.org

Re: Ragged Mountain, CGS GU-12-0004_1

Dear Ms. Pagano:

Thank you for the submittal of the above referenced proposal. The Ragged Mountain Fire Protection District wishes to construction a new 7,500 square foot fire station along Highway 133, south west of Paonia Reservoir.

The site is sandwiched between old Highway 133 and the North Fork of the Gunnison River. Previous land uses included a tipple and associated coal mining facilities. The east mine portals are located north of Old Highway 133. The site has been recently reclaimed by the Colorado Division of Mining and Reclamation.

The major geologic hazard at the site is severe rockfall. Because the site is disturbed, it is difficult to determine the extent of historic rockfall on the building site. However, adjacent areas show large boulders (8 feet in diameter or more) have fallen and runout in close proximity to the proposed fire station. The source of rockfall is a steep sandstone cliff north of the building site.

The application contained a rockfall hazard simulation that attempts to recreate historic rockfall events and then model how rockfall hazards may impact the proposed fire station. Included in the model simulation is a proposed 8 ft high mitigation berm. The simulation shows that the proposed mitigation will greatly reduce rockfall hazards and the inputs used in the model appear reasonable. It will be important that the mitigation be designed and installed as outlined in the geologic hazard report.

The site also has some natural and man-made soil constraints that need to be carefully considered during design and construction. Much of the fill placed at the site appears to contain mining related debris and soil that was not properly compacted. Areas beneath and surrounding foundations and septic systems should be thoroughly investigated prior to design and construction. It may be necessary to overexcavate debris and unsuitable soil for both buildings and septic systems.

In addition, natural soils beneath fill and debris appear to be prone to collapse. Voids are apparent in undisturbed soil along cut banks. It will be important that detailed site-specific soil testing and evaluation be done before building and septic systems are constructed. This is needed due to highly-variable site conditions. Trenching is also likely needed due to the buried debris.

Coal and coal spoil was visible in test pits exposed at the site. Also, during site reclamation, methane was found at the portal. The portal is separate from the building site; however, there is a possibility that electrical conduit or other potential methane pathways remain between the building location and the portal or other sources of methane. It would be prudent to ensure that methane detection is installed in building.

Please contact me if you have any questions or concerns. I can be reached at 303.866.2611 ext. 8315 or by email at karen.berry@state.co.us.

Sincerely,

Karen A. Berry
Geological Engineer, PG, AICP, CPESC-SWQ