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September 12, 2023

Charlie Brock
Superintendent
Estill County Schools
253 Main Street
Irvine, KY 40336

Re: Estill County Middle School Addendum Letter
Pyritic Shale Heave

Dear Mr. Brock,

We are providing this addendum letter in consideration of additional information you provided to us regarding your district's middle school and the pyritic shale heave it is experiencing. Our original report issued to you dated August 7, 2023 should be considered valid and this addendum letter to serve in conjunction with said report.

It was previously reported to us that doors often stick or do not close correctly due to the ongoing slab heave. You have recently stated that during a previous school year, a classroom door became stuck due to excessive slab movement and essentially locked the students and faculty in the room. Other faculty members tried unsuccessfully to open the door, at which time local emergency personnel were dispatched to the school to gain access to the classroom. We consider this to be a life safety issue for a potential lack of egress. With the magnitude of slab heave that has occurred (and reportedly continuing to occur) throughout much of the building footprint, we consider the probability for this situation repeating itself to be likely.

We consider leaving doors open to not be a valid solution, as schools must be able to implement lock down procedures. It is highly likely that on any given day one of the classroom doors may not be able to fully shut, latch, and lock.

There are also numerous trip hazards for faculty and students alike, which places the occupants at risk for potential injury.

To our knowledge, no precise monitoring of the building has been implemented. Your faculty believes that the amount of movement within the building has increased in the past year (more or less). Generally pyritic expansion slows down over time unless further exposed to oxygen. If the expansion rate is accelerating, then the structural implications could be more worrisome than we previously thought. In either case, your building maintenance faculty should do a walkthrough of the facility at least once a month, noting locations of cracks, widths and extents of cracks, and approximate magnitudes of slab heave. If any additional concerns arise during these walkthroughs, we recommend contacting a reputable structural engineer to investigate further. In short, keep a watchful eye for additional movement beyond what you have already experienced.

In addition, we again recommend a comprehensive monitoring program be established for the school.

We appreciate the opportunity to assist you in this matter and are available to discuss further at any time.

Sincerely,

Logan Sams, P.E.

