Asher Engineering, Inc.

Environmental & Engineering Consulting

August 13, 2024

Flynn Brothers Contracting, Inc.
4515 Bishop Lane, Suite A
Louisville, Kentucky 40218

Re: Karst Survey
10313 Thixton Lane
Louisville, Kentucky

On May 10, 2024 Asher Engineering visited the referenced site to inspect the property grounds for the presence of karst topography and sinkholes. We also reviewed published geographic maps of the site, and have re visited some past experiences with the subsurface conditions and karst features in this area.

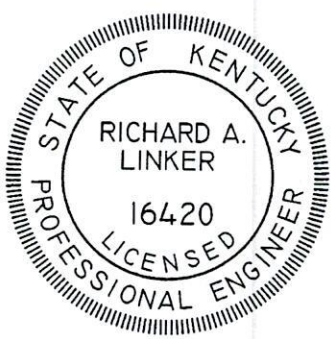
Karst topography is formed by the dissolution of the underlying Limestone or Dolomite bedrock. Depressions in the ground surface can develop when the bedrock surface dissolves due to years of water migrating through the area. The dissolved rock may leave a void space, or the void may be replaced by soft redeposited soil. Over time, the weight of the soil subsides over the void or soft soil, leaving a visible depression in the ground surface.

The subject site is underlain by the Louisville Limestone formation, which is susceptible to dissolution and the formation of sinkholes. No depressions in the ground surface, or old ponds were noted on site. . Still, the site should be inspected during construction. The inspection would include a visual observation of the soil subgrade after the site has been stripped of grass and topsoil. A proofroll with a loaded dump truck would be conducted to identify any soft areas in the soil subgrade. If depressed areas and/or sinkholes are identified during the construction inspection, recommendations would be made for stabilizing any sinkholes or karst features.

While there is some variation in the methods and materials used to repair sinkholes, recommendations would generally be as follows. The sinkhole area would be cleaned of all soft, re-deposited soil down to bedrock. A nonwoven geotextile fabric would be placed in the bottom and sides of the excavation. The excavation would be backfilled with clean (limited fines) crushed limestone to stabilize the area and allow water to flow. The stone would be overlain by smaller stone (Ky No. 3s or Ky No. 57s), with the geotextile fabric placed over the stone. Soil fill could then be placed and compacted to finish subgrade.

Sincerely,

Richard A. Linker, P.E.



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