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“CHASING THE FAULT” – EXPLORING FOR THE LAS VEGAS VALLEY FAULT SYSTEM

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Abstract: Extending through the center of the Las Vegas Valley, Nevada, there are nearly 100 cumulative miles of mapped north-trending faults that comprise the Las Vegas Valley Fault System (LVVFS). Thought to be late Quaternary in age, the origin of these fault escarpment features is still debated. However, the favored theory at present is that these fault escarpments originated tectonically from faults extending up from the bedrock basement underlying the valley. In 1996, the Clark County Building Department adopted minimum setbacks of 5 feet from faults for habitable structures. The setback requirement was not adopted directly for fault-rupture hazard mitigation but simply more rather as legal protection for the county.

Under the amended code, the county requires, first, that the geotechnical report identify mapped faults on each site from published sources. If mapped faults are identified, the faults must be located on the site through exploration to establish no build zones on the grading and plot plans. If the location of the faults cannot be defined, then the geotechnical report must establish no-build zones around the mapped fault locations where the width of the zones are at the discretion of the geotechnical consultant. In practice, however, the fault features encountered in trenches are relatively imperceptible, and by nature, not conducive to placing “a line on the ground” to offset from. This talk attempts to review the code implementation from a practical standpoint based on the nature of the fault features that have been observed comprising the LVVFS.