Building Height Measurement

Houses built on Santa Clara County's hillsides are often very large and complicated. On flat ground a building is measured vertically from the exterior final grade at the foundation to the building's highest point. This can be accomplished simply by looking at the elevations on the building plans and measuring the height with a scale. Measuring the height of buildings on irregular topography is considerably more complicated. If the measurement is to be based on final grade, there is no constant base elevation from which to measure to the highest point. The base elevation under the topmost point must be approximated using cross-sections through the house at that topmost point. In this manner, height is measured vertically upward to a hypothetical surface parallel to the final grade.

The following is a step-by-step procedure to measure the height of a building using cross-sections:

1. Determine from the elevations the Critical Height Areas, which are the portions of the building that appear on any elevation to exceed the maximum allowed height. (NOTE: it is not necessary to show Critical Height Areas on the plans.)
From what appears to be the highest point within the Critical Height Area, take cross-sections. These sections must be generally parallel/perpendicular to the exterior walls of the building, and should be perpendicular to each other.

For each cross section (A-A and B-B), draw a straight line through the building between the two points where the exterior foundation meets final grade.

Measure the vertical distances \( H_A \) and \( H_B \) between each of those straight lines and the topmost point.

The average (mean) of the two vertical measurements, \( H_A \) and \( H_B \), is the height \( H \) of that topmost point.

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H = \frac{H_A + H_B}{2}
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