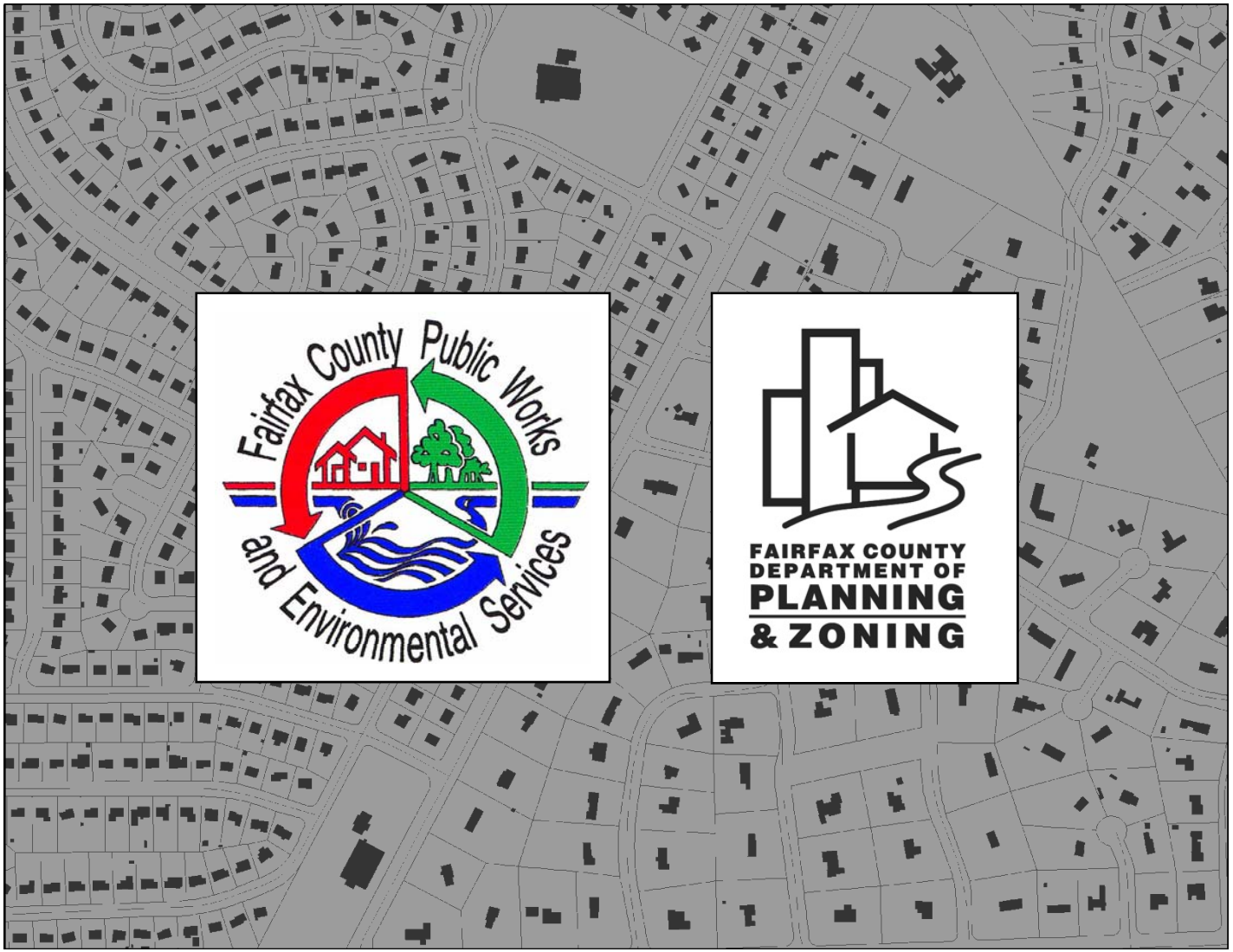
Proposed Angle of Bulk Plane



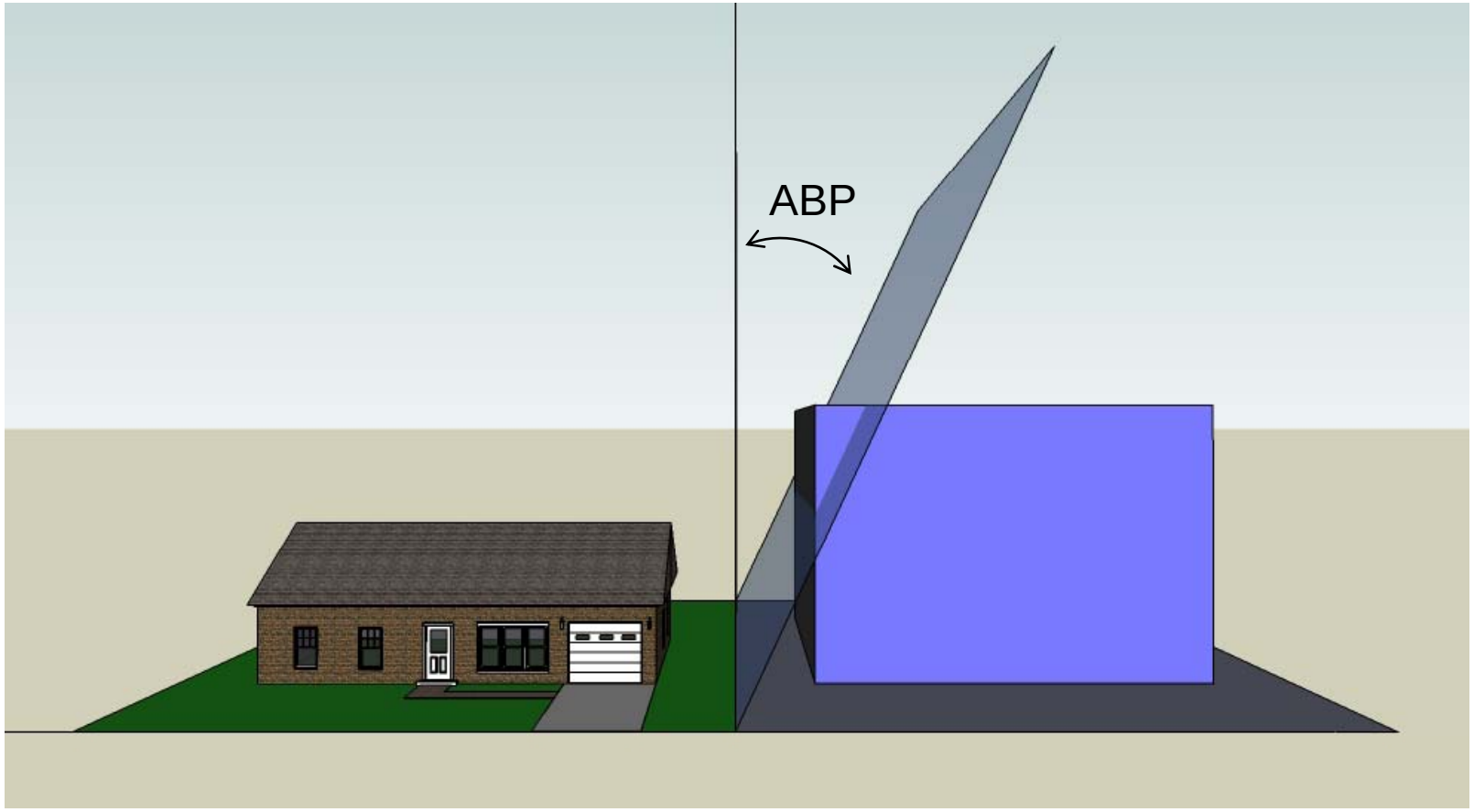
- The following slides illustrate how an angle of bulk plane might be applied to single family detached dwelling construction.

- As currently proposed, an angle of bulk plane would be applicable to all new single family detached dwellings and to additions of existing single family detached dwellings.

- Under the current proposal, a chimney is the only building feature that would be allowed to penetrate the bulk plane.

What is an angle of bulk plane & what does it do?

Angle of Bulk Plane: an inclined plane drawn at a specific angle from vertical that contributes to the delineation of maximum permitted bulk that can be constructed on a lot

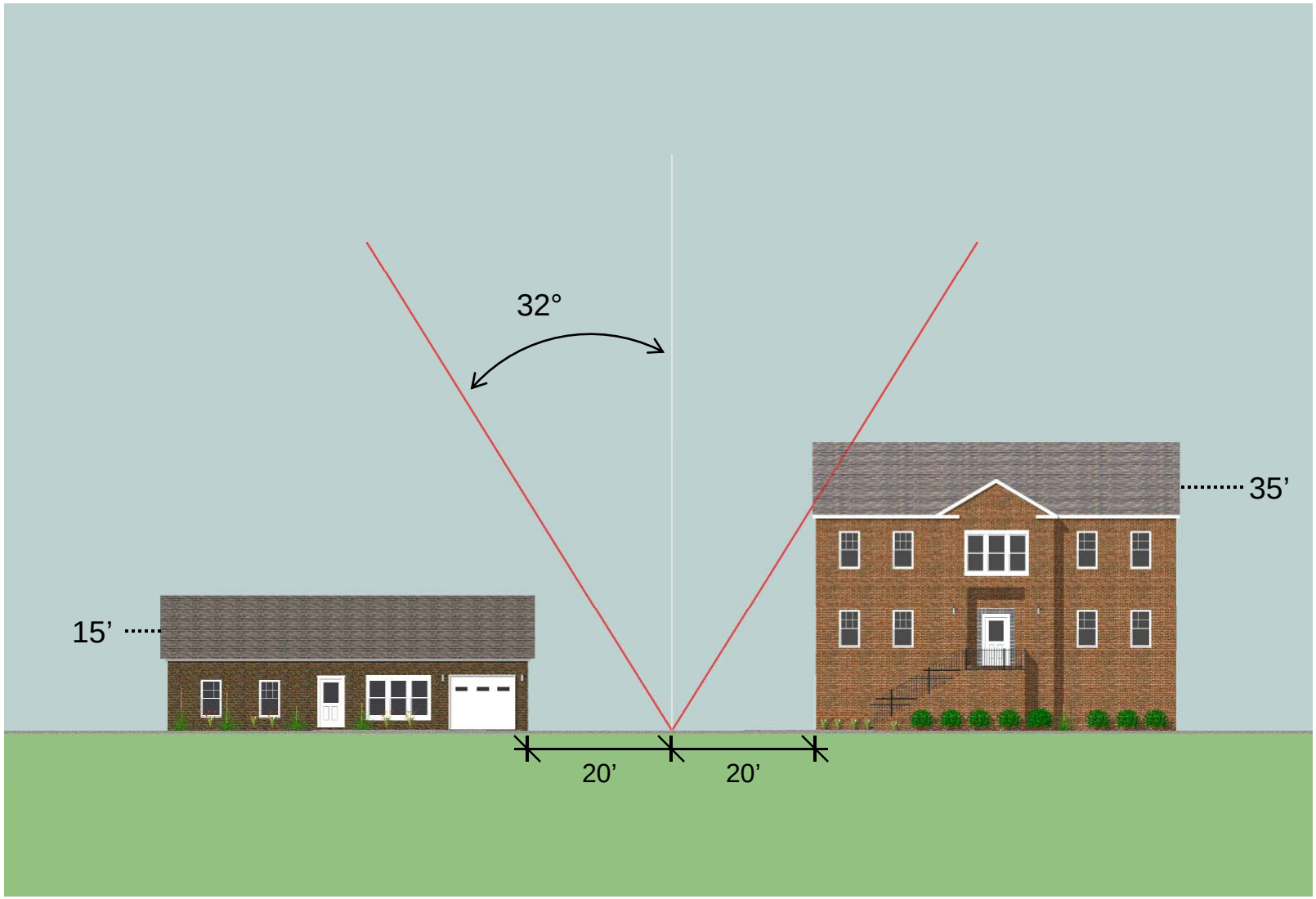


ANALYSIS METHODS

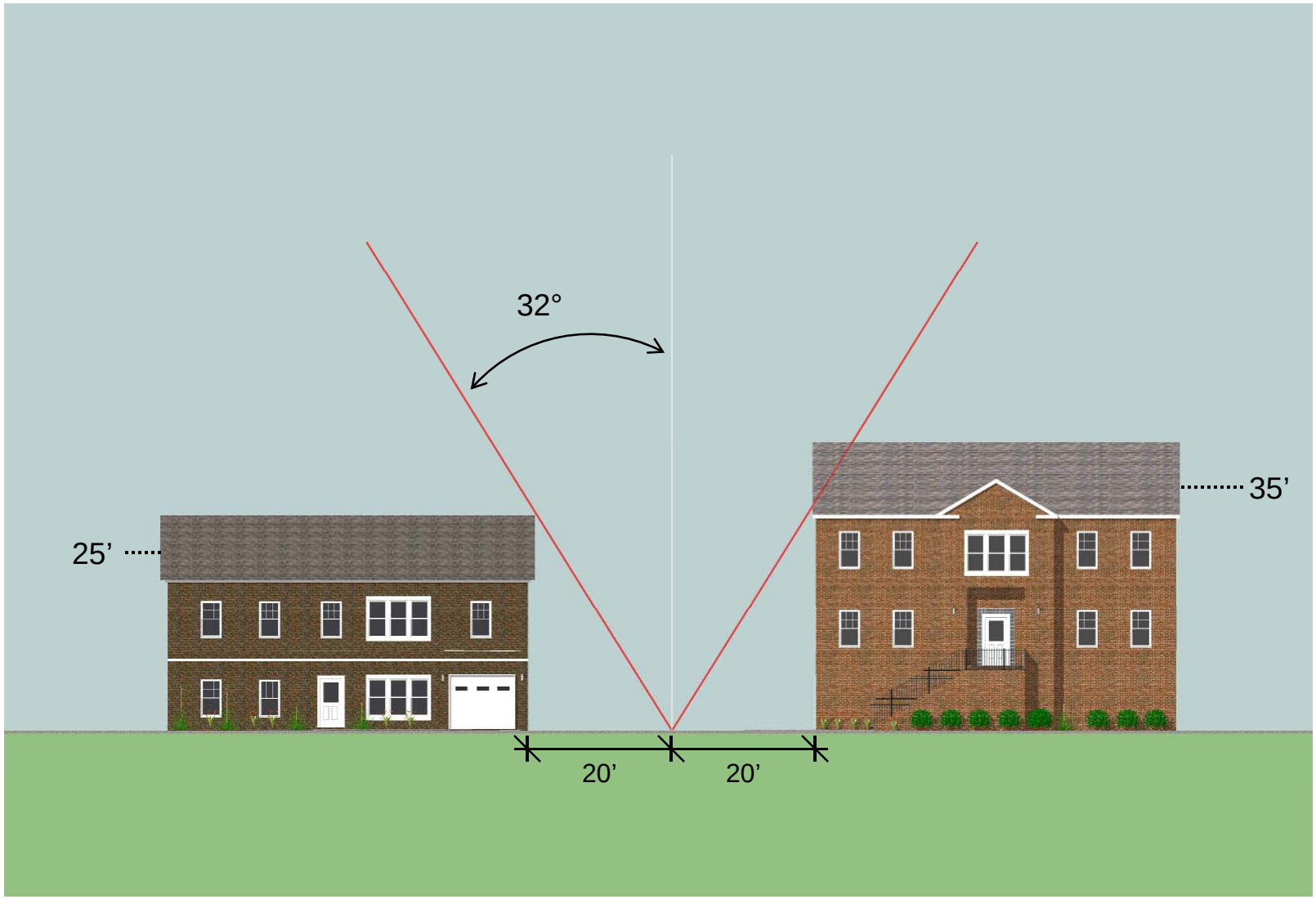
- Staff has attempted to demonstrate the efficacy of using an angle of bulk plane by working through a series of approaches. Iterative steps were taken to consider multiple angle of bulk plane options in an analysis process that included both two and three dimensional illustrative drawings.

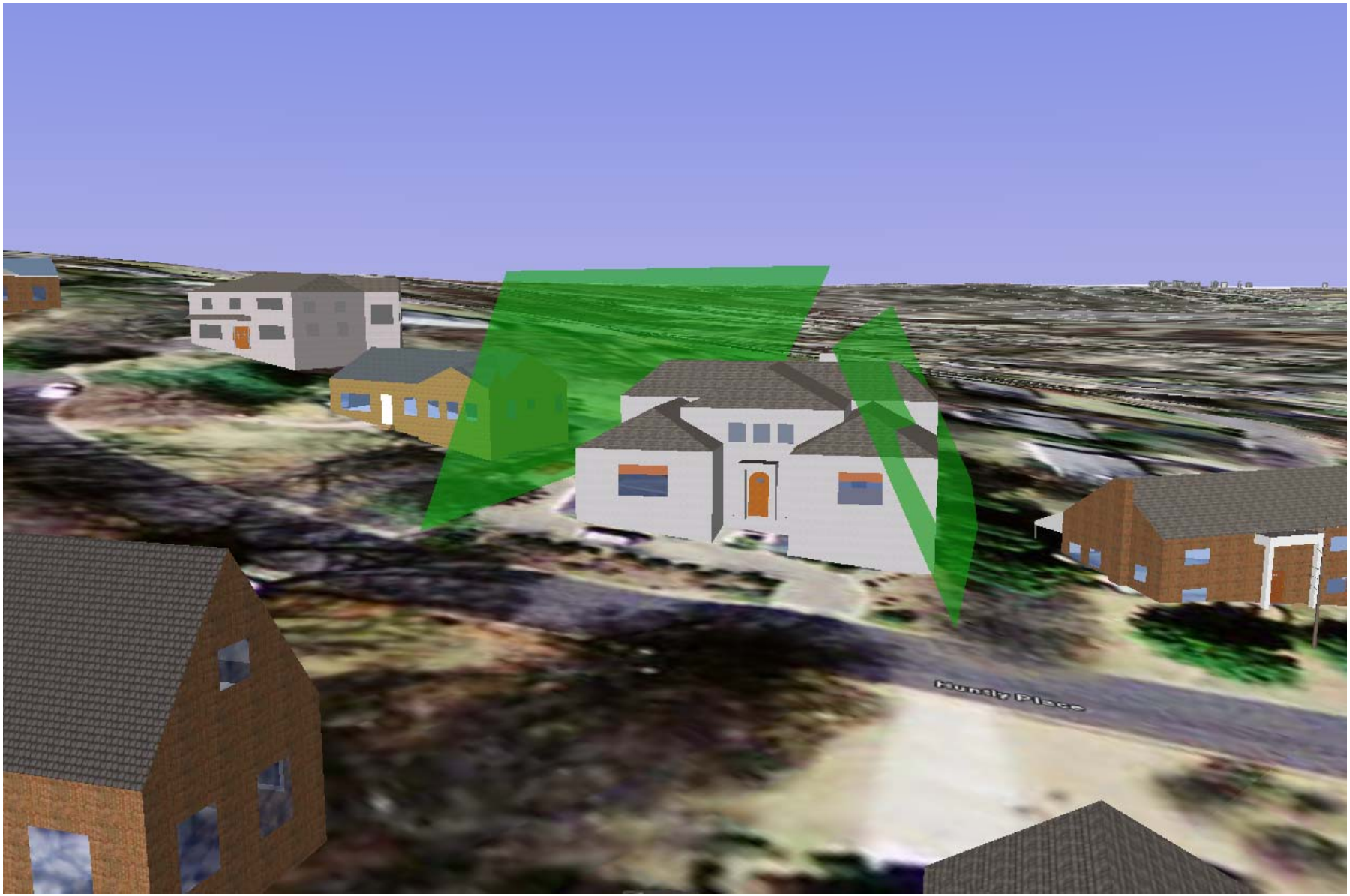
- Staff's current recommendation is derived from progressive thinking that started with a bulk plane projected from grade level. Our original set of bulk plane angles were designed to allow a second-story 'pop-up' to be added to an existing one-story structure as illustrated in the following three slides, the third of which uses a three dimensional technique that became our analysis standard. All of the 3-D drawings that are presented in the following slides are dimensionally accurate & geo-rectified.

R-1 District: 32° Angle of Bulk Plane



R-1 District: 32° Angle of Bulk Plane Allows 2nd Story Pop-up on Existing 1 Story House

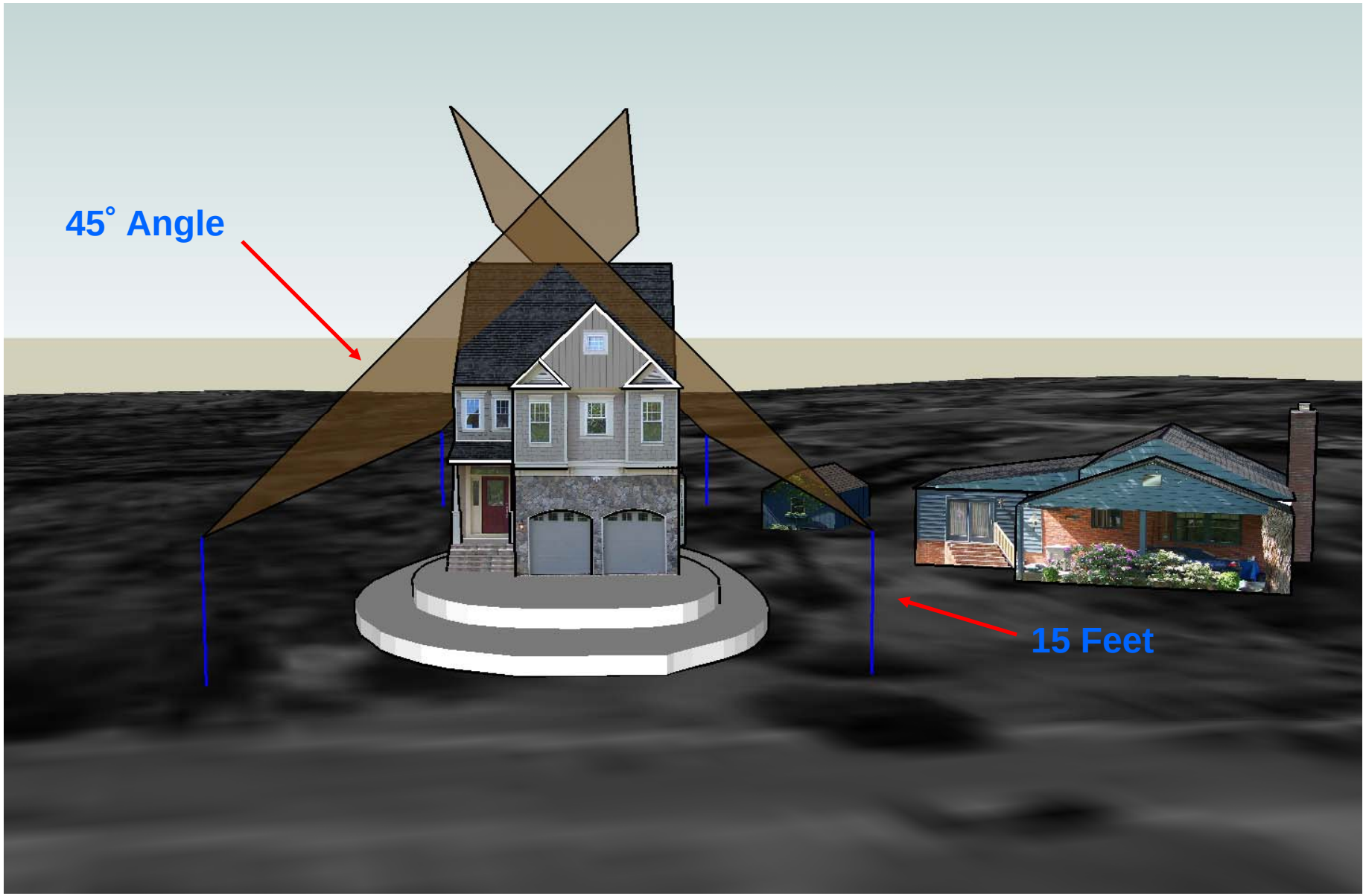




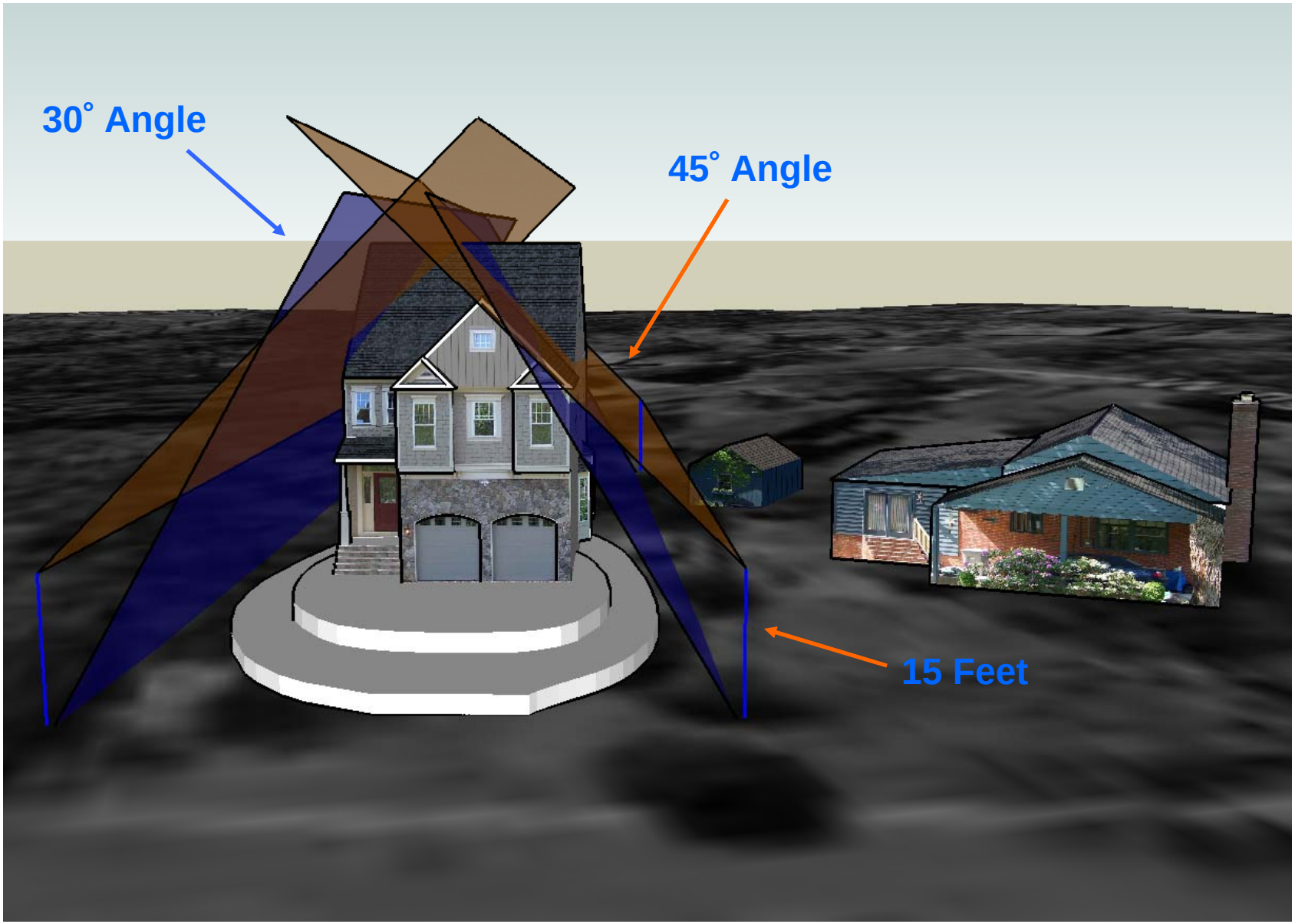
30º bulk plane angle taken at grade from the side lot line

ANALYSIS METHODS CONT.

- In the next stage of our analysis, we raised the base of the bulk plane to an elevation of either 10 or 15 feet above grade level. The purpose/benefit of doing this is to effect a greater reduction of bulk in the higher (more looming) portions of the structure; generally, this also creates a more favorable daylight plane. The next two slides illustrate the use of a bulk plane with its base located 15 ft. above grade.



45º bulk plane angle with its base at 15’ above side lot line

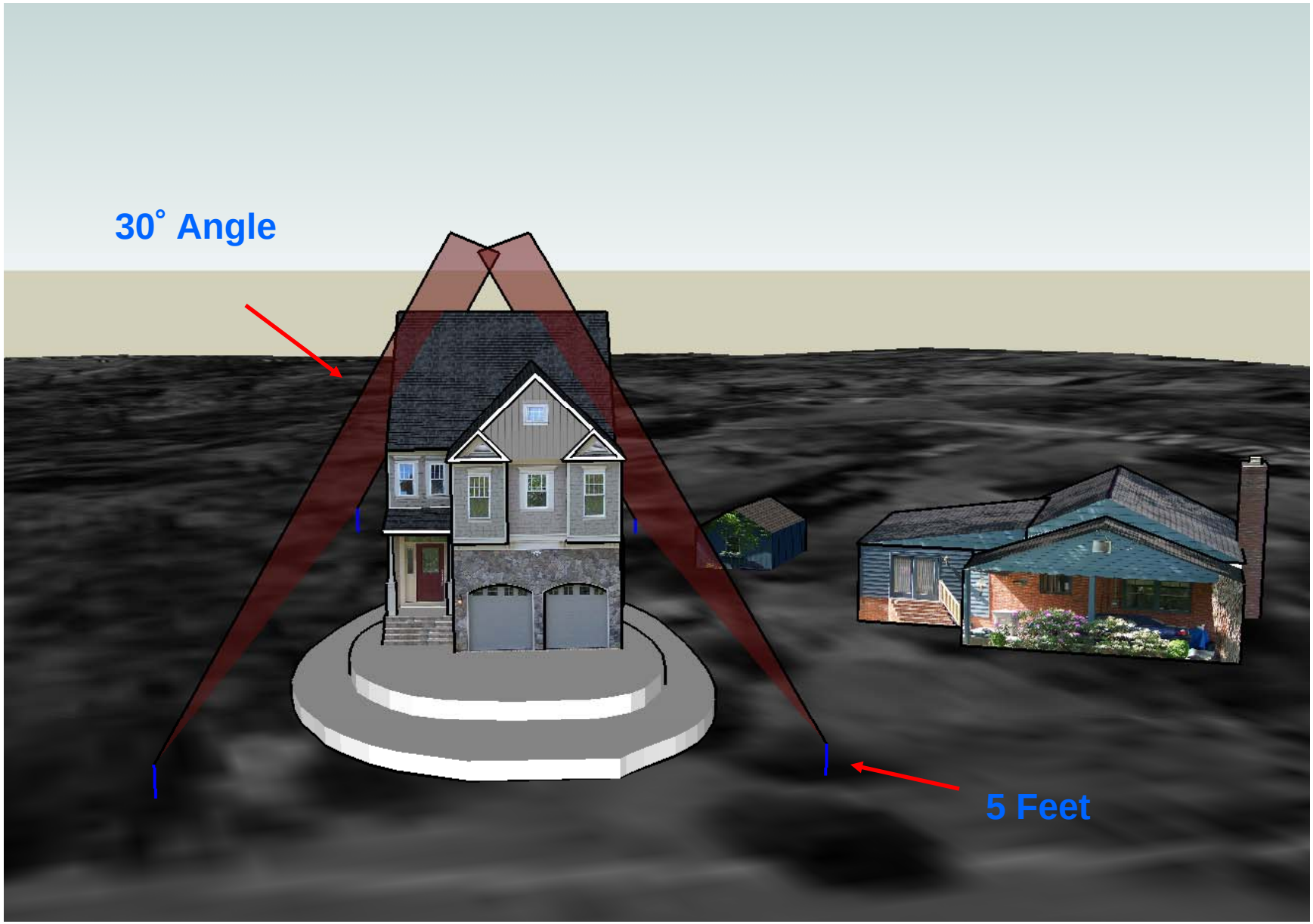


Comparison of 45˚ bulk plane angle @ 15 feet and 30˚ bulk plane angle from grade

ANALYSIS METHODS CONT.

- In a final step, the base of the plane was adjusted to a height of 5 ft. to allow for a more practical method of checking compliance with a hand-held instrument (clinometer).

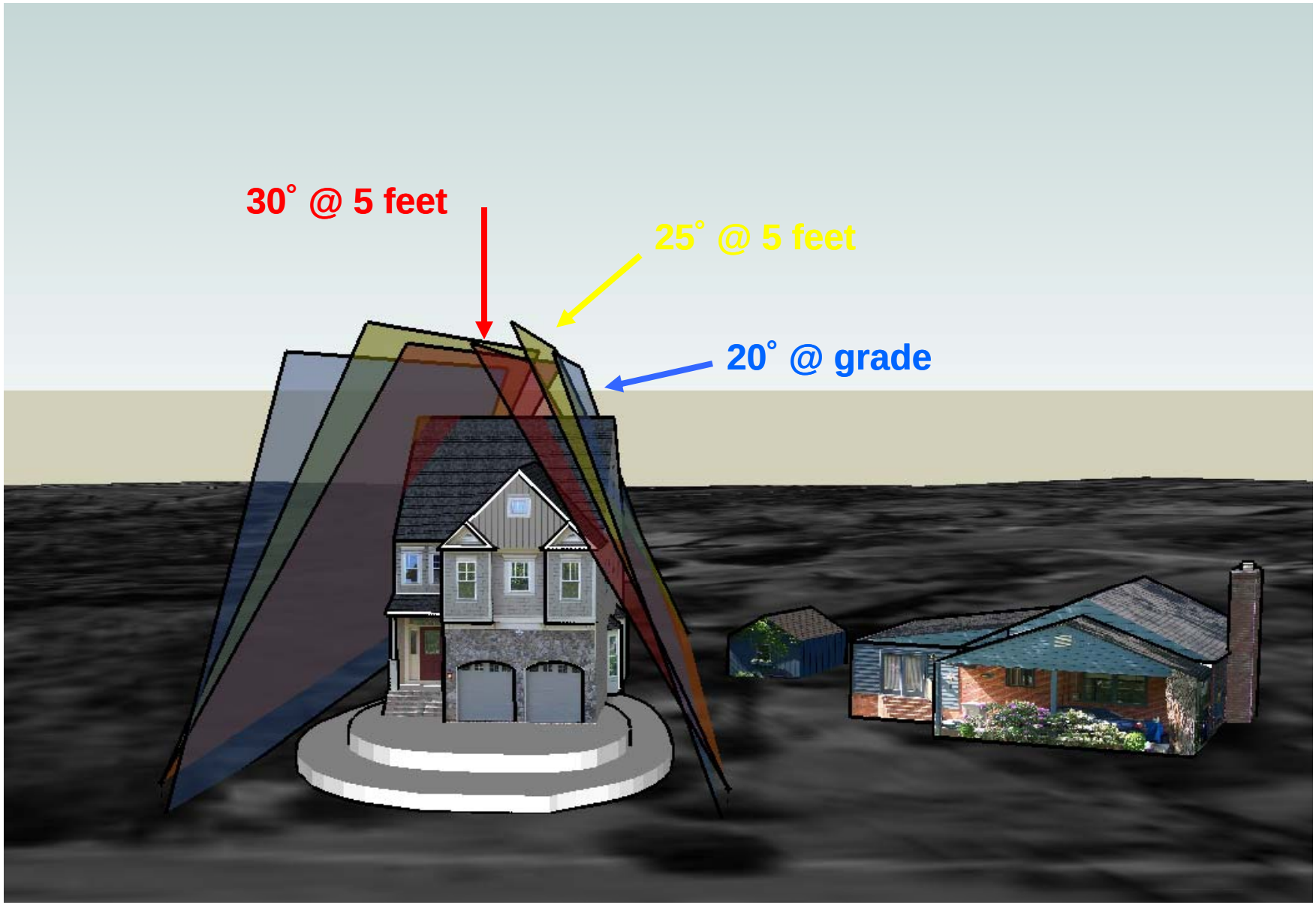
- Specific bulk plane angles were also adjusted to correspond to specific minimum side yard distances (setbacks). This final adjustment allows for the 5' elevated angle of bulk plane to be applied more uniformly throughout the various residential zoning districts. The range of proposed angles is contained in a table following the 5' bulk plane illustration.



30º angle of bulk plane w/ base set at 5’ above side lot line

Proposed Bulk Plane Angles 5’ Above Grade

Minimum Required Yard / Zoning District	**8 foot / R-5 and R-8**	**10 foot / R-4**	**12 foot / R-3**	**15 foot / R-2**	**20 foot / R-C, R-E and R-1**
Required Angle of Bulk Plane @ 5 feet above grade	**20°**	**25°**	**30°**	**35°**	**40°**
Height on Structure where bulk plane intersects	**27’**	**27’**	**25’**	**27’**	**28’**



An example of comparing impacts resulting from the use of different bulk plane approaches