

# Central SoMa Draft Policy Paper

## Bulk

February 2015

### Introduction

The Urban Form chapter (Chapter 3) of the draft Plan articulates Principles related to the breadth and articulation of the Plan Area's buildings, including:

- Principle 2: The predominant character of SoMa as a mid-rise district should be retained, and the presence of high-rises reduced by limiting their distribution and bulk.
- Principle 3: Addition of significant new shading should be avoided on public spaces to the extent feasible, balanced with other core objectives.
- Principle 5: The diverse building scale of buildings in the Plan Area should be maintained, particularly areas with a fine grain concentration of smaller lots and buildings.
- Principle 6: Mitigate the scale of large blocks and parcels.

The discussion seeks to refine the mechanisms by which these Principles could be implemented.

### Summary

Support light, air, and sun access to the street while simultaneously supporting density by requiring setbacks at heights approximately equivalent to the width of the street, particularly on the south side of the street, and allow only slender towers above 160 feet that are substantially separated from other tall buildings.

### Background

Bulk is the concept of the horizontal dimensions of a building (as opposed to height, which measures its vertical dimensions). In the Central SoMa Plan Area, the City uses many ways to control the bulk of buildings:

- Bulk controls are applied to all buildings: These include requiring room for residential units to receive light and air (including requiring rear yards (Planning Code Section 134), which often require modification in large projects because they cannot conform to the Code)
- Bulk controls dependent on the length of the building, including requiring mass reduction on longer buildings, and requiring that some buildings to be broken into smaller pieces to support the creation of new alleys (Planning Code Sections 270.1 and 270.2).

- Bulk controls applied to narrow streets: SoMa’s alleys are typically 35-feet wide. On such alleys there are existing setback requirements at approximately 35-45 feet, and these are the most stringent on the south side of “east-west” alleys (Section 261.1). These controls are effective but may preclude alternative designs that allow the same amount of light and air to the street but are architecturally superior. Additionally, the stringent controls are not in place on the south side of “north-south” alleys – which, due to the tilt of SoMa’s street grid, are nearly as east-west (47 degrees) as the “east-west” alleys (43 degrees)
- Bulk controls that apply above a certain height: In many districts, there are bulk limits that set maximum building lengths and diagonals and floorplate limitations that kick in above a certain height (which varies by height district). Typically, these apply in areas that are zoned for over 85 feet in height (see Section 270). These controls do not take into account which side of a street that buildings are on.

## **Proposal**

The Planning Department’s proposal is to maintain the bulk controls in the downtown (C-3) portion of the Plan Area, and modify the bulk controls in the Eastern Neighborhoods portion of the Central SoMa Plan Area to support substantial density while maintaining significant light, air, and sun access to the streets, as described below. The discussion below only applies to the Eastern Neighborhoods portion of the Central SoMa Plan Area.

### **Bulk Controls within the “Urban Room”**

Urban design experience shows that people feel most comfortable on streets where the perceived height of the buildings is approximately equivalent to the width of the street (give or take a bit). This area is known as the “urban room”. Within the urban room, buildings should create a pleasing and not overwhelming, sense of enclosure and intimacy. Along SoMa’s major streets, which are all 82.5 feet wide, the urban room goes up to approximately 65 to 85 feet in height. In SoMa’s alleys, which are all 35 feet wide, the urban room is up to approximately 35 to 45 feet in height.

Within the urban room, the Plan proposes the following:

- Buildings should focus their mass along the street frontage, rather than setting them back at a lower height. This helps create a consistent “streetwall” that is an important part of creating and maintaining the integrity of the urban room. The setback controls discussed below will simultaneously ensure that buildings this streetwall is maintained even when there are buildings that are taller than the urban room.
- Rear yard requirements (Planning Code Section 134) shall be changed such that buildings may have 100% lot coverage where all residential units face onto a public right-of-way, and shall have a 75% lot coverage limitation at all other residential levels. Where there is a pattern of mid-block open space for adjacent residential buildings, the unbuilt area shall be designed to generally adjoin that

area. If not, the location and orientation of the unbuilt area can be sited anywhere on the lot (such as an interior courtyard). These changes are in keeping with how the Code is currently applied in practice, and will eliminate the need to seek a “modification” from the Planning Commission or Zoning Administrator.

- For parcels with frontages over 200 feet long, the requirements of Planning Code Sections 270.1 and 270.2 will continue to apply. These requirements ensure that the mass of long buildings are broken up, either by requiring a substantial notch in the building, or requiring an end to the building to support the creation of new alleys.
- No building in the Plan Area may be permitted to be longer than 300 feet.
- For buildings in a height district of 85 feet or less, the existing exemption for non-habitable architectural elements (Planning Code Section 263.21) will continue to apply.

### Bulk Controls for the “Upper Building”

For purposes of this analysis, we are calling the portion of the building between the urban room and the tower the “upper building”. On the major streets, this is between 85-160 feet. On the alleys, this is between 35-160 feet.

The goal of the Department’s proposal is to provide light, air, and sun access to SoMa’s streets while supporting substantial density. Doing so requires reducing the apparent mass of the “upper building” as seen from the place where the building is the most prominent – the sidewalk directly across the street from the building. The proposal below will ensure that the maximum “upper building” that will be visible from the street is 50%, and in most cases will be substantially less than that. <sup>1</sup> A graphical explanation of the proposal can be found at the end of the document.

The controls for upper buildings, discussed below, will be more stringent for buildings on the south side of SoMa’s streets. For purposes of these controls, the “south” side includes the south side of both the numbered streets (2<sup>nd</sup>, 3<sup>rd</sup>, etc.) and the named streets (Folsom, Harrison, etc.) As discussed above, SoMa’s street grid is tilted at 43 degrees from due north-south. Thus, as the sun swings from east to south to west each day, such that the south side of the numbered streets have almost exactly the same sun exposure as the south side of the named streets (which are 47 degrees from due north-south).

### *Major Streets*

Along SoMa’s major, 82.5-wide streets, the following controls will apply:

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<sup>1</sup> These controls are based on the “skyplane” concept adopted by the City of Philadelphia, whose innovative work received a design award from the American Institute of Architects in 2013 (see page 60 of the [Philadelphia Zoning Manual](#)). They have been adapted to reflect the South of Market context

- Above 85 feet, a 15-foot setback will be required along all property lines (as discussed on page 30 of the draft Plan).
- No bridges may be constructed above 130 feet in height.
- On the south side of all major streets, the apparent mass reduction of the upper building shall be:
  - 67% for buildings in 130-foot height districts
  - 80% for buildings in 160-foot height districts
- On the north side of all major streets, the apparent mass reduction of the upper building shall be:
  - 50% for buildings in 130-foot height districts
  - 70% for buildings in 160-foot height districts

On major streets, measuring “apparent mass reduction of the upper building” entails measuring the building mass that can project into a plane extending up from the street-facing property line (not interior property lines), starting at 85 feet and extending to the applicable height limit for the subject lot. For example, a building permitted to go to 130 feet but which stops at 85 feet would have 100% apparent mass reduction of the upper building, whereas a building that was built to the street-facing property line up to 130 feet would have 0% apparent mass reduction. Generally, the 15 foot setback requirement at 85 feet discussed above yields a 50% apparent mass reduction of the upper building. To see renderings of how this is calculated, and examples of buildings that fulfill these requirements, see the figures below.

### *Alleys*

On the south side of alleys, the apparent mass reduction of the upper building must be 100%. No part of the building may penetrate a plane defined by an angle of 45 degrees extending from the most directly opposite northerly property line. For the named streets streets, this proposal maintains the existing controls (per Planning Code Section 261.1). For the numbered streets, these are more stringent controls than currently exist. These requirements would not apply to the first 60 feet from a major street (per Planning Code Section 261.1(b)(2)), where the rules for major streets will continue to apply.

On the north side of alleys, all buildings have must upper stories set back at least 10 feet at the property line above a height equivalent to 1.25 times the width of the abutting alley (i.e., at 43.75 feet for SoMa’s 35-foot alleys). This is in keeping with existing requirements (Planning Code Section 261.1). For alleys abutting properties with a 45- or 55-foot height limit, this control will ensure that the apparent mass reduction of the upper building is 100%. For alleys abutting properties with higher height limits, the apparent mass reduction of the upper building shall be:

- 50% for buildings in 65-foot height districts
- 70% for buildings in 85-foot height districts
- 85% for buildings in 130-foot height districts

To see renderings of how this is calculated, and examples of buildings that fulfill these requirements, see the figures below.

### *Other Streets*

There are a handful of streets in the Plan Area that have a different width than the typical major streets and alleys (most notably, both blocks of Bluxome Street). Where these streets are wider than 40 feet, the controls for major streets shall apply, except that the 15-foot setback must occur at a height equivalent to the street width. Where the streets are narrower than 40 feet, the controls for alleys shall apply.

### Bulk Controls for Towers

The draft Plan proposes to permit towers (buildings taller than 160 feet) in strategic locations and ensure that they are generously spaced from each other, so that they can serve as local landmarks and maintain a character of openness to the sky. The Plan calls for these towers to be elegant and sculpted, since they will be prominent relative to the surrounding buildings, both as viewed from within the neighborhood as well as from distant vantages on the skyline.

To achieve these goals, the draft Plan proposes that towers “should not exceed a maximum floorplate of 12,000 gross square feet for residential or hotel uses and an *average* of 15,000 square feet for commercial uses” (page 32). The Planning Department proposes to further refine these requirements to ensure that these towers that have less perceived bulk when viewed from the street:

- For buildings exceeding 160 feet in height, tower bulk controls would apply starting at a podium height 85 feet.
- Above 85 feet, a 15-foot setback will be required along all property lines (as discussed on page 30 of the draft Plan).
- No residential or hotel use would be allowed to have a floor exceed 12,000 gross square feet. The upper 1/3 of the tower must feature minimum bulk reductions of 15% of the floorplate and the maximum diagonal of 7.5%. The upper tower bulk reduction shall not be required for any tower for which the overall tower is reduced from the maximum bulk allowance by an equal or greater volume (above a height of 85’).
- The average floor for commercial uses cannot exceed 15,000 gross square feet, and no single floor may exceed 17,000 gross square feet.
- The maximum horizontal (“plan”) dimension would be 150 feet.
- The maximum diagonal dimension would be 190 feet.

On parcels with a permitted height above 160 feet, a development may develop at a height of 160 feet or less. In such instances, the controls for 160-foot districts (described above) shall apply.

## Tower Separation

The draft Plan calls for towers to be horizontally separated from each other by at least 115 feet “to ensure light, air and views between tall buildings... Tower separation less than 115’ might be considered where adjacent towers are very slender (e.g. 8,500 gsf) and adjacent towers vary in height by a significant amount (e.g. 50’ or more)” (page 32). The Department proposes to refine these proposed controls as follows:

- Tower separation requirements are applicable when there are two or more buildings proposing to exceed 160 feet.
- When there is an existing tower, the next tower must be at least 115 feet apart. This distance reflects the width of SoMa’s large streets, plus the required two 15 foot setbacks.
- The minimum tower separation will be 85 feet, representing the width of SoMa’s large streets. To be allowed to have a tower separation less than 115 feet:
  - The difference in the height of the two towers must be at least 50 feet
  - The bulk of the second tower must be reduced. At 85 feet, the maximum tower bulk shall be 10,000 square feet, and the upper tower bulk reduction requirements continue to apply.
  - Any tower seeking reduced tower separation will be required to be designed contextually to the other tower, and to maximize apparent distance and architectural differentiation.
- Determining which tower is subject to reduced bulk and height will be based on timing of entitlement by the Planning Commission. The second tower entitled will need to conform to the design of the first.
- When a tower is adjacent to a building that is 85 feet in height or less, no separation is required.
- When a tower is adjacent to a building that is between 85 to 160 feet, at least 30 feet separation is required. This is in keeping with the requirement that all buildings on all lots are required to step back 15 feet from all property lines.
- On lots large enough to contain a building with a tower portion (taller than 160’) and a portion between 85 to 160 feet along a street frontage, in addition to these masses needing to be separated by at least 30 feet, these portions should be designed to look like different buildings from the frontage(s).
- No bridges may be constructed above 130 feet in height.

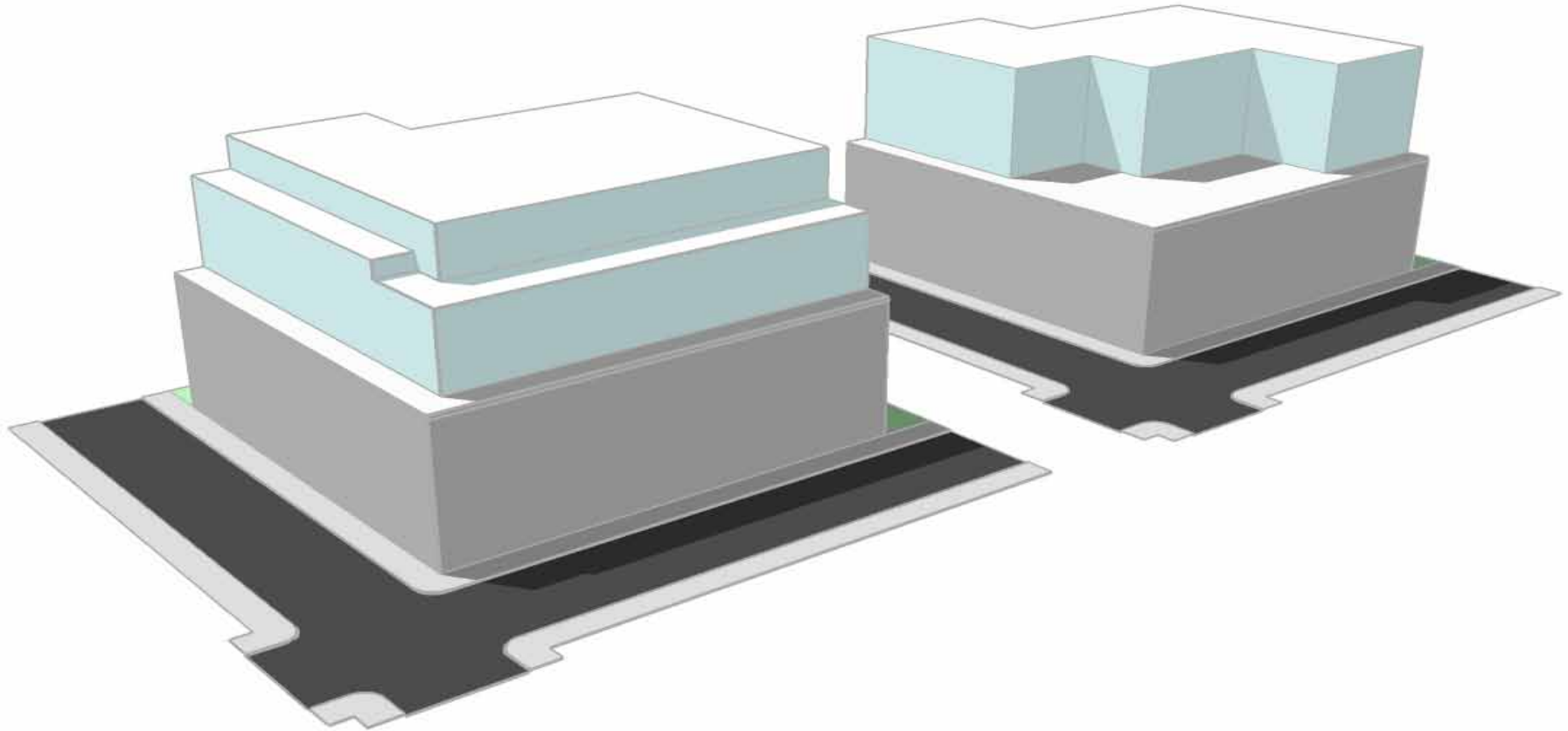
## Process

No exceptions or variances will be granted for the proposed controls, above.

## Additional Controls and Guidelines for Large Sites

The Planning Department is developing design guidelines for the major development sites in the Plan Area. As part of that process, the Department may suggest modifications of these and other controls that further the land use, urban form, circulation and open space principles and proposals of the Plan.

## Central SoMa Bulk Diagrams

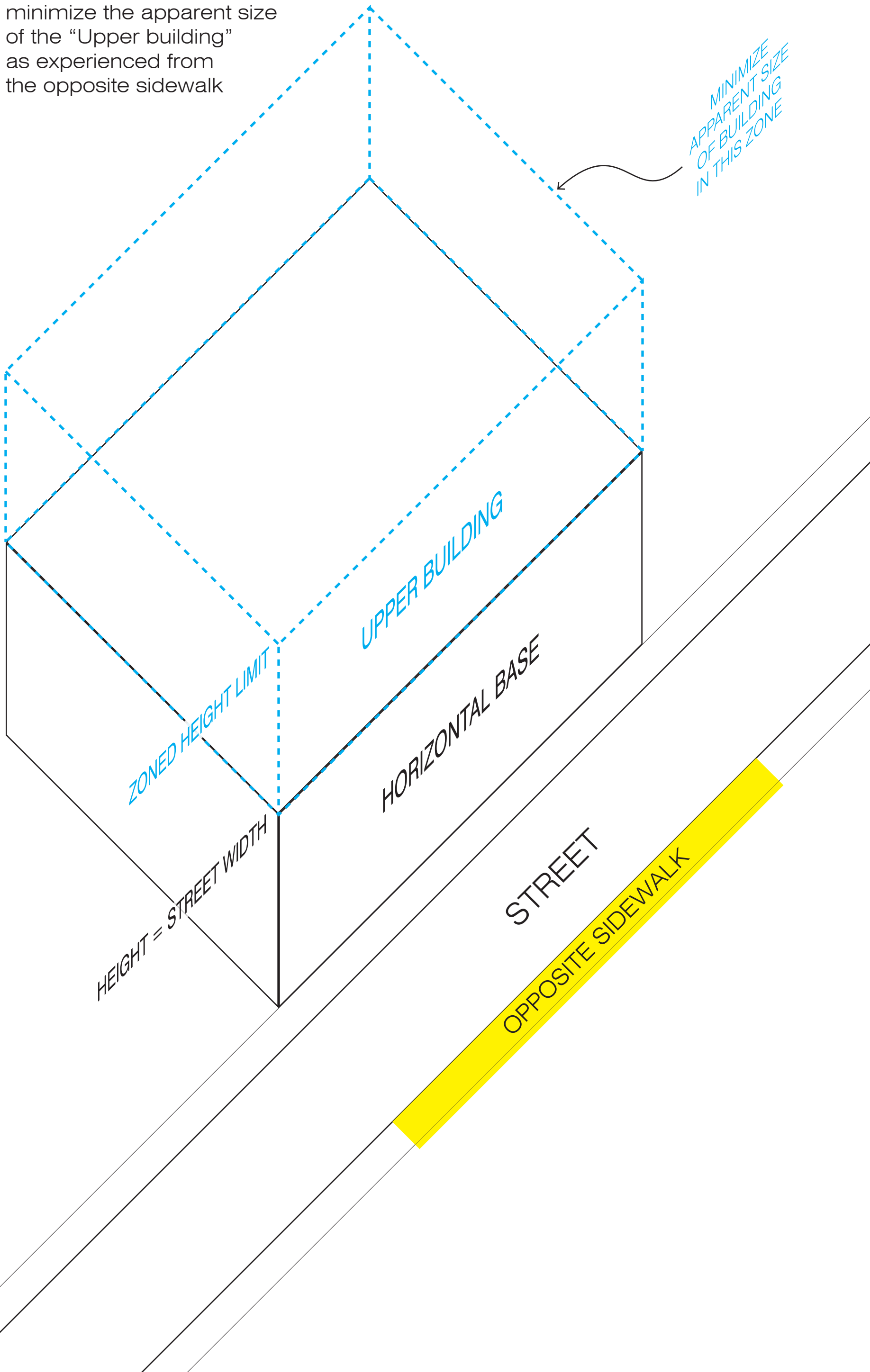


How do we preserve the “open sky” feel of SoMa streets, while allowing architects more leeway to sculpt buildings in creative ways?

The following pages convey a new method to control the bulk of buildings. It focuses on a goal: reduce the apparent size of the upper portion of buildings, as experienced by nearby pedestrians. It remains relatively neutral on how this is achieved.

The diagrams above show two different massing envelopes for the same site. Both meet “apparent mass reduction” targets that are specific to this location. The following pages convey how the apparent mass is calculated, and set specific apparent mass reduction targets for each site in the plan area.

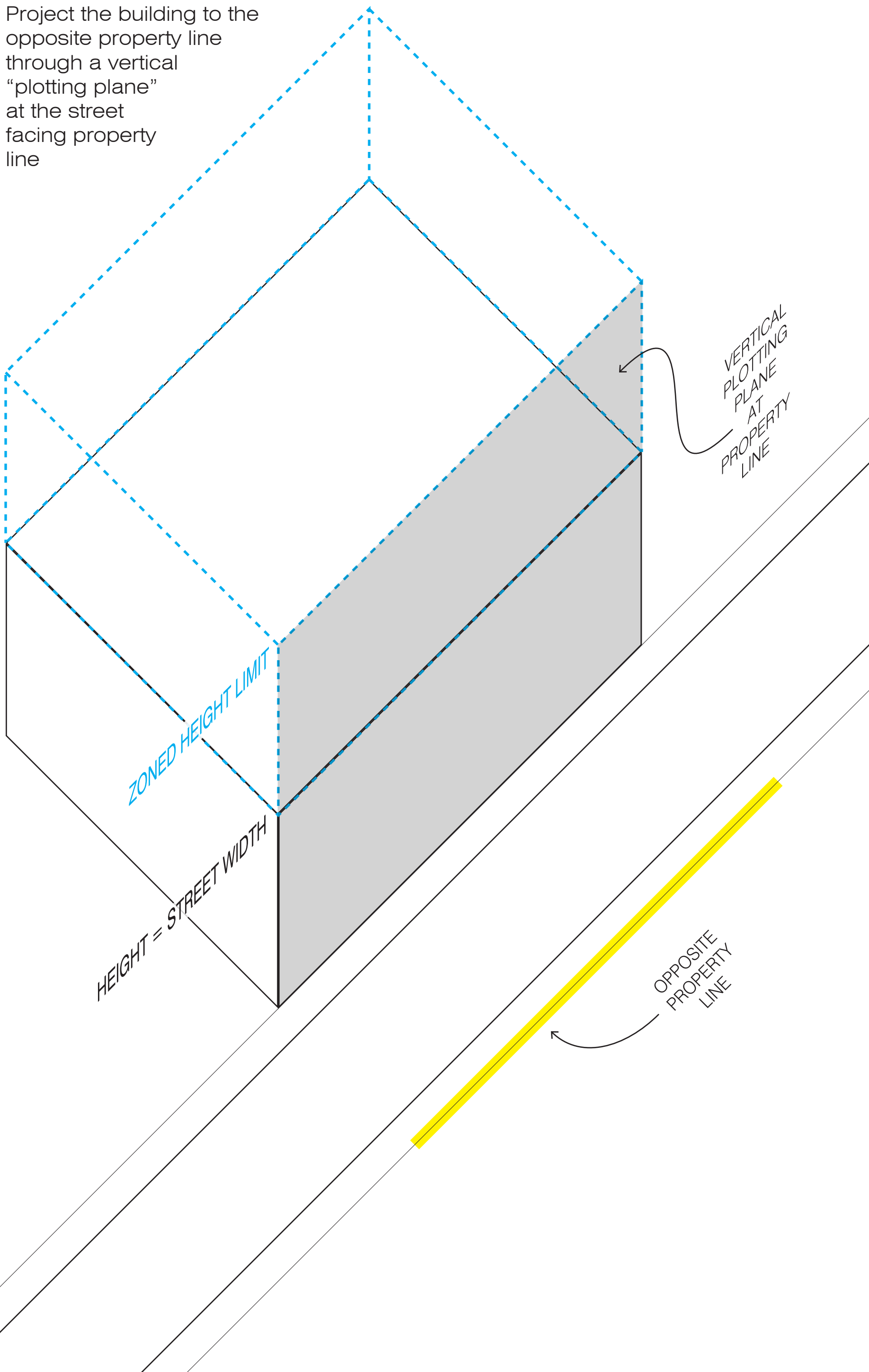
Goal: where building height exceeds the width of the street, minimize the apparent size of the "Upper building" as experienced from the opposite sidewalk





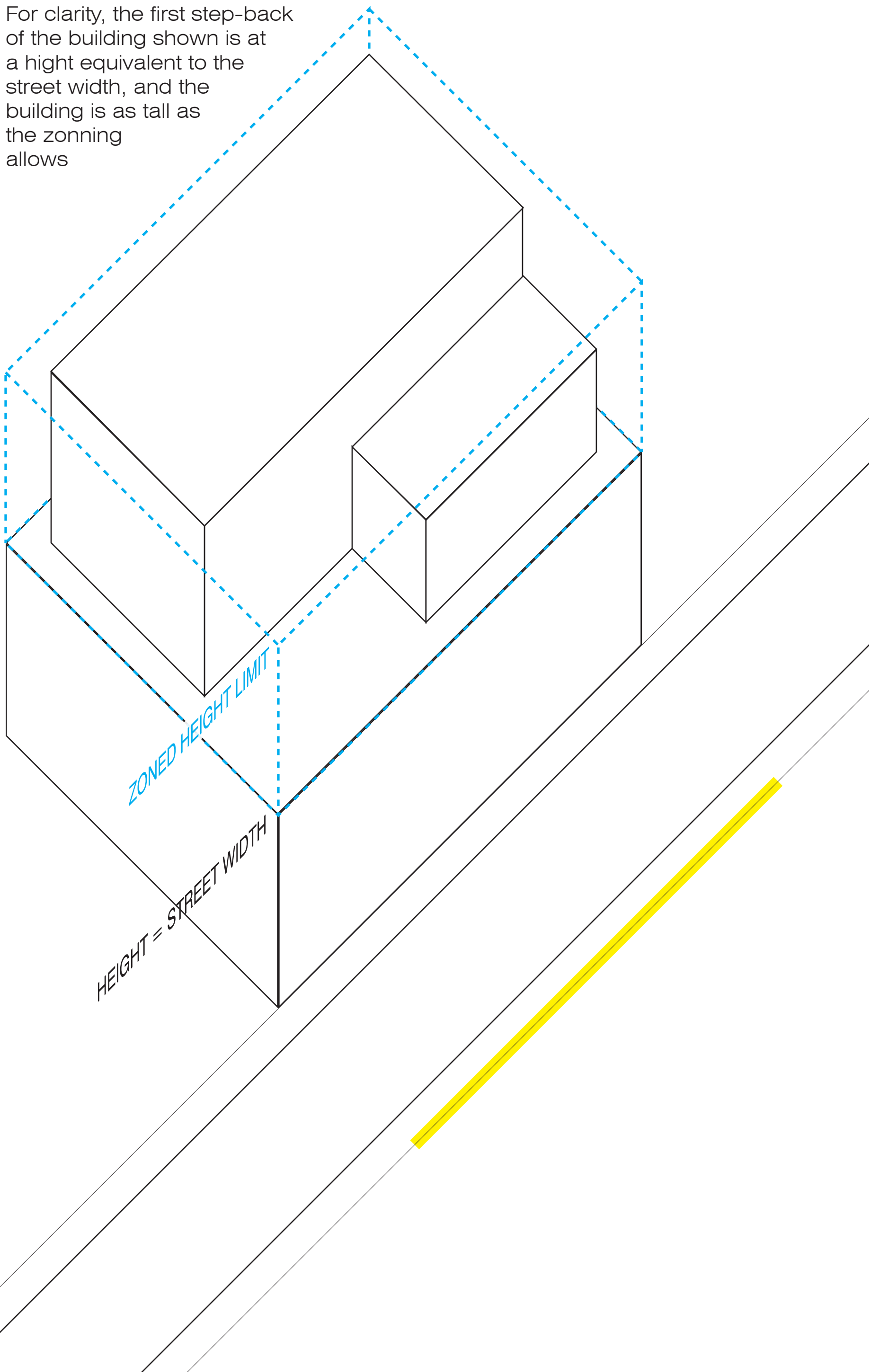
Method:

Project the building to the opposite property line through a vertical "plotting plane" at the street facing property line



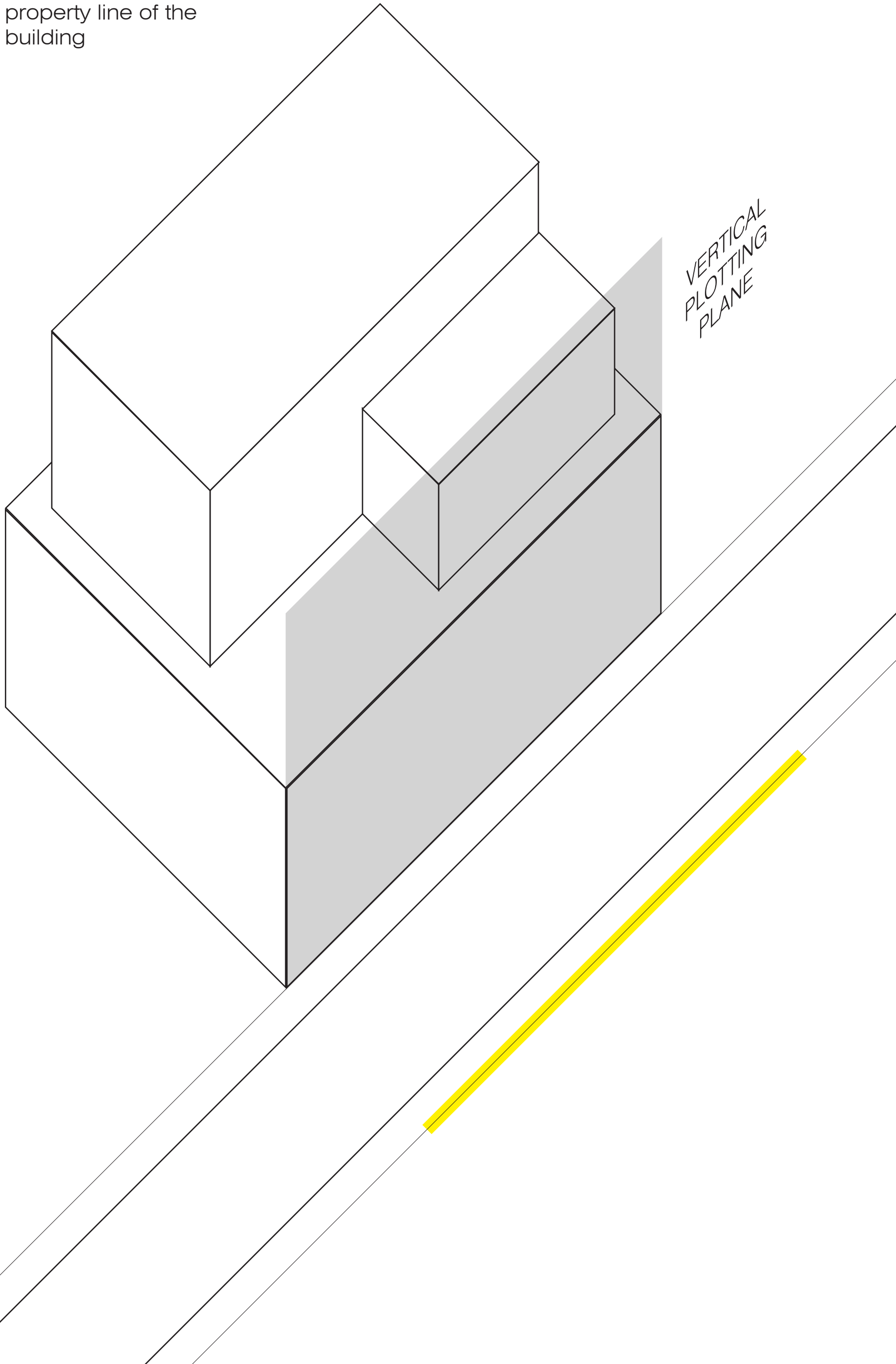
Example:

For clarity, the first step-back of the building shown is at a height equivalent to the street width, and the building is as tall as the zoning allows



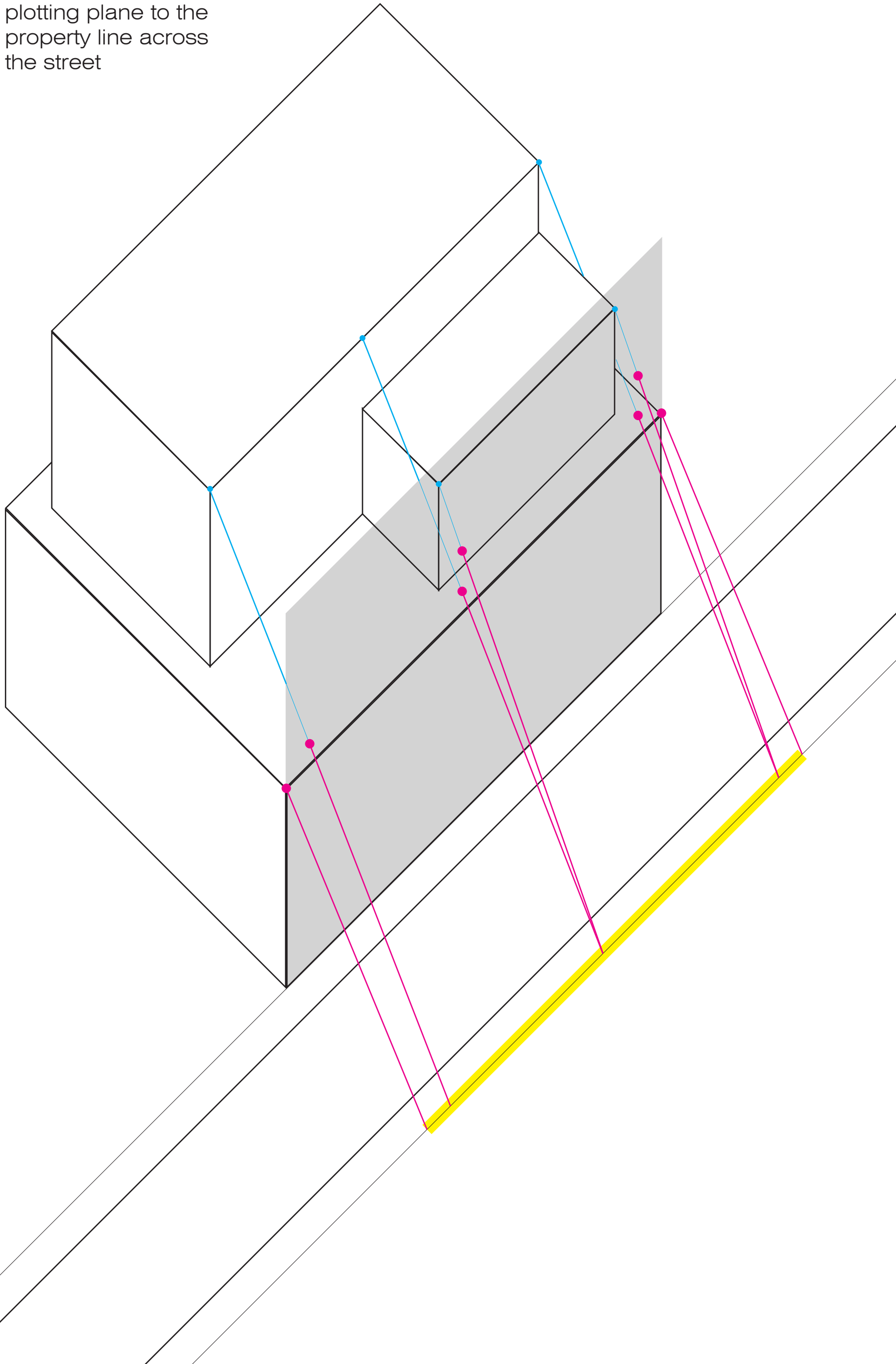
Example (continued):

A vertical plotting plane is placed at the street-facing property line of the building



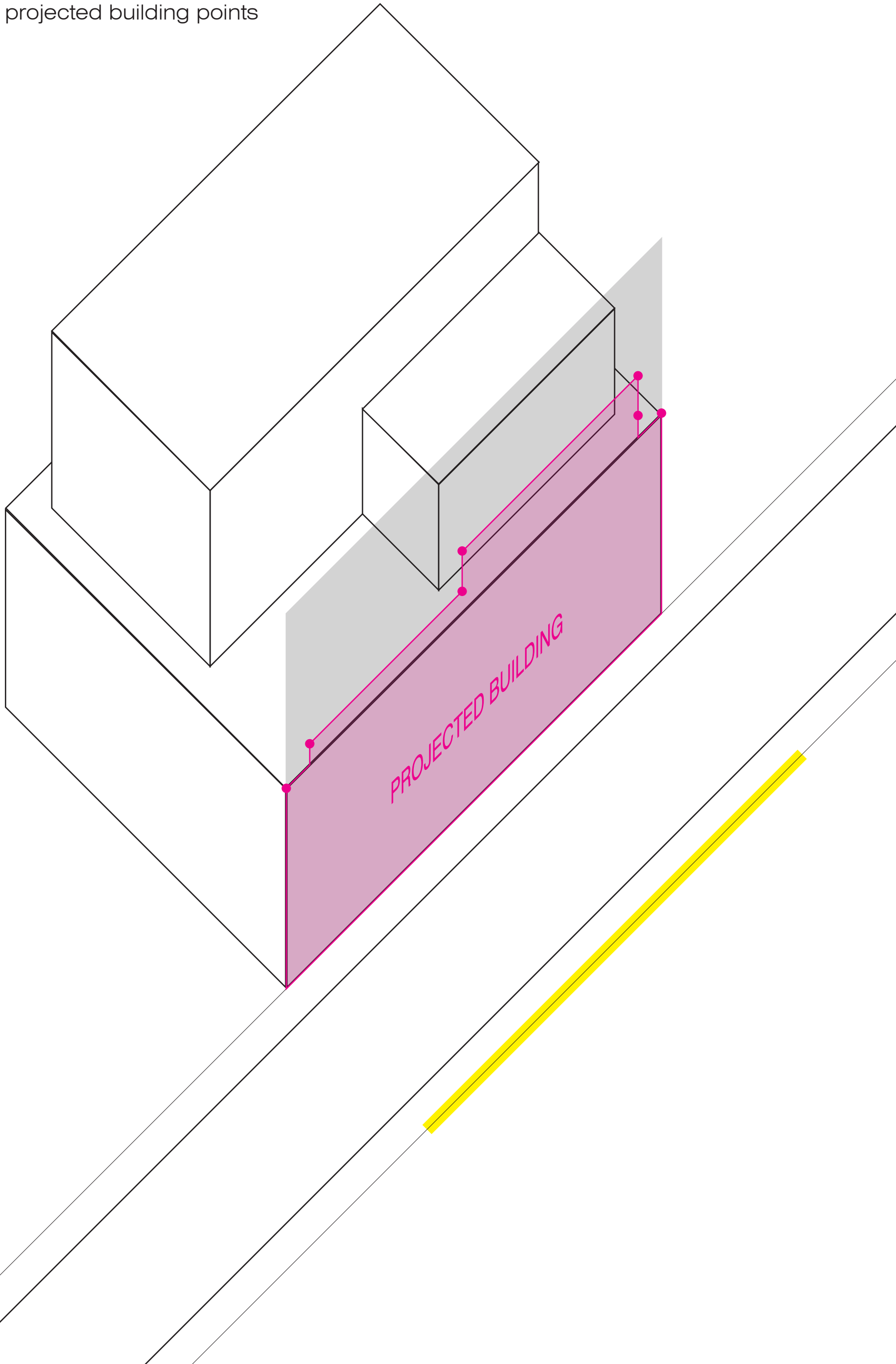
Example (continued):

Building edges and vertices are projected through the plotting plane to the property line across the street



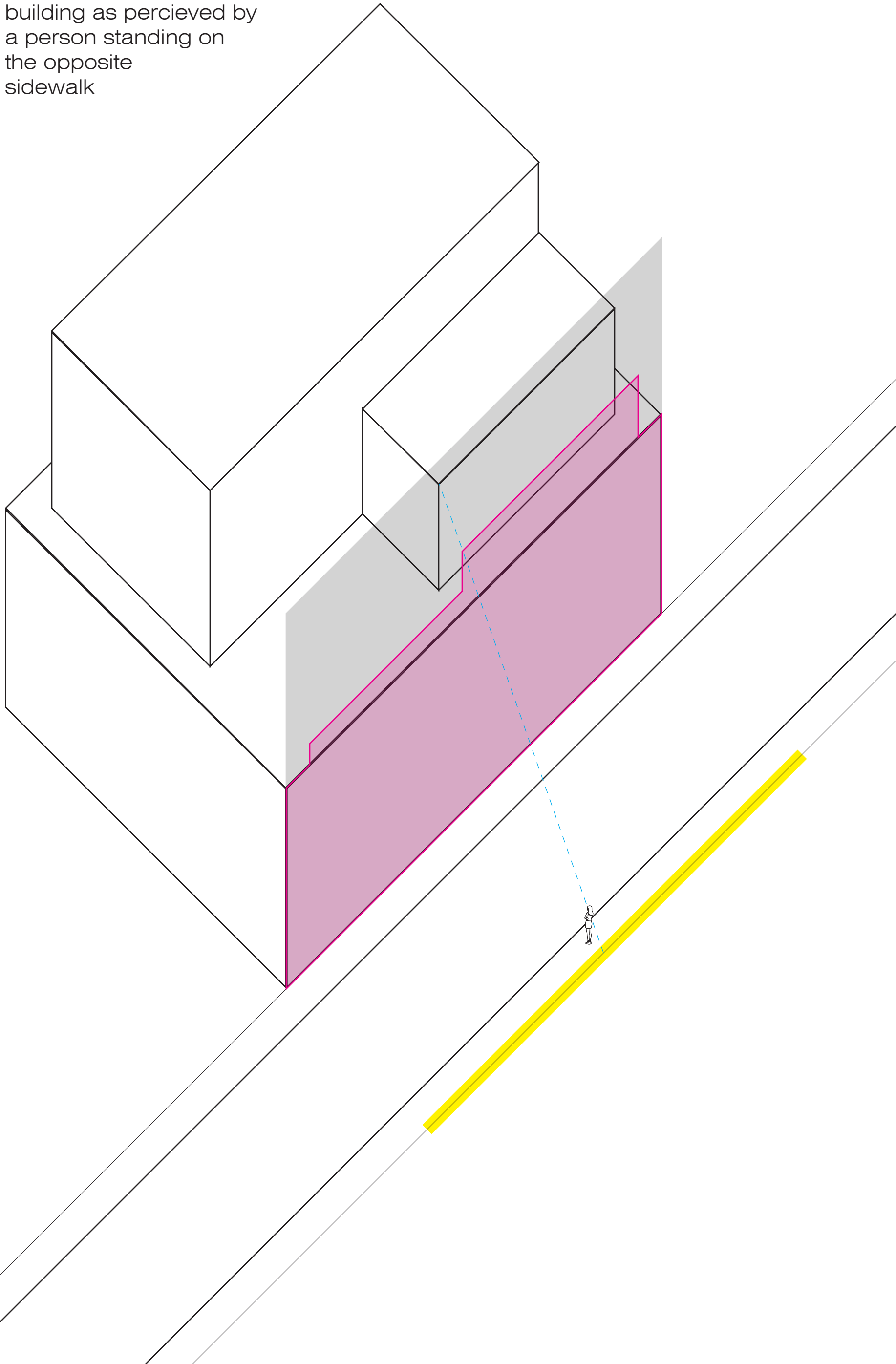
Example (continued):

An image of the building is constructed from the projected building points



Example (continued):

The projected image of the building is a proxy for the building as perceived by a person standing on the opposite sidewalk

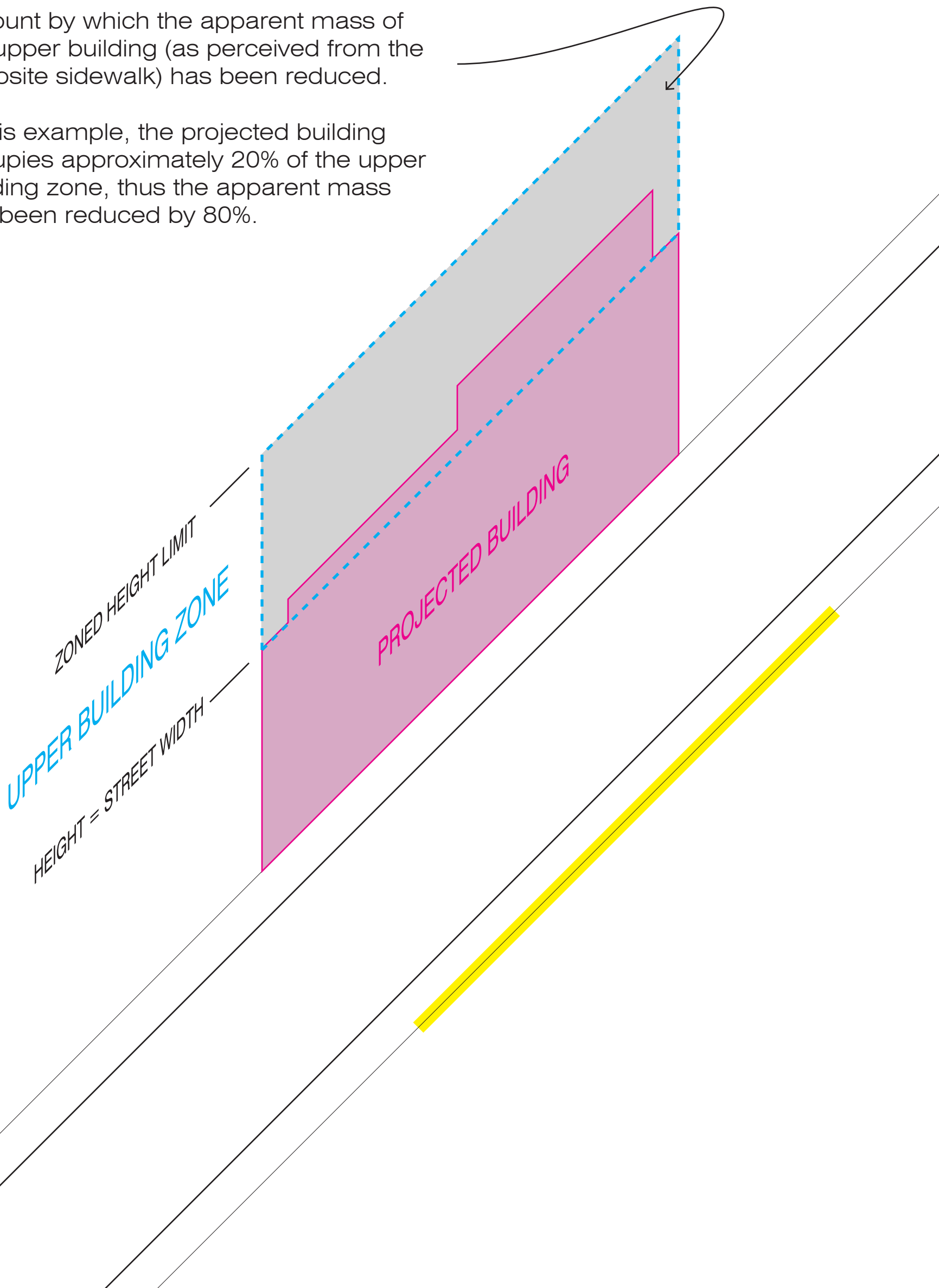


Example (continued):

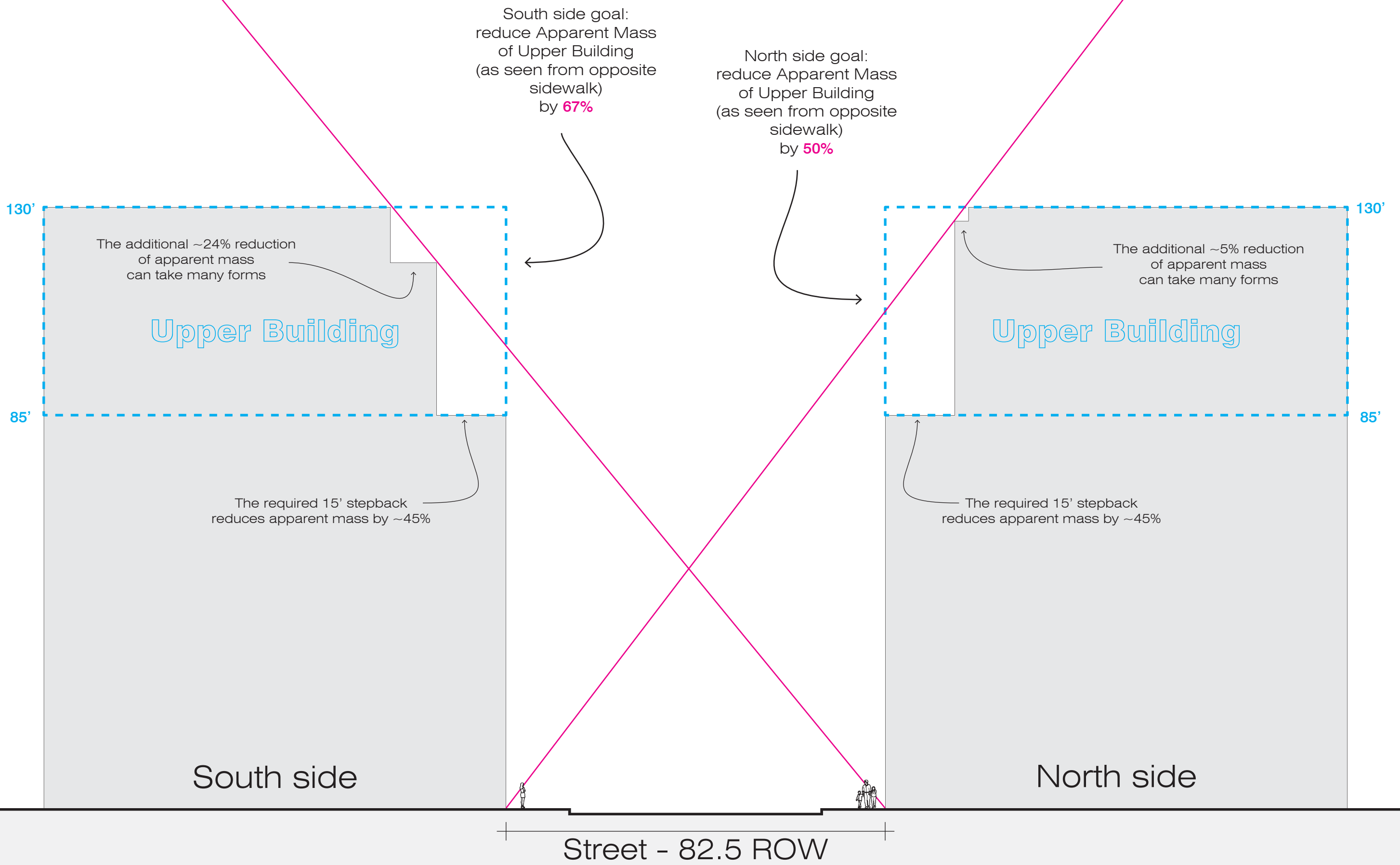
The projected image of the building is used for measurement

Amount by which the apparent mass of the upper building (as perceived from the opposite sidewalk) has been reduced.

In this example, the projected building occupies approximately 20% of the upper building zone, thus the apparent mass has been reduced by 80%.

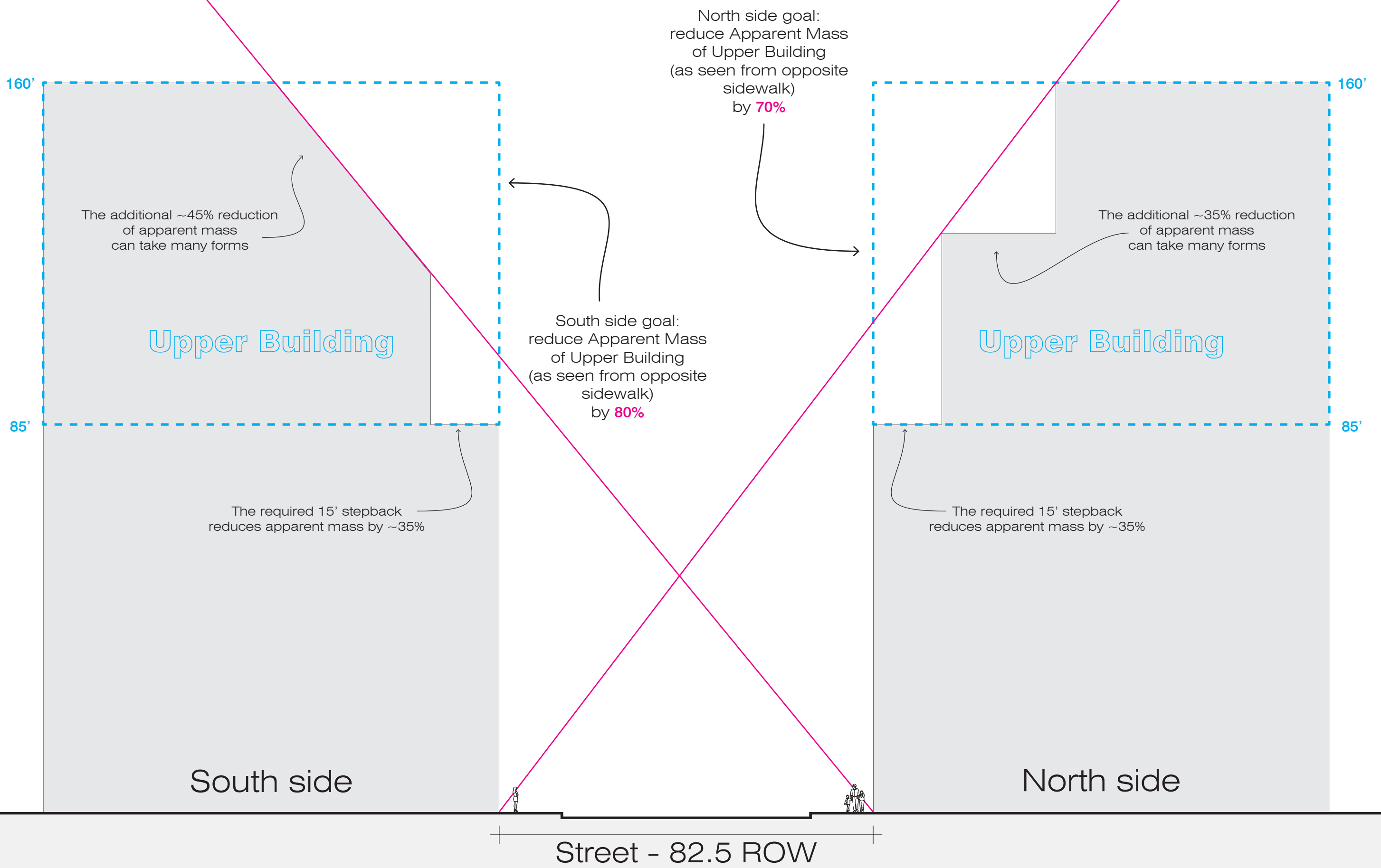


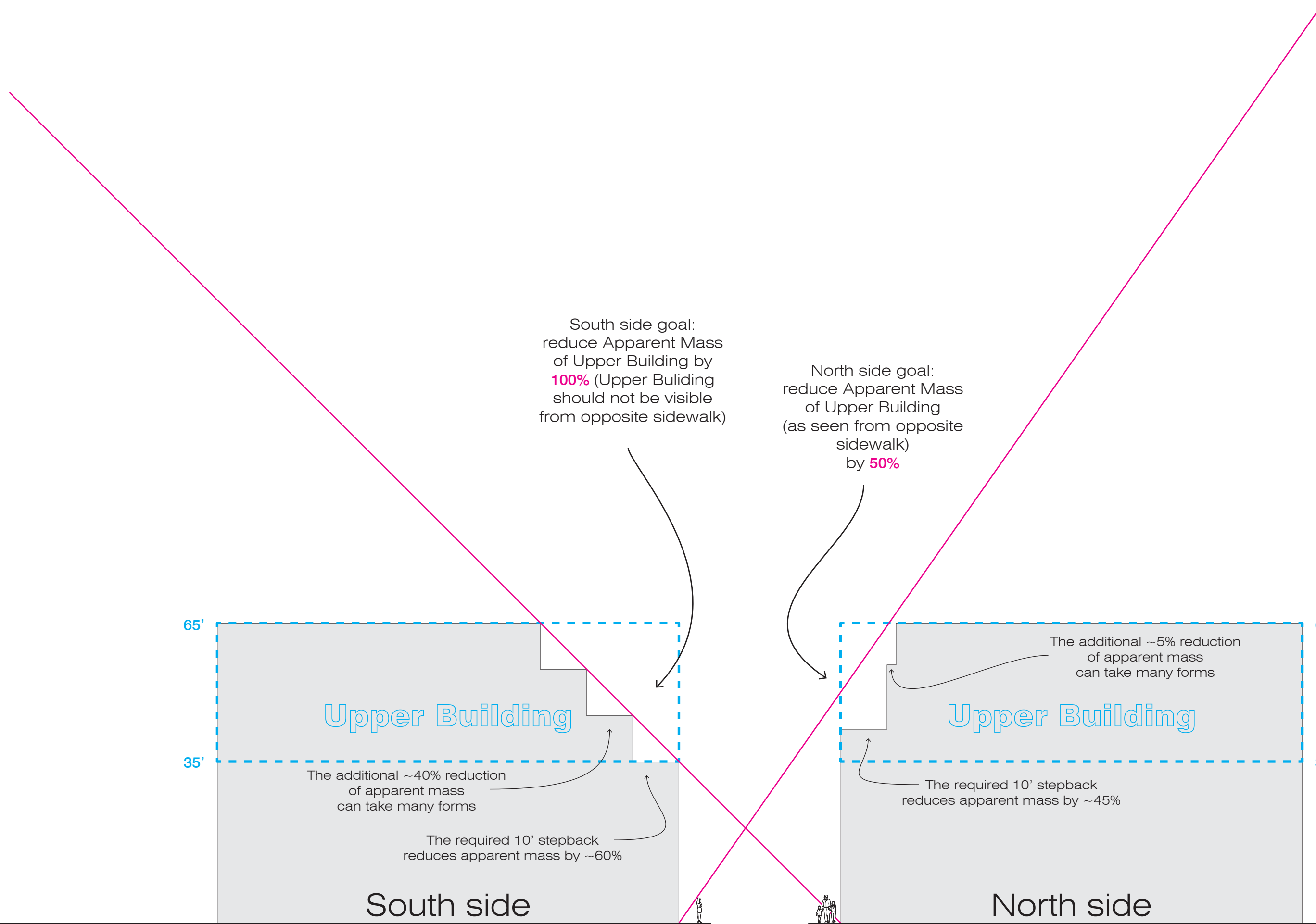
# DRAFT





# DRAFT





South side goal:  
reduce Apparent Mass  
of Upper Building by  
**100%** (Upper Building  
should not be visible  
from opposite sidewalk)

North side goal:  
reduce Apparent Mass  
of Upper Building  
(as seen from opposite  
sidewalk)  
by **50%**

65'

35'

Upper Building

The additional ~40% reduction  
of apparent mass  
can take many forms

The required 10' stepback  
reduces apparent mass by ~60%

South side

65'

35'

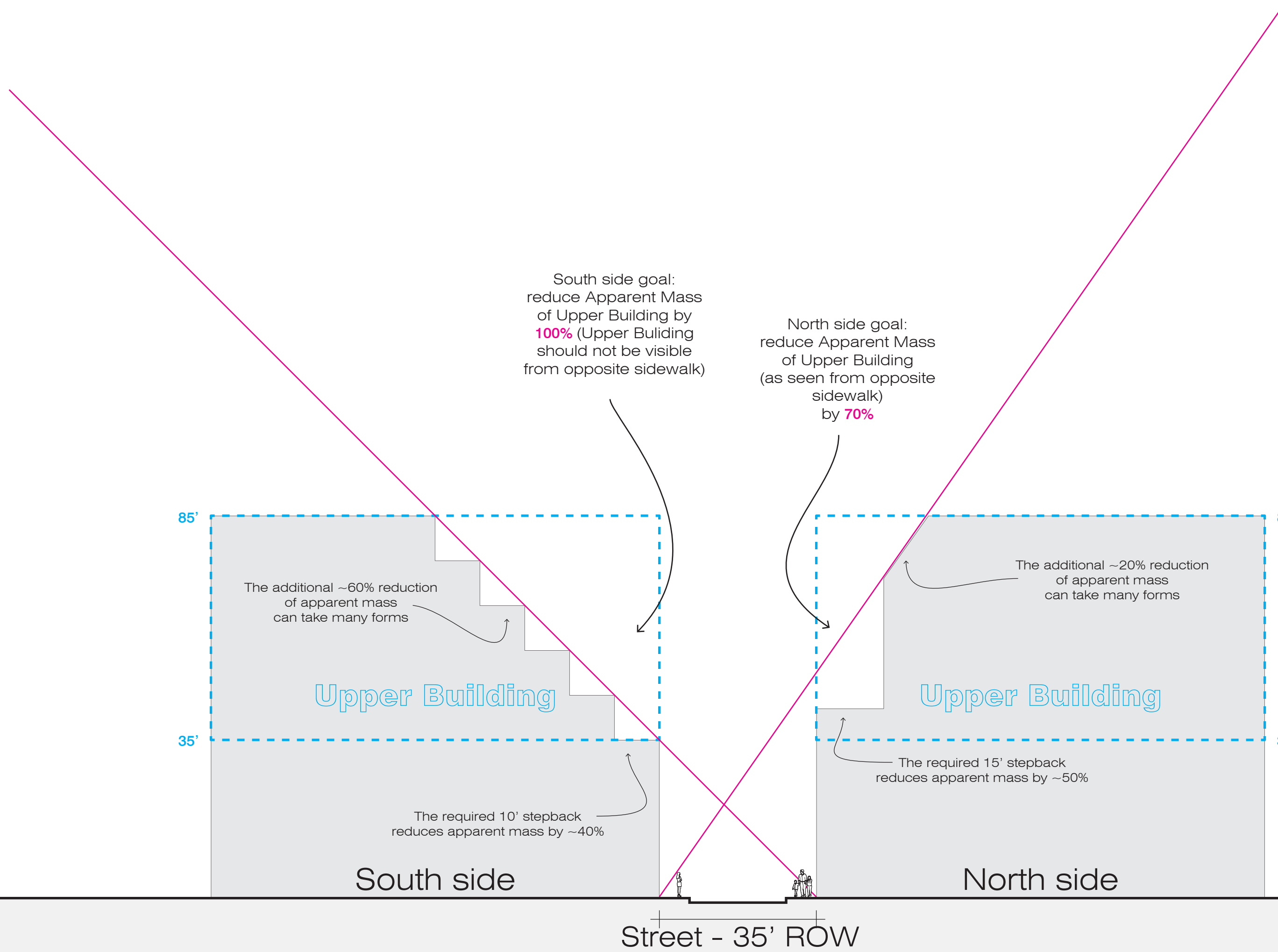
Upper Building

The additional ~5% reduction  
of apparent mass  
can take many forms

The required 10' stepback  
reduces apparent mass by ~45%

North side

Street - 35' ROW



South side goal:  
reduce Apparent Mass  
of Upper Building by  
**100%** (Upper Building  
should not be visible  
from opposite sidewalk)

North side goal:  
reduce Apparent Mass  
of Upper Building  
(as seen from opposite  
sidewalk)  
by **70%**

85'

85'

35'

35'

The additional ~60% reduction  
of apparent mass  
can take many forms

The additional ~20% reduction  
of apparent mass  
can take many forms

Upper Building

Upper Building

The required 10' stepback  
reduces apparent mass by ~40%

The required 15' stepback  
reduces apparent mass by ~50%

South side

North side

Street - 35' ROW

South side goal:  
reduce Apparent Mass  
of Upper Building by  
**100%** (Upper Building  
should not be visible  
from opposite sidewalk)

North side goal:  
reduce Apparent Mass  
of Upper Building  
(as seen from opposite  
sidewalk)  
by **85%**

130'

130'

The additional ~70% reduction  
of apparent mass  
can take many forms

Upper Building

The required 10' stepback  
reduces apparent mass by ~30%

South side

The additional ~45% reduction  
of apparent mass  
can take many forms

Upper Building

The required 15' stepback  
reduces apparent mass by ~40%

North side

Street - 35' ROW

