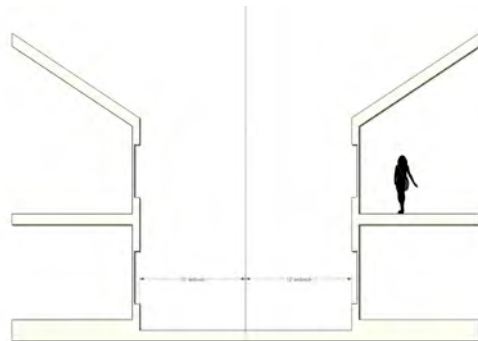


## WORKING PAPER: NEIGHBOR TO NEIGHBOR SCALE AND PRIVACY



Left: Section of side yard space in R-7.5 zone

Right: Example of potential scale and privacy conflict at side yard

**INTENT** *Mitigate incompatible juxtapositions of building scale (height and massing) at neighbor to neighbor side yard.*

*Mitigate privacy conflicts attributable to windows and decks at neighbor to neighbor side yards.*

*Improve access to sun and light at neighbor to neighbor side yards.*

**ISSUE** *As neighborhoods infill, new houses are typically larger houses (of greater floor area, height or coverage) than existing neighbors. Larger houses are often built to minimum allowable setbacks, decreasing the distance between houses at while increasing significant differences of scale (building height, surface area, mass and window area) at the same time. These conditions are most acute at side yards where houses are closest to each other. Here larger houses can appear to crowd, overlook and / or shade smaller neighbors. The resulting juxtapositions of scale, diminished privacy and loss of access to daylight can reduce compatibility for both houses but have greater impact on smaller neighbors.*

*Compatible neighbor to neighbor scale and privacy in Lake Oswego then, is a product of three related attributes:*

- 1. **scale** (the perceived size, height and mass) of neighbors relative to each other*
- 2. **privacy** (the actual or perceived oversight from rooms and decks of taller, larger neighbors*
- 3. **access to light** (the actual or perceived loss of sun or daylight attributable to a shading from a taller, larger neighbor)*

**EXISTING STANDARD** Proximity of houses to each other is regulated by side yard setback standards\*. In the dominant residential zones these are currently:

	<b>R-6</b>	<b>R-7.5</b>	<b>R-10</b>
Existing side yard setback	<b>5'</b> 15' total	<b>10'</b> if > 18' tall	<b>15'</b> if > 18' tall

Maximum height at side yards is regulated by building height standards\*. In the dominant residential zones these are currently:

	<b>R-6</b>	<b>R-7.5</b>	<b>R-10</b>
Existing maximum height at side yard	<b>28'</b>	<b>28'</b>	<b>28'</b>

\* 2003 infill standards allowed a modest decrease in side yard setback and increase in allowable coverage in zones x, x, x, where built height is less than the maximum permitted. This amended standard attempted to create an incentive to design houses that were less than maximum height or stepped down at side yards. If an alternate regulatory standard is created to manage side yard height, this exception should be re-examined.

The maximum area of the planes that make up a side yard elevation are regulated by a new standard adopted in 2003. This standard limited the maximum area of an unbroken side elevation plane to 500 sf. in the R-6, 700 sf in R-7.5 and R-10. The intent was to break long, tall side yard walls into smaller scale components. However, the standard should not apply to street facing side yards and some of the built results are not well designed. Some are arguably less compatible than the simpler unbroken planes that they replaced. Whether an alternate regulatory standard is created to manage side yard scale or not, this standard should be re-examined.

There are no regulatory standards for side yard privacy.

**OBJECTIVES**

- decrease perceived height and scale of two story and greater buildings as they approach side yards
- limit opportunities for second floor living spaces and decks to look across to and down upon neighbors
- increase opportunities for second floor living spaces and decks to orient their view openings toward front and side yards
- increase quantity of daylight available in side yards

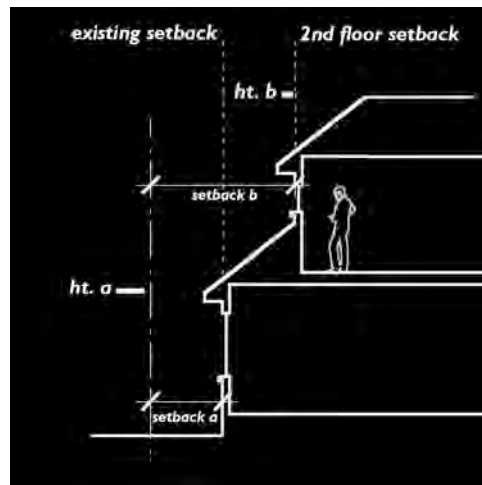
## REGULATORY CONCEPTS

**PROPOSED STANDARDS** *As this issue concerns three closely related attributes (height, massing and openings) that act together, regulation of these attributes should be considered together. However, they need be implemented together. Each or a combination of two could be implemented without the other(s).*

*Neighbor to neighbor scale is a function of two principal variables — perceived **building height at side yards** as houses approach their neighbors and, perceived **massing of the side yard elevation** (the length and height of the wall) that faces a neighbor.*

### **BUILDING HEIGHT AT SIDE YARDS**

*Two options for managing building height at side yards are presented for consideration. One a stepped setback. The second a sloped setback.*



*Left: Stepped setback concept  
Right: Photograph of an example*

### **STEPPED SETBACK OPTION**

*A **stepped side yard setback** is a pair of setback lines that shift building height at side yards by reducing maximum allowable height closest to its side yards. This concept establishes two parallel setback lines, a specified distance apart. The setback closest to the side yard lot line would be associated with a lower maximum building height than the one closer to the middle of the lot. The design of houses should not literally follow this plane and could be any otherwise allowable geometry that fits behind it. As is the case with the front yard setback, smaller scaled roofs and projections should be allowed.*

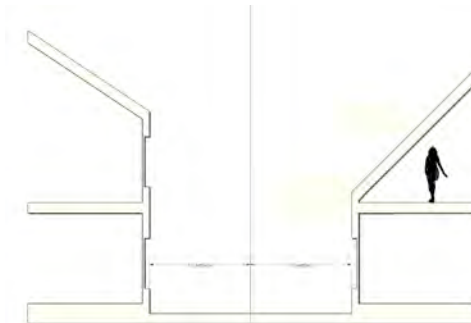
**PROPOSED STEPPED SETBACK STANDARDS**

	<b>R-6</b>	<b>R-7.5</b>	<b>R-10</b>
Maximum height at outermost setback	<b>12'</b>	<b>12'</b>	<b>12'</b>
Maximum height at innermost setback	<b>28'</b>	<b>28'</b>	<b>30'</b>
Distance between setbacks	<b>5'</b>	<b>5'</b>	<b>5'</b>

Maximum height at outermost setback was estimated as a reasonable one story roof fascia height. A greater height could be considered in R-10 where minimum setbacks situate buildings 10' farther apart than in R-7.5. Distance between setbacks was estimated as sufficient to articulate a clear 'step back' effect as well as to allow opportunity for skylights or glazed roofs into the lower volume. See also horizontal step back increment below which is also proposed to be 5' per step.

**SLOPED SETBACK OPTION**

A **sloped side yard setback** is a single setback line that rises up to a specified height and slopes back toward the center of the lot. It is identical to the front setback plane now in effect. As is the case with the front setback plane, the design of houses should not literally follow this plane and can be any otherwise allowable geometry that fits behind it. As is the case with the front yard setback, smaller scaled roofs and projections can be allowed.



**Left:** Sloped setback concept  
**Right:** Photograph of an example

**PROPOSED STEPPED SETBACK STANDARDS**

	<b>R-6</b>	<b>R-7.5</b>	<b>R-10</b>
Height at start of slope	<b>12'</b>	<b>12'</b>	<b>12'</b>
Angle of slope	<b>45°</b>	<b>45°</b>	<b>45°</b>
Height at termination of slope	<b>28'</b>	<b>28'</b>	<b>30'</b>

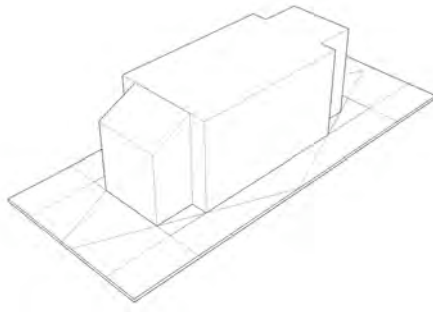
*Maximum height at which slope begins was estimated as a reasonable one story roof fascia height. A greater height could be considered in R-10 where minimum setbacks situate buildings 10' farther apart than in R-7.5. Angle of slope was estimated as the height gain to accommodate a second floor of sufficient area on most lots. This assumption warrants more extensive testing on a wider range of lot geometries should this regulatory concept be pursued.*

**SIDE ELEVATION MASSING**

*Mitigating the perceived length and height of a side yard elevation can be achieved by requiring that no portion of a wall be greater than a specified area (the current standard is 500 or 700 square feet without a change in plane). As discussed above, this is an indirect and inflexible solution with unintended design quality consequences. One regulatory alternative, a horizontal angle within which the footprint of a house must fit, is proposed for consideration.*

**HORIZONTAL SIDE SETBACK ANGLE**

*A **horizontal side setback angle** (also called a daylight angle in some jurisdictions) is more direct and flexible alternative. With this concept, a horizontal angled line is positioned at any point along the side property line and the footprint of the house must fit completely within that angle. The effect is to require that walls step back toward the center of the lot when they exceed a specified length at the setback line. In addition to breaking long continuous walls into shorter sections, the 'steps' created in the side wall steps back create opportunities for front and rear yard facing doors windows that could serve rooms without compromising privacy of neighbors with facing windows.*



Left: Horizontal angle side setback concept  
 Right: Photograph of an example

**PROPOSED HORIZONTAL ANGLE STANDARDS**

	<b>R-6</b>	<b>R-7.5</b>	<b>R-10</b>
Horizontal side yard angle	<b>135°</b>	<b>135°</b>	<b>120°</b>
Minimum 'step' dimension	<b>5'</b>	<b>5'</b>	<b>5'</b>

Proposed angles were estimated by evaluating the length of the longest wall that would be generated by them (see table below). Since the angle apex lies at the property line and the R-10 side setback is greater than that in R-7.5 or R-6 (15' versus 10') the proposed angle was decreased to achieve a similar maximum length of wall. For this draft that wall was assumed to generate a 1 story wall roughly equal to the current maximum side elevation plane standard. Should a lower maximum side yard height be considered as discussed above, these angles could be recalibrated. For example (proposed standard is the shaded cell):

**R-6 / R7.5      120°      125°      130°      135°**

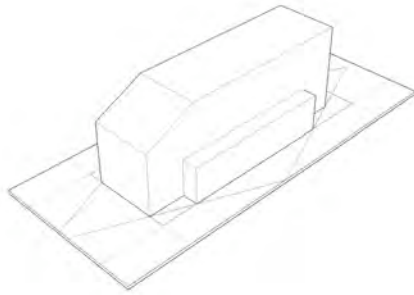
Max. wall length at 10' setback	<b>35'</b>	<b>38'</b>	<b>43'</b>	<b>48'</b>
Max. area of wall if 12' high	<b>420</b>	<b>456</b>	<b>516</b>	<b>576</b>
Max. area of wall if 18' high	<b>630</b>	<b>684</b>	<b>774</b>	<b>864</b>
Max. area of wall if 24' high	<b>840</b>	<b>912</b>	<b>1032</b>	<b>1152</b>

**R-10      120°      125°      130°      135°**

Max. wall length at 15' setback	<b>52'</b>	<b>58'</b>	<b>64'</b>	<b>72'</b>
Max. area of wall if 12' high	<b>624</b>	<b>696</b>	<b>768</b>	<b>864</b>
Max. area of wall if 18' high	<b>936</b>	<b>1044</b>	<b>1152</b>	<b>1296</b>
Max. area of wall if 24' high	<b>1248</b>	<b>1392</b>	<b>1536</b>	<b>1728</b>

**HORIZONTAL ANGLE SIDE SETBACK + STEPPED (OR SLOPED) BUILDING HEIGHT SETBACK**

While these standards need not necessarily be implemented together, a horizontal angle side setback and a layered or sloped building height are complementary concepts that can be compatibly combined. The result is a combined side setback geometry that requires houses step back in PLAN and down in SECTION as they approach side yard neighbors.

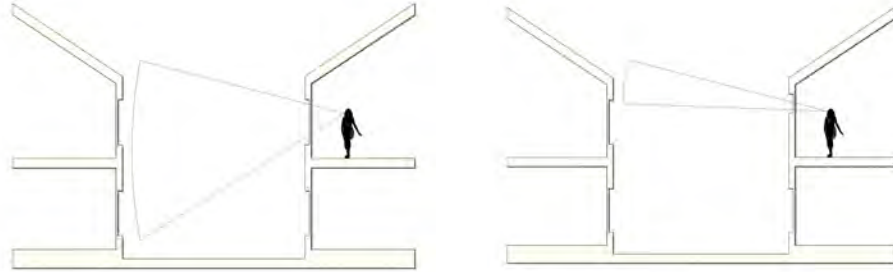


**Left:** Horizontal angle side back + stepped building height concept  
**Right:** Photograph of an example

**SIDE YARD WINDOW AND DECK SIZE AND LOCATION**

Perceived neighbor to neighbor privacy is in part a function of the above variables and in part a function of the size and location of the windows and decks that could be perceived to look into or down upon neighboring houses and yards. Windows and decks effectively screened by trees, plantings or landscape structures could be excepted.

The size and location of some (non-egress) side elevation windows can be managed by limiting the allowable sill height to a dimension above normal sight lines.

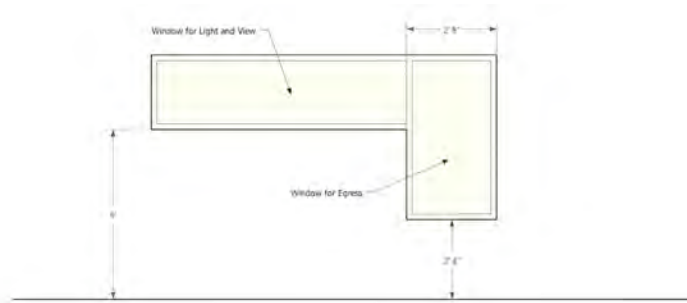


**Left:** Side elevation window privacy conflict  
**Right:** Side elevation window elevated sill

**PROPOSED MINIMUM ‘NON-EGRESS’ WINDOW SILL HEIGHT STANDARDS**

	<b>R-6</b>	<b>R-7.5</b>	<b>R-10</b>
Minimum sill height	<b>60”</b>	<b>60”</b>	<b>60”</b>

This proposed sill height was estimated based on typical eye level of a standing person. It would only apply to side yard facing windows or portions of windows not required (by code) for egress. For example,



**Below:** Sample window elevation combining two sill heights

The size and location of decks can be managed by requiring opaque enclosures or privacy screens up to a specified height on any deck within a specified distance of a side yard.

*Not illustrated in this draft*

*Not illustrated in this draft*

**Left:** Side yard deck privacy screen concept

**Right:** Photograph of an example

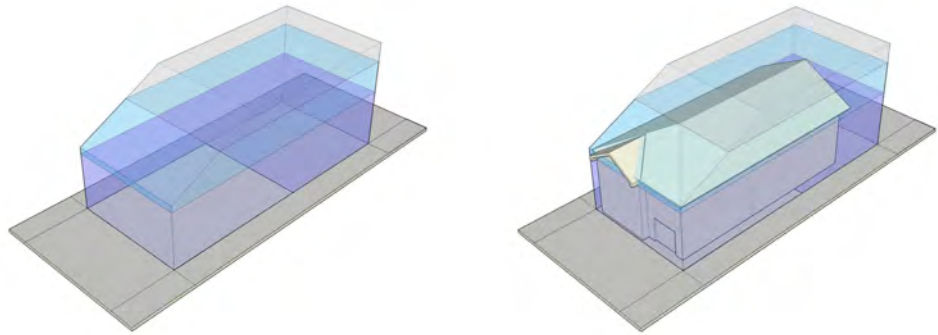
**PROPOSED HEIGHT OF SIDE FACING DECK PRIVACY SCREEN STANDARDS**

	<b>R-6</b>	<b>R-7.5</b>	<b>R-10</b>
Minimum height side yard facing enclosures / privacy screens	<b>42"</b>	<b>42"</b>	<b>42"</b>

*This proposed enclosure / privacy height was estimated based on typical eye level of a seated person. It would only apply to side yard facing sides of decks.*

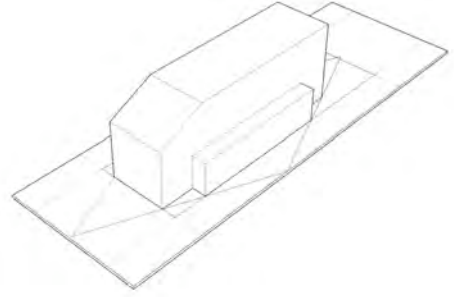
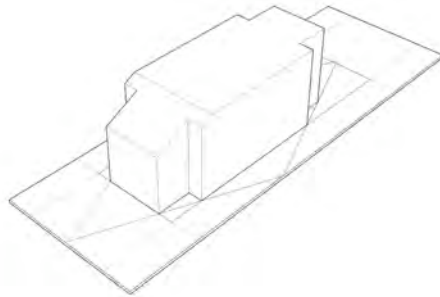
**ILLUSTRATIONS**  
**BY ZONE / PARCEL TYPE** **PROPOSED HORIZONTAL ANGLE SIDE YARD SETBACK**  
**PROPOSED STEPPED SIDE YARD SETBACK**  
**EXISTING FRONT SETBACK PLANE**

*Volumetric line drawings on the following two pages illustrate the building envelope that would result if the proposed horizontal angle and stepped side yard setbacks were applied to four (R-7.5 and R-10 narrower and wider) of the design condition lot types outlined in another working paper. As this envelope is not intended to define the shape of the house itself (but rather the boundaries of its height and massing), the shaded line drawing below illustrates one potential version of a house that would fit within one such envelope.*

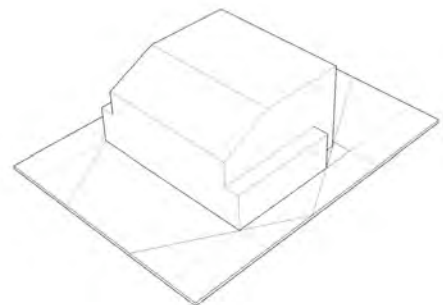
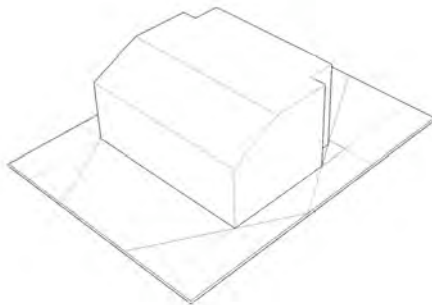


**Left:** Massing envelope concept  
**Right:** Massing envelope concept with conforming house illustrated within

**R-7.5**  
**MASSING ENVELOPE**  
**ILLUSTRATIONS**

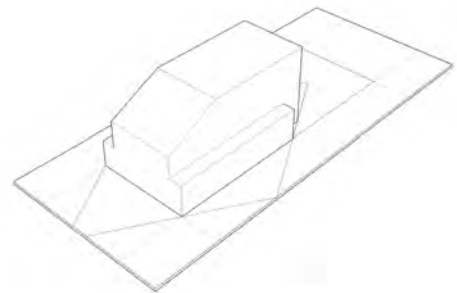
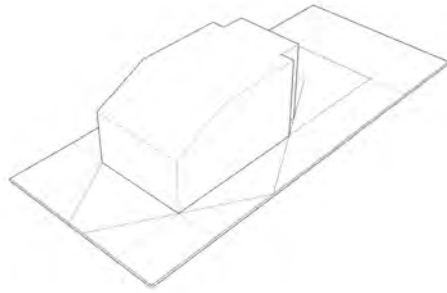


**Left:** R-7.5 narrower lot horizontal setback only  
**Right:** R-7.5 narrower lot horizontal plus stepped setback

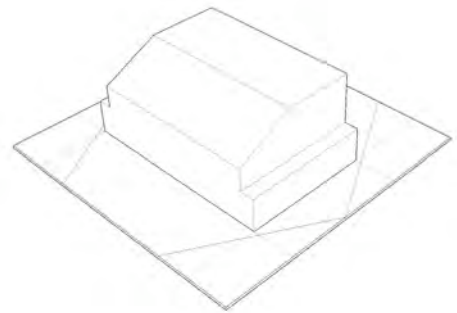
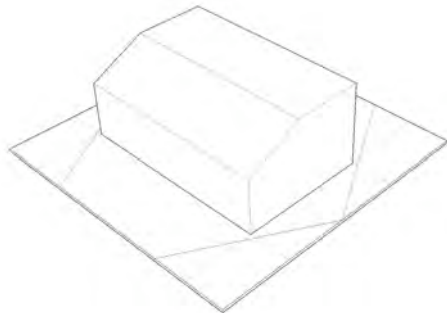


**Left:** R-7.5 wider lot horizontal setback only  
**Right:** R-7.5 wider lot horizontal plus stepped setback

**R-10**  
**MASSING ENVELOPE**  
**ILLUSTRATIONS**



**Left:** R-10 narrower lot horizontal setback only  
**Right:** R-10 narrower lot horizontal plus stepped setback



**Left:** R-10 wider lot horizontal setback only  
**Right:** R-10 wider lot horizontal plus stepped setback