

# Overview of Potential Mass and Scale Standards

February 22, 2013

## Objectives and Issues

The Eastside and Westside Neighborhoods Character Study seeks to identify tools to retain and enhance the unique character and context of the Eastside and Westside Neighborhoods as they continue to change with renovations, additions and new housing construction.

A *Strategy Report* dated November 15, 2012 describes the study's extensive public process and a range of strategy options to address identified objectives and issues. City Council provided the following direction on the strategy options at a Work Session on November 27, 2012:

- Develop a strategy to promote the City's existing design assistance program (strategy option 1)
- Expand notification of variances (strategy option 2)
- Create voluntary design guidelines (strategy option 3 – to be developed as part of future planning efforts)
- Adjust height-at-setback and floor area ratio (FAR) measurement methods (strategy option 4)
- Address building mass and solar access (strategy option 5), including revisions to existing FAR standards (strategy option 5a), and new standards to address mass and solar impacts (strategy option 5c)
- Illustrate the effect of potential standards on new construction and additions

This document provides an illustrated overview of the effect of the potential measurement and mass and scale standards included in strategy options 4 and 5. Per direction from City Council, it also introduces a potential revision to the existing maximum floor area ratio (FAR) standard that applies in the neighborhoods. A series of case studies illustrating the effect of the potential mass and scale standards on new construction in the neighborhoods over the last ten years is also included.

As described in the *Strategy Report*, the study's public process identified a range of neighborhood objectives and issues.

Objectives include:

1. Promote awareness of what makes the neighborhoods great
2. Promote compatible re-development
3. Maintain a sense of community
4. Encourage communication among neighbors
5. Preserve flexibility for change and reinvestment
6. Acknowledge economic impacts

Issues include:

- A. New construction that appears to be overly large in relation to its context
- B. Building walls that appear to loom over neighbors
- C. Reduced solar access
- D. Incompatible design features
- E. Loss of older/more affordable houses
- F. Loss of green space and mature trees

**In the project's next steps, City Council will consider the potential standards in a series of public hearings.**

# Adjusted Measurement Methods

In response to direction from City Council, this would implement strategy option 4 by adjusting the method for measuring building height at the minimum side yard setback and FAR to better account for the impact of tall walls on raised grade and high volume spaces.

## Side Wall Height Measurement

This would adjust the measurement method for maximum wall height at the minimum side yard to measure height from the existing grade at the side lot line, rather than improved grade (i.e., artificially-raised ground level). The effect of adjusting the height measurement method is illustrated in the following pages.

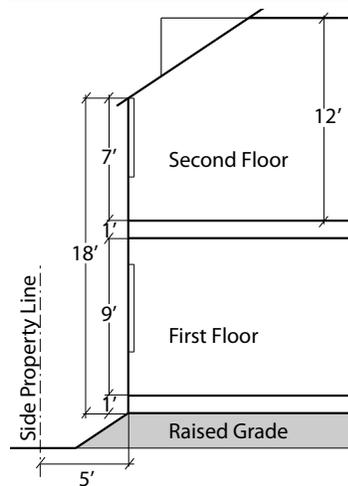
## Floor Area Measurement

This would adjust measurement of floor area for purposes of calculating maximum permitted floor area ratio (FAR). The measurement method would be adjusted to:

- Count large volume spaces with floor-to-ceiling heights above 14' as two floors
- Count basement floor areas with ceiling heights more than 3' above ground level (out of ground basements) while exempting all other basement floor area.
- Not count up to 250 square feet of a detached accessory building located at least 10' behind the principal building to promote separate building masses.

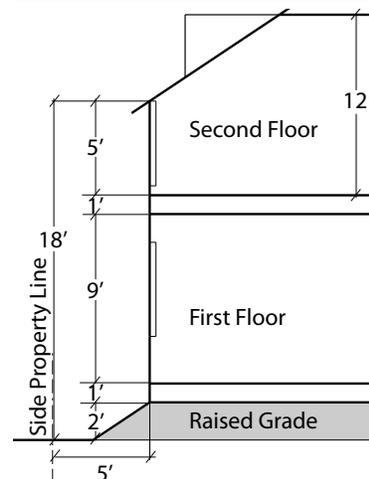
The effect of adjusting the FAR measurement method is illustrated in the following pages.

**Existing Height at Side Setback Measurement**



Where grade has been raised, or a property slopes upward from the property line, the existing method measures height from the raised level at the base of the wall.

**Adjusted Height at Side Setback Measurement**



Because the adjusted method would measure building height from the existing grade at the side property line, the height of a second story would be lower where grade has been raised.

# Design Standards to Address Building Mass and Solar Impacts

In response to direction from City Council, this would implement strategy option 5 by developing new and revised design standards (zoning requirements) to address the scale and solar access impacts of larger new construction and additions.

## Revisions to Existing Maximum FAR Standards

This would implement strategy option 5a by revising the minimum lot area standards that currently relate lot area to the total floor area of buildings on the lot in the N-C-L and N-C-M zoning districts. City Council directed that this strategy option be developed to complement the mass and scale tools suggested in the Strategy Report.

A potential revised standard would reduce the maximum FAR from the currently permitted 0.40 in the N-C-L district and 0.50 in the N-C-M district according to a sliding scale as summarized in the table below.

Potential Floor Area Ratio (FAR) Formula	
N-C-L	N-C-M
Lot < 5,000 sf = 0.40	Lot < 4,000 sf = 0.50
Lot ≥ 5,000 sf and < 10,000 sf = 0.20 + 1,000 sf	Lot ≥ 4,000 sf and < 10,000 sf = 0.25 + 1,000 sf
Lot ≥ 10,000 sf = 0.30	Lot ≥ 10,000 sf = 0.35

For example, formula above would limit floor area on a 7,000 square foot lot in the N-C-M district to 2,750 square feet ((7,000x0.25)+1,000=2,750) with an additional allowance for 250 square feet in a detached rear accessory (acc.) structure on a lot of 6,000 square feet or more, for a total of 3,000 square feet. The table below compares existing and potential floor area standards on a variety of lot sizes.

Comparison of Existing and Potential Floor Area Standards												
Lot Size (Sq. Ft.)	N-C-L Zone District						N-C-M Zone District					
	Existing Standard			Potential Standard			Existing Standard			Potential Standard		
	Max. FAR	Floor Area Allowance for Acc. Structure	Total Allowed Floor Area	Max. FAR	Floor Area Allowance for Acc. Structure	Total Allowed Floor Area	Max. FAR	Floor Area Allowance for Acc. Structure	Total Allowed Floor Area	Max. FAR	Floor Area Allowance for Acc. Structure	Total Allowed Floor Area
3,000	0.40	0	1,200	0.40	0	1,200	0.50	0	1,500	0.50	0	1,500
4,000	0.40	0	1,600	0.40	0	1,600	0.50	0	2,000	0.50	0	2,000
5,000	0.40	0	2,000	0.40	0	2,000	0.50	0	2,500	0.45	0	2,250
6,000	0.40	0	2,400	0.41	250	2,450	0.50	0	3,000	0.46	250	2,750
7,000	0.40	0	2,800	0.38	250	2,650	0.50	0	3,500	0.43	250	3,000
8,000	0.40	0	3,200	0.36	250	2,850	0.50	0	4,000	0.41	250	3,250
9,000	0.40	0	3,600	0.34	250	3,050	0.50	0	4,500	0.39	250	3,500
10,000	0.40	0	4,000	0.33	250	3,250	0.50	0	5,000	0.38	250	3,750
11,000	0.40	0	4,400	0.32	250	3,550	0.50	0	5,500	0.37	250	4,100
12,000	0.40	0	4,800	0.32	250	3,850	0.50	0	6,000	0.37	250	4,450
13,000	0.40	0	5,200	0.32	250	4,150	0.50	0	6,500	0.37	250	4,800
14,000	0.40	0	5,600	0.32	250	4,450	0.50	0	7,000	0.37	250	5,150
15,000	0.40	0	6,000	0.32	250	4,750	0.50	0	7,500	0.37	250	5,500

## Special Solar Access Setbacks

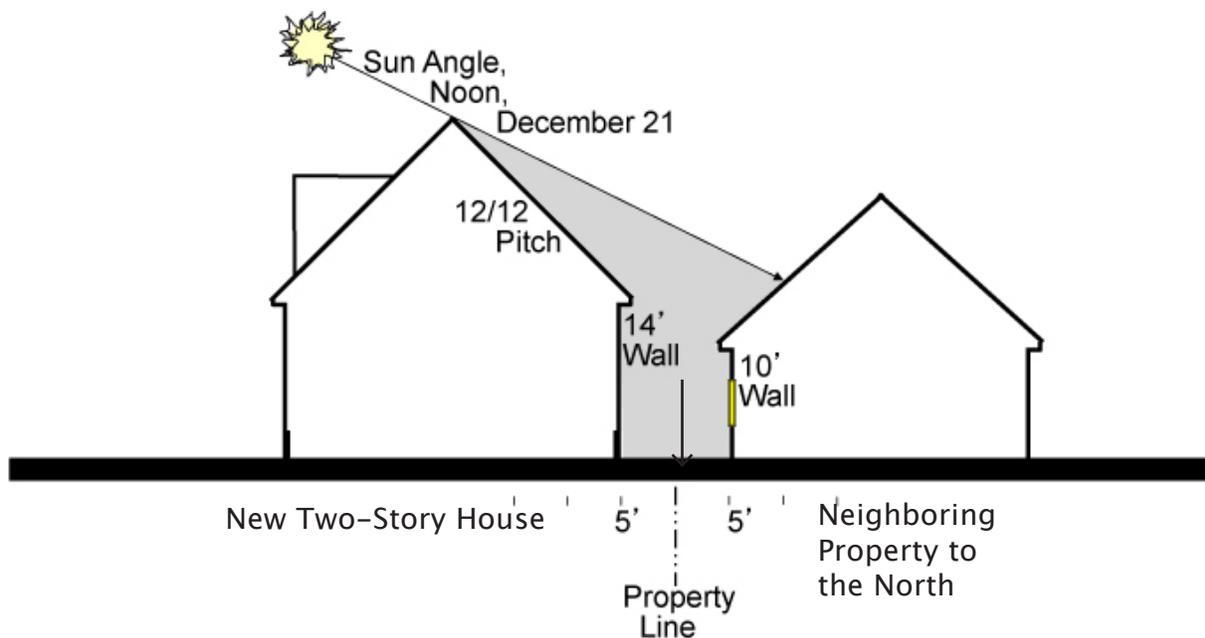
This would implement strategy option 5c by introducing a reduced maximum wall height at the minimum side yard to minimize the potential solar access impacts of large new houses or additions on neighbors to the north.

Special solar access setbacks would only apply to building walls that face a one-story neighbor to the north as part of construction that results in:

- A two-story house where a one-story house previously existed, or
- A new house that is greater than 2,500 square feet, or
- A second-story addition that results in a total square footage of more than 3,000 square feet.

To preserve solar access, maximum height at the minimum side yard setback where a property faces a one-story neighbor to the north would:

- Be reduced to 14' from the currently allowed 18'\*
- Increase by 1' for each 1' of additional setback



*The special solar access setbacks would reduce wall height where a property faces a one-story neighbor to the north. Limiting height to 14' at the minimum side yard setback would preserve solar access to most of the south-facing roof of a one-story house built at the minimum side yard setback on the property to the north at noon on December 21.*

\*To allow additional flexibility on lots 40' or less in width, the 14' starting height can increase by 1' for each 1' of decreased lot width up to a maximum starting height of 18'

## Additional Building Design Standards

This would implement strategy option 5c by introducing additional building design standards to address the character of front and side building façades.

### *Front Façade Character*

Additional building design standards for front façade character are intended to encourage larger new construction and additions to incorporate pedestrian-friendly façade designs that are compatible with street character in the Eastside and Westside neighborhoods. They would only apply to:

- A new two-story house where a one-story house previously existed and where there is an abutting house on either side that is one-story, or
- A new house that is greater than 2,500 square feet, or
- A second-story addition that results in a total square footage of more than 3,000 square feet.

A potential menu of front façade design options is illustrated on page 6.

### *Side Façade Character*

Additional building design standards for side façade character are intended to reduce the perceived mass and scale and potential looming and privacy impacts of larger new construction and additions. Note that north-facing walls that meet the standards described on the previous page would generally also meet the additional building design standards.

They would only apply to:

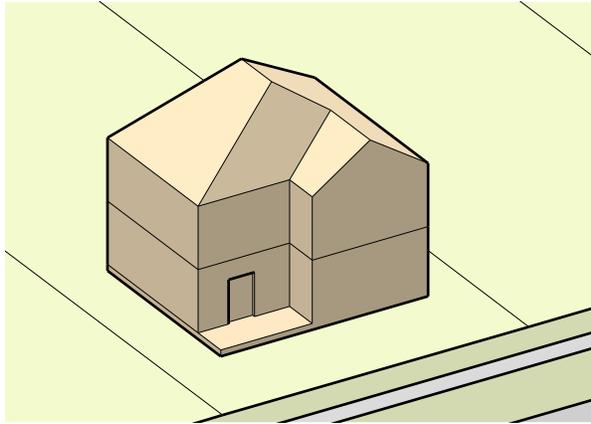
- A new house that is greater than 2,500 square feet, or
- A second-story addition that results in a total square footage of more than 3,000 square feet.

A potential menu of side façade design options is illustrated on page 7.

## Menu of Design Options for Front Façade Character

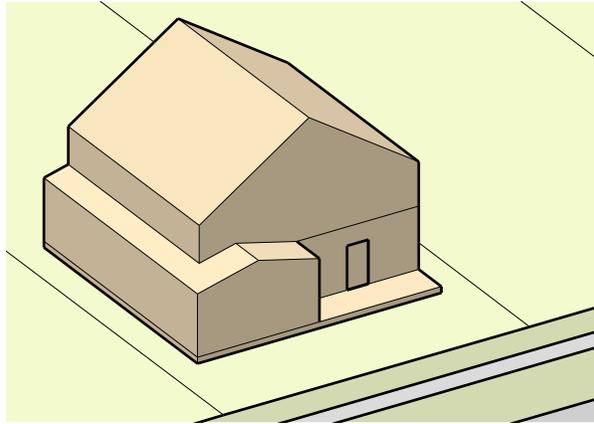
The menu of front façade design options illustrated below is intended to promote pedestrian orientation and compatibility with the character of structures on the block face. As described on page 5, incorporating at least one design option would be required for larger two-story structures.

### Wall Offset



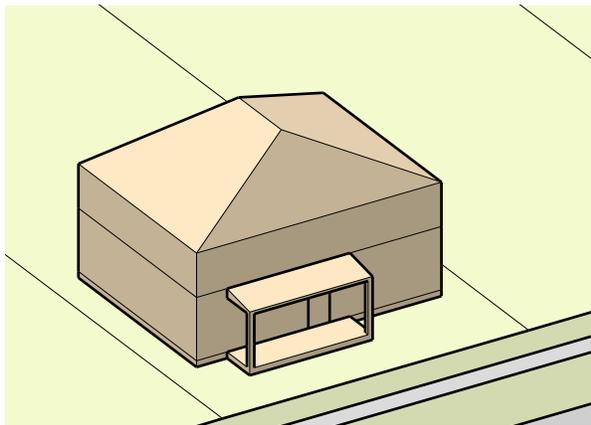
*Two-story façade width at the minimum side yard is no more than 40', with any remaining two-story façade set back an additional 6' beyond the minimum required side yard.*

### One Story Element



*The portion of the façade closest to the street is one-story, with any two-story façade set back an additional 16' from the street.*

### Covered Entry Feature

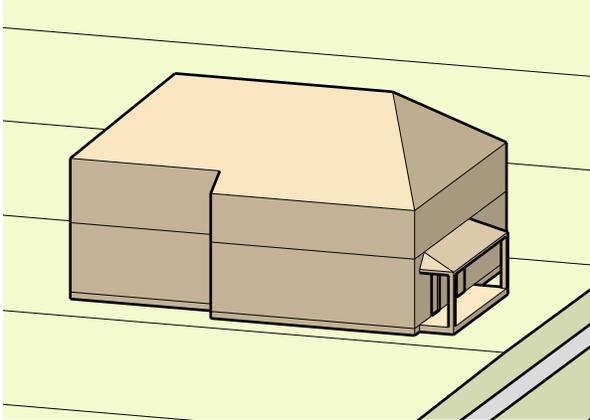


*A covered entry feature such as a front porch or stoop is located on the front façade. The feature shall have a minimum depth of at least 6'.*

## Menu of Design Options for Side Façade Character

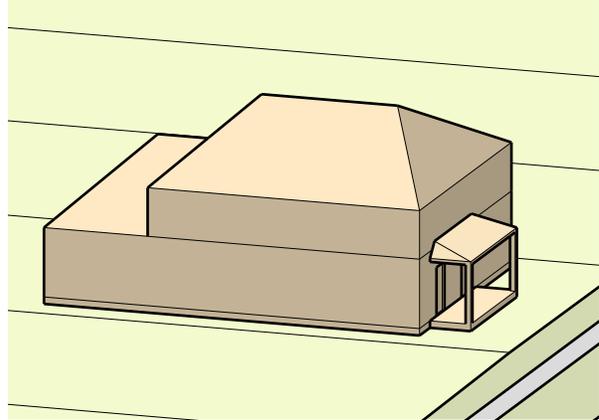
The menu of front façade design options illustrated below is intended to address potential privacy impacts on neighbor. As described on page 5, incorporating at least one design option would be required for structures.

### Wall Offset



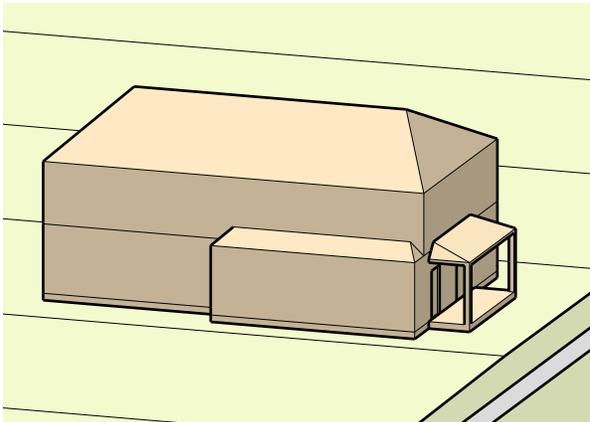
*Two-story façade width at the minimum side yard is no more than 40', with any remaining two-story façade set back an additional 6' beyond the minimum required side yard.*

### Step Down in Height



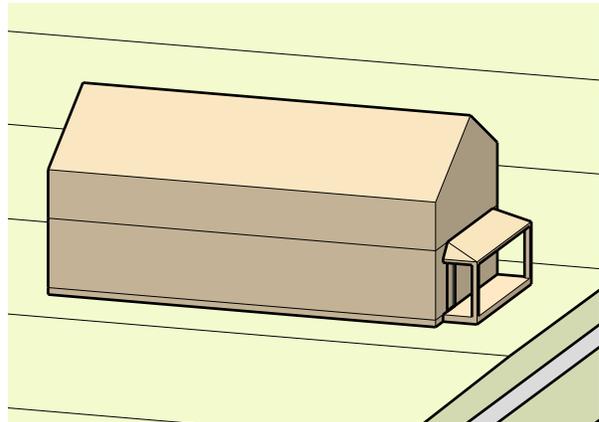
*Two-story façade width at the minimum side yard is no more than 40', with any remaining façade width at the minimum side yard reduced to one-story.*

### One Story Element



*A one-story building element with a minimum depth of six 6' is located at the minimum side yard.*

### Additional Setback

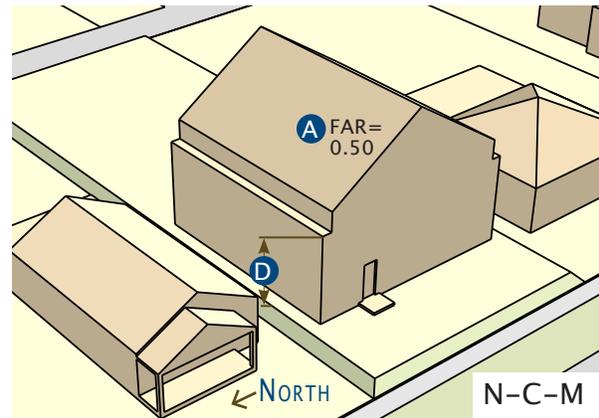
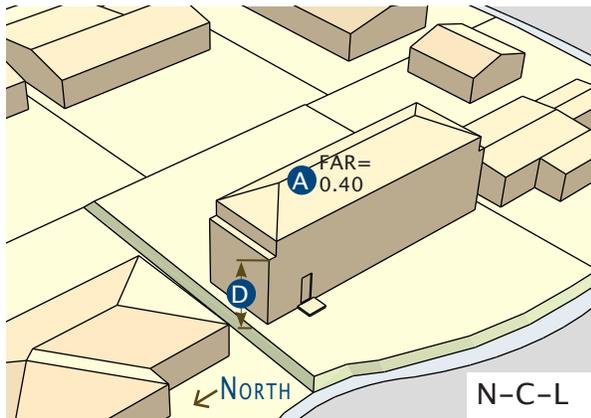


*Any two-story façade is set back an additional six 6' beyond the minimum required side yard.*

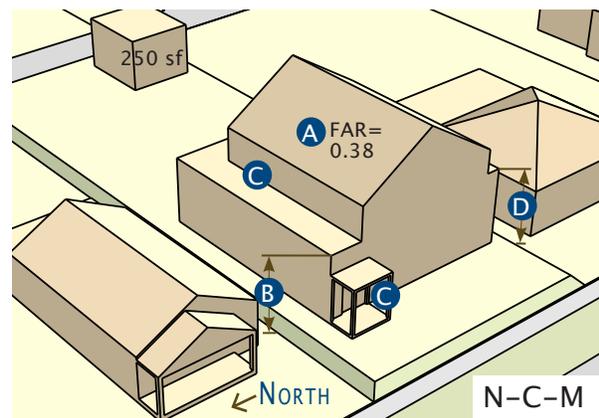
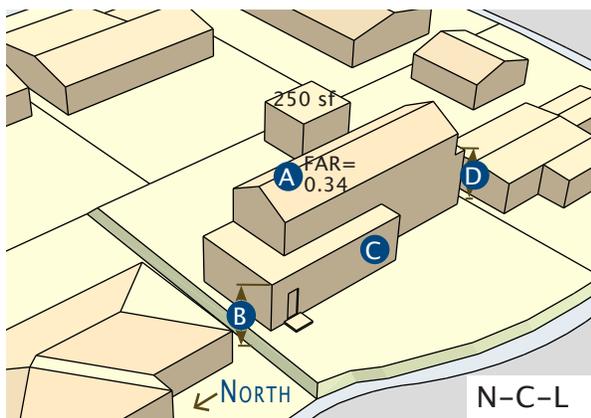
## Comparison of Existing and Potential Standards

The block computer models below illustrate the largest building mass possible within existing standards as well as new and revised standards currently under consideration. Note that most new construction in the neighborhoods does not incorporate the largest possible building mass.

### Permitted Building Mass with Existing Standards



### Permitted Building Mass with Potential Standards



### Comparison of Existing and Potential Standards

Potential Standards	Existing Standards		Potential Standards	
	N-C-L	N-C-M	N-C-L	N-C-M
<b>A</b> Floor Area Ratio (FAR)	0.40	0.50	Lot < 5,000sf = 0.40 Lot ≥ 5,000sf = 0.20 + 1,000 sf Lot > 10,000sf = 0.30	Lot < 4,000sf = 0.40 Lot ≥ 5,000sf = 0.25 + 1,000 sf Lot > 10,000sf = 0.35
<b>B</b> Solar Access Setbacks	No Standard		Height limited to 14' facing a neighbor to the north (rises 1' for each 1' of added setback)	
<b>C</b> Additional Design Standards	No Standards		Design options to reduce side wall looming and encourage pedestrian-friendly front façade	
<b>D</b> Height at Side Setback	Measured from grade below building wall		Measured from existing grade at the side lot line	

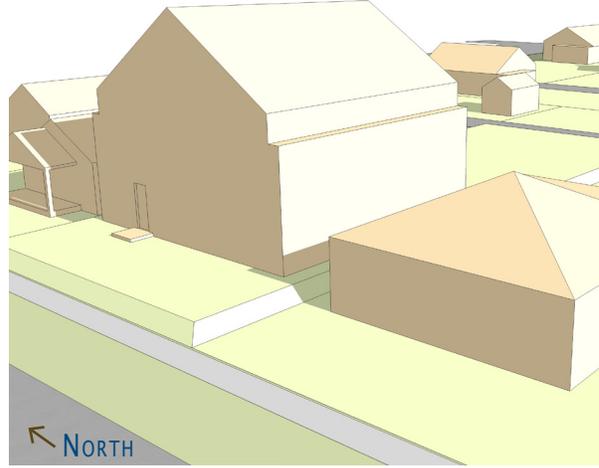
## Comparison of Existing and Potential Standards (alternate views)

The alternate views below provide a comparison of existing and potential façade standards on north-facing and non north-facing façades (illustrated on a lot in the N-C-M zone district). Note that most new construction does not incorporate the largest possible mass.

### Façade with Existing Standards



*View from the northwest showing the mass and shading impacts of the façade on the property to the north at noon on December 21.*

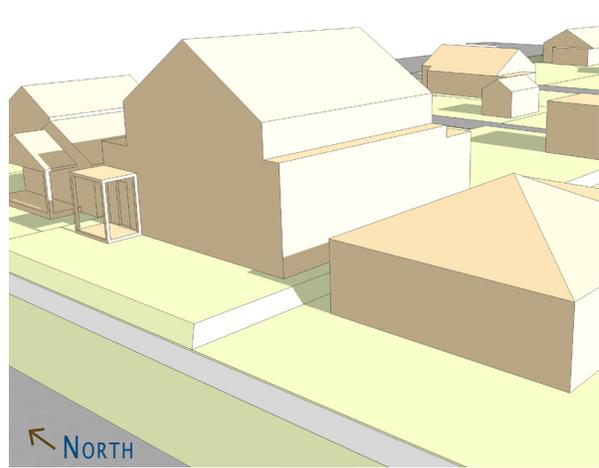


*View from the southwest showing the mass impacts of the façade on the property to the south.*

### Façade with Potential Standards

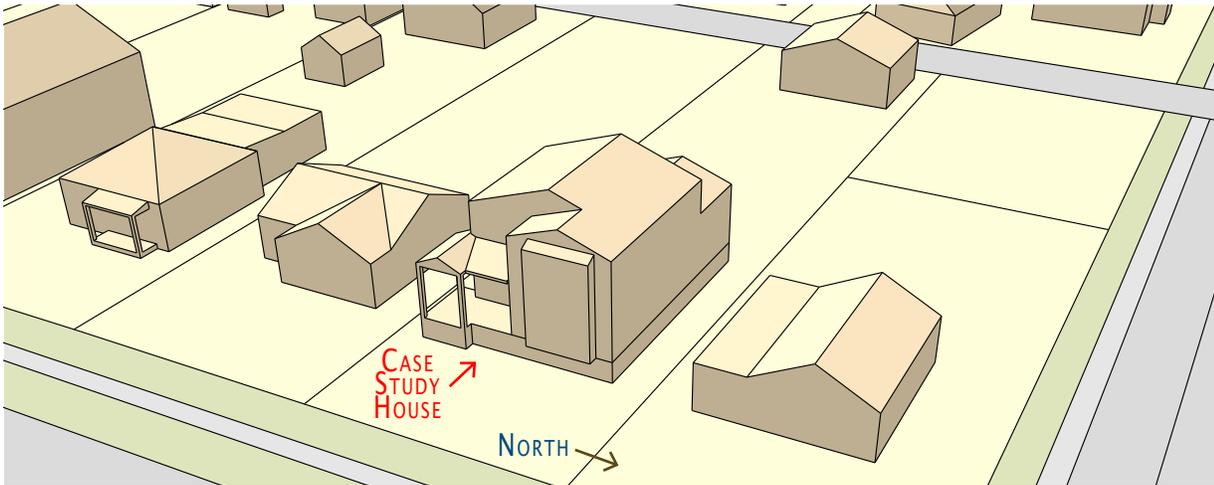


*View from the northwest showing the scale and shading impacts of the façade on the property to the north at noon on December 21. Height near the north side setback has been reduced to meet special solar access setbacks.*

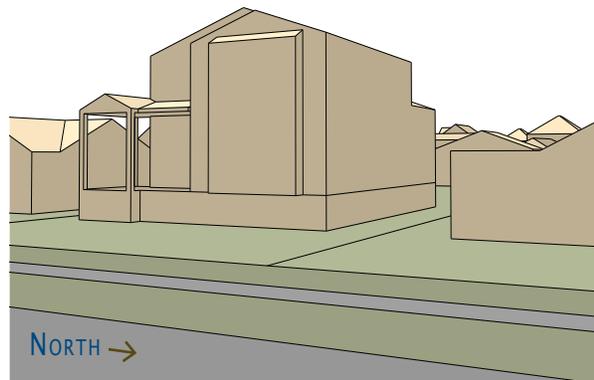
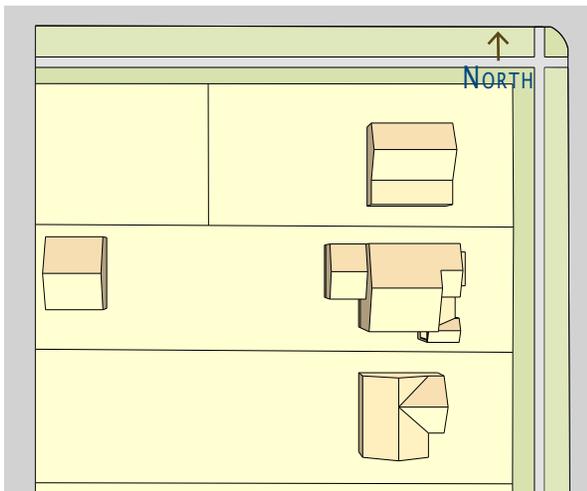


*View from the southwest showing the scale and shading impacts of the façade on the property to the south. Height near the south side setback has been reduced to accommodate measurement from existing grade, and two-story wall length has been reduced to 40'.*

## Case Study 1: Existing Conditions



This case study is a 3,416 square foot house (including 1,206 square foot basement that is elevated more than 3' above ground level and would count towards FAR) with a 600 square foot detached garage on a 9,500 square foot lot. The existing home replaced a 525 square foot cottage in 2008.



View from above showing the lot configuration and relationship to neighbors

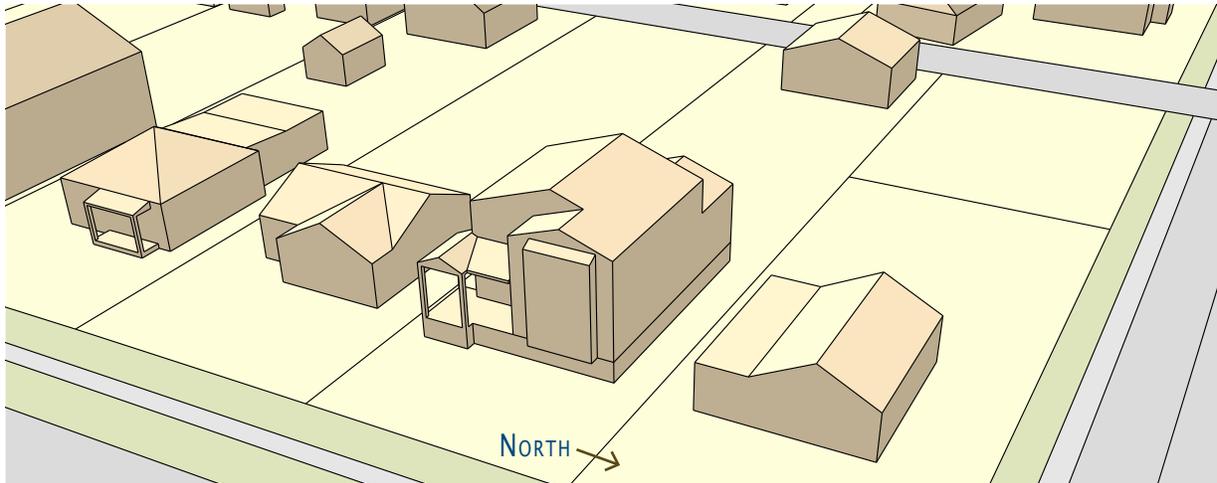
Street view from the northeast

## Existing Conditions Summary

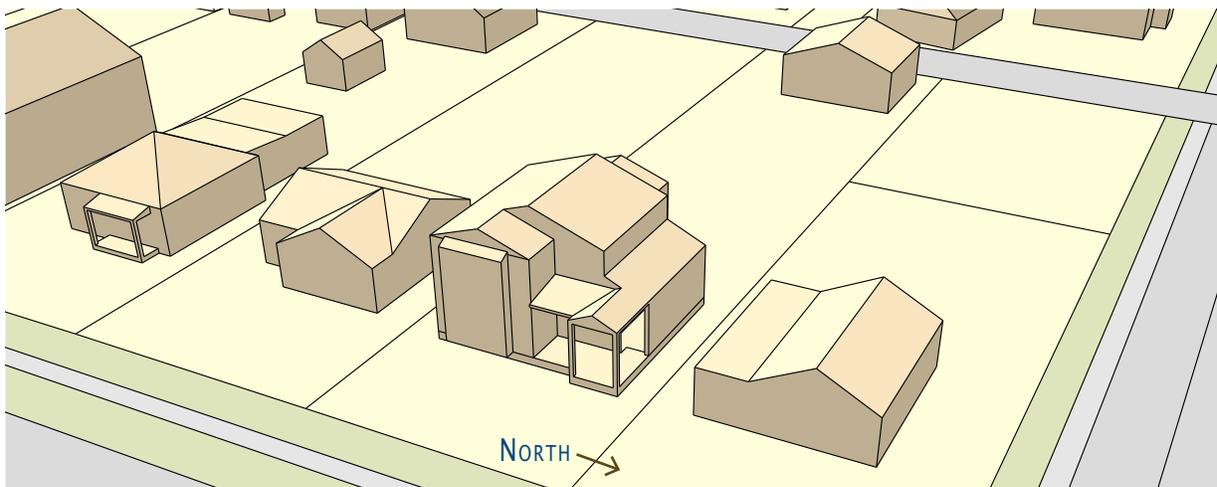
Zoning	Lot Size	Original Sq. Ft.	Existing Sq. Ft.	Existing FAR
N-C-M	9,500 Sq Ft. (50'x190')	525	4,016 (incl. ac- cessory structure)	0.36

## Case Study 1: Application of Potential Standards

### Model Illustrating Existing Conditions



### Model Illustrating Application of Potential Standards



#### Standards Applied

**Floor Area Ratio (FAR)**

With elevated basement, the existing property would have a total measured floor area of 4,016 sq. ft. (including the 600 sq. ft. accessory structure). This is above the max. 3,625 sq. ft. that would be applied to this lot. The basement elevation has been reduced, creating a total measured floor area of 2,810.

**Special Solar Access Setbacks**

The house has been flipped and a one-story element has been added on the north side to preserve solar access.

**Additional Façade Standards**

No additional façade standards required (existing two-story wall lengths to not exceed 40').

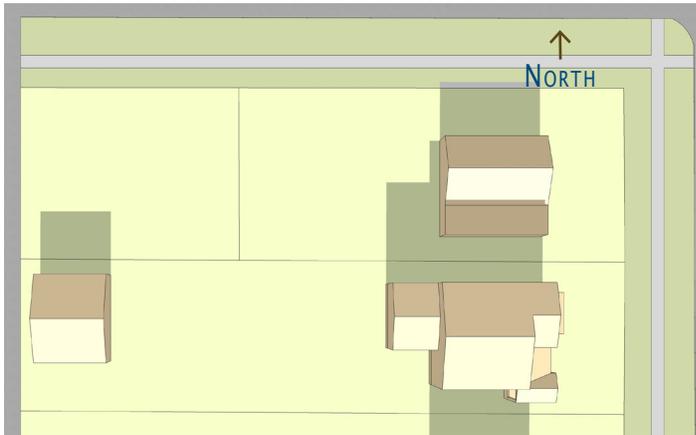
**Height at Side Setback**

No changes required to accommodate revised height measurement at the side yard (no topography).

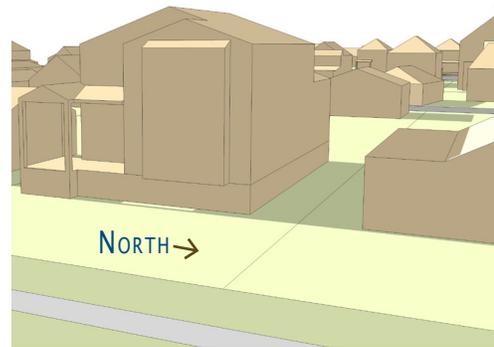
## Case Study 1: Application of Potential Standards (solar access views)

The alternate views below illustrate the mass and shading impacts of the existing building, and development within the potential standards, on the neighboring property to the north at noon on December 21.

### Model Illustrating Existing Conditions

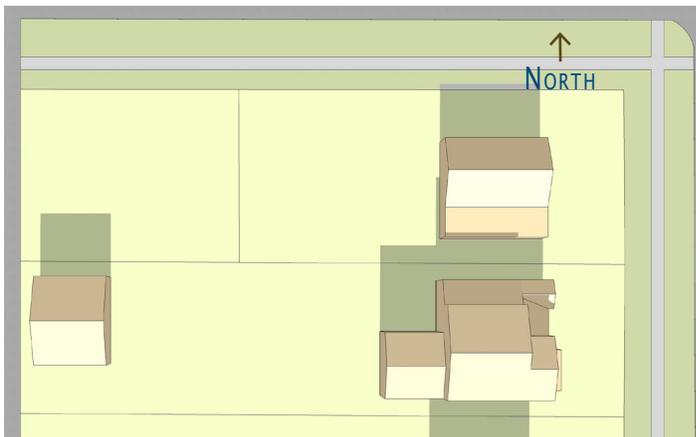


*View from above showing the shading impacts of the existing building on the property to the north.*

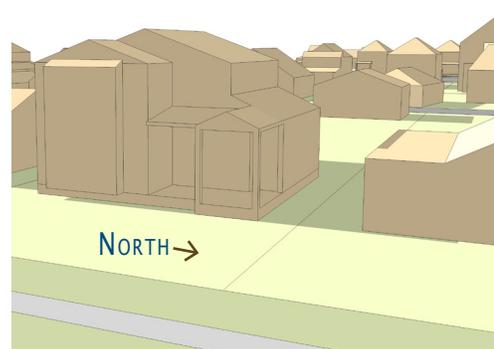


*Street view from the northeast showing the mass and shading impacts of the existing building on the property to the north. The existing building is set back 5' from the property line and is 18' tall as measured from the improved (raised) grade.*

### Model Illustrating Application of Potential Standards



*View from above showing the shading impacts of a building meeting the potential standards on the property to the north.*

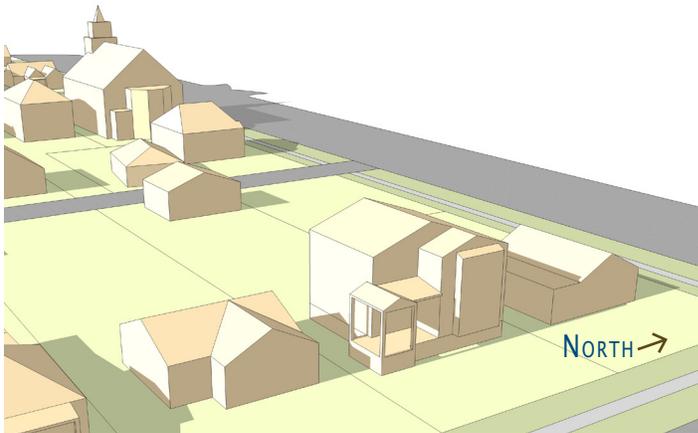


*Street view from the northeast showing the mass and shading impacts of the façade on the property to the north. Height has been reduced to accommodate solar access and measurement from existing, rather than improved (raised) grade.*

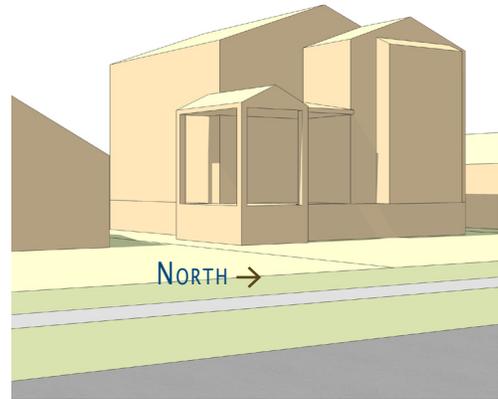
## Case Study 1: Application of Potential Standards (other façade views)

The alternate views below illustrate the mass impacts of the existing building, and development within the potential standards, on the neighboring property to the south.

### Model Illustrating Existing Conditions



*Birds-eye view from the southeast showing the mass impacts of the existing building on the property to the south. The south-facing building wall is set back 9' from the property line, and is 23' tall.*

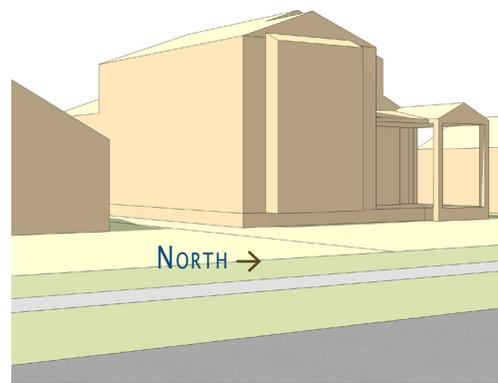


*Street view from the southeast showing the mass impacts of the existing building on the property to the south.*

### Model Illustrating Application of Potential Standards

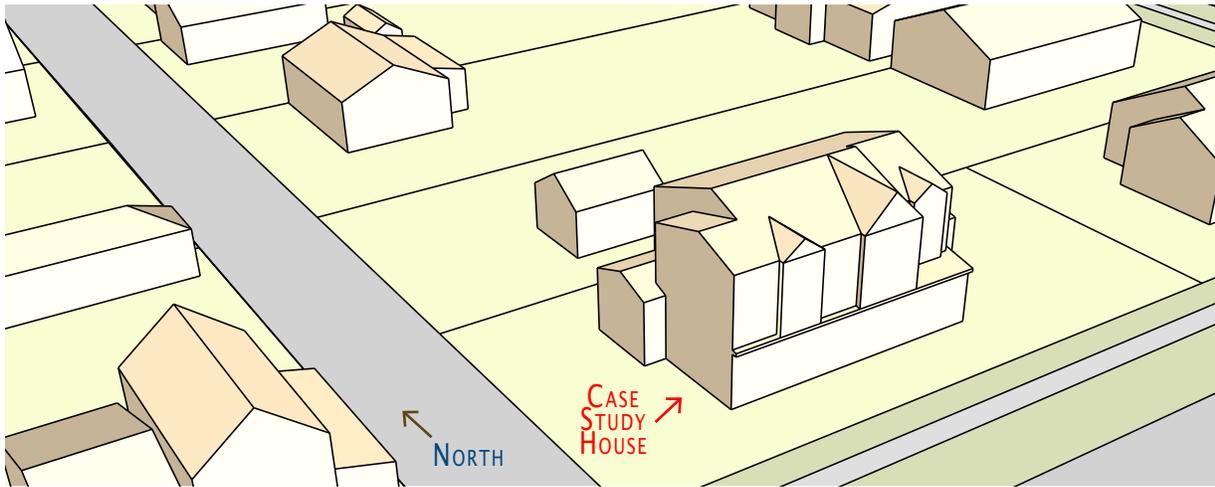


*Birds-eye view from the southeast showing the mass impacts of a building meeting the potential standards on the property to the south. The south-facing building wall is set back 7' from the property line, and is 20' tall. Note that designing the building to meet mass standards for solar access results in greater building mass on the south side of the property.*

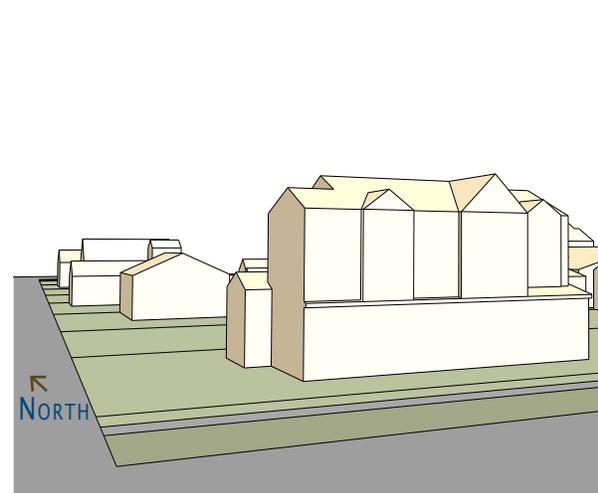
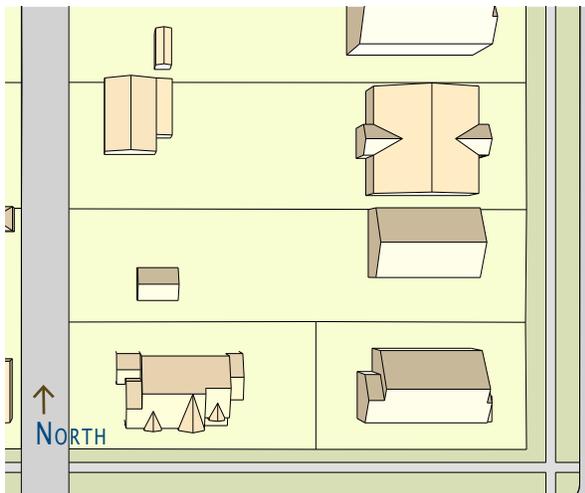


*View from the northeast showing the mass impacts of a building meeting the potential standards on the property to the south.*

## Case Study 2: Existing Conditions



This case study is a 2,329 square foot house with no accessory structures on a 5,205 square foot lot. The home was built on the rear half of a larger parcel that was split.



View from above showing the lot configuration and relationship to neighbors

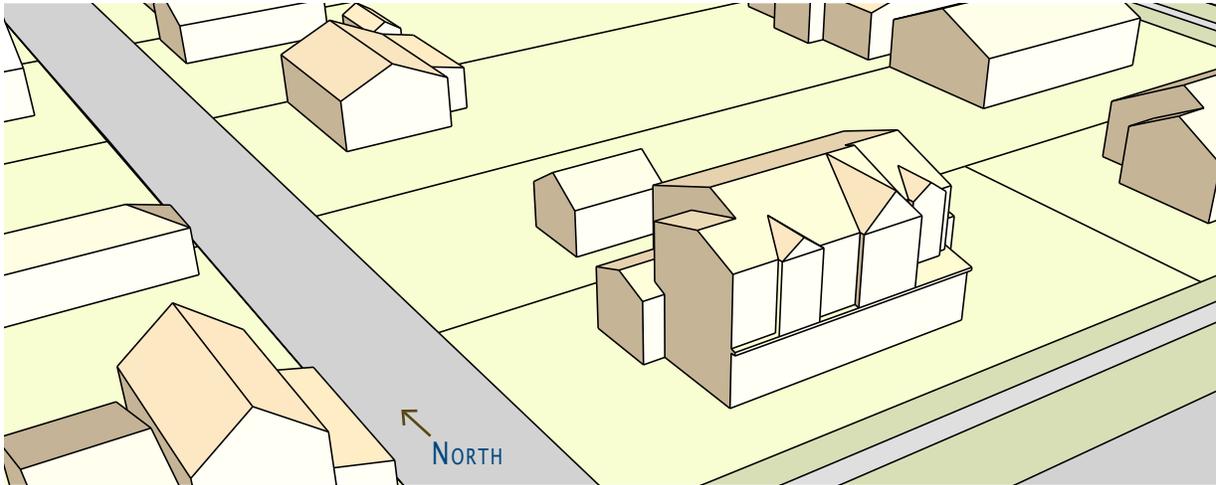
Street view from the southwest

## Existing Conditions Summary

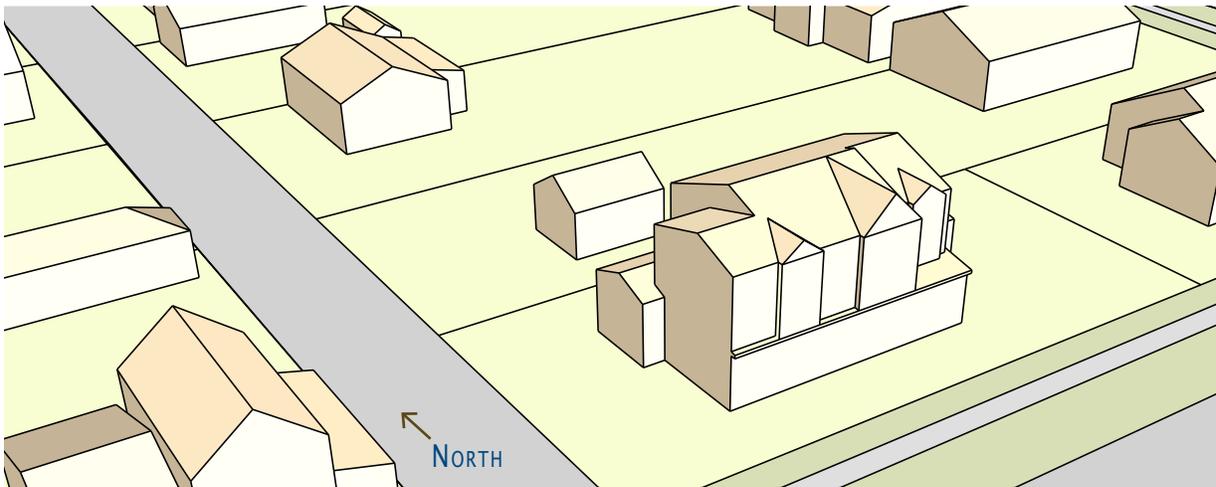
Zoning	Lot Size	Original Sq. Ft.	Existing Sq. Ft.	Existing FAR
N-C-M	5,205 Sq Ft. (about 104'x50')	1,490	2,329	0.45

## Case Study 2: Application of Potential Standards

### Model Illustrating Existing Conditions



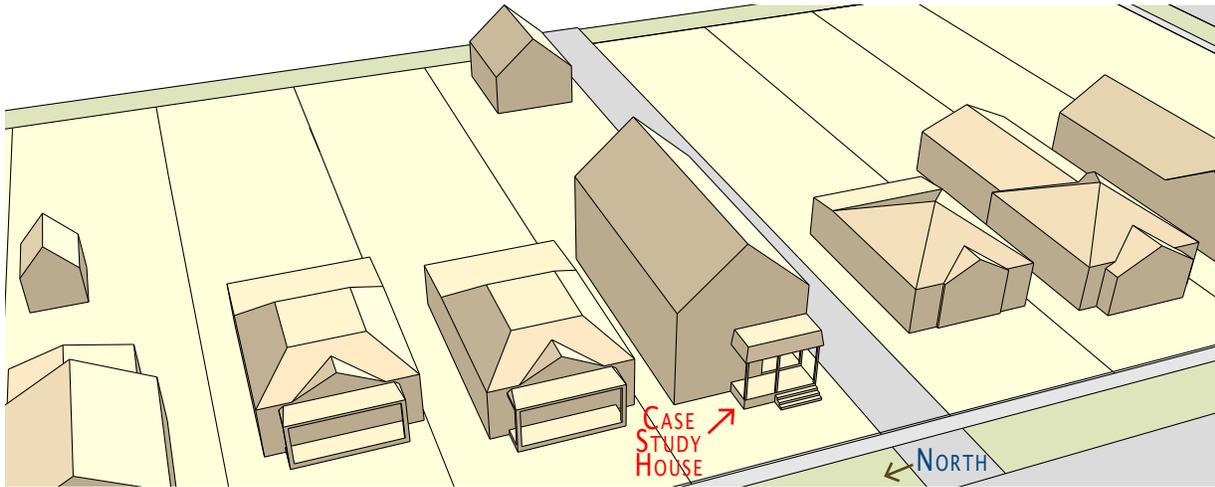
### Model Illustrating Application of Potential Standards



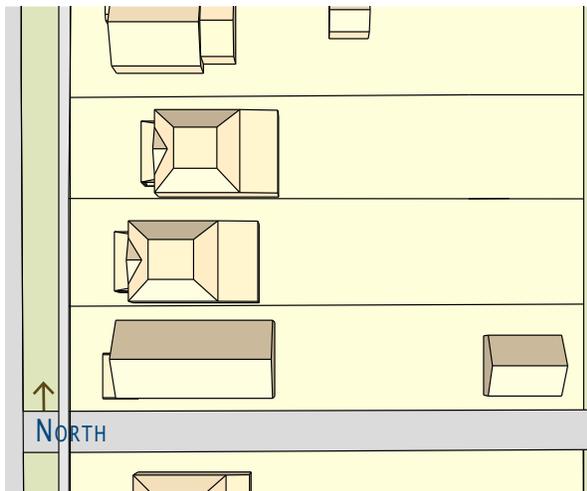
#### Standards Applied

<b>Floor Area Ratio (FAR)</b>	Floor area has been reduced by 28 sq. ft. to 2,301 sq. ft. (max. floor area within the potential standards).
<b>Special Solar Access Setbacks</b>	No façade standards for solar access required (project not over size threshold).
<b>Additional Façade Standards</b>	No additional façade standards required (project does not have any north-facing side walls).
<b>Height at Side Setback</b>	No changes required to accommodate revised height measurement at the side yard (no topography).

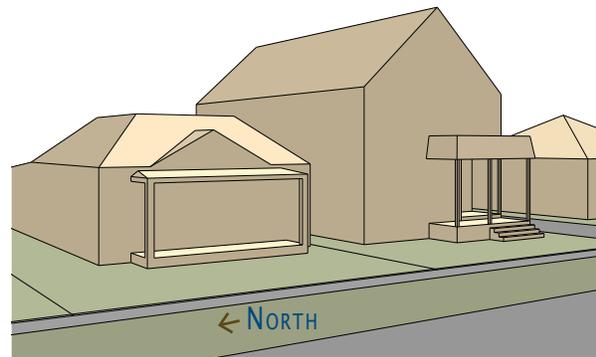
## Case Study 3: Existing Conditions



*This case study is a 2,639 square foot house with a 500 square foot detached garage on a 6,300 square foot lot. The existing home replaced a 770 square foot cottage.*



*View from above showing the lot configuration and relationship to neighbors*



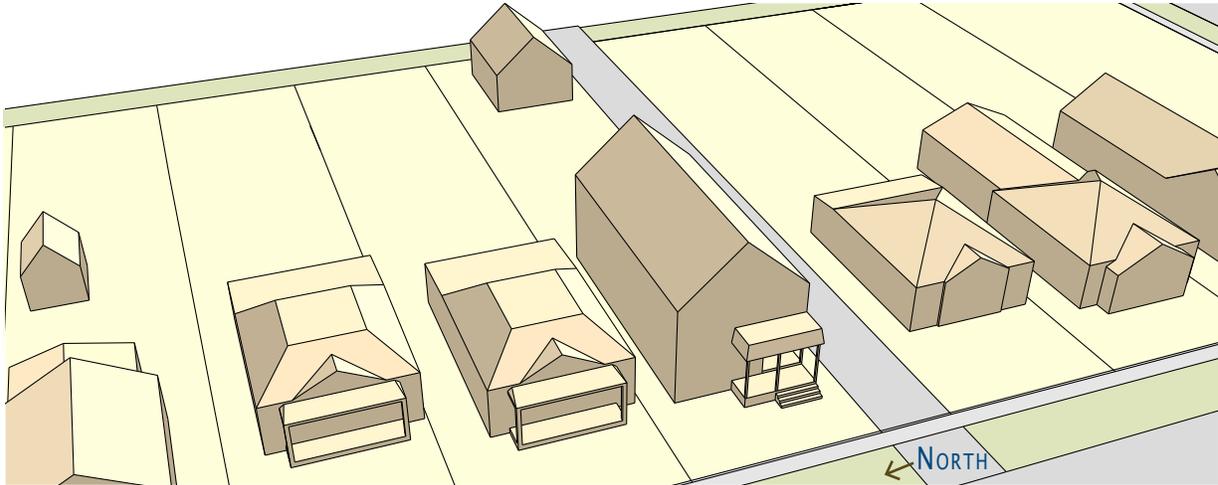
*Street view from the northwest*

## Existing Conditions Summary

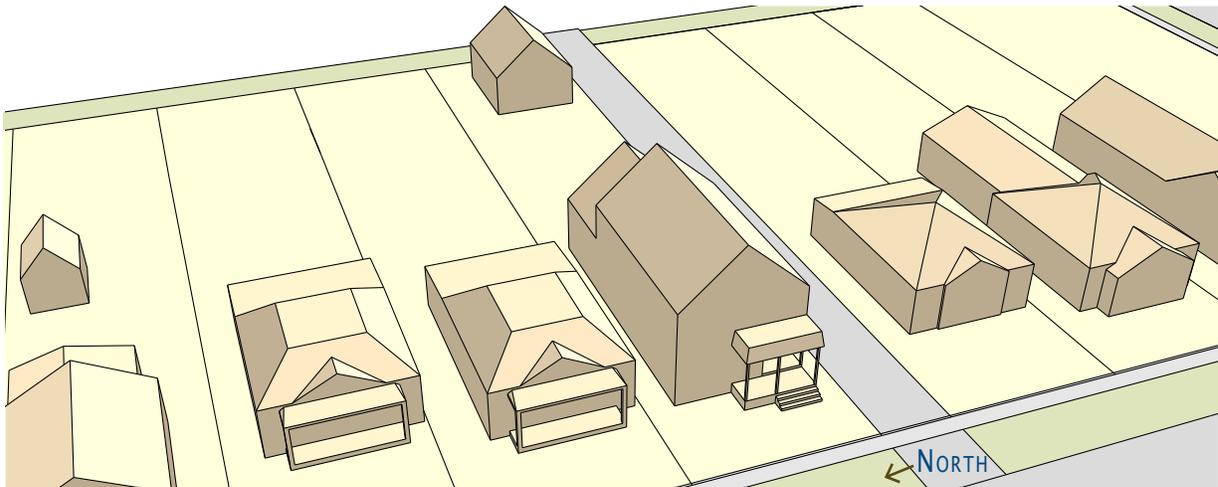
Zoning	Lot Size	Original Sq. Ft.	Existing Sq. Ft.	Existing FAR
N-C-M	6,300 Sq Ft. (35'x180')	770	3,139	0.50

## Case Study 3: Application of Potential Standards

### Model Illustrating Existing Conditions



### Model Illustrating Application of Potential Standards



### Standards Applied

**Floor Area Ratio (FAR)**

Floor area has been reduced to 2,825 sq. ft. (max. floor area within the potential standards, including 250 sq. ft. exception for detached accessory structure).

**Special Solar Access Setbacks**

No façade standards for solar access required (project is located on a lot less than 40' wide).

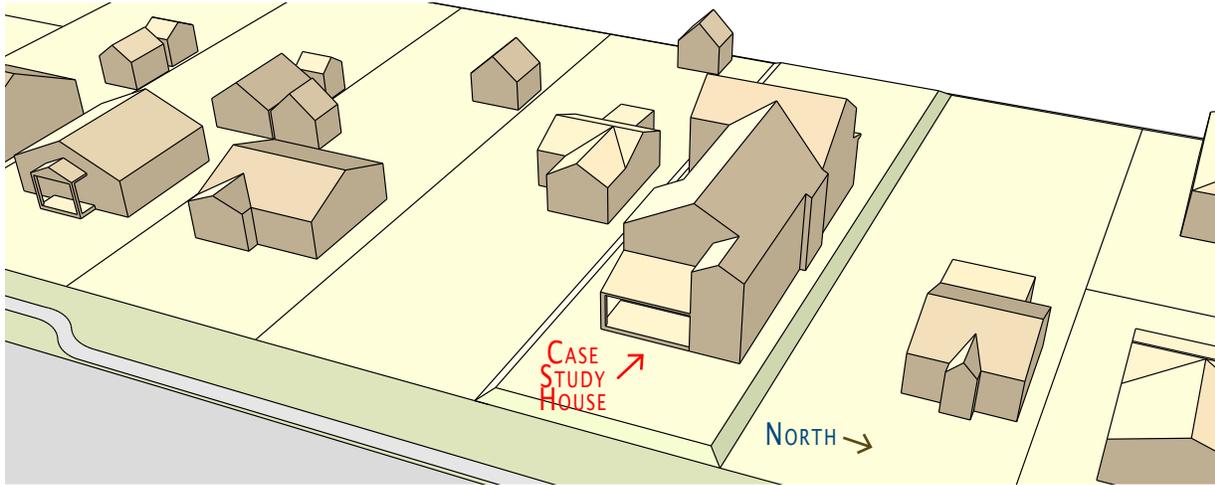
**Additional Façade Standards**

Length of two-story wall limited to 40'.

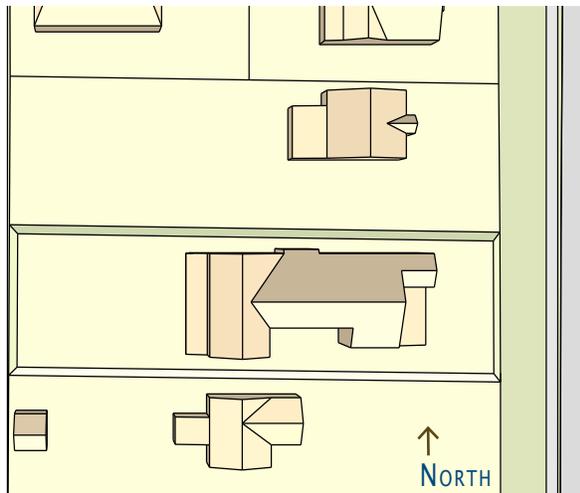
**Height at Side Setback**

No changes required to accommodate revised height measurement at the side yard (no topography).

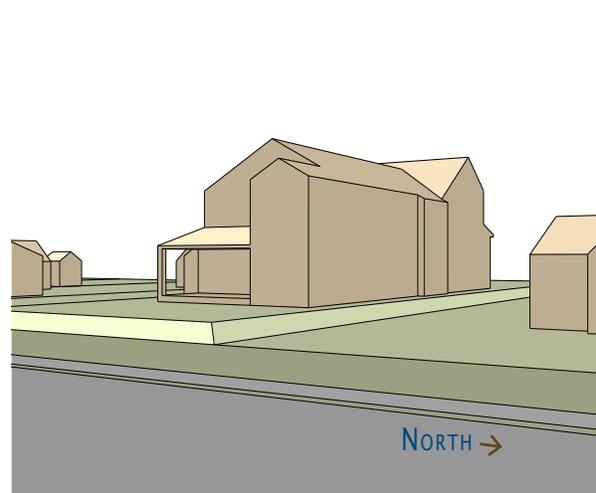
## Case Study 4: Existing Conditions



This case study is a 4,013 square foot house with no accessory structures on an 8,602 square foot lot. The existing home replaced a 658 square foot cottage in 2011. The lot has been elevated above existing grade by 2' to 3'.



View from above showing the lot configuration and relationship to neighbors



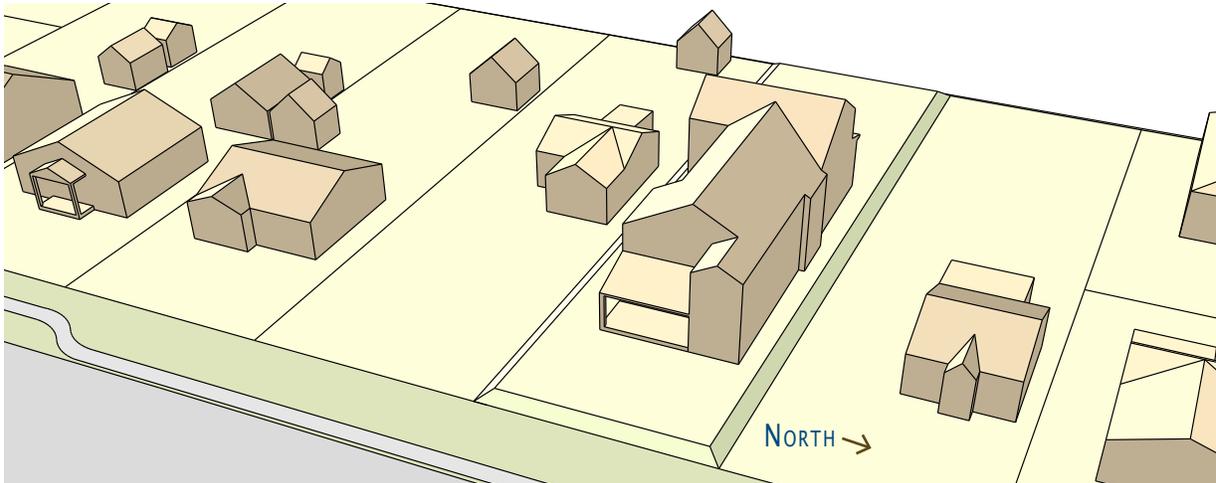
Street view from the northeast

## Existing Conditions Summary

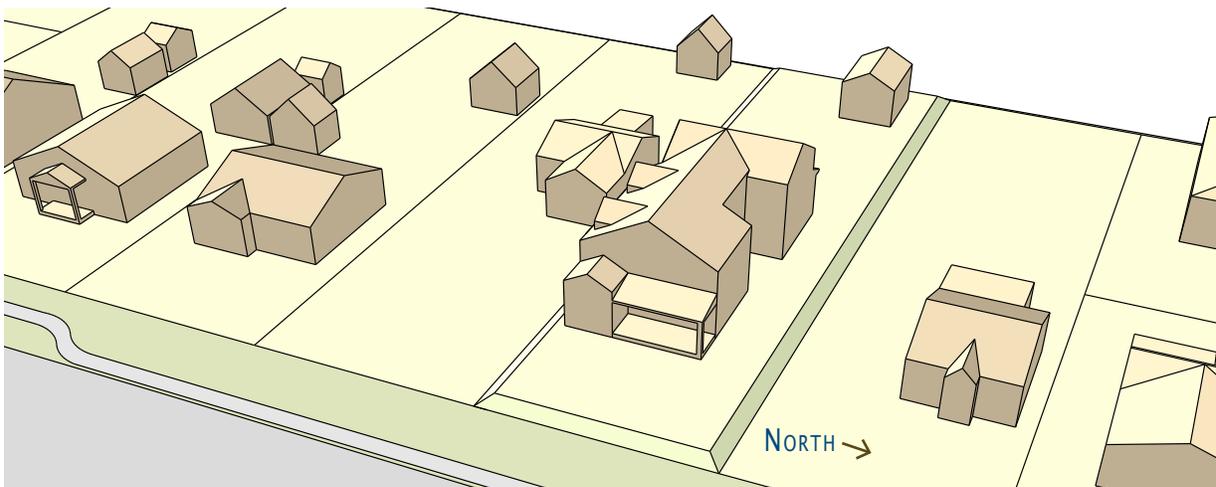
Zoning	Lot Size	Original Sq. Ft.	Existing Sq. Ft.	Existing FAR
N-C-M	8,602 Sq Ft. (50'x172')	658	4,013	0.47

## Case Study 4: Application of Potential Standards

### Model Illustrating Existing Conditions



### Model Illustrating Application of Potential Standards



#### Standards Applied

**Floor Area Ratio (FAR)**

Floor area has been reduced 613 sq. ft. to 3,400 sq. ft. (max. floor area within the potential standards, including 250 sq. ft. exception for detached accessory structure).

**Special Solar Access Setbacks**

The house has been flipped, providing a greater setback on the north side to preserve solar access.

**Additional Façade Standards**

Length of two-story walls limited to 40'.

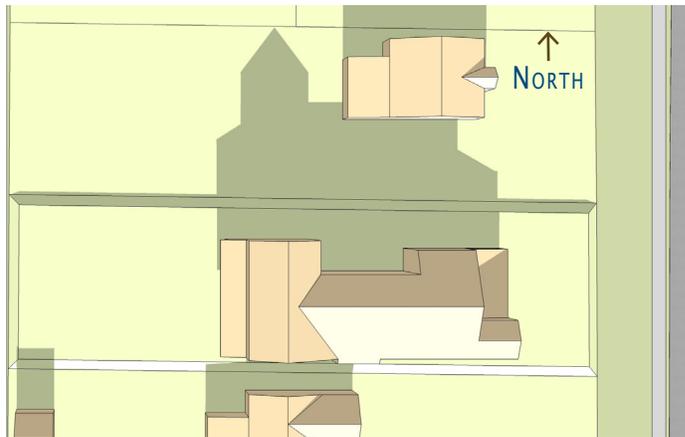
**Height at Side Setback**

Height has been reduced 3' at the side setback per the revised measurement method from existing grade (existing standards measure height from the improved (elevated) grade).

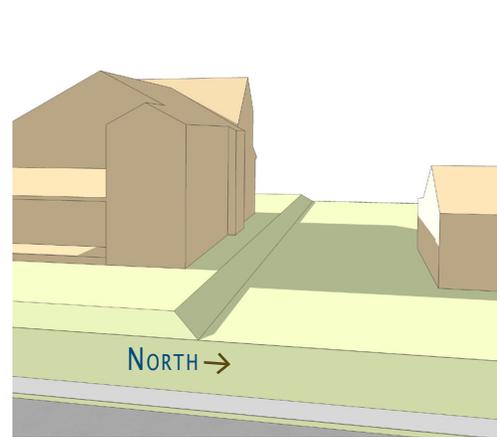
## Case Study 4: Application of Potential Standards (solar access views)

The alternate views below illustrate the scale and shading impacts of the existing building, and development within the potential standards, on the neighboring property to the north at noon on December 21.

### Model Illustrating Existing Conditions

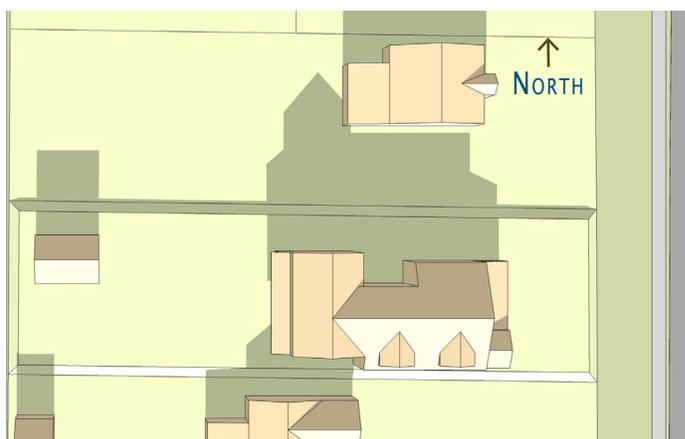


View from above showing the shading impacts of the existing building on the property to the north. Note that the existing building on the property to the north is set back almost 25' from the southern property line.

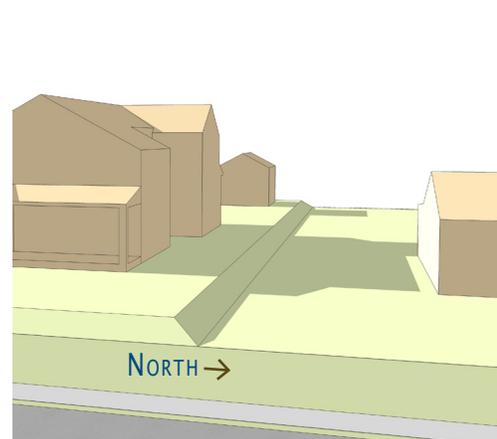


View from the northeast showing the scale and shading impacts of the existing building on the property to the north. The existing building is about 18' tall at the minimum 5' side setback from the property line as measured from the improved (raised) grade.

### Model Illustrating Application of Potential Standards



View from above showing the shading impacts of a building meeting the potential standards on the property to the north.



View from the northeast showing the scale and shading impacts of the façade on the property to the north. Height has been reduced to accommodate solar access and measurement from existing, rather than improved (raised) grade.

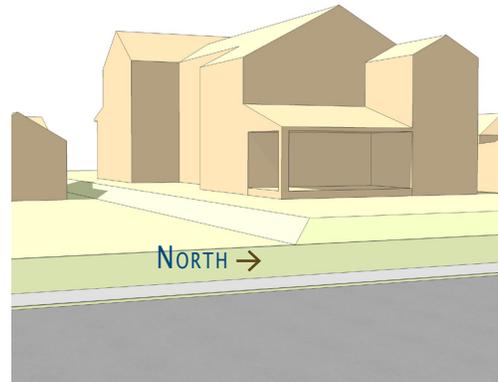
## Case Study 4: Application of Potential Standards (other façade views)

The alternate views below illustrate the scale impacts of the existing building, and development within the potential standards, on the neighboring property to the south.

### Model Illustrating Existing Conditions



*Birds-eye view from the southeast showing the scale impacts of the existing building on the property to the south. The south-facing building wall is set back 12' from the property line, and is 19' tall as measured from the improved (elevated) grade (would be 2' taller if measured from existing grade at the property line).*

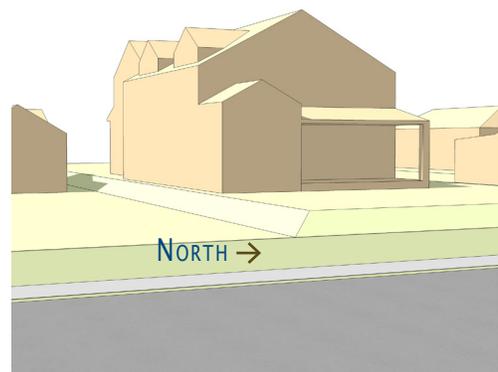


*Street view from the southeast showing the scale impacts of the existing building on the property to the south.*

### Model Illustrating Application of Potential Standards



*Birds-eye view from the southeast showing the scale impacts of a building meeting the potential standards on the property to the south. The south-facing building wall is set back 5' from the property line, and is 18' tall as measured from the existing grade at the property line.*



*View from the northeast showing the scale impacts of a building meeting the potential standards on the property to the south. Note that two-story wall length has been reduced to meet the potential standards.*