



# SOLAR ACCESS HEIGHT LIMITATIONS

## INFORMATIONAL PACKET

### QUESTIONS?

Additional information regarding the planning process can be obtained at the Planning Counter at 630 Garden Street (805) 564-5578, [PlanningCounter@SantaBarbaraCA.gov](mailto:PlanningCounter@SantaBarbaraCA.gov)



### WHAT IS THE SOLAR ACCESS HEIGHT LIMIT?

The City's Solar Access Height Ordinance (SBMC Section [30.140.170](#) or Chapter [28.11](#)) regulates the height of new development on the north side of applicable properties. The ordinance ensures your building does not cast a significant shadow on your neighbor's building so that adequate access to direct sunlight is provided. Access to the sun is essential to energy conservation, allowing for passive solar heating opportunities, and for solar energy systems to be installed.

### WHERE DOES IT APPLY?

The Solar Access Height Ordinance applies on **all lots** with a northerly lot line abutting a residentially zoned lot. It does not apply if the northerly lot line is abutting a street, alley, or a nonresidential zoned lot. (**Pro Tip!** Applies only in residential zones if project site is located in the coastal zone.)

### ARE THERE ANY EXCEPTIONS?

Yes. An exception is allowed for building elements less than four feet along each horizontal dimension, such as a flagpole, antenna, chimney, or utility pole. In addition, a shadow plan can be prepared demonstrating that shadows cast by the structure will not exceed those cast by an existing structure or topographical feature; or will only fall within the neighbor's setback, driveway, or paved parking areas.

Modifications of the Solar Access Height Limitations may also be requested. Per City Council Resolution No. 17-075, in order to be eligible for a modification, the project must meet one of four criteria to be considered an unreasonable hardship. See the [Zoning Modifications](#) Supplemental Application for more information.

## WHAT IS THE MAXIMUM SOLAR ACCESS HEIGHT?

Use the steps outlined on page 3 of this packet to show compliance with solar access on elevations. To calculate the maximum height *for one point* on a structure, use the following formula:

- **RS and R-2 Zones.** 12 feet\* + 58% (X) = Y
- **All Other Zones.** 18 feet\* + 58% (X) = Y

X = The shortest distance from the structure to the nearest northerly lot line

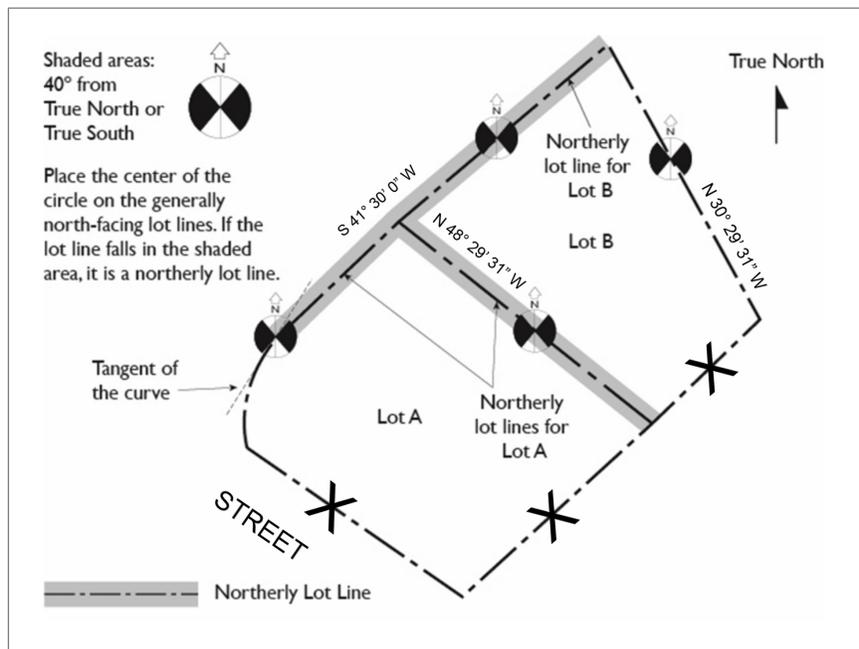
Y = The maximum height of *one point* on a structure

\* Measured from the Base Elevation Point

## HOW DO I FIND MY NORTHERLY LOT LINES?

A northerly lot line is defined as: “Any lot line, of which there may be more than one per lot, that forms a generally north facing boundary of a lot and has a bearing greater than or equal to 40 degrees from either true north or true south.” The intention of this definition is to include **both** the northwest and northeast lot line on a lot that is oriented 45 degrees away from the cardinal points of the compass. Use the following steps to identify all the northerly lot lines on a site:

1. **Identify True North.** Then, eliminate all lot lines which are obviously not on the northern edges of the lot. The remaining lot lines are your potential northerly lot lines.
2. **Bearings.** Next, look for the bearings of your lot either by using the County Assessor Parcel Maps, or a site survey. If any of the remaining lot lines have a bearing greater than or equal to 40 degrees from either True North or True South, those are northerly lot lines.
3. **Compass Symbol.** Another tool you can use is the compass symbol shown below. Place the center of the circle on one of the remaining lot lines. Point the north arrow towards True North. If the lot line runs through the shaded black area on the compass, it is a northerly lot line.





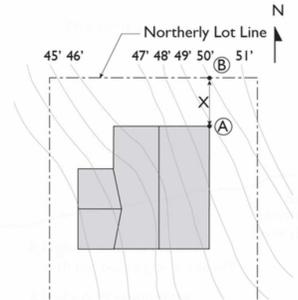
# HOW DO I SHOW COMPLIANCE WITH SOLAR ACCESS HEIGHT?

Use the following steps to show that a structure complies with Solar Access height on elevations.

## STEP 1: DISTANCE TO NORTHERLY LOT LINES

First, identify all your northerly lot lines with a bearing greater than or equal to 40 degrees from either true north or true south.

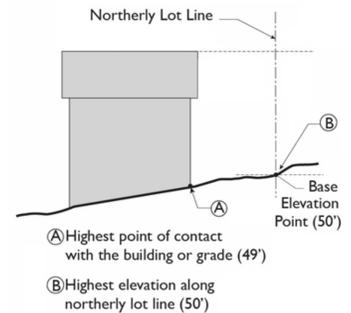
- Verify the northerly lot line is not adjacent to a street, alley, or nonresidential zoned lot.
- Next, show the shortest distance from the structure to the northerly lot lines on the site plan. Labeled “X” in the figure.



## STEP 2: ESTABLISH THE BASE ELEVATION POINT

The second step is to establish the **Base Elevation Point**:

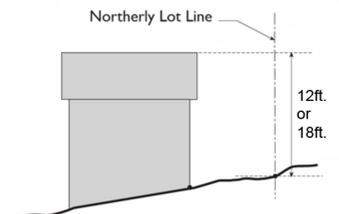
- Identify the highest elevation point of either: (A) the highest point of contact between the structure and existing grade; or (B) the highest point of existing grade along the northerly lot line, measured at the location with the shortest distance from the structure to the northerly lot line.
- If the lot is flat, the Base Elevation Point will be the ground. If the lot is sloped, the Base Elevation Point will be on the uphill side of the house. Extend the Base Elevation Point all the way to the northerly lot lines as the starting point for the vertical extension.



## STEP 3: DRAW THE VERTICAL EXTENSION

On the east or west elevation, draw a **vertical extension** at the northerly lot lines:

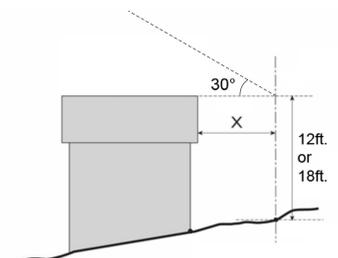
- Starting at the Base Elevation Point, draw a vertical line at the northerly lot lines.
- Mark off a height of either **12 feet** (RS & R-2 zones) or **18 feet** (all other zones) above the base elevation point.



## STEP 4: GRAPHICALLY DEPICT THE MAXIMUM HEIGHT

Finally, show the **maximum height limit** for all points of a structure:

- From the 12 feet or 18 feet mark drawn on the vertical extension, draw a diagonal line at a **30-degree angle** above horizontal towards the proposed building or structure.
- If the building is below the 30-degree line, it complies.
- If the building is above the 30-degree line, it does NOT comply.



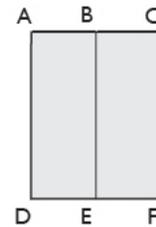


# HOW DO I PREPARE A SHADOW PLAN?

If your project does not meet the Solar Access Height limitations, use the following procedure to prepare a shadow plan. **Pro Tip!** If using CAD/3-D software, you must still provide a 2-D site plan with shadows depicted per this handout.

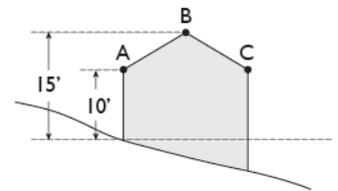
## STEP 1: LOCATE RIDGE LINES AND EAVES

The first step is to locate the prominent shadow casting portions of the proposed structure, such as ridge lines, eaves, and parapets on the site plan. (Points A, B, C, D, E, and F in the figure).



## STEP 2: MEASURE BUILDING HEIGHT AT EACH POINT

The second step is to measure the height of the structure at each of these points above the northerly lot line grade to properly show the extent of where shadows will be cast.



## STEP 3: DETERMINE SHADOW DIRECTION & LENGTH

Determine the direction and length of shadows at the three times of day on December 21 (Winter Solstice) as listed below.

Time:	9:00 a.m.	Noon	3:00 p.m.
Direction:	Northwest 45	North	Northeast 45
Length:	3.1 x height	1.5 x height	3.1 x height

## STEP 4: DRAW SHADOW LINES ON A SITE PLAN

Finally, draw the shadow lines on a site plan. Connect the ends of the shadow lines to create a shadow pattern for the structure. Be sure to include adjacent buildings, structures, and setbacks on the site plan to show how you meet the criteria for either an exception or Modification.

