

# TOWN OF TIBURON

## Administrative Policy and Procedure

Number: 2006-03 (as revised 09/06/2017)

Effective: September 6, 2017 (as revised)

Authority: Director of Community Development



## Noise Standards for Air Conditioning Units and Similar Mechanical Equipment

### PURPOSE

To provide guidance for the review and approval of zoning permits for heating, ventilation, and air conditioning (HVAC) units and similar noise-generating mechanical equipment.

### BACKGROUND

The installation of air conditioning units or other similar noise-generating mechanical equipment may potentially have adverse noise and/or unreasonable aesthetic impacts on neighboring properties. For these reasons, Site Plan and Architectural Review zoning permit approval is required for installation, replacement or relocation of exterior heating, ventilation or air conditioning (HVAC) units, generators, or similar noise-generating mechanical equipment pursuant to Title IV, Chapter 16, Section 16-52.020(B)(3) of the Tiburon Municipal Code.

### DEFINITIONS

*Property plane:* An imaginary vertical surface extending infinitely upward and downward along a property line.

*Property plane intercept:* A point on a *property plane* where the shortest straight line extending from the top of the mechanical equipment and over the top of a noise barrier intersects the *property plane*, where such line extends to the closer of either: 1) the nearest building wall of an occupied building on neighboring property; or 2) the head of a six (6) foot tall person standing on neighboring property. See graphic below.

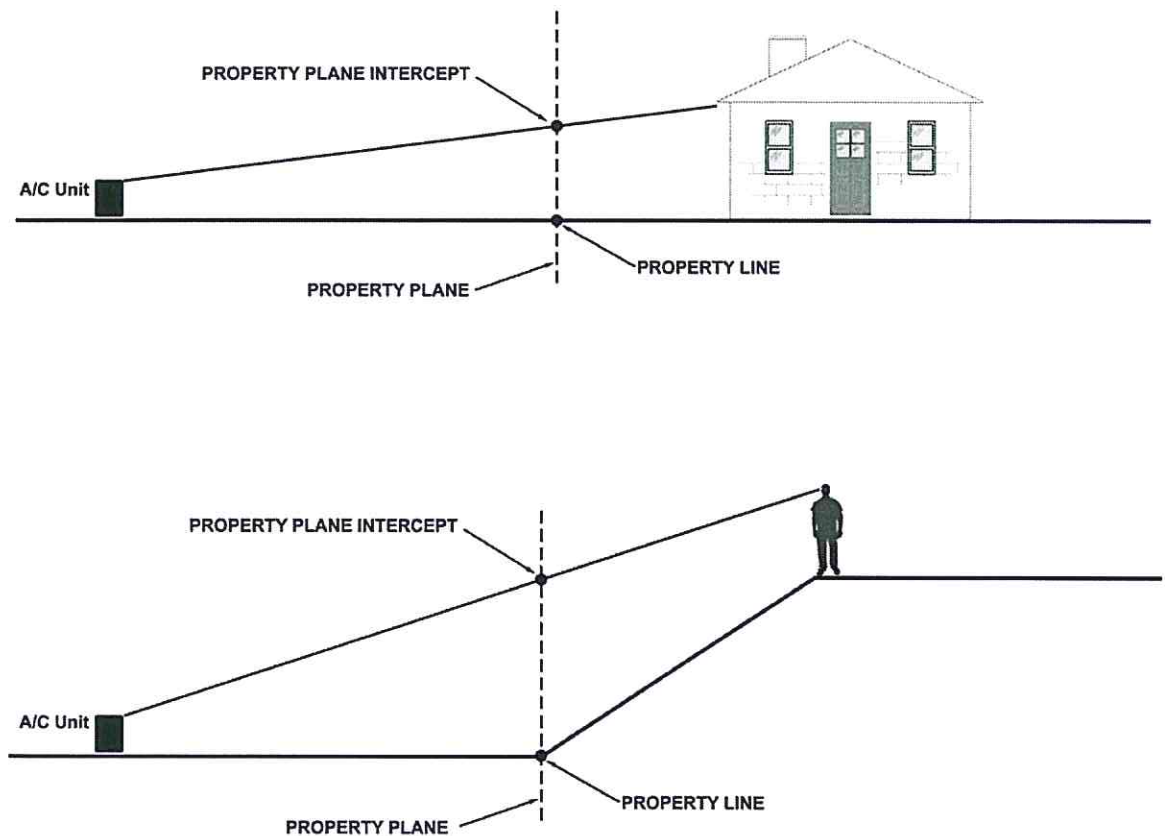
### POLICY

In reviewing applications for which HVAC or similar noise-generating mechanical equipment requires zoning permit approval, the Director or his designee shall require sufficient information to find the following prior to approval of such equipment:

1. For applications on **residentially-zoned** property, the proposed equipment (in aggregate) would not generate a maximum A-weighted sound level of more than 55 decibels (dBA) at any point on a property line.

2. For applications on **non-residentially-zoned** property, the proposed equipment (in aggregate) would not generate a maximum A-weighted sound level of more than 60 decibels (dBA) at any point on a property line.
3. If a noise control barrier or enclosure is proposed to meet the noise standards of Sections 1 and 2 above, the applicant must demonstrate that noise from the equipment will meet the standard at any *property plane intercept*. An applicant shall provide a letter from an acoustical consultant or a mechanical engineer that demonstrates sound level compliance for installations utilizing noise control barriers or enclosures. A barrier (such as a property line fence or other acceptable device) may not be used to achieve required noise reduction unless the barrier is entirely located on the applicant's property.
4. If the proposed equipment has the potential to create unreasonable aesthetic impacts, adequate screening shall be provided to the satisfaction of the Director or his designee to substantially conceal the equipment from adjacent properties and/or public rights-of way through use of fencing, landscaping or other acceptable means.
5. Applications proposing more than two (2) HVAC units or generators exclusively serving a residential use shall be referred to the Design Review Board.

#### GRAPHIC DEPICTION OF PROPERTY PLANE INTERCEPT

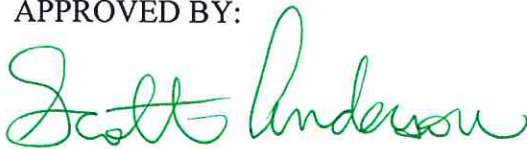


## METHODS FOR DETERMINING SOUND LEVELS

1. In applying this Policy, assumed sound levels produced by HVAC units shall be based upon:
  - a. Manufacturer's specifications for the unit operating at the highest sound pressure level; or
  - b. Measurement of an identical installed unit operating at the highest sound pressure level.
2. Sound levels at the property line or the *property plane intercept* shall be calculated using either:
  - a. The inverse square law method (i.e.  $\text{attenuation} = 20 \cdot \log(\text{distance}/\text{reference distance})$ ); or
  - b. ANSI/AHRI Standard 275: Application of Outdoor Unitary Equipment A-Weighted Sound Power Ratings.<sup>1</sup>
3. Distance used for calculating equipment sound level at a property line shall be based on the horizontal distance from equipment to the nearest property plane.

<sup>1</sup> American National Standards Institute (ANSI)/Air Conditioning, Heating and Refrigeration Institute (AHRI) Standard 275 essentially converts sound power levels to sound pressure levels. The equipment manufacturer almost always provides an AHRI rating in their specifications. This rating is a sound power level. ANSI/AHRI Standard 275 includes an adjustment factor to convert from sound power to sound pressure and also has adjustments to account for distance and reflecting surfaces such as an exterior wall of a home.

APPROVED BY:



Scott Anderson  
Director of Community Development

Date: 9-6-2017

*Revised 11-2-2010 to cite updated TMC section  
Revised 3-2-2015 to add compliance letter requirement  
Comprehensively revised 09/06/2017*