

LATE DISTRIBUTION

DATE 6/21/10

**MACKENZIE & ALBRITTON LLP**423 WASHINGTON STREET, SIXTH FLOOR  
SAN FRANCISCO, CALIFORNIA 94111TELEPHONE 415 / 288-4000  
FACSIMILE 415 / 288-4010

June 21, 2010

VIA ELECTRONIC MAILBoard of Supervisors  
El Dorado County  
330 Fair View Drive  
Placerville, CA 95667Re: S09-0015 Special Use Permit for Wireless Telecommunications Tree Pole at  
5080 Sagebrush Road, Garden Valley;  
Recommended Approval Agenda Item 32, June 22, 2010

Honorable Members of the Board:

We write to you on behalf of our client SBA Towers II, LLC (“SBA”) to encourage you to reject the appeal of Jeff and Deborah Bunch (“Appellant”) and affirm the decision of the Planning Commission to approve the thoughtfully designed and staff recommended stealth wireless telecommunications “tree-pole” facility proposed to collocate up to five wireless carriers at 5080 Sagebrush Road in Garden Valley (the “Proposed Facility”).

The Master Report dated May 23, 2010, and submitted to you for this appeal (the “Master Report”) contains a substantial body of evidence that has been collected by staff to support both the Planning Commission and your approval of the Proposed Facility and denial of the appeal. Attached to the Master Report is our letter to the Planning Commission dated May 13, 2010 (“Legal Letter”), in which we explain the impact of federal law on your decision. In particular, our letter reviews the “substantial evidence” requirement under federal law for the County to deny the Proposed Facility. As discussed below, Appellant has fully failed to meet this requirement. Our Legal Letter also explain how, even accepting the unsubstantiated claims of adverse impacts by the adjacent neighbor (now Appellant), the Proposed Facility must be approved as the “least intrusive means” to fill an identified “significant gap” in Verizon Wireless coverage in El Dorado County (the “County”).

Given the substantial evidence in the Master Report and legal arguments set forth in the Legal Letter, we write this letter to address the four grounds for appeal set forth in Appellant’s letter of appeal dated May 14, 2010 (the “Appeal”), and to re-affirm that none of these grounds raise any evidence sufficient to overturn the Planning Commission approval, nor raise the “substantial evidence” required under federal law to deny approval of a wireless facility. Appellant’s four stated grounds for appeal must be dismissed as follows:

**I) SBA Has Thoroughly Reviewed Available Alternatives; There is No Less Intrusive Site to Fill the Coverage Gap Identified by Verizon Wireless**

Appellant first argues that SBA has not adequately reviewed alternative locations for the Proposed Facility and favors a location further from Appellant's home. Under El Dorado County Code Section 17.34 et seq. ("Wireless Code"), SBA need show only (as it has) that there are no existing towers or structures available to collocate the Proposed Facility. In addition to fulfilling this requirement, SBA has thoroughly investigated all available alternative sites for the Proposed Facility as set forth in the Alternatives Analysis attached to the Master Report, and reviewed by staff and the Planning Commission in approving the Proposed Facility. In all, the Alternatives Analysis reviews five alternate locations identified as: the Marshall Gold Discovery State Historic Park, the Jackson Parcel, the Mancuso Parcel, the proposed Comsites West facility and the Proposed Facility. The Alternatives Analysis shows through coverage maps that the lower sites (such as the State Park and Comsites West sites) will not provide necessary signal propagation required to fill the identified signal gap, through a third party consultant report, that the Mancuso site may cause impacts to historic resources and that the Mancuso, State Park and Comsites West sites all impact County scenic corridor resources that are protected under County Code and the El Dorado County General Plan. In sum, the Alternative Analysis exceeds County requirements and confirms that there is no less intrusive site than the stealth designed Proposed Facility to fill the coverage gap identified by Verizon Wireless.

**II) Appellant's Arguments Raising Re-alignment of Highway 49 are Frivolous; Coverage Requirements in Coloma, Locust, the American River and Marshall Gold Discovery State Park are Well Documented**

Appellant's second argument that the Proposed Facility is not necessary because Highway 49 will be re-aligned is frivolous and disingenuous. Through coverage maps, letters from local businesses and public safety personnel, a clear gap in wireless coverage has been established in Coloma and Locust. Further, tens of thousands of rafters and elementary school students visit the American River and gold discovery areas each year, creating a clear demand for reliable wireless service, for both personal and emergency use. While there have been four proposals to re-align Highway 49 since its construction in the late 1930's, there is no currently approved and funded plan to do so, nor is any such plan on the near horizon. Further, even accepting this frivolous notion, the identified coverage requirements in Coloma, Locust, the American River and Marshall Gold Discovery State Park remain.

**III) Existing Wireless Coverage at Appellant's Home Is Irrelevant**

Appellant's third ground for appeal is that they themselves already have cell coverage at

their home. While it is possible that Appellant benefits from cell coverage at the 1,800 foot elevation of their own home, the wireless coverage requirements in the American River canyon below their home has been well established. As set forth in the Alternatives Analysis, the Proposed Facility sits on a unique elevated topographic shelf that allows for service into the canyon below with minimal aesthetic impact. The purpose of the Proposed Facility is to service these areas and not Appellant's home. Like all community infrastructure, the Proposed Facility is designed to provide service to thousands of wireless customers notwithstanding minor impacts to immediate neighbors.

#### **IV) Staff Environmental Review, Stealth Design Features and Planning Commission Approval Discount Appellant's Claims of Gross Aesthetic Impacts**

In our Legal Letter, we describe how federal law, in an effort to promote wireless service, preempts local authority that has the effect of prohibiting the provision of wireless services. In this case, where SBA has clearly established a significant gap in wireless coverage and thorough Alternatives Analysis and camouflage design clearly established the Proposed Facility as the least intrusive means to fill the identified coverage gap, the County lacks authority to grant the Appeal based upon Appellant's claimed aesthetic impacts. Notwithstanding Appellant's arguments, both Staff and the Planning Commission concluded that aesthetic impacts from the Proposed Facility on Appellant's property are fully mitigated as follows:

**Aesthetics:** SBA has utilized a camouflaged design that minimizes the aesthetic impacts of the Proposed Facility. The equipment area will be enclosed within a slatted chain link fence that hides the equipment shelters within. In turn this fenced area will be surrounded by landscaping as approved by staff. Finally, SBA will incur significant expense to install a five carrier "tree-pole" to disguise the tower's appearance while avoiding future tower proliferation in this area. In keeping with direction from the Planning Commission, SBA has identified an "asymmetric" pine design for review by staff, an example of which is shown in Exhibit A to this letter.

**Noise:** Acoustical analysis prepared by Kimley-Horn & Associates, Inc., clearly shows that the Proposed Facility, even when operating in absolute worst-case scenarios with redundant air conditioners functioning as well as the emergency back-up generator, fully complies with the most restrictive interpretation of applicable County noise requirements. To confirm this fact, SBA has completed a second Noise Analysis Report, dated June 15, 2010, that rotates the Verizon Wireless shelter by 90 degrees as recommended by the first report. The results of this analysis (attached as Exhibit B) show that, even in the worst case scenario, the Proposed Facility would operate below the most restrictive night time noise requirements imposed by the County (e.g. below 35 dBA within 100' of Appellant's home). It bears repeating that these results are achieved with the back-up generator in continuous operation, which will actually only occur in the event of a power outage.

**Rural Character:** Finally, the Proposed Facility is not an illegal commercial use introduced into a rural neighborhood as alleged by Appellant, but rather, infrastructure benefiting the community that is permitted in residential zones under the County Wireless Code with proper permits.

In sum, Appellant's aesthetic complaints are overstated and contrary to staff and Planning Commission conclusions -- namely that the camouflage design of the Proposed Facility is the least intrusive means to provide needed wireless coverage to Coloma, Locust and the American River canyon.

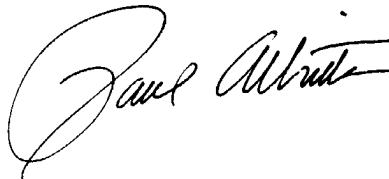
### **Conclusion**

SBA and Verizon Wireless have provided substantial evidence in the form of coverage maps, photo-simulations, acoustic analysis, an RF report and Alternatives Analysis to make all necessary findings for approval of the Proposed Facility. The conclusions of the staff in the Master Report and approval by the Planning Commission confirm that the Proposed Facility's stealth tree-pole design, with screened equipment area and site landscaping, fulfill the values reflected in the El Dorado County Wireless Code and General Plan, and, as such, is the least intrusive means to fill the clearly identified coverage gap.

In contrast, Appellant has failed to introduce any evidence, let alone the substantial evidence required under federal law, sufficient for this Board to reverse the Planning Commission's decision and support the Appeal.

The Proposed Facility will include the latest wireless technology, including high-speed data, voice and E911 call pinpointing capabilities, while the site will allow collocation of up to four other wireless carriers. El Dorado County residents, service providers, visitors and public safety professionals require the enhanced wireless coverage that will be provided by the Proposed Facility. We urge you to reject the Appeal and affirm the well reasoned decision of the Planning Commission as recommended by staff. We will be available at the June 22, 2010 hearing to answer any questions you may have about the Proposed Facility.

Very truly yours,



Paul B. Albritton

Enclosures

Example  
of existing  
asymmetric pine



**NOISE ANALYSIS REPORT**

**VERIZON COLOMA**

**Coloma, CA**

June 15, 2010

*Prepared for:*

SBA Network Services  
5900 Broken Sound Parkway, NW  
Boca Raton, FL 33487

*Prepared by:*

Kimley-Horn and Associates, Inc.  
401 B Street, Suite 600  
San Diego, CA 92101

©Kimley-Horn and Associates, Inc. 2010  
191508007

---

<b>1.0</b>	<b>Introduction and Summary .....</b>	<b>1</b>
1.1	Noise Background .....	1
<b>2.0</b>	<b>Applicable Noise Standards .....</b>	<b>6</b>
<b>3.0</b>	<b>Exterior Noise Environment .....</b>	<b>7</b>
3.1	Existing Noise Environment .....	7
3.2	Noise Sensitive Receptors .....	7
3.3	Noise Level Measurements .....	7
<b>4.0</b>	<b>Project Assessment .....</b>	<b>8</b>
<b>5.0</b>	<b>Mitigation .....</b>	<b>10</b>
<b>6.0</b>	<b>References .....</b>	<b>11</b>

**Tables**

Table 1. Sound Levels of Typical Noise Sources and Noise Environments .....	4
Table 2. Ambient Sound Level Measurements (dBA) .....	7
Table 3. Noise Levels of Proposed Mechanical Equipment .....	8

**Figures**

Figure 1. Vicinity Map .....	2
Figure 2. Site Plan Showing Measurement Location .....	3
Figure 3. Project Noise Levels – Proposed Design .....	9

**Appendices**

- Appendix A. Coloma Verizon Wireless Site Drawing Package
- Appendix B. Manufacturer’s Noise Specifications

---

## 1.0 INTRODUCTION AND SUMMARY

This report assesses potential noise impacts associated with the proposed Verizon Wireless facility serving the Coloma area of California. The project site is located in an unincorporated area of El Dorado County. Refer to Figure 1 for details.

The project includes the construction of a personal telecommunications carrier base station on a residential parcel at 5080 Sagebrush Road, in the community of Garden Valley. The base station would be located on a 12-foot × 25-foot tenant equipment pad inside a 60-foot × 90-foot lease area. An enclosed equipment shelter on the equipment pad would house telecommunications equipment. The shelter would include two wall-mounted air conditioners for ventilation. An emergency generator would also be located on the equipment pad. Refer to Figure 2 for details.

The facility as designed would produce noise levels up to approximately 34 dBA Leq at 100 feet from the closest offsite residence, in compliance with El Dorado County noise limits.

## 1.1 NOISE BACKGROUND

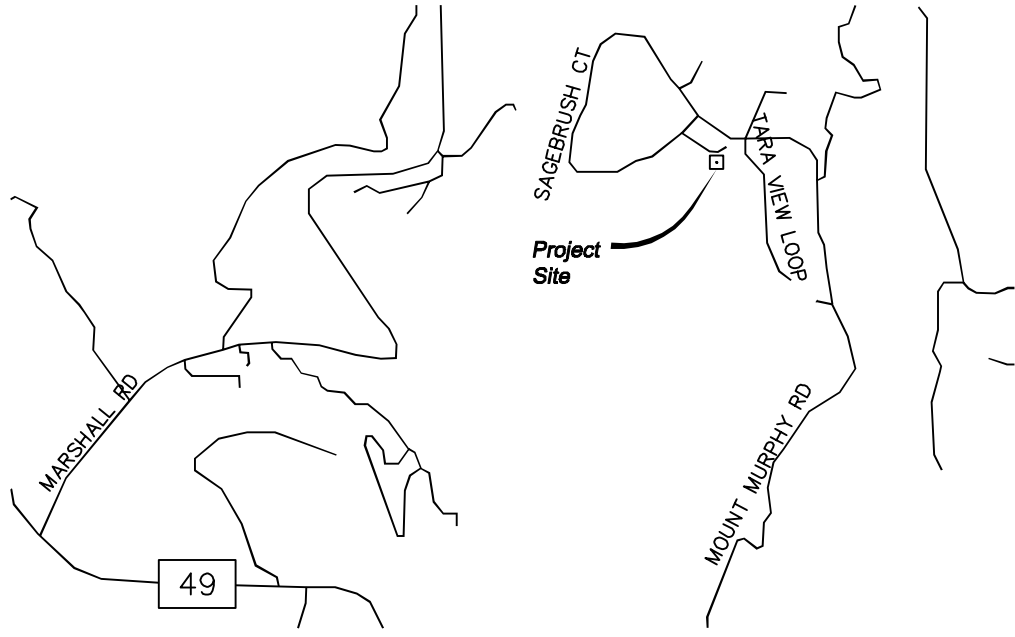
Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and that interferes with or disrupts normal activities. The human environment is characterized by a certain consistent noise level which varies by location and is termed ambient noise. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, perceived importance of the noise and its appropriateness in the setting, time of day and type of activity during which the noise occurs, and sensitivity of the individual.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and intensity. Frequency describes the sound's pitch and is measured in cycles per second, or hertz (Hz), whereas intensity describes the sound's loudness and is measured in decibels (dB). Decibels are measured using a logarithmic scale. A sound level of 0 dB is approximately the threshold of human hearing. Normal speech has a sound level of approximately 60 dB. Sound levels above about 120 dB begin to be felt inside the human ear as discomfort and eventually as pain at still higher levels. The minimum change in the sound level of individual events that an average human ear can detect is about 3 dB. The average person perceives a change in sound level of about 10 dB as a doubling (or halving) of the sound's loudness; this relation holds true for sounds of any loudness. Sound levels of typical noise sources and environments are provided in Table 1.



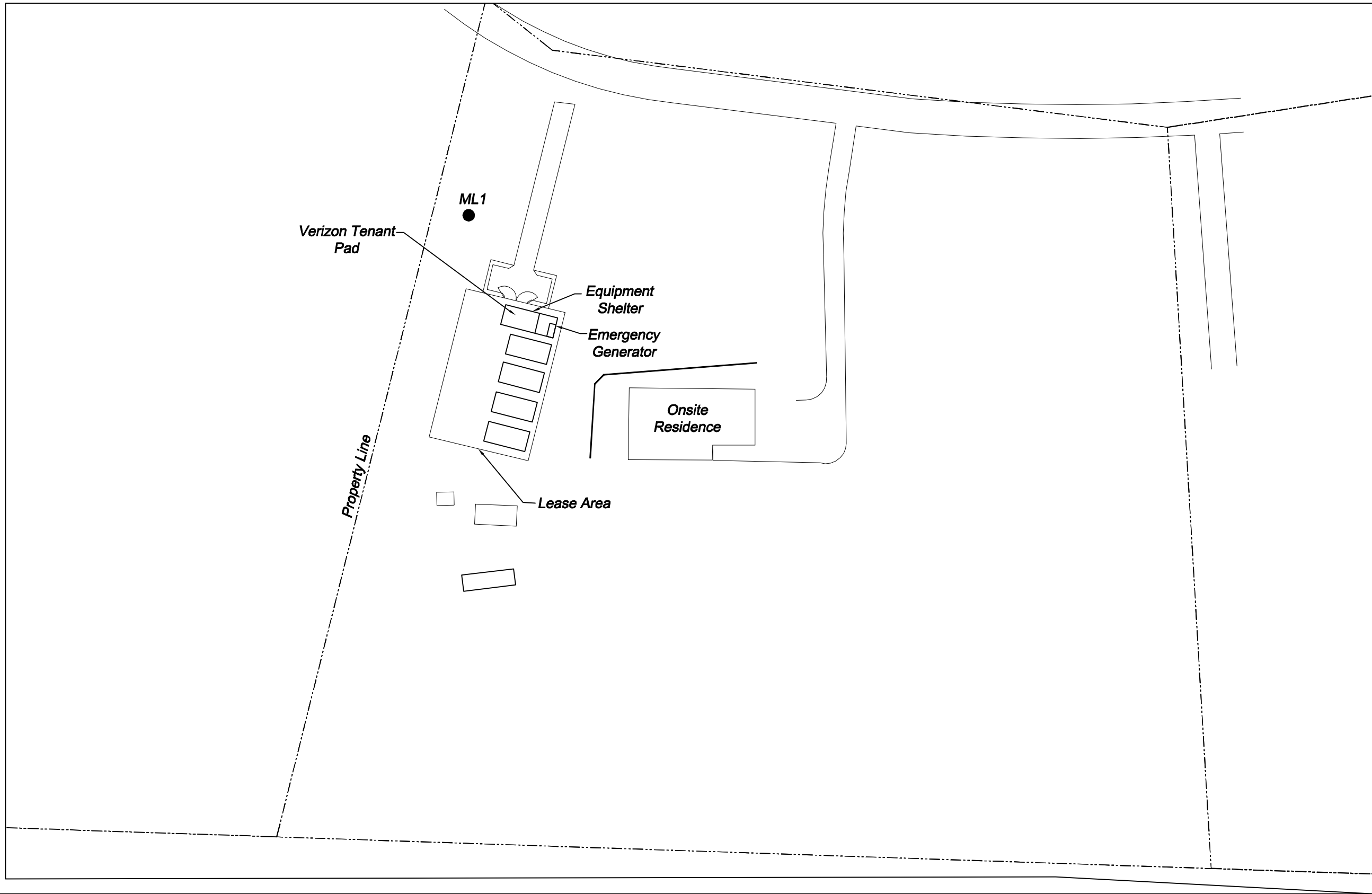


Not to Scale



K:\SND\_NOISE\191508007-Verizon Coloma\CAD\x-vicinity\_map.dwg 2-18-10-2:07 PM

Figure 1



K:\SND\_NOISE\191508007 - Verizon Coloma\CAD\X-measurement locations.dwg 6-17-10-3:22 PM

Figure 2

**Table 1. Sound Levels of Typical Noise Sources and Noise Environments**

Noise Source (at Given Distance)	Noise Environment	A-Weighted Sound Level	Human Judgment of Noise Loudness (Relative to Reference Loudness of 70 Decibels*)
Military Jet Takeoff with Afterburner (50 ft)	Carrier Flight Deck	140 Decibels	128 times as loud
Civil Defense Siren (100 ft)		130	64 times as loud
Commercial Jet Take-off (200 ft)		120	32 times as loud <b>Threshold of Pain</b>
Pile Driver (50 ft)	Rock Music Concert Inside Subway Station (New York)	110	16 times as loud
Ambulance Siren (100 ft) Newspaper Press (5 ft) Gas Lawn Mower (3 ft)		100	8 times as loud <b>Very Loud</b>
Food Blender (3 ft) Propeller Plane Flyover (1,000 ft) Diesel Truck (150 ft)	Boiler Room Printing Press Plant	90	4 times as loud
Garbage Disposal (3 ft)	Noisy Urban Daytime	80	2 times as loud
Passenger Car, 65 mph (25 ft) Living Room Stereo (15 ft) Vacuum Cleaner (10 ft)	Commercial Areas	70	Reference Loudness <b>Moderately Loud</b>
Normal Speech (5 ft) Air Conditioning Unit (100 ft)	Data Processing Center Department Store	60	1/2 as loud
Light Traffic (100 ft)	Large Business Office Quiet Urban Daytime	50	1/4 as loud
Bird Calls (distant)	Quiet Urban Nighttime	40	1/8 as loud <b>Quiet</b>
Soft Whisper (5 ft)	Library and Bedroom at Night Quiet Rural Nighttime	30	1/16 as loud
	Broadcast and Recording Studio	20	1/32 as loud <b>Just Audible</b>
		0	1/64 as loud <b>Threshold of Hearing</b>

Source: Compiled by Kimley-Horn and Associates, Inc.

---

Because of the logarithmic nature of the decibel unit, sound levels cannot be added or subtracted directly and are somewhat cumbersome to handle mathematically. A simple rule is useful, however, in dealing with sound levels. If a sound's intensity is doubled, the sound level increases by 3 dB, regardless of the initial sound level. Thus, for example,  $60 \text{ dB} + 60 \text{ dB} = 63 \text{ dB}$ , and  $80 \text{ dB} + 80 \text{ dB} = 83 \text{ dB}$ .

The normal human ear can detect sounds that range in frequency from about 20 Hz to 20,000 Hz. However, all sounds in this wide range of frequencies are not heard equally well by the human ear, which is most sensitive to frequencies in the range of 1,000 Hz to 4,000 Hz. This frequency dependence can be taken into account by applying a correction to each frequency range to approximate the human ear's sensitivity within each range. This is called A-weighting and is commonly used in measurements of community environmental noise. The A-weighted sound pressure level (abbreviated as dBA) is the sound level with the "A-weighting" frequency correction. In practice, the level of a noise source is conveniently measured using a sound level meter that includes a filter corresponding to the dBA curve.

Because community noise fluctuates over time, a single measure called the Equivalent Sound Level (Leq) is often used to describe the time-varying character of community noise. The Leq is the energy-averaged A-weighted sound level during a measured time interval. It is equal to the level of continuous steady sound containing the same total acoustical energy over the averaging time period as the actual time-varying sound. Additionally, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the Lmax and Lmin indicators, which represent the root-mean-square maximum and minimum noise levels obtained during the measurement interval. The Lmin value obtained for a particular monitoring location is often called the "acoustic floor" for that location.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used. They are the noise levels equaled or exceeded during 10, 50, and 90 percent of a stated time, respectively. Sound levels associated with L10 typically describe transient or short-term events, whereas levels associated with L90 describe the steady-state (or most prevalent) noise conditions.

Some land uses are considered sensitive to noise. Noise sensitive areas are land uses associated with indoor and/or outdoor activities that may be subject to stress and/or significant interference from noise. Noise sensitive areas often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. Industrial, commercial, and agricultural land uses are generally considered not sensitive to noise.

## 2.0 APPLICABLE NOISE STANDARDS

The Public Health, Safety, and Noise Element of the El Dorado County General Plan contains noise limits applicable to the project. Policy 6.5.1.2 states:

Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 6-2 at existing or planned noise-sensitive uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

Table 6-2 is shown below:

<b>TABLE 6-2 NOISE LEVEL PERFORMANCE PROTECTION STANDARDS FOR NOISE SENSITIVE LAND USES AFFECTED BY NON-TRANSPORTATION* SOURCES</b>						
<b>Noise Level Descriptor</b>	<b>Daytime 7 a.m. - 7 p.m.</b>		<b>Evening 7 p.m. - 10 p.m.</b>		<b>Night 10 p.m. - 7 a.m.</b>	
	Community	Rural	Community	Rural	Community	Rural
Hourly $L_{eq}$ , dB	55	50	50	45	45	40
Maximum level, dB	70	60	60	55	55	50
<b>Notes:</b>						
Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).						
The County can impose noise level standards which are up to 5 dB less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site.						
In Community areas the exterior noise level standard shall be applied to the property line of the receiving property. In Rural Areas the exterior noise level standard shall be applied at a point 100' away from the residence. The above standards shall be measured only on property containing a noise sensitive land use as defined in Objective 6.5.1. This measurement standard may be amended to provide for measurement at the boundary of a recorded noise easement between all effected property owners and approved by the County.						
*Note: For the purposes of the Noise Element, transportation noise sources are defined as traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by Federal and State regulations. Control of noise from facilities of regulated public facilities is preempted by California Public Utilities Commission (CPUC) regulations. All other noise sources are subject to local regulations. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, schools, hospitals, commercial land uses, other outdoor land use, etc.						

The project site and neighboring properties are in an area considered to be “rural.” The lowering of the noise standards by the County can be considered to be appropriate, based on the ambient sound level measurements described in Section 3. In addition, operation of the equipment would not be limited to daytime hours only. Accordingly, the noise level limit applicable to the project is 35 dBA Leq at 100 feet from any residence not located on the project property; i.e., offsite.

---

## 3.0 EXTERIOR NOISE ENVIRONMENT

### 3.1 EXISTING NOISE ENVIRONMENT

The project site is located on the western side of a residential parcel at 5080 Sagebrush Road. The primary noise sources in the project area are domestic activity, distant vehicular traffic, and natural noise.

### 3.2 NOISE SENSITIVE RECEPTORS

The closest offsite residence to the project is on a residential parcel adjacent to the west, at 5060 Sagebrush Road. All other residences in the area are further from the project site.

### 3.3 NOISE LEVEL MEASUREMENTS

Two short-term, ½-hour noise level measurements were conducted near the western project property line on Wednesday, February 10, 2010. The purpose of the measurements was to quantify the existing noise environment in the vicinity of the project site and to characterize noise sensitive receptors that may be exposed to noise level increases as a result of the project.

A RION Model NL-31 American National Standards Institute Type 1 Integrating Sound Level Meter was used as the data-collection device. The meter was mounted to a tripod approximately 5 feet above ground to simulate the average height of the human ear. The sound level meter was calibrated before and after the measurement periods.

The measurement results are summarized in Table 2 and correspond to the location depicted on Figure 2. A review of the table shows that the measured noise level at Measurement Location 1 (ML1) was 29.6 dBA Leq during the daytime and 29.1 dBA Leq during the nighttime. Noise sources that contributed to the daytime noise environment included wind through trees and brush, birds, a rooster, distant roadway traffic, movement of dogs and people, and wind chimes. Noise sources that contributed to the nighttime noise environment included distant dogs barking, distant traffic, movement of people, and vocalizations of crickets or frogs.

**Table 2. Ambient Sound Level Measurements (dBA)**

Measurement	Time	Leq	Lmin	Lmax	L10	L50	L90
ML1	12:10 – 12:40	29.6	23.4	38.8	32.3	28.5	25.4
	22:30 – 23:00	29.1	22.3	43.1	31.9	26.0	23.8

Note: Measurements conducted on February 10, 2010.

---

## 4.0 PROJECT ASSESSMENT

The project mechanical equipment would be located on the northwestern equipment pad. Refer to Figure 3 for details. The project would include wall-mounted HVAC units on the equipment shelter, and an emergency generator. Refer to Appendix A for details.

The HVAC units would each be 5-ton Bard Model W (R-410A). The manufacturer's specifications for the acoustically similar [Fibrebond 2010] WA (R-22) units indicate a noise level of 70 dBA at 5 feet [Bard]. The HVAC units would be on the eastern-facing wall of the shelter, and the emergency generator would be located east of the shelter, on the pad. The HVAC units would be redundant; only one unit would be operational at one time. The operation of the HVAC units would be based on need; neither unit would run if ambient temperatures were low enough to eliminate the need for cooling.

The emergency generator would be a Generac Model SD050. The emergency generator would be housed in a Level 2 Sound Enclosure. The manufacturer's specifications indicate a noise level of 68 dBA at 23 feet. The emergency generator would also be based on need; outside of routine testing, it would only operate in the event of a prolonged power outage. The emergency generator would be tested for a period of approximately 15 minutes, approximately once per month, during daytime hours.

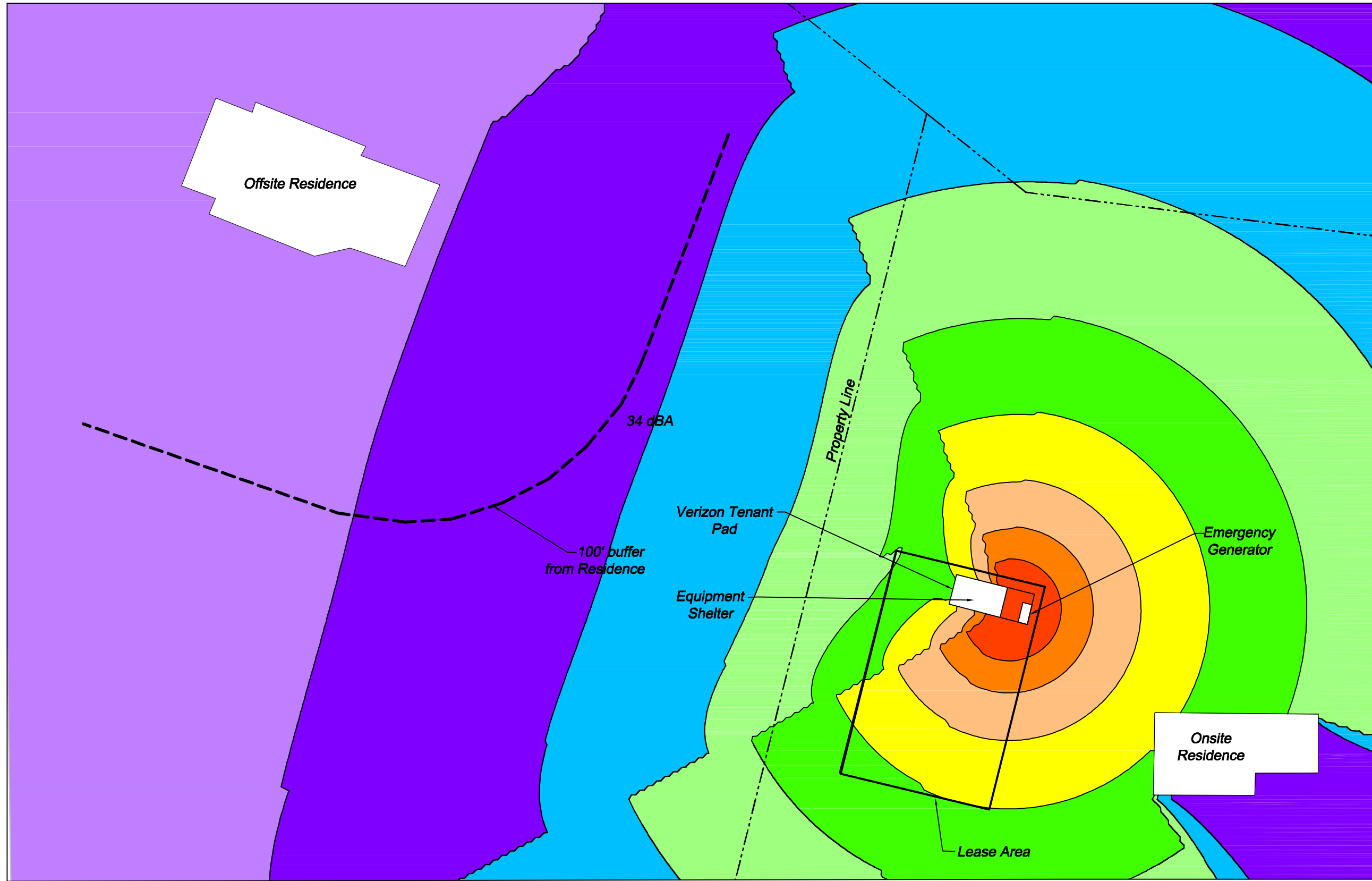
The Datakustik Cadna/A industrial noise prediction model was used to estimate noise levels from project noise sources. The project site layout was imported into the model using the project CAD files [SBA Towers, Inc. 2010]. The topography of the project property and adjacent properties was imported into the model [Terrain on Demand 2010].

The wall-mounted HVAC units and the emergency generator were treated as point sources. In the interest of a worst-case analysis, it was assumed that the HVAC units and the generator would be constantly operational. The noise levels of the proposed mechanical equipment are shown in Table 3. Refer to Appendix B for details. The noise source height of all mechanical equipment was assumed to be 3 feet above local ground level.

**Table 3. Noise Levels of Proposed Mechanical Equipment**

Equipment	Model	Noise Level
HVAC Unit	Bard W (R-410A) 5-Ton	70 dBA at 5 feet
Emergency Generator	Generac SD050 with Level 2 Sound Enclosure	68 dBA at 23 feet

The project as designed would produce noise levels up to approximately 34 dBA Leq at 100 feet from the closest offsite residence, in compliance with El Dorado County noise limits. Project-generated noise levels at 100 feet from all other offsite residences would be less than 35 dBA Leq. Refer to Figure 3 for details.



**Legend**

< 30 dBA	Light Purple
30-35 dBA	Dark Purple
35-40 dBA	Blue
40-45 dBA	Light Green
45-50 dBA	Green
50-55 dBA	Yellow
55-60 dBA	Light Orange
60-65 dBA	Orange
> 65 dBA	Red

Figure 3

K:\SND\_NOISE\191508007 - Verizon Coloma\CAD\x-proposed noise contours - updated2.dwg 6-17-10-3:40 PM



---

## 5.0 MITIGATION

The project as designed would comply with El Dorado County noise limits. No mitigation would be necessary to achieve compliance.

---

## 6.0 REFERENCES

- Bard. Noise levels produced by wall-mounted WA (R-22) 5-ton HVAC units.
- El Dorado County. 2009. General Plan. Public Health, Safety, and Noise Element. March.
- Fibrebond. 2010. Communication between John Sharlow and Deirdre Danos regarding acoustical similarity of W (R-410A) HVAC units and WA (R-22) HVAC units.
- Generac. 2009. SD050 Industrial Diesel Generator Set. Sound Levels. October 22.
- Harris, Cyril M. 1998. Handbook of Acoustical Measurements and Noise Control, Third Edition. Acoustical Society of America. Woodbury, NY.
- International Organization for Standardization (ISO). 1996a. ISO 1996/1. Acoustics – Description and Measurement of Environmental Noise – Part 1: Basic Quantities and Procedures.
- 1996b. ISO 1996-2. Acoustics – Description and Measurement of Environmental Noise – Part 2: Acquisition of Data Pertinent to Land Use.
- 1996c. ISO 1996-3. Acoustics – Description and Measurement of Environmental Noise – Part 3: Application to Noise Limits.
- SBA Towers, Inc. 2010. Coloma Verizon Wireless site drawing package. June 14.
2010. Coloma Verizon Wireless site CAD drawings. May.
- Terrain on Demand. 2010. Elevation data in 5-foot increments for Coloma Verizon Wireless site area. February.