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COMMUNITY DEVELOPMENT
PLANNING DEPT.

NOISE IMPACT ANALYSIS

Sprint Wireless
Site Name: "Mureau"
Site Number: LA03XC198
24900 Calabasas Road
Calabasas, California 91302

Prepared For

SAC Wireless, LLC
Attention: Dail Richard
5865 Avenida Encinas, Suite 142B
Carlsbad, California 92008
Phone: 858-200-6541

Prepared By

Eilar Associates, Inc.
Acoustical & Environmental Consulting
321 Willowspring Drive North
Encinitas, California 92024
www.eilarassociates.com
Phone: 760-738-5570
Fax: 760-738-5227

Job #B21006N1

November 29, 2012

TABLE OF CONTENTS

	<u>Page</u>
1.0 EXECUTIVE SUMMARY	1
2.0 INTRODUCTION	1
2.1 Project Location	
2.2 Project Description	
2.3 Applicable Noise Regulations	
3.0 ENVIRONMENTAL SETTING	2
3.1 Existing Noise Environment	
3.2 Future Noise Environment	
4.0 METHODOLOGY AND EQUIPMENT	4
4.1 Methodology	
4.2 Measurement Equipment	
5.0 NOISE IMPACTS	5
6.0 CONCLUSION	6
7.0 CERTIFICATION	6
8.0 REFERENCES	7

FIGURES

1. Vicinity Map
2. Assessor's Parcel Map
3. Satellite Aerial Photograph
4. Topographic Map
5. Site Plan Showing Equipment Noise Contours and Receiver Locations

APPENDICES

- A. Project Plans, Dated May 30, 2012
- B. Pertinent Sections of the City of Calabasas Municipal Code
- C. Manufacturer Data Sheets
- D. Cadna Analysis Data and Results

1.0 EXECUTIVE SUMMARY

The proposed project, modifications to the existing Sprint telecommunications facility known as "Mureau" (Site Number LA03XC198), consists of the installation of a new battery backup cabinet and a new equipment cabinet within an existing lease area. The project site is located at 24900 Calabasas Road in the City of Calabasas, California.

The purpose of this report is to assess noise impacts from the existing and proposed equipment at the Sprint facility, and to determine if mitigation is necessary and feasible to reduce project related noise impacts to less than significant. According to the City of Calabasas, noise from wireless equipment may not be audible at the property line of any open space or residential property.

Calculations show that, as designed, exterior noise levels from existing and proposed Sprint equipment are expected to be inaudible at all surrounding noise-sensitive receivers, and therefore, comply with City of Calabasas noise regulations. No mitigation is deemed necessary for attenuating exterior noise levels on site.

2.0 INTRODUCTION

This acoustical analysis report is submitted to satisfy the noise requirements of the City of Calabasas. Its purpose is to assess noise impacts from on-site project related mechanical noise sources, and to determine if mitigation is necessary to reduce the noise impacts to less than significant levels.

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting, abbreviated "dBA," to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol " L_{EQ} " unless a different time period is specified, " L_{EQ} " is implied to mean a period of one hour. Some of the data may also be presented as octave-band-filtered and/or A-octave-band-filtered data, which are a series of sound spectra centered about each stated frequency, with half of the bandwidth above and half of the bandwidth below each stated frequency. This data is typically used for machinery noise analysis and barrier calculations.

Sound pressure is the actual noise experienced by a human or registered by a sound level instrument. When sound pressure is used to describe a noise source, the distance from the noise source must be specified in order to provide complete information. Sound power, on the other hand, is a specialized analytical method to provide information without the distance requirement, but it may be used to calculate the sound pressure at any desired distance.

Most people describe changes in sound levels along the following lines: (a) a 3 dB sound level change is barely perceptible, (b) a 5 dB sound level change is quite noticeable, whereas (c) a change of 10 dB is described as being dramatic, or about one-half or twice as loud.

2.1 Project Location

The subject property is located at 24900 Calabasas Road in the City of Calabasas, California. The Assessor's Parcel Number (APN) is 2069-010-010. The owner of the property is Benny Behnam Kohantueb, and an existing golf driving range occupies the site.

For a graphical representation of the site, please refer to the Vicinity Map, Assessor's Parcel Map, Satellite Aerial Photograph, and Topographic Map provided as Figures 1 through 4, respectively.

2.2 Project Description

The proposed project includes the installation and operation of new antennas, a new battery backup cabinet, and a new equipment cabinet. This equipment is intended to replace some of the existing equipment currently located on site, although one telecommunications cabinet will remain in place. Antennas will be roof-mounted, while all other equipment will be located within the existing ground level Sprint lease area located next to the building. The new and existing equipment cabinets and battery backup cabinet are the focus of this analysis, as they are the only noise-generating equipment to be located on site.

For additional project details and equipment positioning, please refer to the project plans, dated May 30, 2012, provided in Appendix A.

2.3 Applicable Noise Standards

The noise regulations applicable to this project are contained within the City of Calabasas Municipal Code. The subject property is zoned CL (limited commercial), as are the properties immediately adjacent to the east and west. Calabasas Road and a U.S. Route 101 right-of-way are located immediately adjacent to the north of the project site, and property beyond this freeway is open space outside of the city limits. Properties zoned OS-DR (open space – development restricted) are located directly to the south of the subject property. The property to the south is the nearest potentially noise-sensitive receiver.

The City of Calabasas Municipal Code states wireless equipment noise shall not be audible at the property line of any parcel zoned for open space or residential use. In order to determine compliance with these regulations, ambient noise monitoring has been performed to show the average minimum noise exposure at the neighboring sites. Equipment noise has then been calculated to determine whether the proposed equipment noise will cause a noticeable increase in ambient noise levels at adjacent sites. As the presumed minimum ambient noise level is 45.7 dBA in the vicinity of the project, equipment noise levels should not exceed this noise level, as this would result in a combined noise level of 48.7 dBA, which would be a "just noticeable" increase in the ambient noise level. Please see Section 4.1.1 for a detailed description of decibel addition.

Pertinent sections of the City of Calabasas Municipal Code are provided as Appendix B.

3.0 ENVIRONMENTAL SETTING

3.1 Existing Noise Environment

3.1.1 Ambient Noise Monitoring

An on-site inspection was conducted at 3:00 p.m. on Wednesday, October 17, 2012 to verify conditions and the existing noise environment. One long-term noise monitor was placed on-site. The sound level meter (Larson Davis 720) was located to the south of the existing building and equipment area, near the south property line. Please refer to Table 1 for the measured hourly noise levels. For a graphical representation of the measurement location, please refer to Figure 5.

Table 1. Measured Ambient Noise Levels	
Time	L _{EQ} (dBA)
3:07 p.m. – 4 p.m.	46.6
4 p.m. – 5 p.m.	45.7
5 p.m. – 6 p.m.	47.3
6 p.m. – 7 p.m.	51.6
7 p.m. – 8 p.m.	52.7
8 p.m. – 9 p.m.	53.1
9 p.m. – 10 p.m.	52.7
10 p.m. – 11 p.m.	52.6
11 p.m. – 12 a.m.	51.0
12 a.m. – 1 a.m.	50.1
1 a.m. – 2 a.m.	48.8
2 a.m. – 3 a.m.	48.4
3 a.m. – 4 a.m.	49.3
4 a.m. – 5 a.m.	50.5
5 a.m. – 6 a.m.	52.1
6 a.m. – 7 a.m.	53.1
7 a.m. – 8 a.m.	53.6
8 a.m. – 9 a.m.	53.0
9 a.m. – 10 a.m.	51.9
10 a.m. – 11 a.m.	51.5
11 a.m. – 12 p.m.	52.2
1 p.m. – 1:15 p.m.	51.8

During the noise level measurement, the microphone position was approximately five feet above the existing grade elevation. The primary contributors to this noise level were traffic noise from cars and trucks on Calabasas Road and Route 101. As shown in Table 1, the minimum hourly ambient noise level was 45.7 dBA between the hours of 4 p.m. and 5 p.m. The maximum hourly ambient noise level was 53.6 dBA between the hours of 7 a.m. and 8 a.m.

3.1.2 Existing Equipment Noise

One existing Sprint equipment cabinet is expected to remain in place on site. As no equipment information was available, it was assumed that this cabinet would generate the same noise level as the proposed Modcell 4.0 cabinet, detailed in the following section.

3.2 Future Noise Environment

The future noise environment in the vicinity of the project site will be primarily a result of the same noise sources, as well as the noise generated by the proposed Sprint equipment.

The proposed project includes the installation of a new Modcell 4.0 cabinet. According to the manufacturer, the noise level created by one unit is measured to be approximately 61 dBA at five feet from the front of the cabinet. Manufacturer data sheets can be found in Appendix C. In order to incorporate this measurement into the Cadna analysis, octave band data from a previous measurement of a typical wireless equipment cabinet was adjusted to approximate the sound spectrum. The resultant octave band data is shown in Table 2.

The new battery backup cabinet is manufactured by CommScope, model 60ECv2. According to Shervin Shamloo, Product Manager and Tech Support at CommScope, this cabinet is anticipated to

generate less than 55 dBA at five feet from the cabinet, and will likely generate a noise level of approximately 50 dBA. For this reason, it was assumed that 55 dBA would be the maximum noise level generated by this piece of equipment, for a worst-case analysis. Octave band data for this equipment has been estimated based on noise measurements of a wireless equipment cabinet. Please refer to Table 2.

Table 2. Predicted Octave Band Sound Pressure Levels for On-Site Equipment at 5 Feet									
Location	Octave Band Frequency Sound Pressure Level (dB)								dBA L_{EQ}
	63	125	250	500	1K	2K	4K	8K	
Modcell 4.0	74.0	64.9	56.6	56.6	55.5	51.8	53.1	44.2	61.0
CommScope 60ECv2	68.0	58.9	50.6	50.6	49.5	45.8	47.1	38.2	55.0

4.0 METHODOLOGY AND EQUIPMENT

4.1 Methodology

4.1.1 Decibel Addition

To determine the combined logarithmic noise level of two known noise source levels, the values are converted to the base values, added together, and then converted back to the final logarithmic value, using the following formula:

$$L_C = 10 \log(10^{L_1/10} + 10^{L_2/10} + \dots + 10^{L_N/10})$$

where L_C = the combined noise level (dB), and
 L_N = the individual noise sources (dB).

To approximate this equation please refer to Table 3. This procedure is also valid when used successively for each added noise source beyond the first two. The reverse procedure can be used to estimate the contribution of one source when the contribution of another concurrent source is known and the combined noise level is known. These methods can be used for L_{EQ} or other metrics (such as L_{DN} or CNEL), as long as the same metric is used for all components.

Table 3. Sound Level Addition for Two Noise Sources	
Difference	Add to Higher Value
0 - 1 dB	3 dB
2 - 3 dB	2 dB
4 - 9 dB	1 dB
10 or more dB	0 dB

4.1.2 Cadna Noise Modeling

Modeling of the outdoor noise environment is accomplished using Cadna Version 3.7, which is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. Cadna (Computer Aided Noise Abatement) assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed model and uses the most up-to-date calculation standards to predict outdoor noise impacts.

4.2 Measurement Equipment

Some or all of the following equipment was used at the site to measure existing ambient noise levels:

- Larson Davis Model 720 Type 2 Sound Level Meter, Serial # 0219
- Larson Davis Model CA150 Calibrator, Serial # 0339
- Distance measurement wheel, digital camera

The sound level meter was field-calibrated immediately prior to the noise measurement and checked afterwards, to ensure accuracy. All sound level measurements conducted and presented in this report, in accordance with the regulations, were made with sound level meters that conform to the American National Standards Institute specifications for sound level meters (ANSI S1.4-1983, R2001). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

5.0 NOISE IMPACTS

Noise levels of the existing and proposed wireless equipment were calculated using Cadna at the open space property line to the south. All other potentially noise-sensitive receivers are located at a greater distance from the equipment, and therefore, this receiver represents the worst-case equipment noise exposure. The receiver height was calculated at a height of five feet. These calculations do not consider the elevation difference between receivers, nor do they consider the existing six-foot high enclosure wall around the equipment. Results of the analysis are shown in Table 4 below. The distances listed in this table represent the approximate distance from the receivers to the nearest Sprint wireless equipment, without considering height difference. Receiver locations are shown in Figure 5, and additional information can be found in Appendix D: Cadna Analysis Data and Results.

Table 4. Calculated Wireless Facility Noise Impact Levels				
Receiver Number	Receiver Location	Approximate Distance to Equipment (ft)	Noise Limit (dBA)	Equipment Noise Level (dBA)
R-1	South – Open Space	100	45.7	35.8

As shown above, equipment noise levels are not expected to exceed the minimum ambient noise levels at any surrounding noise-sensitive receivers, and therefore, can be considered inaudible.

Equipment noise levels are anticipated to be in compliance with City of Calabasas noise regulations, and therefore, no mitigation is deemed necessary for attenuating exterior noise levels.

6.0 CONCLUSION

Calculations show that, as designed, exterior noise levels from existing and proposed Sprint equipment are expected to be inaudible at all surrounding noise-sensitive receivers, and therefore, comply with City of Calabasas noise regulations. No mitigation is deemed necessary for attenuating exterior noise levels on site.

This analysis is based upon a current worst-case scenario of anticipated, typical equipment for this type of wireless facility. Substitution of equipment with higher noise emission levels may invalidate the recommendations of this study. These conclusions and recommendations are based on the best and most current project-related information available at the time this study was prepared.

7.0 CERTIFICATION

This report is based on the related project information received and measured noise levels, and represents a true and factual analysis of the acoustical impact issues associated with the Sprint Wireless site known as "Mureau" (Site Number LA03XC198), located at 24900 Calabasas Road in the City of Calabasas, California. This report was prepared by Amy Hool and Douglas Eilar.



Douglas K. Eilar,
Principal/Senior Acoustical Consultant



Amy Hool, Senior Acoustical Consultant

8.0 REFERENCES

1. Beranek, Leo L., *Acoustical Measurements*, Published for the Acoustical Society of America by the American Institute of Physics, Revised Edition, 1988.
2. City of Calabasas Municipal Code.
3. Harris, Cyril M., *Handbook of Acoustical Measurements and Noise Control*, Acoustical Society of America, 3rd Edition, 1998.
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FIGURES

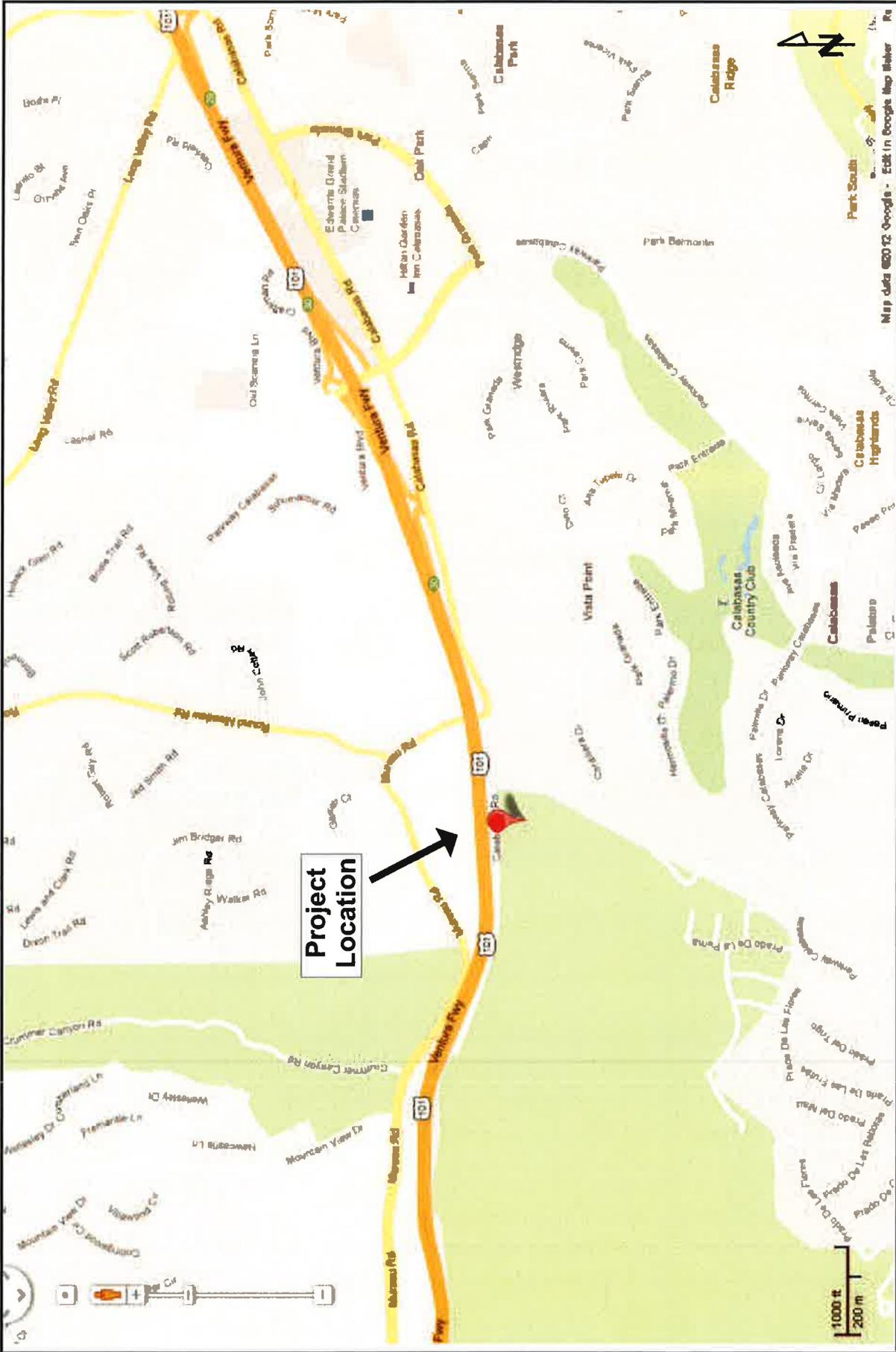


Figure 1

Vicinity Map
Job #B21006N1

Eilar Associates, Inc.
321 Willowspring Drive North
Encinitas, California 92024
760-738-5570

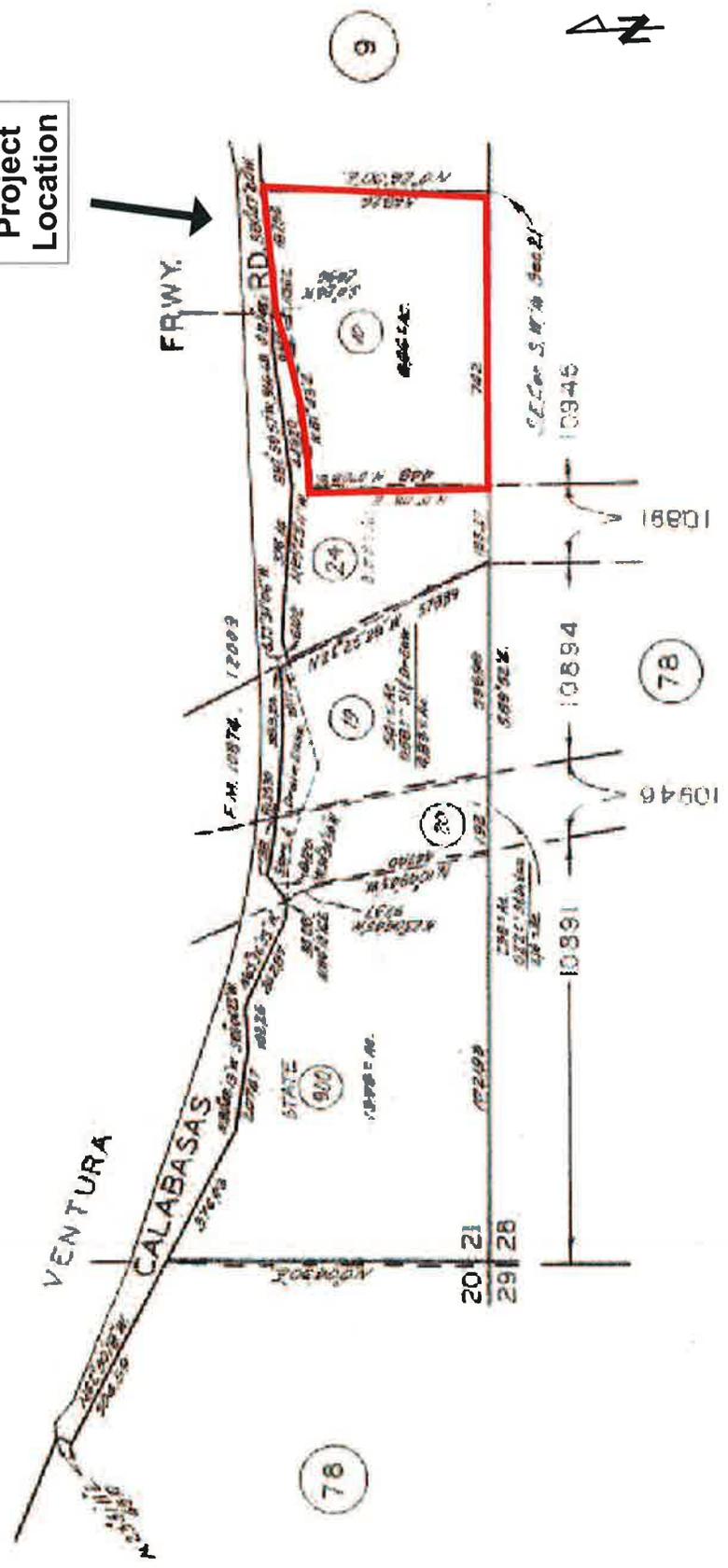
7/10/15
9/10/18

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20000126
2001088713002001-02
2001089113002001-02
2008010206001001-02

Los Angeles County
Assessor's Parcel Number:
2069-010-010

BK.
2049

Project
Location



Eilar Associates, Inc.
321 Willowspring Drive North
Encinitas, California 92024
760-738-5570

Assessor's Parcel Map
Job # B21006N1

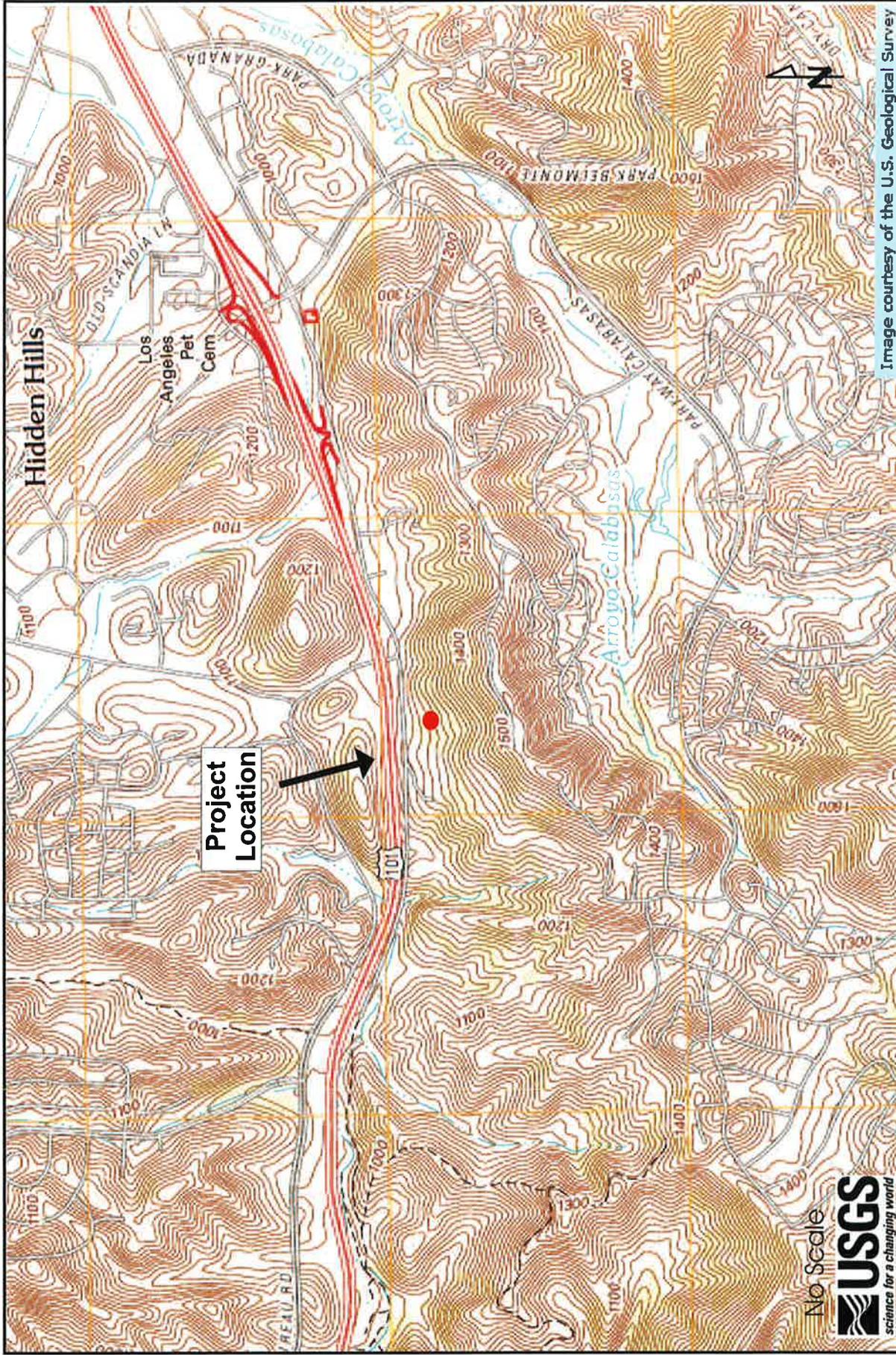
Figure 2



Eilar Associates, Inc.
321 Willowspring Drive North
Encinitas, California 92024
760-738-5570

Satellite Aerial Photograph
Job # B21006N1

Figure 3



Eilar Associates, Inc.
 321 Willowspring Drive North
 Encinitas, California 92024
 760-738-5570

Topographic Map
 Job # B21006N1

Figure 4

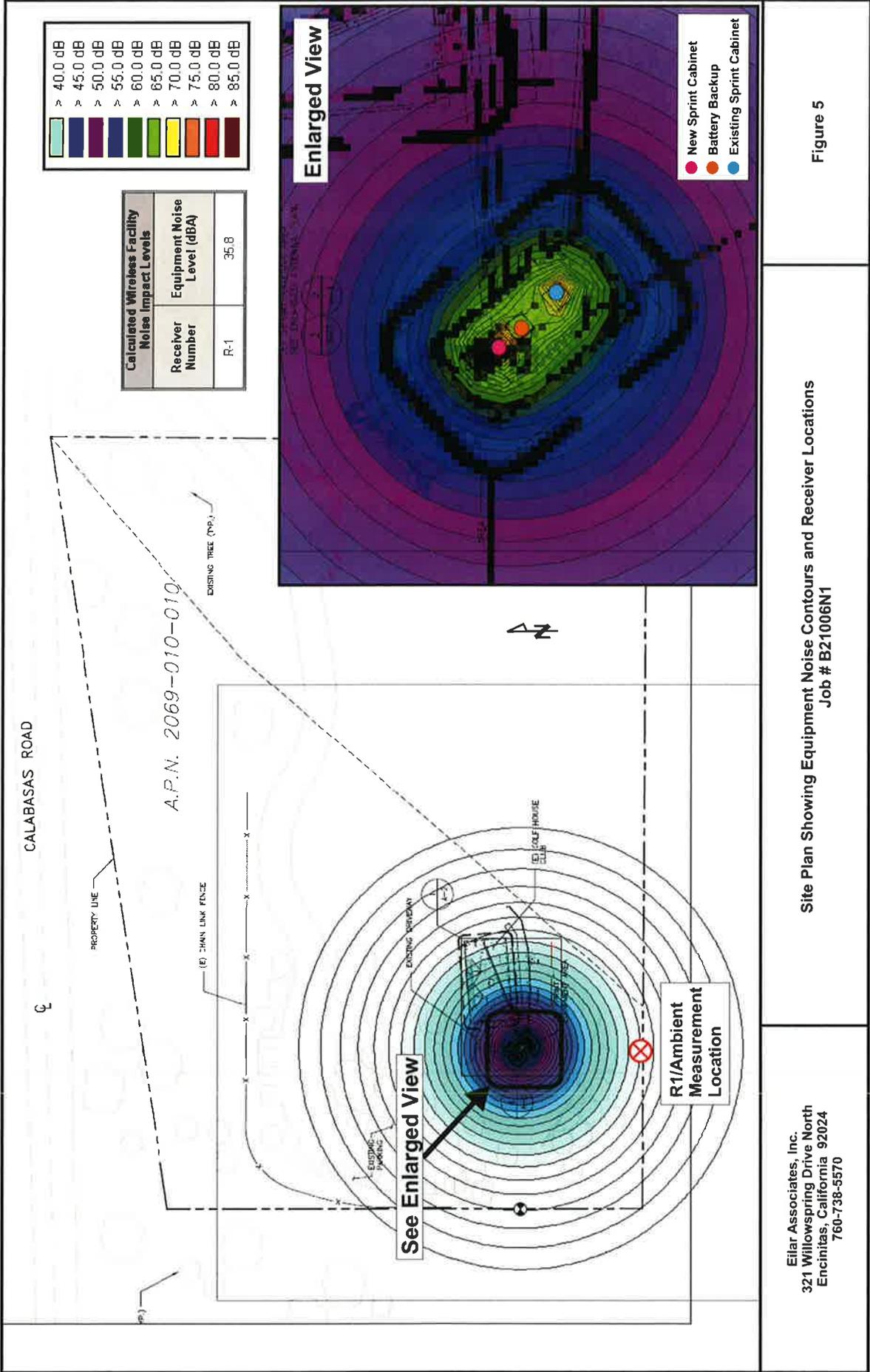
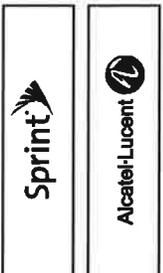


Figure 5

Eilar Associates, Inc.
321 Willow Springs Drive North
Encinitas, California 92024
760-738-5570

APPENDIX A

Project Plans, Dated May 30, 2012



PROJECT INFORMATION:
MUREAU
 LA03XC198
 24900 CALABASAS ROAD
 CALABASAS, CA 91302
 CITY OF CALABASAS

ISSUE DATE: 05/30/2012

ISSUED FOR: 90% CD REVIEW

REV.	DATE	DESCRIPTION
A	05/05/12	ISSUED FOR 90% CD REVIEW

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LICENSEURE:

SHEET TITLE: OVERALL SITE PLAN

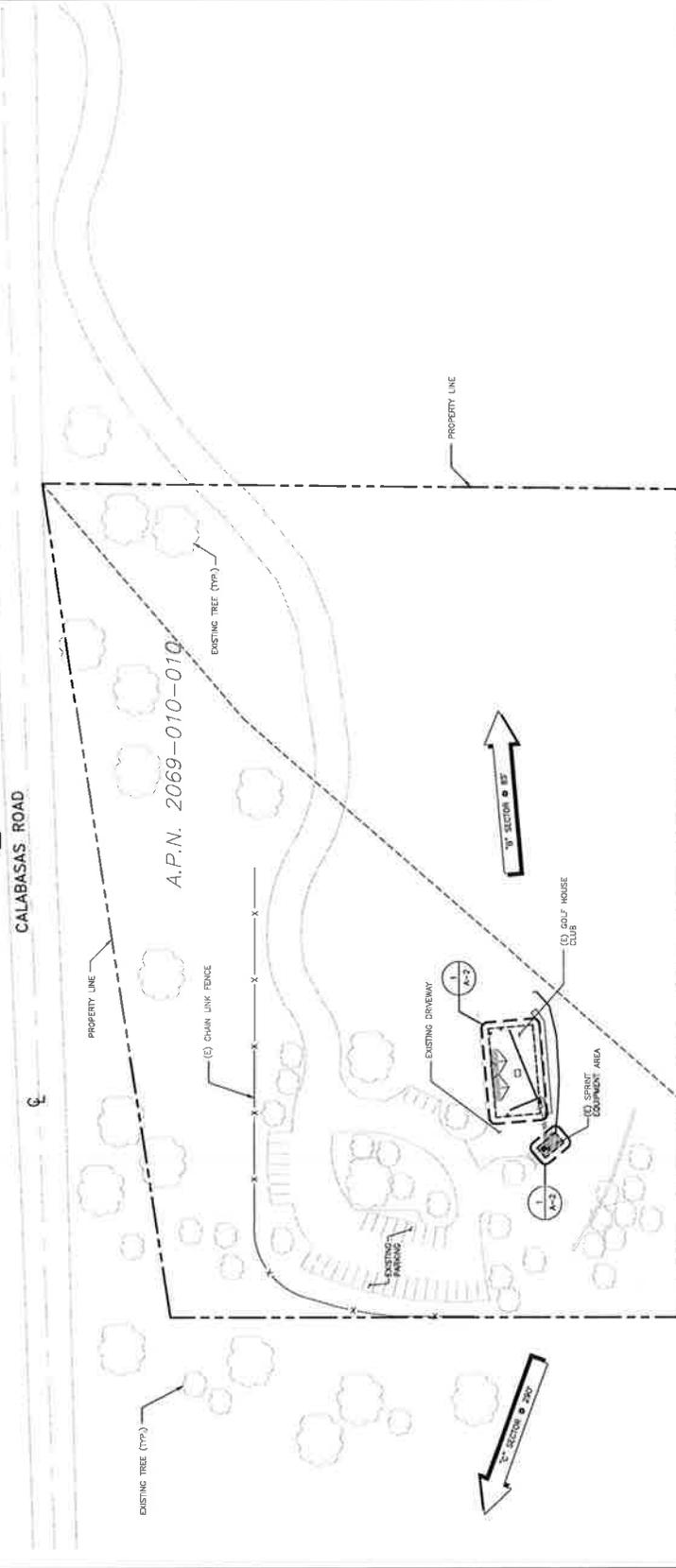
SHEET NUMBER: A-1
 REVISION: A

LEGEND

--- SUBJECT BOUNDARY LINE	◇ FIRE HYDRANT	◇ AIR CONDITIONING LEVEL	NA NA	VERTICAL VERIFY IN FIELD
--- RIGHT-OF-WAY CENTERLINE	⊗ GATE VALVE	APPROXIMATELY	NTS	W/OUT WEATHER PROOF
--- RIGHT-OF-WAY LINE	⊕ WATER METER	BUILDING	OC	ON CENTER
--- SITE EMPHASIS LINE	⊖ FIRE STAND PIPE	BLOCKING	OD	OUTSIDE DIAMETER
--- SECTIONAL BROADBAND LINE	⊙ CATCH BASIN, TYPE I	CLAD	PRP	PROJECT PRESSURE TREATED
--- (N) FIBER LINE	⊙ CATCH BASIN, TYPE II	CONCRETE	REG	REQUIRED
--- OVERHEAD POWER LINE	⊙ SIGN	CONTINUOUS	RM	ROOM
--- BURIED POWER LINE	⊙ BOLLARD	DOUBLE	RRA	ROAD ROUTE HEAD
--- BURIED GAS LINE	⊙ MAIL BOX	DIAMETER	SMT	SHEET
--- OVERHEAD TELEPHONE LINE	⊙ TELEPHONE VAULT	DOWN	SM	SIMILAR
--- BURIED TELEPHONE LINE	⊙ TELEPHONE RISER	DRAWING	SFC	SQUARE FOOT
--- BURIED WATER LINE	⊙ 24.21 SPOT ELEVATION	EACH	SS	STAINLESS STEEL
--- BURIED SHERMET STRIP		ELEVATION	STR	STRUCTURAL
--- BURIED STORM DRAIN		DOWN	SLIP	SUSPENDED
--- BURIED UNCL/LOW LINE		EQUIPMENT	TRU	TROUGH
--- VEGETATION LINE		ENTRANCE	TMA	TOWER MOUNT AMPLIFIER
--- WORK FENCE		FLOOR	TOP	TYPICAL
--- BARBED WIRE/FENCE		POST	UNG	UNLESS NOTED OTHERWISE

ABBREVIATIONS

A/C	TRANSFORMER	CA	CONDENSING	NA	NOT APPLICABLE
ACL	LIGHT STANDARD	CC	APPROXIMATELY	NTS	NOT TO SCALE
APPRX	POWER VAULT	GRD	BUILDING	OC	ON CENTER
BLD	UTILITY BOX	DTP	BLOCKING	OD	OUTSIDE DIAMETER
BULK	UTILITY POLE	HRZ	CLAD	PRP	PROJECT PRESSURE TREATED
CLR	POLE GRAY WIRE	HT	CONCRETE	REG	REQUIRED
CONC	GAS VALVE	HTAC	CONTINUOUS	RM	ROOM
COAT	GAS METER	DBL	DOUBLE	RRA	ROAD ROUTE HEAD
DBL	TELEPHONE VAULT	DN	DOWN	SMT	SHEET
DN	TELEPHONE RISER	DNW	DRAWING	SM	SIMILAR
DNW	24.21 SPOT ELEVATION	DRG	EACH	SFC	SQUARE FOOT
EA		EL	ELEVATION	SS	STAINLESS STEEL
ELEV		ELEC	ELEVATION	STR	STRUCTURAL
EQUIP		ENTR	ENTRANCE	SLIP	SUSPENDED
ENTR		FLOOR	FLOOR	TRU	TROUGH
ENTRANCE		POST	POST	TMA	TOWER MOUNT AMPLIFIER
FLOOR				TOP	TYPICAL
POST				UNG	UNLESS NOTED OTHERWISE



OVERALL SITE PLAN

SCALE: 1" = 80'-0" (GRAPH)
 (100' 100' = 80'-0" (1/4"=1'))

50' 0 25' 50'

NORTH

1

REVISION: A

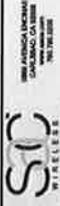
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LICENSEURE:

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SHEET NUMBER: A-1

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PROJECT INFORMATION

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LA03XC198
24900 CALABASAS ROAD
CALABASAS, CA 91302
CITY OF CALABASAS

ISSUE DATE: 05/30/2012

ISSUED FOR: 90% CD REVIEW

REV.	DATE	DESCRIPTION	ISSUED FOR
A	05/25/12	ISSUED FOR 90% CD REVIEW	

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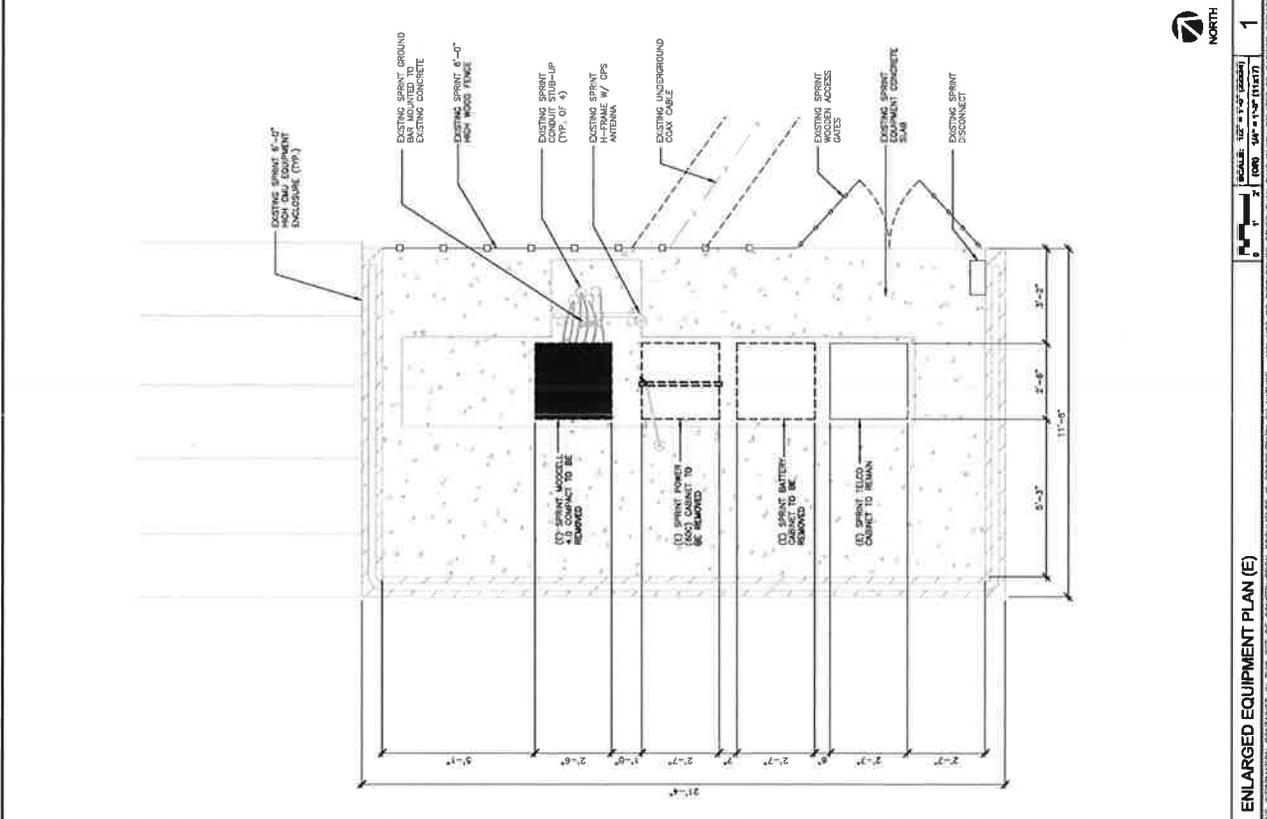
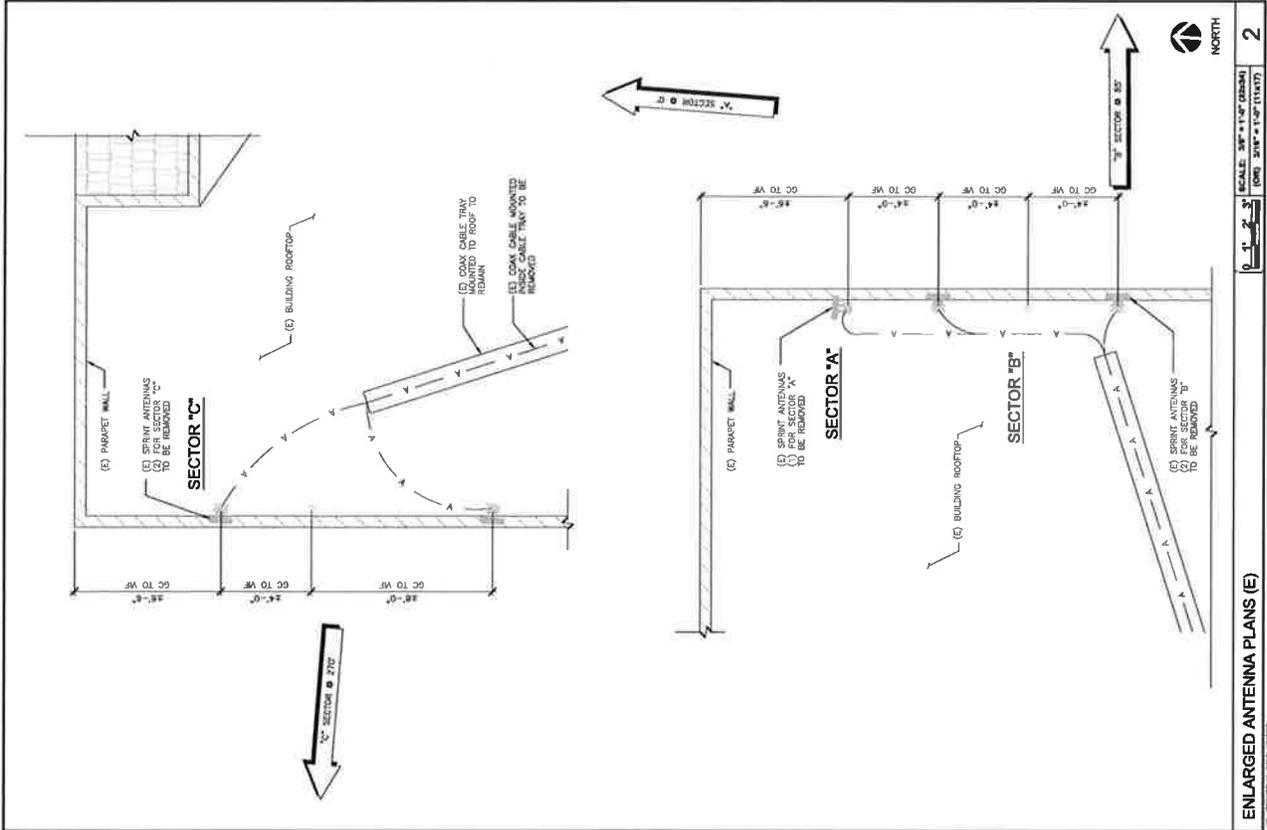
LICENSURE:

SHEET TITLE:

ENLARGED ANTENNA & EQUIPMENT PLANS (E)

SHEET NUMBER: A-3

REVISION: A



ENLARGED EQUIPMENT PLAN (E) 1 NORTH SCALE: 1/8" = 1'-0" (AS SHOWN) (ODM) 1/8" = 1'-0" (TYP)

ENLARGED ANTENNA PLANS (E) 2 NORTH SCALE: 3/8" = 1'-0" (AS SHOWN) (ODM) 3/8" = 1'-0" (TYP)

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PROJECT INFORMATION:

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MUREAU
LA03XC198

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CALABASAS, CA 91302
CITY OF CALABASAS

ISSUE DATE:
05/30/2012

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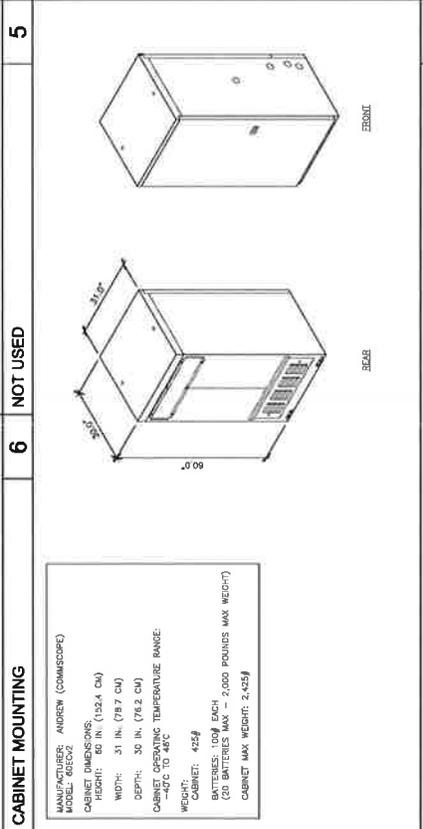
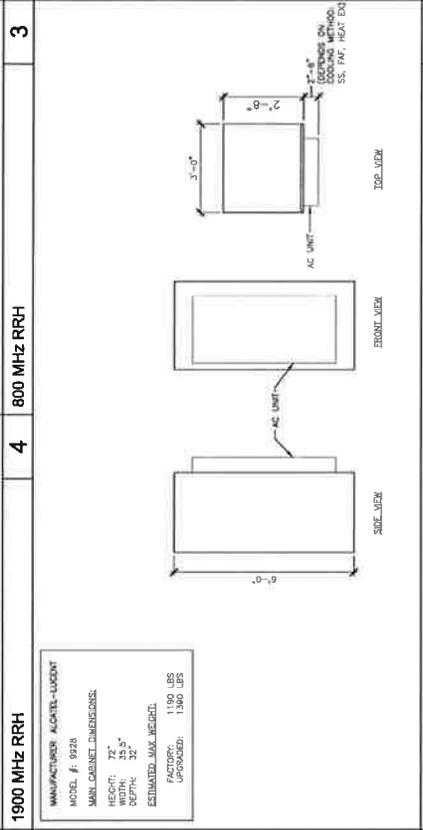
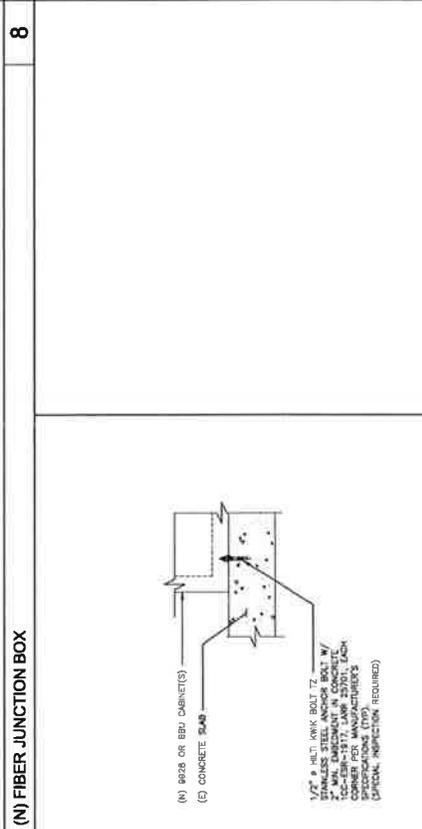
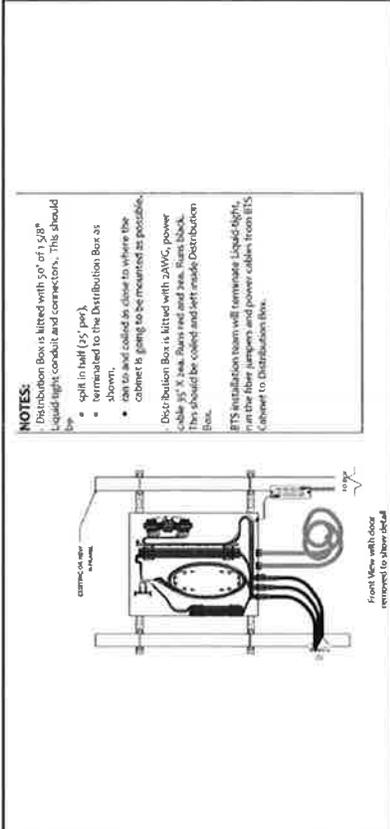
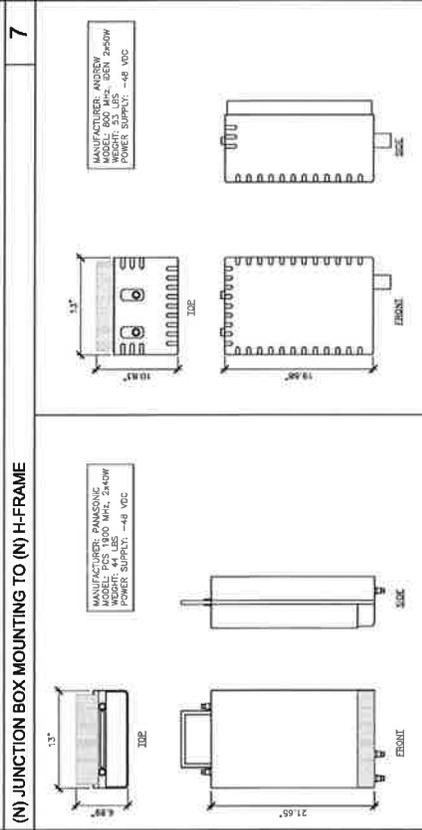
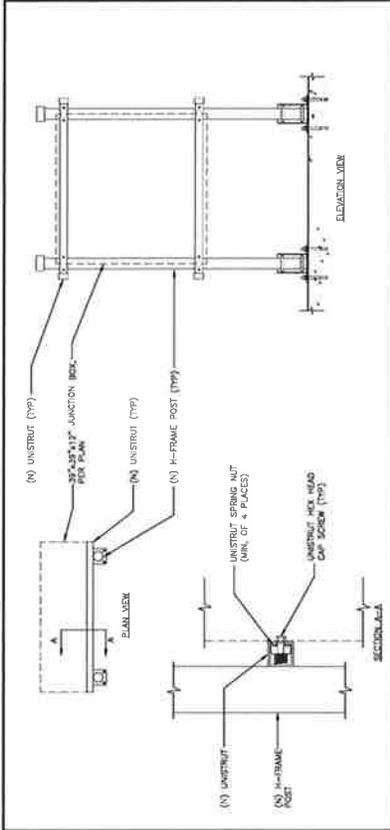
REVISIONS:

REV.	DATE	DESCRIPTION	BY	CHK
A	05/25/12	ISSUED FOR 90% CD REVIEW		

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
A-9

REVISION:
A



(N) BATTERY BACKUP CABINET

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APPENDIX B

Pertinent Sections of the City of Calabasas Municipal Code

Ordinance No. 2012-295

Exhibit A

17.12.050 – Antennas/Personal Wireless Telecommunication Facilities.

- A. **Purpose and Intent.** The purpose of this section is to regulate the installation, operation and maintenance of personal wireless telecommunication facilities in the city. The city recognizes that the unrestricted installation of redundant personal wireless telecommunication facilities is contrary to the city's efforts to stabilize economic and social aspects of neighborhood environments, and to promote safety and aesthetic considerations, family environments and a basic residential character within the city.

In enacting this section, the city intends to:

1. Promote and protect the health, safety, comfort, convenience and general welfare of residents and business in accord with section 17.01.020 of this title;
2. Protect the benefits derived by the city, its residents and the general public from access to personal wireless services while minimizing, to the greatest extent feasible, the redundancy of personal wireless telecommunication facilities in the city;
3. Balance these goals, by permitting the installation and operation of personal wireless telecommunication facilities where they are needed, while reducing, to the greatest extent feasible, adverse economic, safety and / or aesthetic impacts on nearby properties and the community as a whole; and
4. Comply with applicable law, including the 1996 Telecommunications Act.
5. In enacting this ordinance, it is the intent of the City Council that no additional rights or entitlements be conferred to construct or maintain personal wireless telecommunication facilities, other than those rights or entitlements existing under applicable state or Federal law.

- B. **Applicability.** This section applies to all proposed antennas and modifications and related personal wireless telecommunication facilities, as follows:

1. All applications for approval of the installation of new personal wireless telecommunication facilities in the City.
2. All facilities for which applications were received by the department but not approved prior to the effective date of the ordinance codifying this section, shall comply with the regulations and guidelines of this section.
3. All facilities for which applications were approved by the city on or prior to the effective date of the ordinance codifying this section shall be exempt from this section, except for the requirements of subsection (C)(6)(c).
4. All facilities for which applications have been previously approved, but are now or hereafter: (a) expanded or (b) modified by the installation of additional antennas, larger antennas or more powerful antennas, or (c) when one or more new bands of service are activated shall comply with this section.

- C. **Standards for all personal wireless telecommunication facilities.** All personal wireless telecommunication facilities shall comply with the following requirements:

1. **Permit Requirements.** No personal wireless telecommunication facility shall be (a) installed, (b) expanded, (c) modified by the installation of additional antennas, larger antennas or more powerful antennas, or (d) when one or more new bands of service are activated, until the applicant or operator has obtained: (i) a wireless facility permit, (ii) an encroachment permit from the public works department (if applicable), and (iii) any other permit required by applicable provisions of this code including a building permit, an electrical permit, or an oak tree permit. Applications for new facilities and substantial modifications to existing facilities shall be first reviewed by the development review committee. All wireless facility permits will be scheduled for public hearing before the commission in accordance with section 17.12.050(K) and chapter 17.78 of this code.

The commission shall determine if a proposed project is the least intrusive means to close a significant gap in the applicant's service coverage.

2. Application Content. Applications for the approval of personal wireless telecommunication facilities shall include, but are not necessarily limited to, an application fee and the following information, in addition to all other information required by the city for a wireless facility permit application pursuant to chapter 17.60 of this title:
 - a. Written documentation demonstrating a good faith effort to locate the proposed facility in the least intrusive location in accordance with the location requirements of section 17.12.050(C)(3); and
 - b. Scaled visual simulations showing the proposed facility superimposed on photographs of the site and surroundings, to assist the commission in assessing the visual impacts of the proposed facility and its compliance with the provisions of this section; and
 - c. A master plan which identifies the location of the proposed facility in relation to all existing and potential facilities maintained by the operator intended to serve the city. The master plan shall reflect all potential locations that are reasonably anticipated for construction within two years of submittal of the application. Applicants may not file, and the city shall not accept, applications that are not consistent with the master plan for a period of two years from approval of a wireless facility permit unless: (i) the applicant demonstrates materially changed conditions which could not have been reasonably anticipated to justify the need for a personal wireless telecommunication facility site not shown on a master plan submitted to the city within the prior two years or (ii) the applicant establishes before the commission that a new personal wireless telecommunication facility is necessary to close a significant gap in the applicant's personal communication service, and the proposed new installation is the least intrusive means to do so; and
 - d. A siting analysis which identifies a minimum of five other feasible locations within or without the city which could serve the area intended to be served by the facility, unless the applicant provides compelling technical reasons for providing fewer than the minimum. The alternative site analysis shall include at least one collocation site; and
 - e. An FCC compliance report, which shall certify that the proposed personal wireless telecommunication facility will comply with FCC RF emission standards and which report shall include the following information:
 1. the projected RF exposure levels of the intended installation.
 2. an affirmation, under penalty of perjury, that the proposed installation will be FCC compliant, in that it will not cause members of the general public to be exposed to RF levels that exceed the MPE levels deemed safe by the FCC.
 3. whether its RF exposure analysis is based upon the occupational / controlled exposure limits or the general population / uncontrolled exposure limits, as defined under 47 CFR § 1.1307 et seq.
 4. the minimum distance upon which projected exposure levels were calculated, i.e., the assumed closest distance the general public will be able to get to the proposed antenna(s).
 5. exposure calculations based upon the assumption that the proposed personal wireless telecommunication facility will be operating at full power. If the applicant seeks to apply the occupational / controlled exposure limits, the report shall also describe:
 - a) how public access to the facility will be restricted;

- b) the required warning signs to be installed as described by FCC Office of Engineering & Technology Bulletin 65, Supplement B (latest edition); and
 - f. A statement signed by a person with legal authority to bind the applicant attesting under penalty of perjury to the accuracy of the information provided in the application; and
 - g. A noise study, prepared by a qualified engineer, for the proposed personal wireless telecommunication facility including, but not limited to, equipment, such as air conditioning units and back-up generators; and
 - h. A written statement of the applicant's willingness to allow other carriers to collocate on the proposed personal wireless telecommunication facility wherever technically and economically feasible and aesthetically desirable; and
 - i. Such other information as the director shall establish from time to time pursuant to the Permit Streamlining Act, Government Code section 65940, or to respond to changes in law or technology.
 - j. An application for a personal wireless telecommunication facility in a public right-of-way for which the applicant claims entitlement under California Public Utilities Code section 7901 shall be accompanied by evidence satisfactory to the director that the applicant is a telephone corporation or has written authorization to act as an agent for a telephone corporation.
3. Preferred Zones and Locations. When doing so would not conflict with one of the standards set forth in this subsection (C) or with federal law, personal wireless telecommunication facilities shall be located in the most appropriate location as described in this subsection (3), which range from the most appropriate to the least appropriate. Nothing in this section shall detract from the requirements of section 17.12.050(C)(4)(a) below.
- i. collocation on an existing facility in a commercial zone;
 - ii. collocation on an existing structure or utility pole in a commercial zone;
 - iii. location on a new structure in a commercial zone;
 - iv. collocation on an existing facility in a public facility or recreation zone;
 - v. location on an existing structure or utility pole in a public facility or recreation zone;
 - vi. location on a new structure in a public facility or recreation zone;
- No new facility may be placed in a less appropriate area unless the applicant demonstrates to the satisfaction of the commission that no more appropriate location can feasibly serve the area the facility is intended to serve provided, however, that the commission may authorize a facility to be established in a less appropriate location if doing so is necessary to prevent substantial aesthetic impacts.
4. Design and Development Standards. Personal wireless telecommunication facilities shall be designed and maintained as follows:
- a. All new personal wireless telecommunication facilities shall be set back at least 1,000 feet from schools, dwelling units and parks, as measured from the closest point of the personal wireless telecommunication facility (including accessory equipment) to the applicable property line, unless an applicant establishes that a lesser setback is necessary to close a significant gap in the applicant's personal communication service, and the proposed personal wireless telecommunication facility is the least intrusive means to do so. An applicant who seeks to increase the height of an existing personal wireless telecommunication facility, or of its antennas, located less than 1,000 feet

from a school, dwelling unit or park must establish that such increase is necessary to close a significant gap in the applicant's personal communication service, and the proposed increase is the least intrusive means to do so.

- b. Facilities shall have subdued colors and non-reflective materials which blend with the materials and colors of the surrounding area and structures.
 - c. Unless otherwise prohibited by state or federal law, all equipment not located on a roof shall be underground; any equipment that is not undergrounded shall be screened from adjacent uses to the maximum extent feasible.
 - d. The facilities shall not bear any signs or advertising devices other than certification, warning or other signage required by law or expressly permitted by the city.
 - e. At no time shall equipment noise (including air conditioning units) from any facility exceed the applicable noise limit established in section 17.20.160 of this title at the facility's property line; provided, however, that for any such facility located within five hundred (500) feet of any property zoned open space or residential, or improved with a residential use, such equipment noise shall at no time be audible at the property line of any open space or residentially zoned, or residentially improved property.
 - f. If the majority of radio frequency coverage from the proposed facility is outside the City limits, the applicant must, in addition to the other requirements of this section, prove that the applicant is unable to locate the proposed facility within the locale or locales that will receive the majority of the coverage from the proposed personal wireless telecommunications facility, and that no other feasible location for the facility exists outside of the City limits. That an applicant for a wireless permit in the city has been denied a wireless facility, antenna, or wireless coverage in another jurisdiction shall not be considered evidence or proof that the applicant is unable to locate in another jurisdiction.
5. Independent Expert Review. The City shall retain an independent, qualified consultant to review any application for a permit for a new personal wireless telecommunication facility or modification to an existing personal wireless telecommunication facility. The review is intended to be a review of technical aspects of the proposed wireless telecommunication facility or modification of an existing wireless telecommunication facility and shall address any or all of the following:
- a. Compliance with applicable radio frequency emission standards;
 - b. Whether the proposed wireless telecommunication facility is necessary to close a significant gap in coverage and is the least intrusive means of doing so;
 - c. The accuracy and completeness of submissions;
 - d. Technical demonstration of the unavailability of alternative sites or configurations and/or coverage analysis;
 - e. The applicability of analysis techniques and methodologies;
 - f. The viability of alternative sites and alternative designs; and
 - g. Any other specific technical issues designated by the City.

The cost of the review shall be paid by the applicant through a deposit estimated to cover the cost of the independent review, established by the director.

6. Conditions of Approval: All facilities approved under this section shall be subject to the following conditions:
- a. Facilities shall not bear any signs or advertising devices other than legally required certification, warning, or other required seals or signage, or as expressly authorized by the city.

- b. Validation of Proper Operation. Prior to unattended operations, the applicant for approvals with respect to any personal wireless telecommunication facility site that is not "categorically excluded" as that term is defined in FCC Office of Engineering and Technology Bulletin 65 ("FCC OET Bulletin 65"), as amended from time to time, shall allow the commission to obtain a detailed technical report prepared by a qualified engineer verifying that the operation of the facility is in conformance with the uncontrolled/general population RF exposure standards established by FCC OET Bulletin 65. The applicant shall submit a deposit with the city for its actual costs to conduct that testing. To the extent that a wireless carrier has one or more reports on the facility, all reports shall be provided to the City.
- c. Abandonment:
 - 1) Personal wireless telecommunication facilities that are no longer operating shall be removed at the expense of the applicant, operator, or owner no later than ninety (90) days after the discontinuation of use. Disuse for ninety (90) days or more shall also constitute a voluntary termination by the applicant of any land use entitlement under this code or any predecessor to this code.
 - 2) The director shall send a written notice of the determination of non-operation to the owner and operator of the personal wireless telecommunication facility, who shall be entitled to a hearing on that determination before the city manager or a hearing officer appointed by the city manager, provided that written request for such a hearing is received by the city clerk within 10 days of the date of the notice. Any such hearing shall be conducted pursuant to chapter 17.74 of this title, although no further appeal from the decision of the city manager may be had other than pursuant to Code of Civil Procedure section 1094.5. Upon a final decision of the city manager or the running of the time for a request for a hearing without such a request, the operator shall have ninety (90) days to remove the facility.
 - 3) The operator of a facility shall notify the city in writing of its intent to abandon a permitted site. Removal shall comply with applicable health and safety regulations. Upon completion of abandonment, the site shall be restored to its original condition at the expense of the applicant, operator, or owner.
 - 4) All facilities not removed within the required ninety-day period shall be in violation of this code. In the event the city removes a disused facility upon the failure of the applicant, operator, or owner to timely do so, the applicant, operator, and owner shall be jointly and severally liable for the payment of all costs and expenses the city incurs for the removal of the facilities, including legal fees and costs.
- d. The applicant, operator of a facility and property owner (when applicable) shall defend, indemnify and hold the city and its elective and appointed boards, commissions, officers, agents, consultants and employees harmless from and against all demands, liabilities, costs (including attorneys' fees), or damages arising from the city's review and/or approval of the design, construction, operation, location, inspection or maintenance of the facility.
- e. Removal of Unsafe Facilities. If, at any time after ten (10) years of the issuance of a building permit or encroachment permit, or any shorter period permitted by Government Code section 65964(b), any personal wireless telecommunication facility becomes incompatible with public health, safety or welfare, the applicant or operator of the facility shall, upon notice from the City and at the applicant's or operator's own expense, remove that facility. Written notice of a determination pursuant to this paragraph shall be sent to the owner and operator of the personal wireless telecommunication facility, who shall be entitled to a hearing on that determination before the city manager or a hearing officer appointed by the city

manager, provided that written request for such a hearing is received by the city clerk within 10 days of the date of the notice. Any such hearing shall be conducted pursuant to chapter 17.74 of this title, although no further appeal from the decision of the city manager may be had other than pursuant to Code of Civil Procedure section 1094.5. Upon a final decision of the city manager or the running of the time for a request for a hearing without such a request, the operator shall have ninety (90) days to remove the facility.

- f. **Monitoring Requirements.** The owner or operator of any personal wireless telecommunication facility approved under this subsection C of this section 17.12.050 shall allow and cooperate with the director to obtain a detailed technical report prepared by a qualified engineer which shall include the following: (1) verification that the facility conforms with the uncontrolled/general population RF exposure standards established by FCC Office of Engineering & Technology Bulletin 65 (latest edition); (2) verification that the facility design conforms with relevant building and safety requirements; and (3) verification that the facility complies with the requirements of other applicable law, including this title and the conditions of any approval granted under this title (this latter verification may be based upon a supplemental report prepared by another qualified person). The applicant, owner or operator shall submit a deposit with the city for its actual costs of that testing to the extent those costs are not fully recovered by any regulatory fee imposed by the City. If monitoring demonstrates that a personal wireless telecommunication facility is not in compliance with the requirements of applicable law, that shall be a basis for the revocation of any permit granted under this title pursuant to section 17.80.070 of this title. It is anticipated that such monitoring will occur not more than annually unless the city has particular reason to believe that a specific wireless facility is not in compliance with this section and other applicable law, in which case, further monitoring may occur.
- g. Each application approved under this subsection C. shall be conditioned to require that, on each January 15th following the effective date of any permit authorizing a wireless telecommunications facility, the applicant or operator shall submit a deposit to cover the city's costs to confirm whether the personal wireless telecommunication facility complies with applicable law. If the city adopts a regulatory fee to fund such compliance reviews, any fee paid under this condition shall be credited against that fee.
- h. Prior to the issuance of a building permit or encroachment permit, the applicant or owner/operator of the facility shall pay for and provide a performance bond, which shall be in effect until all facilities are fully and completely removed and the site reasonably returned to its original condition. The purpose of this bond is to cover the applicant's or owner/operator of the facility's obligation under the conditions of approval and the City of Calabasas Municipal Code. The bond coverage shall include, but not be limited to, removal of the facility, maintenance obligations and landscaping obligations. (The amount of the performance bond shall be set by the director on a case-specific basis and in an amount reasonably related to the obligations required under this code and all conditions of approval, and shall be specified in the conditions of approval)
- i. An applicant shall not transfer a permit to any person or entity prior to completion of construction of a personal wireless telecommunication facility.
- j. The applicant shall submit as-built photographs of the facility within ninety (90) days of installation of the facility, detailing the installed equipment.
- k. A personal wireless telecommunication facility may operate only until the tenth anniversary of the date it is first placed into service, unless that sunset date is extended by additional term(s) not to exceed ten years pursuant to a wireless facility permit issued under this section 17.12.050. There is no limit to the number of times the sunset date for a facility may be extended.

7. Findings. In addition to the findings required in section 17.62.060 of this code, no proposed personal wireless telecommunication facility may be approved unless the commission or council finds as follows:
 - a. The applicant has demonstrated by clear and convincing evidence that the facility is necessary to close a significant gap in the operator's service coverage. Such evidence shall include in-kind call testing of existing facilities within the area the applicant contends is a significant gap in coverage to be served by the facility.
 - b. The applicant has demonstrated by clear and convincing evidence that no feasible alternate site exists that would close a significant gap in the operator's service coverage which alternative site is a more appropriate location for the facility under the standards of section 17.12.050 of the Calabasas Municipal Code.
 - c. The facility satisfies the location requirements of section 17.12.050(C)(3) of the Calabasas Municipal Code.
8. Violations. The city may revoke a wireless facility permit for any personal wireless telecommunication facility in violation of this section in accordance with Section 17.80.070 of this code. The remedies specified in this section shall be cumulative and the city may resort to any other remedy available at law or in equity and resort to any one remedy shall not cause an election precluding the use of any other remedy with respect to a violation.

D. Standards for personal wireless telecommunication facilities not located within a public right-of-way. In addition to the requirements in section (C) above, all personal wireless telecommunication facilities not located within a public right-of-way shall comply with the following requirements:

1. Location Requirements. To minimize aesthetic and visual impacts on the community, personal wireless telecommunication facilities shall be located according to the following standards:
 - a. General Requirements.
 - i. A freestanding telecommunications tower or monopole shall be set back a distance of at least 150% of the height of the tower from the nearest property line of any residentially zoned or occupied lot.
 - b. Restricted Locations. Personal wireless telecommunication facilities located in any of the following locations must be designed as a stealth facility:
 - i. Within any nonresidential zone on a site that contains a legally established residential use; and
 - ii. Within the Old Town overlay zone; and
 - iii. On any property that is designated historic by the city council; and
 - iv. Within the area subject to the Calabasas Park Centre Master Plan; and
 - v. Within a scenic corridor designated by the city; and
 - vi. Within a historic district designated by the city.
 - c. Prohibited Locations. No personal wireless telecommunication facility shall be established on any ridgeline or within any residential or open space zoning district described in subparagraphs (i), (ii) and (iii) herein.
 - i. Ridgelines. No personal wireless telecommunication facility shall be placed on or near a ridgeline.

- ii. Residential Zones. No facility shall be located within a residential zone, including areas set aside for open space, parks or playgrounds.
- iii. Open Space. No facility shall be located within an open space zone or park.

Any wireless telecommunication facility proposed for a site within any open space zone shall not be deemed a "public utility" as that term is otherwise defined and understood in the Calabasas Municipal Code regarding development in such open space zones.

- d. Guidelines for Placement on Structures. Antennas shall be mounted on structures utilizing the methods described below. If an antenna cannot be mounted as set forth in subsection (i), it may be mounted in accordance with subsection (ii). If an antenna cannot be mounted as set forth in either subsection (i) or (ii), it may be mounted in accordance with subsection (iii):
 - i. A stealth facility mounted on an existing structure or collocated on an existing tower;
 - ii. A stealth facility mounted on an existing steel or concrete pole, including a light standard; or
 - iii. A stealth facility mounted on a new steel, wood or concrete pole.

- 2. Design and Development Standards. Personal wireless telecommunication facilities shall be designed and maintained as follows:

- a. Building-mounted facilities shall be designed and constructed to be fully screened in a manner that is compatible in color, texture and type of material with the architecture of the building on which the facility is mounted.
- b. All accessory equipment associated with the operation of a personal wireless telecommunication facility shall be located within a building enclosure or underground vault that complies with the development standards of the zoning district in which the accessory equipment is located.

- 3. City Council Approval Required. Notwithstanding section 17.12.050(D)(1)(c) personal wireless telecommunication facilities may be permitted in a prohibited location only if the applicant obtains a wireless facility permit from the City Council following a public hearing and recommendation from the Communication and Technology Commission, and provides technically sufficient and conclusive proof that the proposed location is necessary for provision of wireless services to substantial areas of the city, that it is necessary to close a significant gap in the operator's coverage and that there are no less intrusive alternative means to close that significant gap.

E. Standards for Personal Wireless Telecommunication Facilities Located Within Public Rights-of-Way. In addition to the requirements in section (C) above, all personal wireless telecommunication facilities located within public rights-of-way shall comply with the following requirements to the fullest extent permitted by state and federal law:

- 1. Construction. These standards are intended to exert the maximum authority available to the city in the regulation of personal wireless telecommunication facilities under applicable state and federal law but not to exceed that authority. Accordingly, this section shall be construed and applied in light of any such limits on the city's authority. The purpose of this subsection (E) is to regulate personal wireless telecommunications facilities proposed for sites within public rights-of-way consistently with the rights conferred on telephone corporations by Public Utilities Code §§ 7901 and 7901.1 and to address the aesthetic and safety concerns unique to such proposals due to their highly visible location in rights-of-way that must be safely shared with pedestrians, motorists and other utility infrastructure.

2. Application Content. Applications for the approval of personal wireless telecommunication facilities within the public right-of-way shall include the following information, in addition to all other information required by section (C)(2) above:
 - a. The applicant shall provide certification that the facility is for the use of a telephone corporation or state the basis for its claimed right to enter the right-of-way. If the applicant has a certificate of public convenience and necessity (CPCN) issued by the California Public Utilities Commission, it shall provide a copy of its CPCN.
3. Guidelines. All personal wireless telecommunication facilities located within a public right-of-way shall be designed as follows:
 - a. Ground-mounted equipment shall be screened, to the fullest extent possible, through the use of landscaping, walls, or other decorative feature, as approved by the commission.
 - b. Facilities located within a designated scenic corridor or historic districts shall be stealth facilities, with all equipment, excluding required electrical meter cabinets, located underground or pole-mounted. Required electrical meter cabinets shall be screened as approved by the commission.
 - c. Personal wireless telecommunication facilities not located within a scenic corridor or historic district designated by the city shall be designed to place all equipment underground, excluding required electrical meters. However, if such facilities cannot be placed underground, ground-mounted equipment may be installed up to a height of five feet and to a footprint of fifteen (15) square feet.
 - d. Pole-mounted equipment shall not exceed six cubic feet.
 - e. Pole-mounted antennas shall adhere to the following guidelines:
 - i. If an antenna cannot be mounted as set forth in subsection (a), it may be mounted in accordance with subsection (b). If an antenna cannot be mounted as set forth in either subsection (a) or (b), it may be mounted in accordance with subsection (c):
 - (a) A stealth facility mounted on an existing, collocated monopole or tower;
 - (b) A stealth facility mounted on an existing steel or concrete pole, including a light standard; or
 - (c) A stealth facility mounted on a new steel, wood or concrete pole but only if an operator shows that it cannot otherwise close a significant gap in its service coverage, and that the proposal is the least intrusive means of doing so.
 - ii. All installations shall be engineered to withstand high wind loads. An evaluation of high wind load capacity shall include the impact of an additional antenna installation on a pole with existing antennae.
 - iii. The maximum height of any antenna shall not exceed twenty-four (24) inches above the height of a pole or tower other than a streetlight pole, nor six (6) feet above the height of a streetlight pole, nor shall any portion of the antenna or equipment mounted on a pole be less than sixteen (16) feet above any drivable road surface. All installations on utility poles shall fully comply with California Public Utilities Commission General Order 95 as it now exists or may hereafter be amended.

- iv. A freestanding telecommunications tower or monopole shall be set back a distance of at least 150% of the height of the tower to the nearest structure designed for occupancy.
 - f. Equipment shall be located so as not to cause: (i) any physical or visual obstruction to pedestrian or vehicular traffic, (ii) inconvenience to the public's use of a public right-of-way, or (iii) safety hazards to pedestrians and motorists. In no case shall ground-mounted equipment, walls, or landscaping be less than eighteen (18) inches from the front of the curb.
 - g. Facilities shall not be located within five hundred (500) feet of another wireless facility on the same side of a street.
 - h. No facility shall be built so as to cause the right-of-way in which the facility is located to fail to comply with the Americans with Disabilities Act.
4. Findings. In addition to the findings required in section (C)(7) above, no proposed personal wireless telecommunication facility within a public right-of way may be approved unless the following findings are made:
- a. The proposed facility has been designed to blend with the surrounding environment, with minimal visual impact on the public right-of-way.
 - b. The proposed facility will not have an adverse impact on the use of the public right-of-way, including but not limited to, the safe movement and visibility of vehicles and pedestrians.
5. Conditions of Approval: In addition to compliance with the guidelines outlined in paragraph 3 of this subsection and the conditions of approval listed in section (C)(6) above, all facilities approved under this subsection E shall be subject to the following conditions:
- a. Any approved wireless communication facility within a public right-of-way shall be subject to such conditions, changes or limitations as are from time to time deemed necessary by the public works director to: (i) protect the public health, safety, and welfare; (ii) prevent interference with pedestrian and vehicular traffic; or (iii) prevent damage to a public right-of-way or any property adjacent to it. Before the director of public works imposes conditions, changes, or limitations pursuant to this paragraph (f), he or she shall notify the applicant or operator, in writing, by mail to the address set forth in the application or such other address as may be on file with the city. Such change, new limitation or condition shall be effective twenty-four (24) hours after deposit of the notice in the United States mail.
 - b. The applicant or operator of the personal wireless telecommunication facility shall not move, alter, temporarily relocate, change, or interfere with any existing facility without the prior written consent of the owner of that facility. No structure, improvement or facility owned by the city shall be moved to accommodate a personal wireless telecommunication facility unless: (i) the city determines, in its sole and absolute discretion, that such movement will not adversely affect the city or surrounding residents or businesses, and (ii) the applicant or operator pays all costs and expenses related to the relocation of the city's facilities. Every applicant or operator of any personal wireless telecommunication facility shall assume full liability for damage or injury caused to any property or person by his, her, or its facility. Before commencement of any work pursuant to an encroachment permit issued for any personal wireless telecommunication facility within a public right-of-way, an applicant shall provide the city with documentation establishing to the city's satisfaction that the applicant has the legal right to use or interfere with any other facilities within the public right-of-way to be affected by applicant's facilities.
 - c. Should any utility company offer electrical service to a wireless facility which service does not require the use of a meter cabinet, the applicant or operator of the facility

shall at its cost remove the meter cabinet and any foundation thereof and restore the area to its prior condition.

F. **Standards for Satellite Antennas.** Satellite antennas, including portable units and dish antennas, shall be designed, installed and maintained in compliance with the regulations of the Federal Communications Commission. Satellite antennas with diameters larger than one meter in residential zones and two meters in non-residential zones shall also comply with the following requirements provided these provisions do not conflict with applicable state and federal regulations.

1. Permit Requirement. Zoning clearance shall be required for satellite antennas with diameters of one meter or less; administrative plan review approval shall be required for antennas larger than one meter. A conditional use permit shall be required for antennas larger than one meter located within a designated scenic corridor.
2. Application - Plans. Plans for satellite antennas shall be submitted with applications for a building permit, and shall include a site plan and elevation drawings indicating the height, diameter, color, setbacks, foundation details, landscaping, and method of screening. The plans shall be subject to approval of the director.
3. Location. No satellite antenna shall be located within any required front-yard or street-side- yard setbacks in any zone. In addition, no portion of a satellite antenna shall extend beyond a property line.
4. Color. A satellite antenna and its supporting structure shall be painted a single, neutral, non-glossy color; such as an earth tone, gray, or black; and, to the extent possible, be compatible with the appearance and character of the surrounding neighborhood.
5. Wiring. All wiring shall be placed underground whenever possible.
6. Residential Zones. In any residential zone, satellite antennas shall be subject to the following standards:
 - a. Only ground-mounted satellite antennas shall be permitted. Ground-mounted antennas shall be located in the rear yard of any property to the extent technically possible;
 - b. Satellite antennas shall not exceed fifteen (15) feet in height;
 - c. Only one satellite antenna may be permitted on any single-family residential site;
 - d. Only one antenna shall be permitted per dwelling unit on any multiple family residential site;
 - e. A satellite antenna shall be separated from adjacent properties by at least a six-foot-high solid wall or fence or by trees or other plants of equal minimum height;
 - f. Any satellite antenna that is taller than an adjacent property-line fence shall be located away from the side or rear property line a distance equal to or greater than the height of the antenna;
 - g. The diameter of a satellite antenna shall not exceed two meters. This provision may be modified by the director if the applicant provides a sufficient technical study prepared by a qualified engineer demonstrating to the director's satisfaction that strict compliance would result in no satellite reception; and
 - h. A satellite antenna shall be used for private, noncommercial purposes only.
7. Nonresidential Zones. In any nonresidential zone, satellite antennas may be roof- or ground-mounted and shall be subject to the following standards:
 - a. If roof-mounted, satellite antennas shall be screened from ground view by a parapet or other screening approved by the city. The minimum height and

design of a parapet, wall, or other screening shall be subject to the approval of the director;

- b. If ground-mounted, satellite antennas shall not be located between a structure and an adjacent street and shall be screened from public view and neighboring properties;
- c. The location and height of satellite antennas shall comply with all requirements of the underlying zone; and
- d. If the subject site abuts a residential zone, all antennas shall be set back a minimum distance from the property line equal to the height of the antenna, unless screened from view.

G. **Standards for Amateur Radio Antennas.** All amateur radio antennas shall be designed, constructed and maintained as follows:

- 1. The maximum height shall not exceed forty (40) feet, measured from finished grade;
- 2. Any boom or other active element or accessory structure shall not exceed twenty-five (25) feet in length;
- 3. Antennas may be roof- or ground-mounted; and
- 4. Antennas may not be located in any front-yard or side-yard setbacks;
- 5. These standards in this subsection F are subject to modification or waiver by the director on a case-by-case basis where required for the city to comply with FCC PRB-1 and California Government Code 65850.3 and where such modification or waiver is based on sufficient technical information provided in writing by the applicant at the request of the city.

H. **Effects of Development on Antenna Reception.** The city shall not be liable if development within the city after installation of an antenna impairs antenna reception, transmission, utility, or function to any degree.

I. **Communications and Technology Commission as Planning Commission for Specified Purposes.** For purposes of approvals required by this section 17.12.050 and any other entitlement under this code required only because the application seeks to construct or operate a personal wireless telecommunication facility (including, but not limited to, a scenic corridor permit, a variance, or an oak tree permit), "commission" means the Communications and Technology Commission created pursuant to chapter 2.38 of this code, which is hereby constituted as a planning commission of the city for that purpose pursuant to Government Code section 65100. As to any application that seeks approvals for both (i) new structures, or uses of existing structures or of land other than construction and operation of a personal wireless telecommunication facility and (ii) for the construction and operation of a personal wireless telecommunication facility, the Communications and Technology Commission shall be the "commission" for purposes of approvals required only because the application seeks to construct and operate a personal wireless telecommunication facility. The Planning Commission created pursuant to chapter 2.28 of this code shall be the "commission" for all other entitlements sought by the application. In addition, the Communications and Technology Commission shall be the "commission" for purposes of review of proposed amendments to this section 17.12.050.

J. **Private enforcement.** In addition to any other remedy available to the city under this code, at law or in equity, violations of this section 17.12.050 may be remedied as follows:

- 1. The city attorney or city prosecutor may bring a civil action to enforce this section and to obtain the remedies specified below or otherwise available in equity or at law.

2. Any person acting for the interests of himself, herself, or itself, or of its members, or of the general public (hereinafter "a private enforcer") may bring a civil action to enforce this section with the remedies specified below, if both the following requirements are met:
 - a. The action is commenced more than sixty (60) days after the private enforcer gives written notice of an alleged violation of this section to the city attorney and to the alleged violator.
 - b. No person acting on behalf of the city has commenced or is prosecuting an action regarding the violation(s) which was or were the subject of the notice on the date the private action is filed.
3. A private enforcer shall provide a copy of his, her, or its action to the city attorney within seven days of filing it.
4. Upon settlement of or entry of judgment in an action brought pursuant to paragraph (7) of this subsection (l), the private enforcer shall give the city attorney a notice of that settlement or judgment. No private enforcer may settle such an action unless the city attorney or the court determines the settlement to be reasonable in light of the purposes of this section. Any settlement in violation of this requirement shall be set aside upon motion of the city attorney or city prosecutor to a court of competent jurisdiction.
5. Upon proof of a violation of this section, the court shall award the following:
 - a. Appropriate injunctive relief and damages in the amount of either:
 - i. Upon proof, actual damages;
 - ii. With insufficient or no proof of damages, a minimum of five hundred dollars (\$500.00) for each violation of this section (hereinafter "statutory damages"). Unless otherwise specified in this section, each day of a continuing violation shall constitute a separate violation. Notwithstanding any other provision of this section, no private enforcer suing on behalf of the general public shall recover statutory damages based upon a violation of this section if a previous claim brought on behalf of the general public for statutory damages and based upon the same violation has been adjudicated, whether or not the private enforcer was a party to that earlier adjudication.
 - b. Restitution to the appropriate party or parties of gains obtained due to a violation of this section.
 - c. Exemplary damages, where it is proven by clear and convincing evidence that the defendant is guilty of oppression, fraud, malice, or a conscious disregard for public health and safety.
 - d. Attorney's fees and costs reasonably incurred by a successful party in prosecuting or defending an action.

Any damages awarded in an action brought by the city attorney or city prosecutor shall be paid into the city's general fund, unless the court determines that they should be paid to a damaged third party.

6. Upon proof of at least one violation of this section, a private enforcer, the city prosecutor, city attorney, any peace officer or code enforcement official may obtain an injunction against further violations of this section or, as to small claims court actions, a judgment

payable on condition that a further violation of this section occur within a time specified by the court.

7. Notwithstanding any legal or equitable bar, a private enforcer may bring an action to enforce this section solely on behalf of the general public. When a private enforcer does so, nothing about such an action shall act to preclude or bar the private enforcer from bringing a subsequent action on his, her, or its own behalf based upon the same facts.
8. Nothing in this section shall prohibit a private enforcer from bringing an action to enforce this section in small claims court, provided the relief sought is within the jurisdiction of that court.

K. **Additional Notice to Neighbors.** After an application to allow the installation of a wireless facility pursuant to subsections (C), (D) and (E) of this section is complete, the city shall endeavor to provide property owners at least 30 days' prior notice of the initial public hearing on the matter as follows:

1. Written notice shall be mailed to the record owner of each property within 1,500 feet of the proposed site.
2. Telephone notice via the city's reverse 911 service shall be given to owners or occupants of properties within 1,500 feet of the proposed site.

A public hearing may be set on less than 30 days' notice if necessary to comply with applicable law, including but not limited the Federal Communications Commission Declaratory Ruling 09-99, WT docket number 08-165, released November 18, 2009 (the "Shot Clock" ruling) as it now exists or may hereafter be amended.

Failure of the city to provide notice pursuant to this subsection J shall not be grounds to challenge a determination provided that the notice otherwise required by law has been provided.

L. **Definitions.** In addition to the definitions provided in chapter 17.90 of this title and in chapter 1.08 of title 1 of this Code, this section 17.12.050 shall be construed in light of the following definitions:

"Accessory equipment" means any equipment installed, mounted, operated or maintained in close proximity to a personal wireless telecommunication facility to provide power to the personal wireless telecommunication facility or to receive, transmit or store signals or information received by or sent from a personal wireless telecommunication facility.

"Antenna structure" means any antenna, any structure designed specifically to support an antenna and/or any appurtenances mounted on such a structure or antenna.

"Applicable law" means all applicable federal, state and local law, ordinances, codes, rules, regulations and orders, as the same may be amended from time to time.

"Applicant" includes any person or entity submitting an application to install a personal wireless telecommunication facility under this section and the persons within the scope of the term "applicant" as defined by section 17.90.020 of this code.

"City" means the City of Calabasas and is further defined in section 1.08.020 of this code.

"Commission" has the meaning set forth in paragraph H. of this section.

dBA is defined in chapter 17.90 of this title.

"FCC" means the Federal Communications Commission or any successor to that agency.

"In-kind call testing" means testing designed to measure the gap in coverage asserted by an applicant. If a claimed gap is for in-building coverage, then in-building call testing must be performed to establish the existence or absence of such a gap unless the applicant provides a sworn affidavit demonstrating good faith but unsuccessful attempts to secure access to buildings to conduct such testing and the circumstances that prevented the applicant from conducting such testing. Claimed gaps in service for "in-vehicle" or "open-air" service may be demonstrated by call testing performed in vehicles or in the open.

"Least intrusive means" means that the location or design of a personal wireless telecommunication facility addresses a significant gap in an applicant's personal communication service while doing the least disservice to the policy objectives of this chapter as stated in section 17.12.050(A). Analysis of whether a proposal constitutes the least intrusive means shall include consideration of means to close an asserted significant gap by co-locating a new personal wireless telecommunication facility on the site, pole, tower, or other structure of an existing personal wireless telecommunication facility.

"Monopole" means a structure composed of a single spire, pole, or tower used to support antennas or related equipment. A monopole also includes a monopine, monopalm, and similar monopoles camouflaged to resemble faux objects attached on a monopole.

"MPE" means maximum permissible exposure.

"OET" or "FCC OET" means the FCC's Office of Engineering & Technology.

"Open space" includes (1) land which is zoned OS, OS-DR, or REC, (2) land in residential zones upon which structures may not be developed by virtue of a restriction on title, (3) all common areas, private parks, slope easements, and (4) any other area owned by a homeowners association or similar entity.

"Park" and "playground" shall have their ordinary, dictionary meanings.

"Personal communication service" means commercial mobile services provided under a license issued by the FCC.

"Personal wireless telecommunication facility" "wireless telecommunication facility," or "wireless facility" means a structure, antenna, pole, tower, equipment, accessory equipment and related improvements used, or designed to be used, to provide wireless transmission of voice, data, images or other information, including but not limited to cellular phone service, personal communication service and paging service.

"Private Enforcer" has the meaning provided in subsection (1)(2) of this section 17.12.050.

"Residential zone" means a zone created by chapter 17.13 of this title.

"RF" means radio frequency.

"Significant gap" as applied to an applicant's personal communication service or the coverage of its personal wireless telecommunication facilities is intended to be defined in this chapter consistently with the use of that term in the Telecommunications Act of 1996 and case law construing that statute. Provided that neither the Act nor case law construing it requires otherwise, the following guidelines shall be used to identify such a significant gap:

1. A significant gap may be demonstrated by In-Kind Call Testing.
2. The commission shall accept evidence of call testing by the applicant and any other interested person and shall not give greater weight to such evidence based on the identity of the person who provides it but shall consider (i) the number of calls conducted in the call test, (ii) whether the calls were taken on

Ordinance No. 2012-295

multiple days, at various times, and under differing weather and vehicular traffic conditions, and (iii) whether calls could be successfully initiated, received and maintained in the area within which a significant gap is claimed.

3. A significant gap may be measured by:
 - a. The number of people affected by the asserted gap in service;
 - b. Whether a wireless communication facility is needed to merely improve weak signals or to fill a complete void in coverage ;
 - c. Whether the asserted gap affects highway 101, a state highway, or an arterial street which carries significant amounts of traffic.

“Stealth facility” means any personal wireless telecommunication facility which is designed to substantially blend into the surrounding environment by, among other things, architecturally integrating into a structure or otherwise using design elements to conceal antennas, antenna supports, poles, equipment, cabinets, equipment housing and enclosure; and related above-ground accessory equipment.

“Telecommunications tower” mean a freestanding mast, pole, monopole, guyed tower, lattice tower, free standing tower or other structure designed and primarily used to support wireless telecommunications facility antennas.

“Wireless facility permit” means a permit issued under this chapter authorizing the installation, operation and maintenance of a personal wireless telecommunications facility. Except as otherwise provided by this chapter, the procedures for the application for, approval of, and revocation of such a permit shall be those required by this title (including, but not limited to, those of section 17.62.060) for a conditional use permit.

APPENDIX C

Manufacturer Data Sheets



Memo

Subject: Modcell 4.0/4.0B Outdoor Macrocell:
Distance Based Noise Attenuation

date: 4/28/06

from: Loren Holihan
CDMA Product Management
WH 3A-331
Voice: 973 386-4783
holihan@lucent.com

The following memo is intended to provide information pertaining to distance based noise attenuation for the Modcell 4.0/4.0B Outdoor Macrocell.

General notes:

1. Conservative calculation: Drop 3dBA each time the distance doubles.
2. At some point (distance) away from the noise source the attenuation goes up to 6 dBA. However, for the table below the 3dBA attenuation was used to provide conservative data.
3. Currently the point at which the attenuation goes up to 6 dBA is unknown due to the need for testing to verify. But at 30 to 40 feet the noise level would not be materially different from the numbers presented below.

Attenuation Table

CABINET AXIS	MEASURED NOISE (dBA) at a distance of 5 ft	Calculated Noise (dBA) at a distance of 10 ft	Calculated Noise (dBA) at a distance of 20 ft	Calculated Noise (dBA) at a distance of 40 ft
FRONT	61	58	55	52
RIGHT	61	58	55	52
BACK	65	62	59	56
LEFT	60	57	54	51

Intermediate distance calculations:

At a distance of 30 ft, front = 53 dBA, right = 53 dBA, back = 57 dBA and left = 52 dBA.

At a distance of 50 ft, front = 50 dBA, right = 50 dBA, back = 54 dBA and left = 49 dBA.

If additional information is needed please contact:

Loren Holihan
Modcell 4.0B NPI
Mobility Product Management
(973) 386-4783 Phone
(973) 386-6427 Fax
(973) 713-6843 Cell

Amy Hool

From: Shamloo, Shervin [SHAMLOO@commscope.com]
Sent: Thursday, October 25, 2012 3:16 PM
To: Amy Hool
Subject: RE: Request for Info - Noise Information for Commscope 60ECv2
5 feet from each direction.

Shervin

From: Amy Hool [mailto:ahool@eilarassociates.com]
Sent: Thursday, October 25, 2012 5:08 PM
To: Shamloo, Shervin
Subject: RE: Request for Info - Noise Information for Commscope 60ECv2

Shervin,

Thank you for sending this. I just have one question: do you know the distance at which this noise was measured?

Thanks,

Amy Hool, Senior Acoustical Consultant
Eilar Associates, Inc.

Acoustical and Environmental Consulting
210 South Juniper Street, Suite 100
Escondido, California 92025
Phone: 760-738-5570 ext. 103
Fax: 760-738-5227
ahool@eilarassociates.com

From: Shamloo, Shervin [mailto:SHAMLOO@commscope.com]
Sent: Thursday, October 25, 2012 2:48 PM
To: Amy Hool
Subject: RE: Request for Info - Noise Information for Commscope 60ECv2

Amy,

Sorry about the delay response. The 60EC48 has variable speed fan and assuming it is running in the ambient temperature of 60C, it would not go beyond 1900 RPM and at that speed the noise would be below 55 dB and may be close to 50.

Regards,

Shervin Shamloo
Product Manager and Tech Support
CommScope

972-837-7875

From: Amy Hool [mailto:ahool@eilarassociates.com]
Sent: Tuesday, October 23, 2012 10:41 AM

10/25/2012

To: Shamloo, Shervin

Subject: Request for Info - Noise Information for Commscope 60ECv2

Hi Shervin,

We just spoke on the phone regarding my request for noise levels for the Commscope 60ECv2 cabinet. Once you find this information, would you please e-mail it to me?

I appreciate any help you can provide!

Thank you,

Amy Hool, Senior Acoustical Consultant

Eilar Associates, Inc.

Acoustical and Environmental Consulting

210 South Juniper Street, Suite 100

Escondido, California 92025

Phone: 760-738-5570 ext. 103

Fax: 760-738-5227

ahool@eilarassociates.com

No virus found in this message.

Checked by AVG - www.avg.com

Version: 2012.0.2221 / Virus Database: 2441/5353 - Release Date: 10/25/12

No virus found in this message.

Checked by AVG - www.avg.com

Version: 2012.0.2221 / Virus Database: 2441/5353 - Release Date: 10/25/12

10/25/2012

APPENDIX D

Cadna Analysis Data and Results

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Cadna Noise Model - Sound Levels														
Name	ID	Type	Weight	Oktave Spectrum (dB)								Source		
				63	125	250	500	1000	2000	4000	8000		A	lin
Modcell 4.0	L_1	Lw (C)	88.6	79.5	71.2	71.2	71.2	70.1	66.4	67.7	58.8	75.6	89.4	Mfr/Meas
CommScope 60ECv2	L_2	Lw (C)	82.6	73.5	65.2	65.2	64.1	60.4	61.7	52.8	69.6	83.4	Mfr/Meas	

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Cadna Noise Model - Point Sources									
Name	ID	Result. PWL		Lw / Li		Height	Coordinates		
		Day	(dBA)	Type	Value		(m)	X	Y
Equipment Cabinet 1	S_1	75.6		Lw	L_1	1.52	332.68	209.13	1.52
Equipment Cabinet 2	S_2	75.6		Lw	L_1	1.52	330.76	211.22	1.52
Battery Backup	S_3	69.6		Lw	L_2	1.52	331.52	210.38	1.52

EILAR ASSOCIATES, INC.
Acoustical and Environmental Consulting

Cadna Noise Model - Noise Levels at Receivers						
Name	ID	Level Lr Day (dBA)	Height (m)	Coordinates		
				X (m)	Y (m)	Z (m)
South	R_1	35.8	1.52	331.38	174.04	1.52