

ATTACHMENT #1

APPEAL APPLICATION FORM



City of Sebastopol

APPEAL FORM

Date: 2-29-2016
*Filing Fee Paid: \$560 M - KW
File #: 2016-13

To: (check one) PLANNING COMMISSION (limited to the appeal of staff determination not involving design matters)
 DESIGN REVIEW BOARD (limited to the appeal of staff determination on design matters)
 CITY COUNCIL (all other appeals)

FROM: SEBASTOPOL HILLS ALLIANCE FOR RURAL PRESERVATION (SHARP)
(Please print your name)

SUBJECT: *I wish to appeal the action of:* (check one): CITY STAFF (please give name or title) _____
 DESIGN REVIEW BOARD
 PLANNING COMMISSION

taken or made on FEB. 23, 2016 with regards to KOWS ANTENNA PROPOSED FOR 1281 PLEASANT HILL RD. (USE PERMIT)
(date of action or decision) (name of use, applicant, project or other description of item you are appealing)

I ask that the decision or determination made above be reversed and/or modified, and that the original application be:

(check one): granted denied modified. The reason(s) that my appeal should be granted by the Board, Commission or Council named above are set forth below: or, are attached.

I understand that there is a filing fee for appeal, whether the appeal is from a Staff Determination, Design Review Board Decision, or Planning Commission Decision, and that the fee must be paid on the date that the appeal is submitted. Appeals must be submitted within 5 working days from the day of the original staff determination, or of the Board/Commission action. * Only one (1) appeal can be accepted for any action.

You will be notified by mail of the date of the City Council hearing on review of your appeal. All interested persons will be entitled to attend the meeting and be heard.

R.H. Jenkins et al. **
Your signature Bob Jenkins on behalf of SHARP
(see attached members)

1411 PLEASANT HILL RD, SEBASTOPOL, CA
Your Mailing Address 95472

707-484-2800
Your Phone Number rhjenkins1@gmail.com

* If a staff determination was mailed to you, and a public meeting has not been held, then the appeal must be submitted within five working days of the mailing of the letter.

** note: one or more members of SHARP WILL BE PRESENTING THE APPEAL AT THE NEXT PUBLIC HEARING

RECEIVED
FEB 29 2016
BY: KW/JA

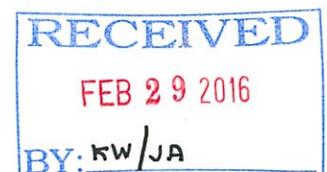
ATTACHMENT #2

APPEAL WRITTEN STATEMENT

**Sebastopol Hills Alliance for Rural Preservation (SHARP)
"Preserving the West Sebastopol Hills"**

Current Members of SHARP

Greg Aanestad
Jann Aanestad
Sorrel Allen
Jim Belding
Jan Belding
Abel Buickerwood
Terry Byers
Joyce Byers
Jon Carroll
Doug Conover
Kathy Conover
Annemarie Finneral
Aaron Firestone
Laurie Fusfield
Rod Helvey
Debbie Hurst
Bob Jenkins
Nancy Jenkins
Jeff Kross
Linda Lebovics
Susi Meagher
Michael Meagher
Rose Neal
Bob Neal
Barrie Noe
Terry Noe
Anna Oberthur
Debbie Paggi
John Paggi
Dan Riviera
Mike Ruddick
Carol Ruddick
Andrea Schmitz
Steven Schmitz
Peter van Gorder



1 construed strictly, shall not be unreasonably expanded beyond their terms, and may not be
2 used where there is substantial evidence that unusual circumstances (including future
3 activities) reasonably might result in significant impacts which threaten the environment.
4 (*McQueen v. Mid-Peninsula Regional Open Space* (1988) 202 Cal. App. 3d 1136, 1148,
5 disapproved on another point in *Western States Petroleum Assn. v. Superior Court* (1995)
6 9 Cal.4th 559, 576, fn. 6; *County of Amador v. El Dorado County Water Agency* (1999)
7 76 Cal.App.4th 931, 966.) The term “project” “is given a broad interpretation in order to
8 maximize protection of the environment.” (*Riverwatch v. Olivenhain Municipal Water*
9 *District* (1999) 170 Cal.App.4th 1186,1203; *McQueen v. Board of Directors, supra*, 202
10 Cal.App.3d at p. 1143.)

11 The commission ultimately dismissed these commissioners’ legitimate concerns
12 without adequate and careful consideration, and arbitrarily and capriciously voted four to
13 three to approve the station’s permit application. This approval was premised in part by
14 the apparent acceptance of a commissioner’s comment that stated, in effect, the
15 commission “already knew” what an environmental analysis would conclude -- to wit:
16 that a 70-foot antenna tower would have a negative visual impact -- and therefore no
17 formal environmental review was necessary.

18 The commission further abused its discretion by basing its approval of the permit
19 application on the expressed recognition that the cost of preparing an environmental
20 review would have to be borne by the small station which already exists on limited public
21 financial support and grant funding.

22 **C. The commission acted arbitrarily and capriciously by approving the station’s**
23 **application without understanding the likelihood that federal preemption**
24 **could enforce collocation of other telecommunication devices at that site.**

25 The Federal Communications Commission (“FCC”) recently issued regulations
26 that require cities to approve some collocations -- i.e., placing new telecommunication
27

1 devices on existing towers -- at previously approved facilities.¹ These collocations are
2 not limited to traditional telecommunications towers, but apply to essentially any
3 communications facility. Given these relatively new regulations, some commissioners
4 properly queried whether the City of Sebastopol could be forced to allow other
5 telecommunication providers to attach further transmission devices to the station's tower,
6 if approved. None of the commissioners could provide, or obtained a definitive answer,
7 no doubt for good reason: this is an extremely complicated and convoluted area of the
8 law, involving often conflicting statutes and regulations, and one which requires a
9 specialized legal knowledge and expertise.

10 By way of example, Title 47, United States Code ("U.S.C."), § 253, subdivision (a)
11 states, "No State or local statute or regulation, or other State or local legal requirement,
12 may prohibit or have the effect of prohibiting the ability of any entity to provide any
13 interstate or intrastate telecommunications service." Subdivision (b) of section 253 states,
14 "Nothing in this section shall affect the ability of a State to impose, on a competitively
15 neutral basis and consistent with section 254 of this title, requirements necessary to
16 preserve and advance universal service, protect the public safety and welfare, ensure the
17 continued quality of telecommunications services, and safeguard the rights of
18 consumers." And subdivision (d) of section 253 ("Preemption") states, "If, after notice
19 and an opportunity for public comment, the [Federal Communications] Commission
20 determines that a State or local government has permitted or imposed any statute,
21 regulation, or legal requirement that violates subsection (a) or (b) of this section, *the*
22 *Commission shall preempt the enforcement of such statute, regulation, or legal*
23 *requirement to the extent necessary to correct such violation or inconsistency."*

24 (Emphasis added.)

26 1. In adopting these new regulations, the FCC relied on Section 6409 of the Middle Class
27 Tax Relief and Job Creation Act of 2012 (H.R. 3630, P.L. 112-96).

1 comply with the Commission's regulations concerning such emissions." (Emphasis
2 added.) SHARP need not remind the Sebastopol City Council that its concerns over
3 health and safety related to electric and magnetic fields led to its initial unanimous
4 moratorium against the installation of PG&E's "smart meters" in 2013. Under FCC
5 regulations, such health and safety concerns would be expressly forbidden when
6 considering applications for collocating new telecommunication devices on the existing
7 70-foot tall radio antenna tower. And the new regulations permit "hardening" -- i.e.,
8 structurally enhancing -- an existing tower, as well as increasing its height by ten feet or
9 ten percent, whichever is larger, as necessary to accommodate the additional devices.
10 (See, generally, Title 47 Code of Federal Regulations, § 1.40001(b)(7).)

11 The commission's rash and less-than-fully-informed approval of the station's
12 permit application has the real potential to expose the city to lawsuits by other
13 telecommunication providers in the event the city attempts to prohibit the collocation of
14 their devices on the station's tower. A decision based on incomplete understanding of the
15 implications and potential adverse consequences of that decision constitutes an abuse of
16 discretion. (See *People v. Holford* (2012) 203 Cal.App.4th 155, 174 [the nature of
17 discretion requires a decision be an informed one and not "a shot in the dark"]; *People v.*
18 *Filson* (1994) 22 Cal.App.4th 1841, 1849 [same].)

19 **D. The commission abused its discretion by relying on the station's unproven**
20 **and undocumented assertions of its importance to the community.**

21 When queried by the commissioners as to the size of its current listening audience,
22 the station was unable to provide even an estimated figure. The station suggested a
23 number for its *potential* audience, but that number, by the station's own admission, was
24 unsupported by verifiable information; that number also appears extremely inflated and
25 evidently was based on the population of surrounding towns rather than on any reasonable
26 computation of how many of those people actually *would* listen to the station.
27
28

1 Sebastopol. This contravenes the general plan's mandated policies to be as minimally
2 intrusive to its neighbors as possible and to best preserve the natural environment
3 surrounding the city, expressly including the western hills.

4 The commission minimized or disregarded the precedential value of the
5 unanimous 1994 decisions of the commission and the City Council to deny a permit to an
6 outside, non-governmental entity attempting to erect a cell phone tower of similar height
7 on city property at this same location. The commission further failed to recognize that
8 allowing the station to erect a tower this unsightly, so out-of-scale with its surrounding
9 natural environment, and of such magnitude would set an extremely bad precedent, and
10 render it much more difficult for the city to justify the denial of any future permit
11 applications sought by similarly situated entities or agencies. (See federal regulations and
12 case law cited in section C, *supra*.)

13 **F. The commission abused its discretion by relying on undocumented and**
14 **unverified assertions by the station that it could not find an alternate location**
15 **for its radio antenna tower, as well as relying on other similar unverified**
16 **assertions.**

17 The commission relied upon undocumented and unverified assertions by the
18 station that no other viable locations existed for its proposed antenna tower. At the
19 commission meeting, however, the station admitted it "stopped looking" and did not
20 investigate the possibility of other antenna tower locations after the City Council allowed
21 it to proceed with its use permit application for the Pleasant Hill Road site. The station
22 also commented that there was no public protest when the City Council allowed the
23 station to proceed with its use permit application, although the public most affected by the
24 proposed tower, who reside in the county surrounding the city, was not notified of this
25
26
27
28

1 meeting.³

2 The commission also appeared to place undue reliance on the station's
3 undocumented and unsubstantiated assertions that it was "evicted" from its current
4 antenna location at the Occidental Arts and Ecology Center, and that the station would
5 "die" if it were denied the use permit.⁴

6 **G. The commission capriciously approved the station's use permit without**
7 **adequately taking into consideration the potential reduction in neighboring**
8 **property values as a result of its actions.**

9 As reported by local appraisers and realtors, the installation of a 70-foot tall radio
10 antenna tower in this location has the potential for reducing neighboring property values
11 between four and twenty percent. The commission further abused its discretion by failing
12 to recognize this potential dramatic reduction in property value carries with it the very
13 real possibility of litigation by affected neighboring area home-owners.

14 **H. The commission abused its discretion by approving the use permit application**
15 **without adequately taking into consideration the city's potential financial**
16 **liability resulting from its actions.**

17 As appellants observed in their pre-meeting submission to the commission, neither
18 the city attorney nor risk manager provided a legal opinion as to (a) the net effect of

19 _____
20 3. The City Council allowed the station to proceed at its November 3, 2015 meeting,
21 whereas the station first notified a handful of residences in immediate proximity to the
22 proposed antenna tower site over the Christmas holiday in late December 2015.

23 However, although the City of Sebastopol has acquired an indemnification from the
24 station, notice and open meeting requirements under the Ralph M. Brown Act (Gov.
25 Code, § 54950 et seq.) are non-delegable duties and a necessary prerequisite to the city
26 taking action on any proposal.

27 4. Appellants also are informed and reasonably believe the station purchased its 70-foot
28 antenna tower with listener contributions well before its use permit application was
approved by the commission on February 23, 2016, suggesting notably poor business
judgment and/or a less-than-honest relationship with its own listening audience.

1 allowing private usage of city property with the antenna's required egress, ingress, and
2 specific liability; (b) whether the existing city commercial general liability policy would
3 cover related first- and third-party claims, including serious injury to trespassers, resulting
4 from the antenna's "attractive nuisance" characteristics; or (c) whether future liability of
5 the city is sufficiently covered by the indemnification by the station, given the scope of
6 the in-place indemnification agreement and whether it covers any future losses asserted by
7 first- or third-parties.

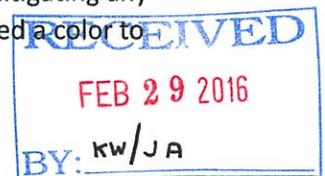
8 **I. The commission abused its discretion by failing to properly recognize and**
9 **take into account the due process and potential equal protection violations**
10 **resulting from the approval of the radio station's use permit.**

11 Approval of the station's antenna tower permit denied those Sonoma County
12 residents most directly affected by this decision their constitutional rights to due process,
13 insofar as the decision regarding the use of the extremely small inheld city property at
14 issue will have been made by a committee comprised solely of City of Sebastopol
15 residents, at a distant remove from the area which is home to those most severely
16 affected. Moreover, the station will be obtaining potentially permanent access to a city-
17 owned location at an extremely favorable reduced price which would not necessarily be
18 available to other similarly situated entities and which could become a burden to the city's
19 tax-paying residents.

Supplemental Facts and Information in Support of the SHARP's Appeal

The following supplemental facts & information are provided in support of the appeal to the Sebastopol City Council regarding the KOWS Radio Antenna Tower at 1281 Pleasant Hill Road:

- (1) 142 residents from the neighborhoods surrounding the proposed KOWS antenna tower site at 1281 Pleasant Hill Road have signed petitions to date opposing the KOWS antenna tower. Additional signatures from residents and businesses opposed to the KOWS antenna tower will continue to be gathered until the next public hearing.
- (2) The simulation photographs distributed by KOWS radio deceptively attempt to demonstrate that the tower would blend unobtrusively into the surrounding landscape. One simulated perspective photograph by KOWS shows a backdrop of approximately 70 foot tall trees surrounding their 70 foot tall tower. This perspective is only attainable from a single point on Pleasant Hill Road and the trees in their picture are located over 600 feet north of the antenna site. Choosing this single, best-case view is not representative of the overall impact. The reality is that a 70-foot tall antenna tower in that location would be an artificial structure standing alone, not obscured by any surrounding trees at the upper 30-40 feet, visible without impediment for miles around, and particularly from the homes within a one-half mile radius. An artificial structure of this height and type would be a looming eyesore, entirely inconsistent with the surrounding rural landscape, and certainly in opposition to the City of Sebastopol General Plan's mandate to preserve the existing natural environment and western hills surrounding the city limits. No attempt was made by KOWS to provide a realistic simulation of its 70 foot antenna tower by use of a helium balloon raised to 70 feet, or any other method, nor were accurate simulation pictures provided from various locations in the surrounding neighborhood, resulting in an inaccurate and misleading depiction of the effect of its tower on the surrounding neighborhood to the City of Sebastopol and the residents surrounding the tower site. (Please see the 70 foot high helium balloon pictures provided by area neighbors, and taken from various locations in the neighborhood, that are in your information packet. These pictures are useful to determine the height and visibility of a 70 foot tall tower in the area, and are not meant to be representative of the proposed tower, accurate representations of which should have been provided by or required of KOWS, and not left for the surrounding neighborhood to provide).
- (3) An additional misrepresentation by KOWS was provided at the Planning Commission public hearing on February 23, 2016 when KOWS strongly influenced the final vote of the Sebastopol Planning Commission, following a lengthy deliberation process, with an inaccurate statement. KOWS stated that the station had been asked to remove its antenna from its location at the Occidental Arts and Ecology Center (OAEC), without providing any verifiable evidence or timeline. Planning Commissioners voted shortly after that statement was made, with the impression that KOWS might go out of business if the proposed antenna tower was not approved. It has since been determined that the KOWS statement at the Planning Commission was not accurate; there had been no pressure from OAEC for KOWS to remove its antenna on the OAEC property, which calls into question the results of the Planning Commission vote, as well as other verbal statements by KOWS. The OAEC has reported that they were happy to host the KOWS antenna and that KOWS initiated the relocation decision regarding its antenna.
- (4) The water reservoirs, built by the City of Sebastopol on its 1281 Pleasant Hill Road site to serve the common public good of the residents of Sebastopol, respect the general plan's policy of mitigating any impact on surrounding neighbors by being relatively low-profile on lowered ground, painted a color to



blend with surroundings, and planted with perimeter trees of appropriate size as screening. In stark contrast, the proposed 70-foot tall KOWS antenna tower is intended primarily to expand the broadcast range of a non-essential, non-government entity, already broadcasting in west Sonoma County. The proposed antenna tower defeats Sebastopol's own mitigation measures for the water tanks on this property with a 70 foot industrial steel grid tower that rises 30-40 feet above the surrounding trees and tanks, where no effective mitigation is possible. The proposed KOWS antenna tower itself provides no benefit to the residents of Sebastopol, while greater signal strength for KOWS radio does not automatically translate into greater listenership, better programming, better quality, the airing of local issues that residents care about, or more revenue. No true benefit to Sebastopol can be quantified, while the damage to the surrounding neighborhood would be automatic, undeniable, and virtually permanent. The Sebastopol City Council should carefully weigh the harm the tower will have on the health, well-being, and quality of life for current greater Sebastopol residents and visitors, versus whatever benefits might accrue to the City of Sebastopol based on hypothetical, unverifiable statements from an underfunded KOWS radio station seeking a yet unrealized audience in areas well beyond the realm of greater Sebastopol.

(5) KOWS radio currently is available to listeners well outside its radio-wave transmission range because the station can be streamed via the internet, iPhones, or other mobile electronic devices, all of which render a new FM radio antenna tower redundant, superfluous and in the near future, obsolete. A dated and obsolete broadcasting infrastructure should be avoided as it is unnecessary, unsightly, and will immediately expose the West Sebastopol Hills scenic corridor and nearby residents to a proliferation of collocation antennas and equipment that will be blighting and virtually permanent.

(6) Because of Sebastopol's preferred zoning policy of collocation of transmitting devices, and especially because of the FCC's recent Wireless Facility Regulations set forth in Section 6409(a), it is extremely unlikely that, if approved, the KOWS radio antenna tower could remain a stand-alone structure, regardless of conditions of approval, (which can be modified from one administration to the next). Numerous zoning rules of California cities regarding antenna towers are also made irrelevant and unenforceable due to the recent FCC 6409(a) rules, which mandate extraordinary collocation powers to providers and exert tremendous collocation pressure which California cities cannot ignore. A summary of pertinent FCC 6409(a) rules and impacts that now govern antenna towers are as follows:

a. The pressure to build antenna towers and add antennas, transmitters, and equipment is geometrically increasing across the U.S. as new personal/portable electronic devices proliferate, with different radio frequencies being used requiring separate antennas. All California cities have been warned by legal experts advising The League of California Cities (at the City Attorneys' Spring Conference on May 6, 2015) that they should evaluate any single antenna tower as if it will automatically become a collocation site for many providers and will automatically be "hardened", (the FCC word for strengthened), and expanded by 10' in height and by 6' in width (with antennae, dishes, and equipment) within a few years. (League of California Cities, "FCC's Wireless Facility Rules Implementing Section 6409(a)", May 6, 2015)

b. Towers may be increased in height by the greater of 10% or 10' with no denials from cities so long as FCC rules are met. (FCC 6409(a) Order 188)

c. Towers may have antenna and microwave equipment added to them at any time with up to 6' of protrusion from the main tower so long as it meets FCC guidelines. (FCC 6409(a) Order 188)

d. This ruling applies to any tower, whether cell or broadcast, even if it only has one antenna on it, i.e. no collocation now exists on the tower. (FCC 6409(a) Order 146 & Order 176)

e. Under-strength tower structures must be allowed to be "hardened" to facilitate the addition of more antennas, transmitters, and equipment from other companies over time. (FCC 6409(a) Order 180)

In summary, the KOWS tower would prove an irresistible magnet to other providers enforcing their rights under FCC Rule 6409(a), with cell phone companies and similar companies seeking to place their transmission and relay devices on an already established tower and "hardening the structure", i.e. extending and broadening structures, both in height and width, to make it possible. This prospect raises the specter of many future protracted battles, legal and otherwise, over CEQA, General Plan conformance, and health and safety concerns that will be compounding rapidly as collocation proliferates. Such concerns by the Sebastopol City Council led to its moratorium and ban against the installation of PG&E's Smart Meters; however, it may be impossible to raise such concerns and take such moratorium or banning action in the future once an antenna tower is built. The West Sebastopol Hills neighborhoods surrounding the KOWS tower site hope the City Council will apply the same heightened level of scrutiny leading to the Smart Meter moratorium and ban by taking a precautionary approach here and denying the KOWS antenna tower Use Permit, thereby eliminating any future risk to residents in the area from the FCC's collocation proliferation, and by extension, EMF proliferation, which the Sebastopol General Plan specifically states should be avoided. In addition to intense collocation pressure, intense future pressure to construct additional antenna towers on the site after the site has been perceived as already degraded with an antenna tower will likely occur. The gradual proliferation of towers around formerly scenic English Hill, at the top of Burnside Road, serves as an example, and the current climate and FCC mandates make such intense pressure inevitable.

(7) There appear to be many alternate locations available for a radio antenna tower of this type within the greater Sebastopol area. The vocalized protest from KOWS that locations within city limits and other areas will not work and might interfere with local police and fire radio transmissions appear to be groundless, but in any event they are unsubstantiated. KOWS has not backed up its verbal claims that it has exhausted its search for alternative sites, particularly inside and west of the Sebastopol city limits, with verifiable detailed documents that can be reviewed by the City of Sebastopol, or anyone for that matter. KOWS has shown no evidence that it has conducted a thorough, verifiable search for alternate sites or methods of transmission that might provide a more limited overall broadcast range from that provided at 1281 Pleasant Hill Road, but still provide satisfactory broadcast coverage to Sebastopol. Sebastopol should not be in the business at any time of causing visual, financial, and health related harm to nearby residents for the sake of private companies attempting to provide a non-critical service, but particularly so when the harm is done primarily for the sake of service to other parts of Sonoma County and the harm can be remedied by locating the KOWS in another location. The City of Sebastopol should not be in the business of facilitating the "ideal" antenna site for KOWS at the expense of surrounding residents when an "acceptable" antenna site for KOWS's antenna tower could remove the harm to residents while still providing Sebastopol and KOWS a mutually acceptable level of service.

(8) Many nearby home and property values will be dramatically affected by an antenna tower presence looming over them, and the perceived health risks associated with a nearby RF emitting antenna tower. Immediately adjacent the tower property on the east side and having a contiguous property line with the Sebastopol water tank property, (that is approximately 22 feet from the proposed tower itself), lies a 2 acre vacant parcel of land with an approved home site that is about 50 feet from the proposed tower. This is dangerously close to the electromagnetic radiation field generated by the proposed antenna tower and has a high risk of future damage resulting from a falling tower or tower equipment, but in any event will suffer tremendous devaluation from an antenna tower. Two other similar vacant parcels are immediately adjacent that parcel and will suffer similar devaluation. All nearby homes and parcels will have some negative value impact from an FM antenna tower, whether next door or nearby, with the impact greatest for homes and parcels that are closest to the proposed tower and within view of the tower. Reduced property values will also impact many other homes further away resulting from the degradation of the scenic corridors in the neighborhood and surrounding area. This begs the question, "How would KOWS or the City of Sebastopol reimburse property owners for this devaluation?"

(9) KOWS is, financially, a highly under-capitalized company with virtually no financial reserves. The damage to nearby residents and to the City of Sebastopol could be extreme in the event of a future KOWS bankruptcy and/or damage caused by deferred maintenance on the proposed antenna tower. In short, KOWS has no funds to address future unexpected expenses for repairs, liabilities, injury, legal actions, etc. A KOWS bankruptcy, or even a severe shortage of funds, would likely lead to a much larger corporation buying its assets to obtain an existing antenna tower for collocation purposes and revenue.

(10) The county based neighborhoods impacted by and surrounding the proposed KOWS antenna tower site were not notified, and were not aware of, the November 3, 2015 City Council meeting that allowed KOWS to pursue a Use Permit for its antenna tower at 1281 Pleasant Hill Road and its unique, and essentially free, land lease arrangement with Sebastopol. The county based neighborhoods surrounding the proposed tower site were deprived of an opportunity to voice their concerns and opposition to the Sebastopol City Council, which may have lead the City Council to believe no opposition existed when it gave KOWS its approval to proceed in November 2015. KOWS now uses that November 2015 City Council meeting to declare how open and public this antenna tower process has been with no previous objections, when in fact the vast majority of the surrounding county neighborhoods impacted by the proposed antenna tower were not aware of it until late January/early February 2016, when alerted to the proposed antenna tower by neighborhood flyers and postcards. KOWS filed its Use Permit application on December 30, 2015, the same day that KOWS claims, but cannot verify, it dropped off 20 informational packets also dated December 30, 2015, to nearby homes. This is obviously a time when many residents may be gone for the holidays. No verification has been provided by KOWS to substantiate that it did in fact drop off 20 informational packet to the immediate neighbors and only a handful of residents in the area claim that they received information from KOWS.

Additionally, the City of Sebastopol Planning Department made no accommodation for the greater county parcel sizes adjacent the proposed antenna tower site when sending notice of the Planning Commission Public Hearing on February 23, 2016, retaining its 600 foot notification range for the public

hearing, and resulting in very few notification letters being sent to nearby county residents regarding the public hearing. An extreme example of the kind of potential injustice that could result from a large satellite of city property surrounded by county property, would be a 1200' x 1200' property with a proposed antenna tower in the middle. A 600' notification radius would potentially not even leave the property, resulting in NO notification being required under Sebastopol notification rules, regardless of the elevation of the parcel relative to its neighbors or the density of the surrounding area. A final point regarding the required public noticing to the neighborhood, speaks to the three notices the Planning Dept. put up in front of the property at 1281 Pleasant Hill Road for the Planning Commission Public Hearing. The notices were on 8.5" x 11" sheets of paper stapled to a telephone pole, taped to a telephone box, and taped to the entry gate recessed deep into the property. A rain storm with high winds damaged the notices within 2 days of their placement and they were missing within a week of placement. More permanent and prominent notifications should be considered for the next City Council meeting, as 4' x 8' painted signs mounted on posts are used for Use Permit public notification in many Sonoma County cities. Please also carefully examine the compounding effect of The City of Sebastopol doing the **least** in terms of notification, rather than doing something more appropriate for the unique county conditions surrounding the antenna site. The results have been extremely damaging to the surrounding neighborhood..... no notice regarding the November 3, 2015 City Council meeting, very limited mailed notifications sent to the neighborhood for the February 23, 2016 Planning Commission meeting, and nearly invisible, fragile letter size paper notices stapled or taped in front of the proposed antenna site. Perhaps the Planning Dept. could look for ways to make the process fairer for all sides in this Use Permit process, rather than doing the minimum required within city rules.

(11) Planning Commissioners debated at the February 23, 2016 meeting about the effects of the proposed 70 foot antenna in comparison to the 30 foot power poles running down Pleasant Hill Road and other roads in the area, with one commissioner stating that based on a person's perspective and elevation he didn't think there would be much difference between the two. That conclusion is impossible to determine without a simulation balloon raised to 70 feet at the proposed site, with viewing locations moved around the streets and neighborhoods to determine the impact of the simulation balloon, which our neighborhood did accomplish, and the pictures are, or should, be enclosed in the City Council's information packets. Certainly a single 70 foot industrial cage of steel that stands alone among significantly shorter trees and low level farms and yards is vastly more jarring and intrusive than the ever-present wood power poles found across the country, whose wood texture and coloring blend more closely with surrounding tree trunks and whose height more closely correlates to surrounding tree heights. It is a specious argument to state that because the surrounding area has already been degraded by water tanks and power poles that additional degradation is now appropriate for our area. The water tanks have been substantially mitigated, and power poles are ubiquitous and therefore don't call attention to themselves. 70 foot antenna towers are stand alone, industrial, and not mitigatable as they loom over the surrounding trees and homes. Even the two tone paint color proposed for the KOWS antenna tower would heighten the jarring, intrusive effect of the tower and serve to bring more attention to the tower. The surrounding area is hilly and the exposed parts of the proposed tower seen by residents, pedestrians, bicyclers and drivers would change based upon their elevation, as would a two tone color scheme, since the color transition point would go above and below the tree line bringing more attention to the tower as the elevation of people changed.

(12) In an effort towards facilitating alternative site options and compromises, KOWS should be required to provide the City of Sebastopol and SHARP the following information well in advance of the next public hearing on this issue, instead of continuing to solely rely on 1281 Pleasant Hill Road as its only option:

- a. A list of all locations that KOWS has reviewed for the antenna and tower, the contact person and contact information at the locations, and the reason KOWS finds the location acceptable or unacceptable.
- b. A detailed list of locations for the KOWS antenna or tower that could provide satisfactory service to Sebastopol, even if service were diminished to a less than ideal condition in areas outside of Sebastopol, and the contact person and contact information.
- c. A detailed map showing the FCC designated boundaries beyond which KOWS may not establish an antenna tower and the reasons KOWS may not do so.
- d. An accurate and verifiable broadcast coverage map showing the Sebastopol coverage provided by KOWS from creative alternate solutions. Possible examples are: a higher or more powerful antenna/transmitter at the OAEC and other locations; placing an antenna/transmitter on the Police Dept., Fire Dept. , or hospital antenna towers in Sebastopol, (or on other local existing towers); placing an antenna/transmitter on local power poles, tall trees, tall structures etc.; options available at the Barlow and Sonoma West, north facility, (the former Vacu-Dry Plant) on Hwy. 116 north; placing a creative antenna tower structure among the solar panel arrays on S. Main St., across from Aubergine, in the style of the whimsical Aubergine Eiffel tower sculpture by Patrick Amiot, (or any other appropriate tower landmark), and using it as a Sebastopol landmark and marketing statement; etc.

(13) City and county residents depend on government officials to request, read and absorb factual and verifiable information on the decisions that they vote on. Voting based on verbal, unverifiable statements, or worse, false statements, leads to bad decision making and potentially permanent neighborhood blight and degradation. Allowing KOWS to cut corners and misrepresent its antenna tower site search, misrepresent the tower's impact in simulation pictures, and provide unverified information because they have insufficient funds should not be allowed if a satisfactory resolution is to be achieved.

(14) We firmly believe that had the City Council received input from the residents surrounding the proposed tower site at its November 3, 2015 meeting, including accurate simulation pictures of the KOWS tower as seen from several neighborhoods points around the tower site, the KOWS antenna tower would not have been proposed for 1281 Pleasant Hill Road and other options would have been successfully explored by KOWS over the last four months. We further believe that had KOWS truthfully stated that there was no pressure to remove its antenna at the OAEC property at the end of the Planning Commission deliberations on February 23, 2016, this Appeal would be coming from KOWS and not from the surrounding neighborhood.

(15) A popular phrase with KOWS supporters is that the neighbors surrounding the KOWS antenna site are being "NIMBYs". Sometimes it IS necessary to say, "Not in my back yard", and this is one of those times. If your neighbor throws his garbage over your fence, you say, "Not in my back yard!", because it is wrong, rude, selfish, and disrespectful of the neighbor. That's the way the surrounding neighborhoods feel about the proposed KOWS antenna tower. It is an assault on the area's quality of life, and is completely unnecessary to its well-being.

Another phrase, that is in no way relevant, has also been repeated by KOWS supporters throughout this process: "Let's put the tower in [this scenic vista corridor of] west Sebastopol because it is for the "common good". Water and access to power are things that might be considered as for "the common good". A small radio station's music and talk show programming does not qualify as existing "for the common good"; it is a luxury, like all radio programming, that is not absolutely necessary for our survival or general well-being. Preserving the scenic corridors in the West Sebastopol hills, which cannot be gotten back after they have been blighted with antenna towers, seems worthy of being considered "for the common good", not only on behalf of current Sonoma County residents, but on behalf of future residents.

More broadly, and even more importantly, the KOWS antenna tower would erode and diminish the beauty of the West Sebastopol hills permanently and the overall attraction of Sebastopol to residents and visitors, and the damage would be compounded by the almost certain future degradation of this scenic view corridor by additional antennas and equipment forcing their way onto an existing tower, followed further by more towers forcing their way on to the site. Imagine the antenna farm blight that would have developed over the last 22 years at 1281 Pleasant Hill Road, if the 1994 Sebastopol City Council had not prudently and unanimously rejected the GTE Mobilnet 75 foot tall antenna tower that was proposed on the site at that time. Please deny the KOWS antenna tower use Permit and protect Sebastopol's western hills and rural vistas.

ATTACHMENT #3

SUPPLEMENTAL APPEAL INFORMATION

Jonathan Atkinson

From: Kenyon Webster
Sent: Monday, April 25, 2016 7:47 AM
To: Jonathan Atkinson
Subject: FW: meeting Tuesday morning?
Attachments: KOWS PARCEL MAP W NOTES pdf.pdf; KOWS zoning data base for parcel map pdf.pdf

For file.

From: Bob Jenkins [mailto:rhjenkins1@gmail.com]
Sent: Friday, April 22, 2016 10:50 AM
To: Kenyon Webster <kwebster@cityofsebastopol.org>
Cc: Jonathan Atkinson <jatkinson@cityofsebastopol.org>
Subject: meeting Tuesday morning?

Hi Kenyon - Would you have any time to meet next Tuesday morning, April 26 for about 20 minutes? Any time between 8 AM and noon would work for me. I have individual notebooks prepared by our SHARP neighborhood group for each City Council member plus one for you that is unbound for copying purposes. We retained an expert in CEQA, Richard Grassetti of Grassetti Environmental Consulting, and his report will be included. We also retained an appraiser, expert in rural property valuation to estimate value loss in the area resulting from the proposed KOWS tower, and that report will be included. I also wanted to review our SHARP presentation at the May 3 City council meeting with you.

One aspect of our neighborhood area that you may or may not be aware of is that all property adjacent and to the northeast, east, and south of 1281 Pleasant Hill Road, the proposed KOWS tower site, is designated as being within the Highway 116 Scenic Corridor of Sonoma County. The County Zoning Data Base shows the zoning for each parcel and those parcels within the Highway 116 Scenic Corridor are shown with a Combining District designation of LG/116, (i.e. Local Guidelines apply for the Highway 116 Scenic Corridor). This information may have relevance in regards to CEQA and Categorical Exemption. I will bring a parcel map of our neighborhood and the relevant Zoning Data Base information for your review, but attached is a 11" x 17" scan of the parcel map with highlighted parcels within the Highway 116 Scenic Corridor. Also attached are the relevant Zoning Data Base parcel numbers that correspond to the parcel map with the LG/116 Combining District designation. Bob

Bob Jenkins
SHARP coordinator
707-484-2800
rhjenkins1@gmail.com

Zoning Database (OZD)

The Sonoma County Permit and Resource Management Department (PRMD) maintains an Official Zoning Database (OZD) in digital form. The OZD was adopted by the Board of Supervisors on June 12, 2007 and became official on July 12, 2007. This zoning database was created using Geographic Information Systems (GIS) mapping software and replaces all hard-copy zoning maps that were formally located in the self-help lobby at PRMD.

The reports provided below are generated from the OZD and contain zoning sorted by Sonoma County Assessor's Parcel Number (APN). These reports are updated as needed at the end of each month, so you should contact the PRMD [Planning Information Phone](#) to verify current zoning before making decisions.

Within these reports, both "Base Zoning" and "Combining District" (aka overlay) are listed. When indicated, a Combining District may be Biotic Habitat (BH), Scenic Resources (SR), Flood Zones (F1 or F2), etc. Combining Districts are site specific and most likely do not follow APN boundaries. It cannot be determined where on the APN the Combining District is located from these reports. For information on Combining District boundaries, please contact the PRMD Planning Information Phone.

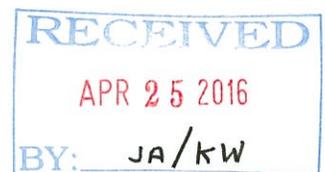
A complete description of Zoning and Combining Districts can be found in the current [zoning code regulations](#) area of this site.

You can locate the zoning for a specific property by using the Assessor's Parcel Number (APN).

How to find zoning by APN:

The Assessors Parcel Map Book Numbers are broken down into report segments containing a range of parcel numbers. In the list below, the range for each report segment contains only the parcel number's first three digits. For example, the first item is listed as "003-029" which denotes a range of all parcel numbers containing 003-000-000 through and including 029-999-999. Click on the appropriate Assessors Parcel Map Book Number range to open the report. While viewing the report, perform a text search for the desired APN, including hyphens.

Example APN: 000-000-000



APN	Base Zoning	Combining District
076-030-043	AR B6 10	NONE
076-030-044	DA B6 20 Z	LG/116
076-030-045	AR B6 10	LG/116
076-030-046	AR B6 10	LG/116
076-040-003	AR B6 10	LG/116
076-040-005	AR B6 10	LG/116
076-040-007	AR B6 10	LG/116
076-040-011	AR B6 10	LG/116
076-040-012	AR B6 10	LG/116
076-040-013	AR B6 10	LG/116
076-040-014	AR B6 10	LG/116
076-040-015	AR B6 10	LG/116
076-040-019	AR B6 10	LG/116
076-040-021	AR B6 10	LG/116
076-040-022	AR B6 10	LG/116
076-040-023	AR B6 10	LG/116
076-040-024	AR B6 10	LG/116
076-040-025	AR B6 10	LG/116
076-040-026	AR B6 10	LG/116
076-040-027	AR B6 10	LG/116
076-040-028	AR B6 10	LG/116
076-040-029	AR B6 10	LG/116
076-040-030	AR B6 10	LG/116
076-040-031	DA B6 20 Z	LG/116
076-040-032	DA B6 20 Z	LG/116
076-040-033	AR B6 10	LG/116
076-050-002	DA B6 20 Z	NONE
076-050-005	RR B6 2	NONE
076-050-006	RR B6 2	NONE
076-050-007	RR B6 2	NONE
076-050-008	RR B6 2	NONE
076-050-009	RR B6 2	NONE



APN	Base Zoning	Combining District
076-050-010	RR B6 2	NONE
076-050-012	RR B6 2	NONE
076-050-013	RR B6 2	NONE
076-050-015	RR B6 2	NONE
076-050-018	RR B6 2	NONE
076-050-019	RR B6 2	LG/116
076-050-023	RR B6 2	LG/116
076-050-028	RR B6 2	NONE
076-050-033	RR B6 2	LG/116
076-050-035	RR B6 2	NONE
076-050-040	RR B6 2	NONE
076-050-041	RR B6 2	NONE
076-050-042	RR B6 2	NONE
076-050-044	RR B6 2	LG/116
076-050-046	RR B6 2	LG/116
076-050-047	RR B6 2	LG/116
076-050-048	RR B6 2	LG/116
076-050-049	RR B6 2	NONE
076-050-050	RR B6 2	LG/116
076-050-051	RR B6 2	LG/116
076-050-053	RR B6 2	NONE
076-050-055	DA B6 20 Z	NONE
076-050-061	RR B6 2	NONE
076-050-062	RR B6 2	NONE
076-050-063	RR B6 2	NONE
076-050-064	RR B6 2	LG/116
076-050-065	RR B6 2	LG/116
076-050-066	RR B6 2	NONE
076-050-069	RR B6 2	NONE
076-050-070	RR B6 2	LG/116
076-050-071	RR B6 2	LG/116
076-050-072	RR B6 2	NONE
		NONE



APN	Base Zoning	Combining District
076-050-073	DA B6 20 Z	LG/116
076-050-074	DA B6 20 Z	LG/116
076-050-075	DA B6 20 Z	LG/116
076-050-076	DA B6 20 Z	LG/116
076-060-003	RR B6 5	NONE
076-060-004	RR B6 5	NONE
076-060-005	RR B6 2	NONE
076-060-011	RR B6 2	NONE
076-060-012	RR B6 2	NONE
076-060-014	RR B6 5	NONE
076-060-017	RR B6 2	NONE
076-060-020	RR B6 2	NONE
076-060-021	RR B6 2	NONE
076-060-024	RR B6 2	NONE
076-060-026	RR B6 2	NONE
076-060-041	RR B6 2	NONE
076-060-049	RR B6 2	NONE
076-060-051	RR B6 2	NONE
076-060-052	RR B6 2	NONE
076-060-054	RR B6 2	NONE
076-060-055	RR B6 2	NONE
076-060-056	RR B6 2	NONE
076-060-057	RR B6 2	NONE
076-060-058	RR B6 2	NONE
076-060-059	RR B6 2	NONE
076-060-061	RR B6 2	NONE
076-060-063	RR B6 2	NONE
076-060-065	RR B6 2	NONE
076-060-067	RR B6 2	NONE
076-060-068	RR B6 2	NONE
076-060-069	RR B6 2	NONE
076-060-070	RR B6 2	NONE



APN	Base Zoning	Combining District
076-072-005	RR B6 2	NONE
076-072-006	DA B6 10	SR
076-072-007	DA B6 10	SR
076-072-008	DA B6 10	SR
076-072-009	DA B6 10	SR
076-072-012	DA B6 10	SR
076-072-013	DA B6 10	SR
076-072-014	DA B6 10	SR
076-072-015	RR B6 2	NONE
076-072-016	RR B6 2	NONE
076-072-017	RR B6 2	NONE
076-072-018	RR B6 2	NONE
076-072-021	DA B6 10	SR
076-072-022	RR B6 2	NONE
076-072-023	RR B6 2	NONE
076-072-024	DA B6 10	F2 RC200/50 SR VOH
076-072-025	DA B6 10	SR
076-072-026	DA B6 10	SR
076-072-027	DA B6 10	SR
076-080-010	DA B6 10	NONE
076-080-019	DA B6 10	NONE
076-080-022	DA B6 10	LG/116
076-080-028	DA B6 10	NONE
076-080-029	DA B6 10	NONE
076-080-032	DA B6 10	RC200/50
076-080-033	DA B6 10	NONE
076-080-036	DA B6 10	RC200/50
076-080-038	DA B6 10	NONE
076-080-039	DA B6 10	NONE
076-080-043	DA B6 10	NONE
076-080-044	DA B6 10	NONE
076-080-053	DA B6 10	NONE



APN	Base Zoning	Combining District
076-080-054	DA B6 10	NONE
076-080-056	DA B6 10	NONE
076-080-058	DA B6 10	NONE
076-080-059	DA B6 10	NONE
076-080-061	DA B6 10	NONE
076-080-063	DA B6 10	NONE
076-080-065	DA B6 10	RC200/50
076-080-066	PF	NONE
076-080-067	PF	NONE
076-080-069	DA B6 10	NONE
076-080-070	DA B6 10	NONE
076-080-071	DA B6 10	NONE
076-080-074	DA B6 10	NONE
076-080-077	DA B6 10	NONE
076-080-078	DA B6 10	NONE
076-080-079	DA B6 10	NONE
076-080-081	DA B6 10	NONE
076-080-082	DA B6 10	NONE
076-080-083	DA B6 10	NONE
076-080-084	DA B6 10	NONE
076-080-085	DA B6 10	NONE
076-080-086	DA B6 10	NONE
076-080-087	DA B6 10	NONE
076-080-091	DA B6 10	NONE
076-080-092	DA B6 10	NONE
076-080-093	DA B6 10	NONE
076-080-094	DA B6 10	RC200/50 SR VOH
076-080-095	DA B6 10	SR
076-080-096	DA B6 10	NONE
076-080-097	DA B6 10	NONE
076-080-098	DA B6 10	<u>LG/116</u>
076-080-099	DA B6 10	NONE
		NONE



Combining District

Base Zoning

APN

076-092-020	DA B6 10 Z	NONE
076-092-021	DA B6 10 Z	VOH
076-092-022	DA B6 10 Z	LG/116
076-092-023	DA B6 10 Z	LG/116
076-092-024	DA B6 10 Z	LG/116
076-092-025	DA B6 10	NONE
076-092-026	DA B6 10 Z	NONE
076-092-027	DA B6 10 Z	VOH
076-092-028	DA B6 10 Z	VOH
076-092-029	PF	NONE
076-092-030	DA B6 10 Z	LG/116
076-092-031	DA B6 10 Z	NONE
076-092-032	DA B6 10 Z	NONE
076-092-033	DA B6 10 Z	VOH
076-092-034	DA B6 10 Z	VOH
076-092-035	DA B6 10 Z	VOH
076-093-004	DA B6 20 Z	LG/116
076-093-005	DA B6 20 Z	LG/116
076-093-006	DA B6 20 Z	LG/116
076-093-008	DA B6 20 Z	LG/116
076-093-009	DA B6 20 Z	LG/116
076-093-010	DA B6 20 Z	LG/116
076-093-011	DA B6 20 Z	LG/116
076-093-012	DA B6 20 Z	LG/116
076-093-013	DA B6 20 Z	LG/116
076-093-014	DA B6 20 Z	LG/116
076-093-015	DA B6 20 Z	LG/116
076-093-016	DA B6 20 Z	LG/116
076-093-017	DA B6 20 Z	LG/116
076-093-018	DA B6 20 Z	LG/116
076-093-019	DA B6 20 Z	LG/116
076-093-021	DA B6 20 Z	LG/116



COUNTY ASSESSOR'S PARCEL MAP

TAX RATE AREA 159-002 5-022

76-05

RECORD OF SURVEY - Book 60, Page 44

LYNCH ROAD

AWRENCE TRACT R/SUR. NO 2

PLEASANT HILL

BLACKNEY ROAD

IAP ROAD

159-002 KOWS TOWER

SEBASTIAN WATER TANK

SCALE: 1"=200'

Parcel Map No. 1640-A REVERSION TO ACREAGE REC. 12-23-1969 IN BK. 140, MAPS, PGS. 16-00
Parcel Map No. 5941 REVERSION TO ACREAGE REC. 06-20-1974 IN BK. 209, MAPS, PGS. 09-10
REC. 08-31-1977 IN BK. 256, MAPS, PGS. 38-00

TAX RATE AREA 159-002

NOTE: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA DELINEATED HEREON.

SANBORN'S SUBDIVISION of the ELPHICK TRACT Assessor's Map B 76-05 Sonoma County, Calif.

PARCELS WITHIN THE SONOMA COUNTY HIGHWAY 116 SCENIC CORRIDOR COMBINING DISTRICT & WITHIN VIEW OF THE PROPOSED KOWS 70 FOOT ANTENNA TOWER AT 1281 PLEASANT HILL RD.

BLUCHER RANCHO HYBRID 1/4/08 ML Assessor's Map Bk. 076, Pg. 09 Sonoma County, Calif. (ACAD)

RECEIVED APR 25 2016 BY: JA/KW

CITY COUNCIL
INFORMATION NOTEBOOK
(Supplement 2 to Appeal)

SEBASTOPOL HILLS ALLIANCE FOR RURAL PRESERVATION
(SHARP)
APPEAL TO THE SEBASTOPOL CITY COUNCIL
REGARDING THE
KOWS 70 FOOT RADIO ANTENNA TOWER
AT 1281 PLEASANT HILL ROAD, SEBASTOPOL, CA
(see sharpwatch.org for additional information)

CONTENTS

- CEQA/GRASSETTI REPORT
- COUNTY/CITY SCENIC RESOURCES
- KOWS SOLVENCY
- PROPERTY LOSSES/BLAKESLEE REPORT
- OAEC/ALTERNATE SITES
- VISUAL IMPACTS
- COLLOCATION
- HEALTH ISSUES
- GOVERNMENTAL ISSUES
- MISREPRESENTATIONS BY KOWS
- APPEAL DOCUMENTS & PETITIONS



SUMMARY OF ISSUES & CONCERNS

CEQA: The proposed KOWS tower should not have been designated "Categorically Exempt" under CEQA. Any project which may have an overall "negative aesthetic impact" requires a CEQA review. (Ocean View Estates Homeowners Association, Inc. v. Montecito Water District (2004) 116 Cal.App.4th 396, 401-403; The Pocket Protectors v. City of Sacramento (2004) 124 Cal.App.4th 903, 936-908; Quail Botanical Gardens Foundation, Inc. v. City of Encinitas (1994) 29 Cal.App.4th 1597, 1602.) No environmental review has been completed to address the following major issues: negative view-shed issues in the area; impacts on nearby surrounding properties and roadways that are designated as being within the Sonoma County Highway 116 Scenic Corridor; lack of consistency with Sonoma County and Sebastopol General Plan and zoning goals and policy; potential biological impacts on birds, especially hawks, owls & other raptors, as well as impacts on honey bees and other wildlife that are in abundance on the reservoir site and nearby; EMF safety issues; alternate antenna tower site options; or, proper mitigation measures. Please see the enclosed report from Richard Grassetti, owner of Grassetti Environmental Consulting, a well-respected expert in CEQA issues, which addresses the Planning Staff's CEQA findings and the KOWS antenna tower. The Planning Department states that a **NEW 70 foot** antenna tower, where none currently exist, would be "**existing, small and a minor change at the site**". This appears to be a considerable stretch towards CEQA rules that allow Categorical Exemption while avoiding an Environmental Study that would determine if an EIR or Mitigated Negative Declaration was warranted. The proposed tower is listed as a Major Telecommunications Facility by Planning Staff, not a minor facility. It would be a new, separate, private, free-standing, **non-critical, EMF emitting, 70 foot** tower. The tower would be completely visible from the north, east and south because it is proposed outside of the perimeter trees that surround the two existing **non-EMF emitting** water storage tanks that have been properly mitigated with trees and paint and which provide a **critical resource** to Sebastopol. **Please also see the CEQA concerns voiced by several members of the Planning Commission at <http://sharpwatch.org/ceqa-and-the-kows-tower/>.**

COUNTY/CITY SCENIC RESOURCES: The surrounding area to the north, east and south of the proposed KOWS tower site on Pleasant Hill Road is designated by Sonoma County as being within the Highway 116 Scenic Corridor. Attached is a parcel map showing the boundaries of the nearby parcels that are designated LG/116 in each parcel's zoning, indicating that the parcels are included in the Highway 116 Scenic Corridor Combining District. The Sonoma County zoning and General Plan information for this Open Space & Scenic Resource Area is attached for your review. The County "Policy for Scenic Corridors" states that Sonoma County residents highly value the variety and beauty of the County's many landscapes as viewed from rural

roadways, including vineyards, orchards, and scenic hills and valleys, all of which surround the KOWS tower site. The County states as a main goal that it wants to preserve roadside landscapes that have a high visual quality, as they contribute to the living environment of local residents and to the County's tourism economy. **Please see the attached parcel map of properties surrounding the KOWS tower site that are designated as being in the County's Highway 116 Scenic Corridor.**

The proposed KOWS antenna tower would also be visible from the elevated hills west of Watertrough Road, (as discovered when the SHARP helium balloon was raised to 70 feet), which is an expansive area that is within another Scenic Resources District of Sonoma County designated as Scenic Landscape Units. The Sonoma County Open Space & Scenic Resource map (OSRC-5f) for this area shows the Scenic Landscape Units designation extends from the western hills along Watertrough Road to Pleasant Hill Road near Germone Road, which is within 1500 feet of the Sebastopol Reservoir and KOWS tower site.

The Sonoma County General Plan has another Scenic Resources Element, (Paragraph 2.6 in the Open Space & Resource Conservation Element), titled, "Policy for Rural Character" that fully applies to the area surrounding the KOWS tower site. This policy section states the following, "Sonoma County is nationally recognized for its agrarian and "wine country" atmosphere, its diverse and beautiful scenic resources, and unique quality of life." Goal OSRC-6 of this policy states, "Preserve the unique rural and natural character of Sonoma County for residents, businesses, visitors, and future generations." Policy OSRC-6a states, "New structures shall blend into the surrounding landscape, rather than stand out."

Clearly, the KOWS 70 foot antenna tower does not meet the policy and zoning goals of Sonoma County. The tower's approval would result in permanent harmful consequences to a rural and agricultural area that is a designated Scenic Resource. At a minimum, it would seem to make sense for the Sebastopol City Council to honor the heightened environmental review, restrictions and mitigations required by Sonoma County for areas designated as part of Sonoma County Scenic Resources, since it is County land that entirely surrounds the Sebastopol reservoir site on Pleasant Hill Road. Alternatively, the City Council might wish to refer to Sebastopol's own zoning rules for Environmental and Scenic Open Space Districts (ESOS), attached, given the unusual situation of an island of city owned property that is located entirely in the county. The Sebastopol ESOS District regulations are similar to the County regulations for Scenic Resources, in that the purpose of both is to control land use within areas of great scenic value and to control any alteration of the natural environment in these areas and to preserve these areas for the public welfare. Major telecommunication facilities such as the 70 foot KOWS tower are specifically prohibited in ESOS Districts except under a very restricted condition, i.e. "no technically feasible alternative location exists", which does not apply to the KOWS antenna tower, (ESOS 17.92.040 B).

KOWS SOLVENCY: KOWS radio has posted 4 years of its monthly Steering Committee notes online, from 2012 to 2016, (see kowscom.wordpress.com). These notes describe KOWS monthly activities, concerns, and finances. They paint a picture of a radio station that functions **more like an amateur radio club than a professional radio business**. KOWS typically has **\$1,200 to \$1,800 in its bank account** at the end of any given month. KOWS funds **nearly 75% of its annual budget by charging its 80 program hosts \$15/month so they can each host a show based on their individual interests**. Inconsistent program quality, poorly vetted and untrained program hosts, difficulty acquiring and sustaining sponsors/underwriters and memberships, equipment breakdowns, and lack of volunteer participation at events, are all reported as continuing problems in the Steering Committee notes. Getting program hosts to pay their monthly dues has been a particular problem for KOWS.

The station seems to exist primarily for the enjoyment and benefit of the program hosts and the approximately 20 KOWS sponsors, about half of which are owned by or related to program hosts or organizations they are affiliated with. KOWS provides an inexpensive method of local advertising for its sponsors. Solar Works is a typical example, with co-owners, John Parry and Laura Goldman, both hosting shows on KOWS as well as being significant sponsors of KOWS through their company. Their company in turn receives considerable advertising benefits from this relationship, including prominent logo placement and interviews that promote solar installations. KOWS program hosts also receive a lucrative 20% commission on donations or payments to KOWS from sponsors and others that they help coordinate.

The indemnity that KOWS signed with the City of Sebastopol, to protect the city from future costs related to the KOWS tower, is essentially meaningless given the near state of insolvency under which KOWS operates. Should the KOWS tower be approved, the City of Sebastopol will be entering into a business relationship with a poorly financed, organizationally challenged entity that can run out of funds and cease operations at any time, leaving behind a permanent eyesore in our neighborhood. Approving the Use Permit for the KOWS antenna tower may well exacerbate the financial problems at KOWS, as the need for KOWS to raise funds to erect an expensive antenna tower and infrastructure will be competing with the need to indemnify the City of Sebastopol from any future expenses related to additional environmental review under CEQA, additional mitigation measures, potential legal costs, and unexpected liabilities. In short, KOWS has no reserve of funds for anything that exceeds its recurring monthly expenses.

Sebastopol waived Use Permit fees for KOWS and is considering giving a portion of public land virtually free to a barely solvent private organization that did not achieve success in Occidental after 8 years of operations. KOWS now wants to experiment with the Sebastopol area, at our neighborhood's expense, on a severely limited budget, to see if perhaps this location might work, while it is still immersed in the same programming and management struggles it has had since inception. A broader range of signal is not likely to solve internal KOWS problems. **Please see the relevant KOWS Steering Committee notes, attached, the Governmental Issues section of this notebook, and <http://sharpwatch.org/kows-history/>.**

PROPERTY LOSSES: Chris Blakeslee, Blakeslee Land Services, a Sonoma County based Certified General Real Estate Appraiser of rural residential properties, farms and wineries, with over 30 years of experience and the highest State of California licensing level possible, prepared a valuation report to determine the estimated property value loss in the neighborhood surrounding the proposed KOWS antenna tower. He determined that over \$1 million of property value losses will result from the erection of the KOWS antenna tower, a 10-20% devaluation for each of the 20 homes and properties in view of the tower. A 2 acre parcel of land immediately adjacent the KOWS tower site will be severely devalued by a 70 foot tower. A designated home site on the 2 acre parcel would be 55 feet from the proposed tower, rendering the property almost unsaleable. The KOWS tower location was unwisely selected given the impact of 24 hour/day EMF emissions combined with the visual blight and danger of a falling structure or equipment on a future home 55 feet away. **Please see the enclosed Blakeslee Land Services valuation report.**

The OAEC/ALTERNATE SITES: KOWS does not have to move its antenna from the Occidental Arts and Ecology Center (OAEC), as they dramatically stated in the last moments of the February Planning Commission meeting. Dave Henson, the Executive Director of the OAEC and co-founder of the Sowing Club that owns the OAEC property, states in the KOWS Steering Committee notes that, **"The OAEC is giving KOWS all the time it needs to make their independence happen. Their place in the tree [the antenna and transmitter] is secure and can be used until they find another location"**. Mr. Henson reiterated that sentiment in an email the day after the February 23, 2016 Planning Commission meeting, while also stating that it was KOWS that made the decision to start looking for new antenna locations, not the OAEC.

KOWS has plenty of time to find an alternative site for its antenna while continuing its operations at the OAEC, **and it already has such a site at Respini Ranch on Occidental Road in Sebastopol, as the Steering Committee notes make clear and the enclosed Occidental Community Council Minutes of September 19, 2015 make clear.** Respini Ranch was tested by KOWS and found satisfactory and is available at **far less cost than the Sebastopol reservoir site.....\$5-10,000 instead of \$25-30,000.** The particularly attractive benefit of Respini Ranch, besides costing far less, is that the antenna could be in a tall tree, as it is at the OAEC, and be considerably less of an eyesore to the surrounding area, while still providing satisfactory coverage to Sebastopol, as stated in the KOWS Steering Committee notes and verified by the attached broadcast coverage maps. Alternatively, raising the power at the OAEC from 3 watts to 15 or 25 watts also provides satisfactory broadcast coverage in Sebastopol and the Santa Rosa area as shown on the enclosed broadcast coverage maps. The maps show the broadcast coverage from KOWS antenna locations at the OAEC and Respini Ranch at 15 watts and 25 watts and at the Pleasant Hill Reservoir site at 15 watts. **Please see [5](http://sharpwatch.org/an-</p></div><div data-bbox=)**

[alternative-site-respini-ranch/](http://sharpwatch.org/kows-misrepresentations-and-omissions/) and <http://sharpwatch.org/kows-misrepresentations-and-omissions/>.

VISUAL IMPACTS: KOWS regularly refers to their 70 foot industrial steel grid tower as “see-through and transparent” in an apparent effort to convince Sebastopol and the public that the tower will be almost invisible. Consider the appearance of any steel grid tower or construction crane you’ve seen in Oakland, San Francisco, or any other large city and ask yourself if a similar steel grid antenna tower is “nearly invisible” or appropriate as a permanent addition to a scenic rural landscape. This is a rural residential neighborhood where people live, walk, and garden. It is not an industrial area. This is not something that a neighborhood should “just get used to” as one KOWS supporter suggested at the Planning Commission meeting.

SHARP raised a helium balloon to the height of 70 feet at the proposed KOWS antenna tower site to simulate the visual impact of the KOWS tower to the surrounding neighborhoods, since no credible simulation was provided by KOWS. Our balloon simulation showed that the tower is **completely exposed from the north, south and east, and from the hills west of Watertrough Road**. KOWS presented two simulated antenna tower pictures which completely misrepresent the tower’s visual impact. In their photos, the tower appears to be hidden among 70’ trees that are actually over 800 feet distant. KOWS clearly wanted to minimize the perceived visual appearance of its tower and avoid the neighborhood uproar that eventually did emerge when the true impact was seen. The tower’s visual impact would be dramatic and degrading to the neighborhood. **Please see the enclosed 70 foot tower simulation pictures provided by SHARP from four neighborhood locations along Pleasant Hill Road and the comparison to the KOWS simulation photo in its submittal to Sebastopol. Please also see <http://sharpwatch.org/unanswered-questions/>.**

COLLOCATION: Sebastopol may think that restricting the KOWS antenna tower to just KOWS FM radio use in its ground lease agreement will stop future collocation by large cell companies and publicly traded tower companies. That is not likely to matter to future Sebastopol administrations looking for income sources in an era of tight budgets, nor is it likely to matter to KOWS, which is constantly looking for more funds. **Any lease restrictions will eventually get changed, it’s just a question of when.** Well financed publicly traded cell and tower companies are actively trolling the country for newly erected antenna towers so they can offer significant tower rent for their collocation. FCC rules and regulations have made it easy for cell companies to strengthen and expand undersized towers to accommodate their collocation without the need for zoning approvals, as long as they meet FCC guidelines. Better funded radio stations or cell companies will also eventually request equal treatment from Sebastopol so they too can put up an antenna tower on the reservoir site just like KOWS, backed by a willingness to legally enforce their perceived rights. You have seen the results of collocation on the antenna tower next to city hall and elsewhere and it greatly heightens the visual blight and EMF radiation

emissions in any neighborhood. **Please see the COLLOCATION section for articles and information on collocation, and <http://sharpwatch.org/collocation-and-microwaves/>**

HEALTH ISSUES: The FCC asks that cities and residents trust them to know what is safe and unsafe regarding EMF exposure. They ask this as their guidelines for safe exposure have been dropping over time, which means they were wrong each previous time. Russia and China have EMF exposure levels that are 1/20 to 1/30 the US standard. The FCC guidelines were not determined by health care professionals like doctors and independent medical researchers, they were determined by electrical engineers and telecommunication industry scientists decades ago. **A brand new long term EMF medical study, published in March 2016 by the IEEE,** the Institute of Electrical and Electronics Engineers, (a group that helped create the original FCC guidelines for safe exposure), states that **new research is finding cancer risks and cell transformation from long term exposure to weak non-ionizing magnetic fields, fields that are emitted from cell towers and radio towers.** The study requires further research to determine exactly why and when cells are transformed, but the study found harmful human cell transformation linked to cancer from long term exposure to these weak magnetic fields. The KOWS NIER study for the Reservoir site indicates the potential for an exposure level of 16 microwatts per square centimeter near the property line where vineyard and orchard workers work 8 hours a day. The FCC guideline for a maximum human exposure of 200 microwatts per square centimeter is based on 30 minutes of exposure. Working near the KOWS tower for 8 hours exposes workers to 16 times the assumed 30 minute exposure, which translates into an exposure level of 256 microwatts per square centimeter (16 x 16 microwatts per square centimeter) and is 128% of the FCC guidelines. This does not appear to meet FCC guidelines. Further, a 2 acre parcel of land is immediately adjacent the tower site with a designated home site that would be 55 feet from the proposed tower. The impact of 24 hour/day EMF emissions combined with the danger of a falling structure or equipment on a future home and residents 55 feet away will be huge and unacceptable. Please see both the GoodHealthinfo.net article, "Doesn't the FCC Standard Protect Us", and the March 2016 IEEE Power Electronics Magazine article, "Some Effects of Weak Magnetic Fields on Biological Systems", also available at <http://sharpwatch.org/emf-exposure-guidelines-and-research/> .

GOVERNMENTAL ISSUES: SHARP trusts that the Sebastopol City Council will remain fair and impartial in its review of the KOWS antenna tower Use Permit even though many of you have long term connections with people associated with KOWS. We ask you to ignore personal loyalties or sympathies with KOWS program hosts, sponsors, and underwriters that have donated funds or hosted campaign fundraisers for your election campaigns, or have been on local Boards with you, or worked with you on Sebastopol events and solar related projects. California as well as U.S Constitutional and Due Process laws state that, "Public Officials and Public Bodies shall treat all members of the public in a fair and unbiased manner. The citizenry has the right to a fair and unbiased decision maker. Accordingly, a public official must make

official decisions free from personal bias. Examples of personal bias might include a personal, but not necessarily financial interest in the outcome of a decision; strong dislike of a petitioner or colleague; or strong attachment or loyalty to a petitioner, colleague, or party.” This is particularly important for the KOWS antenna tower hearings since the county residents most affected by the tower have no voice in City of Sebastopol elections or politics, and the county officials we do elect have no part in these hearings.

Please also consider California rules, codes and laws dealing with the gifting of public lands or funds to non-governmental persons or organizations, where such gifting has not been universally made available to other organizations, which in summary state:

“[California municipalities] shall not authorize the giving or lending of the credit of the State, or of any county, city, township or other political corporation or subdivision of the State now existing, or that may be hereafter established, in aid of or to any person, association, or corporation, whether municipal or otherwise, or to pledge the credit thereof, in any manner whatever, for the payment of the liabilities of any individual, association, or other corporation; nor shall it have power to make any gift or authorize the making of any gift, of any public money or thing of value to any individual, association, or other corporation ...”.

Inverse Condemnation and Public/Private Nuisance laws may also have significance in regard to neighborhood property value losses that could exceed over \$1 million as a result of City of Sebastopol actions that facilitate the placement of a private, non-critical antenna tower on public lands adjacent or near scenic roadways and rural residential homes and home sites, which are themselves within a designated Sonoma County Scenic Resource District, because of the open space rural beauty of our area.

MISREPRESENTATIONS: KOWS has misrepresented key aspects of its antenna tower presentations, which in turn calls into question statements by KOWS in all hearings where no verifiable documentation has been asked for by Sebastopol officials or provided by KOWS. The most flagrant KOWS misrepresentations are as follows:

- a. As stated previously in this Summary, the simulation photographs of the proposed tower provided by KOWS show 70 foot tall trees surrounding the simulated tower, when in fact the trees shown are over 800 feet distant and the single view of those trees behind the tower occurs at one spot only on Pleasant Hill Road. No attempt was made by KOWS to show the actual visual impact of its tower from various locations around the neighborhood.... perhaps because the impact is dramatically bad from homes along Pleasant Hill Road and from homes north, east, and south of the proposed tower.
- b. Also mentioned previously in this Summary, KOWS stated at the end of the Planning Commission meeting on February 23, 2016 that it had to move from the Occidental Arts & Environmental Center (OAEC) and that KOWS would be in jeopardy of going out of

business without reservoir site approval for its antenna tower. This strongly affected the Commissioners' votes, and the KOWS **statements turn out not to be true**. The OAEC indicates that KOWS initiated the decision to look for alternative antenna locations and that the KOWS antenna can stay at their property until KOWS finds another location for its antenna, according to KOWS' own Steering Committee notes and according to an email from the Executive Director of the OAEC. No mention is ever made in the KOWS Steering Committee notes of needing any other approvals, besides Dave Henson's approval on behalf of the OAEC, to remain at the OAEC until an alternative site is found.

- c. KOWS stated at the Planning Commission meeting that no other sites will work for its antenna. **This turns out not to be true**. The KOWS Steering Committee notes make it clear that Respini Ranch has long been an acceptable location for its antenna and the site has been tested and approved by KOWS, while costing far less than any site requiring a tower. Other sites were also tested and deemed acceptable. While KOWS may not consider Respini Ranch as the perfect solution in its goal to reach Santa Rosa and Rohnert Park with its signal, it provides far better coverage in general than the OAEC location, according to the Steering Committee notes, and provides enhanced and satisfactory coverage to Sebastopol and the surrounding area, with a savings of nearly \$20,000. Please see the enclosed relevant KOWS Steering Committee notes and the enclosed Occidental Community Council Minutes of September 19, 2015.
- d. At the November 3, 2015 City Council meeting and the February 23, 2016 Planning Commission meeting, and on public on-line forums, KOWS hosts have used an old 2006 NIER report from the OAEC, and not the recent NIER report for the Sebastopol reservoir site, to describe EMF exposure to nearby residents. 25' away from the proposed KOWS tower location at the Sebastopol reservoir, **the EMF exposures at the east residential property line, would be as much as 5000 times greater than the EMF exposure at the nearest residential property line at the OAEC**. A designated home site is 30 feet away from the reservoir property line and 55 feet away from the tower site. This is a seriously significant difference, and shows that KOWS is actually misinforming the city and the public about potential EMF exposure to nearby residents, **exposure that is 24 hours a day and cannot be turned off or removed**. Please see <http://sharpwatch.org/kows-misrepresentations-and-omissions/> and <http://sharpwatch.org/unanswered-questions/>.
- e. **KOWS is currently streaming all programming on-line**. KOWS likes to regularly enumerate the benefits that will take place in Sebastopol once the proposed KOWS antenna tower is erected. **It turns out that whatever benefits the City of Sebastopol might gain from KOWS are already being provided by KOWS through its existing on-line broadcast streaming**, without the expense, visual degradation and harm caused by a new antenna tower. Most people under 40 years old now access radio, music, current events, and special interests on-line, and not through traditional terrestrial radio transmissions. KOWS would seem to be far better served by concentrating limited resources on its existing on-line presence and on improved programming quality, given that online radio provides unlimited potential listenership that is measurable, (allowing

verifiable audience gains that result from changes in programming), while terrestrial radio is being tuned out by listeners. KOWS states that they actually have no idea how many listeners it has now, or will have in the near future, because they cannot afford to conduct audience surveys. KOWS, however, does know that very few annual donations have been received from KOWS "members" over the last 8 years, since almost 75% of its income is generated from dues paid by program hosts, with the balance of income coming primarily from sponsors and underwriters, who are themselves, in many cases, businesses connected to or owned by KOWS program hosts. Please see <http://sharpwatch.org/streaming-is-the-solution/> and the enclosed related articles.

- f. **Laura Goldman, KOWS program host and sponsor and co-owner of Solar Works with John Parry**, reported that KOWS is "THE" Emergency Alert Station (EAS) for West County at both the November 3, 2015 City Council meeting and the February 23, 2016 Planning Commission meeting in an apparent attempt to create the impression that KOWS is critically important. **KOWS, like every other radio station, provides emergency alerts. KZST is the primary designated EAS station for our area, though ALL local stations are providing EAS alerts. Please see <http://sharpwatch.org/unanswered-questions/> and enclosed related articles.**

APPEAL DOCUMENTS & PETITIONS: Please review the SHARP Appeal documents submitted on February 29 2016 for additional information regarding SHARP's opposition to the KOWS antenna tower. Please also review the Petitions signed by 145 neighborhood residents opposed to the KOWS antenna tower that were first submitted to the Sebastopol City Council and the Planning Commission on February 15, 2016 with 120 signatures. As of April 24, 2016 there are an additional 116 signatures opposed to the KOWS antenna tower on-line, as shown on the sharpwatch.org website.

LAW OFFICES OF
PERRY, JOHNSON, ANDERSON,
MILLER & MOSKOWITZ LLP
438 First Street, 4th Floor, Santa Rosa, CA 95401

April 25, 2016

William D. Anderson

David F. Beach

Erin Kennedy Clancy

Isaac M. Gradman

John E. Johnson*

Marla D. Keenan*

Scott A. Lewis

Malcolm T. Manwell

Michael G. Miller

Lawrence A. Moskowitz*

Jeremy L. Olsan

Leslie R. Perry

Burton H. Fohrman

Roger J. Illsley

Daphne A. Beletsis

Mary Jane Schneider

Anne C. D'Arcy, R.N

Sheila S. Craig*

Deborah S. Bull

Oscar A. Pardo

Martin L. Hirsch

Heather-Ann T. Young

Sarah M. Lewers

Megan J. Lightfoot

Mayor Sarah Glade Gurney
City of Sebastopol
P.O. Box 1776
Sebastopol, California 95473

Re: Use Permit – Radio Tower in the Community Facilities District
File No. 2015-126

Dear Mayor Gurney:

Our office has been retained by Sebastopol Hills Alliance for Rural Preservation (SHARP) with regard to the above-referenced Use Permit application. Specifically, we have been asked to evaluate the City's compliance with the California Environmental Quality Act (CEQA).

We have reviewed the file materials, the staff report that was submitted to the Planning Commission and the materials submitted by our client. Of course, we have also carefully analyzed the legal requirements imposed by CEQA as they relate to reliance on a categorical exemption. We have also reviewed the expert report submitted on behalf of SHARP by Grasseti Environmental Consulting. All of the foregoing demonstrate, beyond doubt, this project cannot proceed on the basis of a categorical exemption. Neither of the exemptions, on their face, support use for such a project. The City's attempt to fit this project into an exemption evidences a complete failure to appreciate the very purpose of CEQA.

"CEQA embodies our state's policy that 'the long-term protection of the environment ... shall be the guiding criterion in public decisions.'" Architectural Heritage Assn. v. County of Monterey (2004) 122 Cal.App.4th 1095, 1100; Public Resources Code § 21001, subd. (d). From the earliest case public agencies have been instructed to interpret CEQA so as to afford the fullest possible protection to the environment. Friends of Mammoth v. Board of Supervisors (1972) 8 Cal.3d 247; CEQA Guideline § 15003(f).

It follows that where there is any reasonable possibility that a project or activity may have a significant effect on the environment, an exemption would be improper. Wildlife Alive v. Chickering (1976) 18 Cal.3d 190, 205–206. This principle of interpretation is embodied in the Guidelines, which state that CEQA should be interpreted to "afford the fullest possible protection to the environment within the reasonable scope of the statutory language." (Guidelines § 15003, subd. (f); see also Laurel Heights Improvement Assn. v. Regents of University of California (1988) 47 Cal.3d 376, 390; and Castaic Lake Water Agency v. City of Santa Clarita (1995) 41

*Certified Specialist

Family Law,
The State Bar of California
Board of Legal Specialization

TELEPHONE

(707) 525•8800

FACSIMILE

(707) 545•8242

E-MAIL

perry@
perrylaw.net

WEBSITE

www.perrylaw.net

Cal.App.4th 1257, 1268 [rejecting “an attempt to use limited exemptions contained in CEQA as a means to subvert rules regulating the protection of the environment”].)

When interpreting an exemption “a term that does not have a clearly established meaning, such as the exemption for existing ‘facilities,’ should not be so broadly interpreted so to include a class of businesses that will not normally satisfy the statutory requirements for a categorical exemption, even if the premises on which such businesses are conducted might otherwise come within the vague concept of a ‘facility.’” Azusa Land Reclamation Co. v. Main San Gabriel Basin Watermaster (1997) 52 Cal.App.4th 1165, 1192-93.

The City is relying on Class 1 and Class 3 exemptions. (CEQA Guidelines §§ 15301 and 15303). Class 1 is inapplicable on its face. It clearly applies only to existing facilities. Azusa instructs that the apparent rationale for the existing facilities exemption is that the environmental effects of the operation of such facilities must already have been considered. Clearly, the effects of a 70 foot tower have never been considered. Here, the City has characterized the site of its water tanks as a facility. A site, as was made clear in Azusa, is not a facility.

Class 3 would only apply if this 70-foot tower could be deemed a “small” facility. To look only at the footprint and ignore the extraordinary height of this new facility is a disingenuous attempt to avoid your mandated responsibility to comply with CEQA. By any objective and fair assessment a 70-foot tower that will soar over everything else in the area and be seen for miles around cannot be characterized as “small.” This exemption uses modifiers like “small” and “minor” to define the scope of its reach. Your own zoning ordinance makes it clear that this tower is neither small, nor minor. Section 17.08.121 defines a “minor” telecommunications facility as no greater than 35 feet and a “major” facility as between 35 and 100 feet. Your own ordinances therefore rely on the height of the structure, not its footprint, to determine its significance.

That carries forward to the provisions of Chapter 17.100 (General Provisions Relating to Telecommunications Facilities and Minor Antenna). The primary purpose of this Chapter is to “protect the visual quality of the city from potential adverse effects of telecommunications facility development...” Section 17.100.010(G) recognizes that for major facilities, environmental review and mitigation measures may be required. If mitigation measures may be required, then a categorical exemption is not sufficient. Keep in mind that categorical exemptions are based upon the determination of the Resources Agency that, barring unusual circumstances, they will never have an impact and will never require environmental review or mitigations.

Section M of Chapter 17.100 addresses the need to consider the location in order to minimize visibility. Subsection M(3) prohibits the installation in certain locations, including at a location readily visible from property designated as scenic unless there is a

P
J
A
M
&
M

P
J
A
M
&
M

finding of no feasible alternative. The property surrounding the tower parcel has been designated by the County for heightened visual protection. Sonoma County Zoning Code § 26-90-070. Enclosed herewith is an Assessor's Parcel Map highlighting the area designated by the County for scenic protection. Although the tower parcel is not within the boundary, it is likely excluded only because it is owned by the City and therefore not subject to County land use controls. Regardless, the actual tower will be situated within a few feet of the designated area. This alone requires the City undertake actual environmental review and not rely on an exemption.

That scenic designation, when considered in the context of the City's own scenic and open space protections, clearly take this project out of the categorical exemption arena. Chapter 17.92 prohibits the siting of a tower in a scenically identified zone unless there is no technically feasible alternative location.

Chapter 17.100 contains a detailed set of requirements to assure visual impacts have been addressed. This subsection recognizes that visual impacts potentially inherent from telecommunications facilities and requires, among other things, a complete visual analysis. The facilities are to be designed so as to reduce visual impacts to the extent feasible. All this is inconsistent with reliance on a categorical exemption that is limited to projects that will, by their very nature, have no impacts.

The Staff report to the Planning Commission concedes in several locations that the Project would have a visual impact. For example, at page 7 Staff reports that "the construction of the radio tower would have a visual impact on the area, as it would consist of metal and have a height of 70 feet. The radio tower would be visible from adjacent properties and Pleasant Hill Road." The Azusa Court relied on Staff's comments that there was a reasonable possibility of impact to groundwater in rejecting reliance on a categorical exemption.

As was pointed out by Mr. Grassetti, it is a violation of CEQA to rely on a categorical exemption when mitigation measures are required.

An agency should decide whether a project is eligible for a categorical exemption as part of its preliminary In short, an agency cannot mitigate its way around a categorical exemption. Salmon Protection and Watershed Network v. County of Marin (2004) 125 Cal.App.4th 1098, 1102.

Mr. Grassetti lists a number of conditions that were imposed to mitigate potential impacts, and I will not repeat them here. However, one such condition stands out as the brightest example of why this Project is not CEQA compliant. Condition 15 states:

P
J
A
M
&
M

“The radio tower shall be painted flat green while elements which rise above the horizon shall be painted a blue gray color that matches the typical sky color at the location, unless otherwise approved by the Planning Commission.”

This is clearly a condition that is imposed to mitigate a potential impact and therefore renders the categorical exemption inappropriate on its face. Moreover, the very nature of this condition/mitigation measure demonstrates the fallacy as it is imposed without having environmental review. It first assumes there is an impact to be addressed and then assumes, without any analysis that this condition will achieve some level of mitigation. The tower will be visible from multiple vantage points. From each, the backdrop will be different. For some virtually the entire tower will be silhouetted against the sky. For others it will be partially sky and partially vegetation but never the same. How will it be decided where to place the green and where to place the blue? The condition requires a blue gray to match the typical sky color. What color will that be? What is a typical sky color? What are the impacts on a non-typical day?

Not considered by the City is whether the Project would be excluded from a categorical exemption by one of the listed exceptions. Most notably, Guideline § 15300.2(a), which addresses the location of projects, makes clear that a project that may be insignificant on some locations, could be significant in a more sensitive area. As noted above, this location has been identified by the County for its scenic character and the need for its protection.

The most oft cited exception to the categorical exemptions is the significant impact exception. Guideline § 15300.2(c). It states:

“A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.”

For all the reasons discussed above, this Project would necessarily fall within this exception. The large and unanimous public outcry from those residing in the vicinity demonstrates that a 70-foot tower in this rural and scenic area is unusual. See Lewis v. Seventeenth Dist. Agricultural Assn. (1985) 165 Cal.App.3d 823.

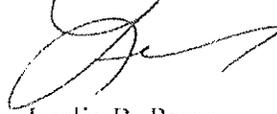
The City has a well-documented and self-proclaimed attention to environmental issues. It is difficult, therefore, to understand the motivation for ignoring the basic requirements of CEQA and its attempt to rely on exemptions that so clearly do not apply. This application should be denied outright given the widespread opposition from the neighboring residents. If not, then it must be returned to Staff for CEQA compliance. Having practiced CEQA law for many years and litigated the full range of cases, there is

Mayor Sarah Glade Gurney
April 25, 2016
Page 5

no doubt in my mind that a Court will never sanction the current state of environmental review for this project.

P
J
A
M
&
M

Very truly yours,



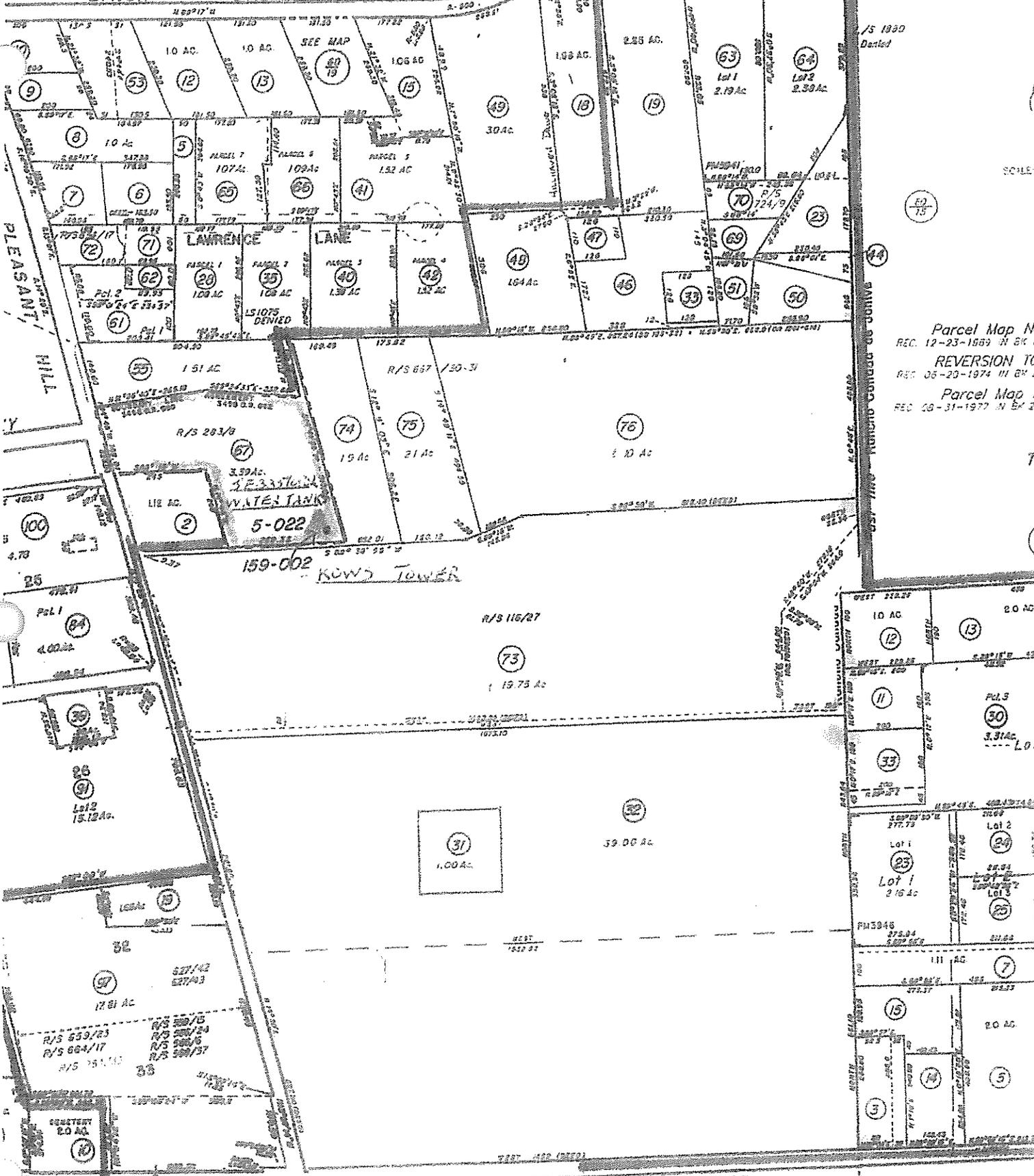
Leslie R. Perry

LRP:kh

Encl.

Cc: City Attorney Larry McLaughlin

LYNCH ROAD



Parcel Map N.
REC. 12-23-1969 IN BK 1
REVERSION TO
REC. 05-20-1974 IN BK 2
Parcel Map 1
REC. 08-31-1977 IN BK 2

SCALE

7

(

NOTE: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA DELINEATED HEREON.

SANBORN'S S.
of the
ELPHICK

Honorable Councilmembers
City of Sebastopol
7120 Bodega Avenue
Sebastopol, CA 95472

April 25, 2016

**SUBJECT: PEER REVIEW OF PROPOSED CEQA CATEGORICAL EXEMPTIONS FOR KOWS
RADIO TOWER PROJECT**

Honorable Councilmembers,

Grassetti Environmental Consulting (GECO) has been retained by Sebastopol Hills Alliance for Rural Preservation (SHARP) to conduct a peer review of the proposed CEQA Categorical Exemptions for the KOWS Sebastopol radio tower project to be located on a City-owned hilltop parcel off of Pleasant Hill Road. This review is based on an analysis of information contained in the City Planning Commission's February 23, 2016 staff report, as well as photo-simulations and other information provided by SHARP members. The purpose of this review is to determine the appropriateness/applicability of the exemptions to the proposed project.

As Principal of GECO, I have personally prepared this analysis on the basis of my 32+ years of experience preparing and reviewing CEQA documents and presenting numerous CEQA workshops to agency staff. My qualifications are attached to this letter (Attachment A).

DESCRIPTION OF PROPOSED PROJECT

The project as described in the Planning Commission Staff Report is construction of a 70-foot-tall steel lattice tower and placement of four monopole antennas on the upper reaches of tower (at elevations of 46, 54, 62, and 70 feet). The tower would be constructed on the southeast corner of a fenced 3.39-acre City-owned property the top of a hill that currently houses two large steel water tanks, which are surrounded by mature trees. The tower would be constructed under a lease agreement with the City. The 2-foot by 2-foot by 2-foot triangular tower would be painted a flat green and supported on concrete footings. The project would involve digging an 8-foot square by 4-foot deep hole for construction of the foundations. The tower would be powered by extension of lines to existing electrical power at the site, and would include a solar-powered battery back-up electrical system. A 15-watt transmitter and associated equipment also would be constructed in a 4-foot by 4-

foot box to be located on the concrete pad, and a 300-foot trench would be dug for the power connection. The site is surrounded by agricultural and rural residential land uses.

PROPOSED CEQA CATEGORICAL EXEMPTIONS

The City proposes to exempt the project from CEQA review under two Categorical Exemptions, the Class 1 exemption for existing facilities, and the Class 3 exemption for small structures (CEQA Guidelines Sections 15301 and 15303, respectively). Specifically, the staff report states:

The application is categorically exempt from the requirements of the California Environmental Quality Act (CEQA), pursuant to the following:

15301: Existing Facilities: Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

15303: New Construction or Conversion of Small Structures: Class 3 consists of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure.

ANALYSIS OF APPLICABILITY OF PROPOSED EXEMPTIONS

As described by the Staff in its report to the Planning commission, the Planning Commission and City Council) must find whether or not the project as proposed meets the criteria for the identified exemption categories. The discussion below is intended to provide the City with a detailed analysis of this question.

Class 1 Exemption

This exemption explicitly applies to existing structures. The proposed tower is a new structure and, therefore, does not conform to the requirements of this exemption. The exemption does allow some modifications of existing structures. The City staff is proposing considering the tower to be a modification of the existing water tanks. The tower, per the plans included in the Planning Commission Staff Report, is not proposed to be located on the tanks, nor is it in any way functionally related to the tanks, therefore it cannot be considered to be a modification of those existing facilities. It is clearly a new facility on a currently unused area of the City-owned site. Further, it does not comport with any of the numerous examples of existing facilities listed in Guidelines Section 15301 (a-p).

Based on the above, it is my professional opinion, supported by substantial evidence, that the Class 1 exemption is not applicable to this project.

The Class 1 exemption also includes a number of exceptions. Because the project, on its face, does not fit into the exemption, the applicability of the exceptions is not discussed here. The exceptions are discussed with respect to the Class 3 exemption, below.

Class 3 Exemption

The applicability of the Class 3 exemption to the proposed project is dependent on a number of factors:

- 1) Does the project meet the definition of a "small structure"?
- 2) If the project is a small structure, do any of the exceptions to the exemption apply? These exceptions include:
 - a) Location. Per CEQA Guidelines Section 15300.2(a), "Classes 3, 4, 5, 6, and 11 exemptions are qualified by consideration of where the project is to be located- a project that is normally insignificant in its impact on the environment may in a particularly sensitive environment be sensitive. Therefore, these classes are considered to apply.....except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted...."
 - b) Cumulative Impact. "All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant." (CEQA Guidelines Section 15300.2(b))
 - c) Significant Effect. "A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances." (CEQA Guidelines Section 15300.2(c)) The California Supreme Court recently clarified the application of this exception as having two tests (Berkeley Hillside Preservation v. City of Berkeley, 2015); 1) it is applicable if a project would be likely to have a significant impact to the physical environment; and, 2) it is applicable is if there may be a significant impact but only if that impact would be due to unusual circumstances.
 - d) Scenic Highways. "A categorical exemption shall not be used for a project which may result in damage to scenic resources....within a....designated state scenic highway." (CEQA Guidelines Section 15300.2(d))

e) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource." (CEQA Guidelines Section 15300.2(f))

The applicability of this exemption to the project in light of these considerations is discussed below.

Definition of "Small Structure".

The project is not subsumed or anticipated in any of the examples listed in Guidelines Section 15303 (a-f). Therefore we must independently determine whether the project meets the definition of a "small structure". The project has a small footprint and is dimensionally small with one exception, its height. None of the examples of "small projects" provided in the exemption discussion would have a height of more than 2-3 stories, compared with the project's 5-6-story height. In evaluating whether a project is a "small structure" per CEQA, all of the dimensions must be considered. Considering the unusual height of the tower in the context of surrounding structures, none of which exceed around 35 feet, it appears that the 70-foot tower does not meet the exemption's definition of a "small structure".

Applicability of Exceptions to the Exemption.

If the tower were considered a "small structure" per this exemption, then a determination would need to be made as to whether a fair argument can be made that any of the exceptions to the exemption apply. As discussed below, several of the exceptions to this exemption appear to apply to this project.

Project Location and Scenic Highway Exceptions: SR 116 from Highway 1 to Sebastopol has been designated a State Scenic Highway by Caltrans (http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm). The project site and surrounding parcels are located in the protected viewshed of State Route (SR) 116 Scenic Corridor, as determined by the Sonoma County Zoning Ordinance. Most of the parcels adjacent to the site on the south and east (the sides from which the tower would be most visible) have a combined County zoning designation of LG/116, which indicates that the parcel is in the Scenic Highway Corridor (see Attachment B to this letter); some of the parcels directly to the southwest of the site also have that designation.

As stated in the Sonoma County Code, Section 26-90-070, "The purpose of the Highway 116 Scenic Corridor is to provide for the protection and enhancement of the scenic corridor along State Route 116 in Sonoma County." The hill upon which the tower would be located is more prominent in the viewshed than any of the surrounding County parcels with the LG/116 zoning. Therefore the site is within a designated sensitive location where the project could have a potentially significant visual impact. Absent a detailed visual

assessment of the project with respect to the Highway 116 Scenic Corridor, the site must be considered a sensitive component of that corridor. (Such a detailed visual assessment would be required if a similar project were proposed on one of the adjacent County-jurisdiction parcels, per Section 26-90-070 (b) of the County Code.)

Based on the above analysis, and absent a detailed viewshed analysis with findings to the contrary, it is my professional opinion that there is a fair argument that both the Project Location and Scenic Highway exceptions to the Class 3 exemption would apply to this project.

Cumulative Impact Exception: The appellant has noted that under the Federal Communications Act, once a site has been approved for a radio tower, other proposed towers would be encouraged to locate at the same site. We note that the proposed City Conditions of Approval include a condition limiting the site to solely this tower. However, federal law may have primacy over local approval conditions. In such a case, significant cumulative impacts are possible. We suggest that the City Attorney review the applicable regulations and determine whether or not the City's proposed condition of approval with respect to co-location of radio towers is actually enforceable. If it is not enforceable, then there is the potential for a cumulative visual impact.

Significant Effect Exception: As discussed above, this exception requires findings of both an unusual circumstance and a possible significant impact in order to apply. There are three possible unusual circumstances associated with this project:

- As described above, the radio tower itself is unusual in its height.
- The site is in the County-designated Highway 116 Scenic Corridor, and,
- The site is on a prominent hill, which makes it unusually visually prominent.

A possible fourth unusual circumstance would apply if it were determined that the City would not be able to limit cumulative placement of other towers on the site once this tower is approved.

The second test for this exception is whether the project may have a significant adverse impact to the physical environment. SHARP has prepared and submitted to the City under separate cover a series of detailed photo-simulations of the project from various public and private viewpoints. It is my professional opinion that those simulations indicate that the project, due to its 70-foot height and location atop a prominent hill, may have a significant visual impact to views from nearby roads and homes.

Therefore both tests for significant impacts would be satisfied and the exception to the exemption appears to apply to this project.

Historic Resources Exception. To our knowledge, the site has not been surveyed for the

presence of cultural resources. Although much of the city parcel has been disturbed for construction of the water tanks, the portion of the hill where the project would be located does not appear to have been substantially altered from historic conditions. Given the proposed project's excavation of an eight-by-eight foot pit four feet deep for the tower pad, plus 300 feet of power cable trenching, and given the prominence of the hill may have made it attractive to pre-historic Native American residents of the area, it is possible that cultural resources may be encountered during construction. A cultural resources assessment should be prepared for the site, or mitigations required in case of construction encountering any prehistoric resources. Absent this assessment and/or mitigation, this exception may apply.

Use of Exemptions with Mitigation Measures

CEQA case law prohibits the adoption of an exemption if mitigation measures are required to assure that the project would have no significant adverse impacts to the physical environment (See *Salmon Protection and Watershed Network v. County of Marin*, 23 Cal.Rptr.3d 321 [2004] 125 Cal.App.4th 1098). A review of the proposed project conditions listed in the Planning Commission Staff Report (Use Permit 2015-126) indicates that a number of those conditions are, in fact, mitigation measures intended to assure that the project's impacts do not exceed a less-than-significant level. This is acknowledged in item 9 on p. 9 of the proposed CUP, which states,

That the project is subject to several conditions of approval that are intended to ensure that it does not have an unacceptable detrimental impact on the site and surrounding uses, and includes a condition, which only allows KOWS to install antennas on the radio tower, and prohibits other telecommunications providers from making improvements on the site.

The recommended conditions of approval that constitute mitigation measures include:

Condition 15. The radio tower shall be painted flat green while elements which rise above the horizon shall be painted a blue gray color that matches the typical sky color at that location, unless otherwise approved by the Planning Commission.

Condition 18. This approval is only for the KOWS antenna and related facilities. KOWS is not authorized to install or allow the installation of any other antennas or facilities on the radio tower or at the site.

Condition 20. The facility shall be designed and operated in such a manner so as to minimize the risk of igniting a fire or intensifying one that otherwise occurs to the satisfaction of the Fire Chief, pursuant to Section 17.100.010.S of the Zoning Ordinance. All tree trimmings and trash generated by construction of the facility shall be removed from the property and properly disposed of prior to Building

Permit finalization or commencement of operation, whichever comes first.

Condition 22. The facility shall be constructed and operated in such a manner as to minimize the amount of disruption caused the residents of nearby homes and the users of any nearby recreational areas such as public parks and trails, pursuant to Section 17.100.010.U of the Zoning Ordinance. To that end all the following measures shall be implemented: (1) Outdoor noise producing construction activities shall only take place on weekdays (Monday through Friday) between the hours of 7:30 a.m. and 5:30 p.m. unless allowed at other times by the Planning Commission; (2) Backup generators shall only be operated during power outages and for testing and maintenance purposes. Noise attenuation measures shall be included to reduce noise levels to an exterior noise level of at least an LDN of 60 DB at the property line and an interior noise level of an LDN of 45 DB; and (3) Traffic at all times be kept to an absolute minimum, but in no case more than two round trips per day on an average annualized basis once construction is complete.

In addition, as discussed above, we would recommend that cultural resources mitigation be applied to the site unless an existing study shows that the presence of such resources is very unlikely at the site.

Given the need for mitigation measures and in consideration of the SPAWN decision referenced above, the project would not be exemptable under CEQA.

CONCLUSIONS

As detailed above, there is substantial evidence that the proposed Class 1 and Class 3 exemptions are not applicable to the project. In addition, given the apparent need for mitigation measures to assure that the project impacts would be less-than-significant, it is likely that no exemptions would be applicable to the project. Therefore, in my professional opinion, an Initial study should be prepared for the project. Please feel free to contact me if you would like to discuss any of the analyses in this letter.

Sincerely


Richard Grassetto
Principal

Attachments: Grassetto Qualifications, Zoning Information

GRASSETTI QUALIFICATIONS

PRINCIPAL

Expertise

- CEQA/NEPA Environmental Assessment
- Project Management
- Geologic and Hydrologic Analysis

Principal Professional Responsibilities

Mr. Grassetti is an environmental planner with over 32 years of experience in environmental impact analysis, project management, and regulatory compliance. He is a recognized expert on California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) processes. He also has served as an expert witness on CEQA and planning issues. Mr. Grassetti regularly conducts peer review and QC/QA for all types of environmental impact analyses, and works frequently with public agencies, citizens groups, and applicants. He has managed the preparation of over 60 Federal and state environmental impact assessment documents, as well as numerous local agency planning and permitting documents. Mr. Grassetti also has prepared over 300 technical analyses for these documents. He has analyzed the environmental impacts of a wide range of projects including infrastructure improvements, ecological restoration projects, waste management projects, mixed-use developments, energy development, military base reuse projects, and recreational facilities. In addition to his consulting practice, Mr. Grassetti regularly conducts professional training workshops on NEPA and CEQA compliance, and is a lecturer at California State University, East Bay, where he teaches courses on environmental impact assessment.

Professional Services

- Management and preparation of all types of environmental impact assessment and documentation for public agencies, applicants, citizens groups, and attorneys
- Peer review of environmental documents for technical adequacy and regulatory compliance
- Expert witness services
- Assisting clients in Federal and state environmental impact assessment process compliance
- Preparation of technical analyses for impact assessments

GRASSETTI QUALIFICATIONS

- Preparation of project feasibility, opportunities, and constraints analyses, and mitigation monitoring and reporting plans

Education

University of Oregon, Eugene, Department of Geography, M.A., Geography (Emphasis on Fluvial Geomorphology and Water Resources Planning), 1981.

University of California, Berkeley, Department of Geography, B.A., Physical Geography, 1978.

Professional Experience

1992-Present	Principal, GECO Environmental Consulting, Berkeley, CA
1994-2013	Adjunct Professor, Department of Geography and Environmental Studies, California State University, East Bay, Hayward, CA
1988-1992	Environmental Group Co-Manager/ Senior Project Manager, LSA Associates, Inc. Richmond, CA
1987-1988	Independent Environmental Consultant, Berkeley, CA
1986-1987	Environmental/Urban Planner, City of Richmond, CA
1982-1986	Senior Technical Associate - Hydrology and Geology - Environmental Science Associates, Inc. San Francisco, CA
1979-1981	Graduate Teaching Fellow, Department of Geography, University of Oregon, Eugene, OR

Professional and Certifications

Member and Past Chapter Director, Association of Affiliations Environmental Professionals, San Francisco Bay Chapter

Member, International Association for Impact Assessment

GRASSETTI QUALIFICATIONS

Publications and Presentations

Grassetti, R. *Understanding Environmental Impact Assessment – A Layperson's Guide to Environmental Impact Documents and Processes*. 2002 (Revised 2011)

Grassetti, R. *Round Up The Usual Suspects: Common Deficiencies in US and California Environmental Impact assessments*. Paper Presented at International Association for Impact Assessment Conference, Vancouver, Canada. May 2004.

Grassetti, R. *Developing a Citizens Handbook for Impact Assessment*. Paper Presented at International Association for Impact Assessment Conference, Marrakech, Morocco. June 2003

Grassetti, R. *CEQA and Sustainability*. Paper Presented at Association of Environmental Professionals Conference, Palm Springs, California. April 2002.

Grassetti, R. and M. Kent. *Certifying Green Development, an Incentive-Based Application of Environmental Impact Assessment*. Paper Presented at International Association for Impact Assessment Conference, Cartagena, Colombia. May 2001

Grassetti, Richard. *Report from the Headwaters: Promises and Failures of Strategic Environmental Assessment in Preserving California's Ancient Redwoods*. Paper Presented at International Association for Impact Assessment Conference, Glasgow, Scotland. June 1999.

Grassetti, R. A., N. Dennis, and R. Odland. *An Analytical Framework for Sustainable Development in EIA in the USA*. Paper Presented at International Association for Impact Assessment Conference, Christchurch, New Zealand. April 1998.

Grassetti, R. A. *Ethics, Public Policy, and the Environmental Professional*. Presentation at the Association of Environmental Professionals Annual Conference, San Diego. May 1992.

Grassetti, R. A. *Regulation and Development of Urban Area Wetlands in the United States: The San Francisco Bay Area Case Study*. Water Quality Bulletin, United Nations/World Health Organization Collaborating Centre on Surface and Ground Water Quality. April 1989.

Grassetti, R. A. *Cumulative Impacts Analysis, An Overview*. Journal of Pesticide Reform. Fall 1986.

1986, 1987. Guest Lecturer, Environmental Studies Program, University of California, Berkeley.

GRASSETTI QUALIFICATIONS

REPRESENTATIVE PROJECT EXPERIENCE

IMPACT ASSESSMENT REGULATORY COMPLIANCE SEMINARS

Mr. Grassetti has conducted numerous CEQA and NEPA compliance seminars for entities including:

- Alameda County Waste Management Authority
- San Francisco County Transportation Authority
- West Bay Sanitary District
- North Coast Resource Management, Inc.
- Element Power Company
- Tetra Tech Inc.
- Impact Sciences Inc.
- Northwest Environmental Training Center (over 10 workshops)
- California State University East Bay (14 years teaching Environmental Impact Assessment)

PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT DOCUMENTS

Prospect Island Restoration Project. Mr. Grassetti is providing CEQA guidance and editing for an EIR on a proposed 1400-acre fisheries enhancement project in the northern Sacramento/San Joaquin River Delta. Major issues include water quality, biological resources, and construction impacts. Client: Wetlands and Water Resources/Stillwater Sciences, for California Department of Water Resources.

Upper Putah Creek Restoration Project Program EIR. Mr. Grassetti is managing preparation of a Program Environmental Impact Report on restoration of approximately 21 linear miles of stream channel of Putah Creek, near Davis, CA. Major issues include biological resources, water quality, and land use compatibility. Client: Wetlands and Water Resources, for the Putah Creek Conservancy.

Salt River Ecosystem Restoration Project EIR. Mr. Grassetti is managing preparation of an Environmental Impact Report for the restoration of a large area of former marsh and open channel near Ferndale in Humboldt County. The project includes creation of a new seven-mile-long river channel and a 400-acre wetland restoration. Major issues include biological resources, land use, hydrology/flooding, and construction impacts (noise, air quality, traffic.). Client: Humboldt County Resource Conservation District.

Aramburu Island Shoreline Protection and Ecological Enhancement Project Initial Study. Mr. Grassetti is managing preparation of an Initial Study for a proposal by the Audubon Society to stabilize the shoreline and improve bird and seal habitat on the 34-acre Aramburu Island site in Marin County. Major issues include biological resources, hydrology/flooding, and construction impacts. Client: Wetlands and Water Resources.

Forward Landfill Expansion Project EIR. Mr. Grassetti is managing preparation of an EIR for a 170-acre expansion of the Forward Landfill in San Joaquin County. This is the third EIR that Mr. Grassetti, has prepared for this landfill over a period of 15 years.

GRASSETTI QUALIFICATIONS

Major issues include air quality, health and safety, biological resources, and traffic. Client: San Joaquin County Community Development Department.

San Francisco PUC WSIP Projects. Mr. Grassetto assisted in the preparation of the San Francisco Public Utility Commission's Water Supply Improvement Project Program EIR, as well as two other CEQA documents for smaller projects under that program. Major issues include hydrology, water supply, and fisheries. Client: Water Resources Engineering/Orion Associates.

Parsons Slough Project CEQA Review: Mr. Grassetto is managing preparation of an expanded Initial Study for a tidal sill (dam) project to reduce scour in Parsons Slough, an arm of the ecologically sensitive Elkhorn Slough. This IS may lead to either an EIR or Mitigated Negative Declaration. Major issues include fisheries, marine mammals, water quality, aesthetics, and construction issues (noise). Client: Vinnedge Consulting/Elkhorn Slough National Estuary Reserve.

Hamilton Wetlands/Todds Road CEQA Review. Mr. Grassetto managed preparation of the CEQA Initial Study for an alternative access road for truck traffic to the Hamilton Wetlands Restoration Project to reduce the project's potential noise impacts. Major issues included noise, biological resources, and cultural resources. Client: California State Coastal Conservancy.

San Francisco Bay Water Trail Program EIR. Mr. Grassetto assisted in the preparation of the EIR for a "water trail" for small non-motorized boats throughout San Francisco Bay. The project involves designation of 115 access sites as well as policies for stewardship and education. Major issues include disturbance of birds, marine mammals, water quality, historic resources, and wetlands. Client: California State Coastal Conservancy.

Dutch Slough Restoration Project/Oakley Community Park EIR. Mr. Grassetto managed preparation of the EIR for a 1400-acre wetland restoration and 80-acre community park on former diked lands in Oakley. Major issues include fisheries, water quality, historic architectural resources, and wetlands. Client: California State Coastal Conservancy.

Vineyard RV Park Expansion Initial Study. Mr. Grassetto managed preparation of the Initial Study for an expansion of a mobile home park in Solano County near Vacaville. Major issues included flooding, biological resources, and traffic. Client: Vineyard RV Park.

Pinole Creek Restoration Project Initial Study. Mr. Grassetto prepared the CEQA Initial Study for a 2.5-mile long creek restoration project in the City of Pinole. Major issues included biological resources, flooding, and water quality. Client: City of Pinole.

Knobcone Subdivision Initial Study. Mr. Grassetto managed preparation of an Initial Study for a 5-unit subdivision in Richmond. Major issues include geologic hazards and biological resources. Client: City of Richmond.

GRASSETTI QUALIFICATIONS

Baxter Creek Restoration Project CEQA Consulting. Mr. Grassetto assisted City of El Cerrito staff in the preparation of an Initial Study for the proposed Baxter Creek Restoration Project. Client: City of El Cerrito.

West of Fairview Subdivision Supplemental EIR. Mr. Grassetto managed preparation of a Supplemental EIR for a 700-unit residential development in Hollister. Major issues include traffic, biology, and utility services. Client: City of Hollister.

American Canyon Initial Studies. Mr. Grassetto managed preparation of two initial studies for commercial and warehouse projects in the City of American Canyon. Major issues include traffic, biological resources, and geology. Client: City of American Canyon.

Hampton Road Subdivision EIR. Mr. Grassetto managed preparation of a focused EIR for a 10-unit subdivision in the San Lorenzo area of Alameda County. Major issues include historic resources. Client: Philip Chen.

Pelandale-McHenry Specific Plan. Mr. Grassetto prepared the Specific Plan for an 80-acre residential/commercial development in Modesto. Major issues included land use, traffic, and provision of adequate infrastructure. Client: Meritage Homes

Monte Cresta Roadway Extension Initial Study. Mr. Grassetto prepared an Initial Study/Negative declaration for a roadway extension in San Juan Hills area of the City of Belmont. Major issues included slope stability and growth inducement. Client: City of Belmont

Bethel Island Water Supply Project. Mr. Grassetto prepared an Initial Study for a proposed new water supply system for the community of Bethel Island in Contra Costa County. Major issues included growth inducement, archaeological resources, and biological resources. Client: Bethel Island Municipal Improvement District.

San Francisco Bay Estuary Invasive Spartina Control Project EIR/EIS and Addendum. Mr. Grassetto managed preparation of the programmatic EIR/EIS on a plan to control invasive cordgrasses throughout the San Francisco Bay. Major issues included endangered species, visual resources, water quality, and human health and safety. Mr. Grassetto subsequently prepared an addendum for the addition of a new herbicide to the Spartina Control Program. Client: California State Coastal Conservancy.

Aptos Sanitary Sewer Replacement Project Initial Study. Mr. Grassetto prepared an Initial Study for the replacement of a storm-damaged sanitary sewer pipeline in Santa Cruz County. Major issues included cultural resources and biological resources. Client: Harris and Associates.

Eastern Dublin Specific Plan Supplemental EIR. Mr. Grassetto managed preparation of a Supplemental EIR for an 1100-acre mixed-use project in the City of Dublin. Major issues included traffic, biological resources, public services, noise, and air quality. Clients: Shea Homes and Braddock and Logan Services.

Consolidated Forward Landfill Project EIR Update. Mr. Grassetto managed preparation of an EIR for the expansion and consolidation of the Forward Landfill and the Austin

GRASSETTI QUALIFICATIONS

Road Landfill near Stockton, CA. Major issues include toxics, water quality, traffic, biological resources, and air quality. Client: San Joaquin County Community Development Department.

Pleasanton IKEA Initial Study. Mr. Grassetto prepared a Draft Initial Study for a proposed new 300,000 sq. ft. IKEA store in Pleasanton. Major issues included biology, traffic, and visual resources. Client: IKEA Corporation.

Central Contra Costa Household Hazardous Waste Facility Studies: Mr. Grassetto assisted Central Contra Costa Sanitary District staff in the preparation of a Planning Study and subsequent CEQA Initial Study on feasibility, siting, and environmental issues associated with the development of a Household Hazardous Waste collection program and facility in Central Contra Costa County. Client: Central Contra Costa Sanitary District.

Southwest Richmond Flood Control Project IS. Mr. Grassetto prepared the Initial Study and Mitigated Negative Declaration for a proposed flood control project in the City of Richmond. Client: City of Richmond.

Wickland Oil Martinez Tank Farm Expansion Project EIR Management. Mr. Grassetto served as an extension of City of Martinez Planning Department staff to manage all aspects of the preparation of the CEQA review for a 2,000,000-barrel expansion at Wickland's Martinez oil storage terminal. We prepared the NOP, RFP, assisted in consultant selection, and managed the consultant preparing the EIR on this project. Client: City of Martinez.

Austin Road Landfill Expansion Project EIR Update. Mr. Grassetto prepared an Initial Study and Supplemental EIR updating a 1994 EIR for the expansion of the Austin Road Landfill near Stockton, CA. Major issues include water quality, traffic, biological resources, and air quality. Client: San Joaquin County Community Development Department.

Wayside Road Sewer Expansion Initial Study. Mr. Grassetto prepared an Initial Study and Mitigated Negative Declaration for a proposed new sewer system in the Wayside Road area of Portola Valley. Client: West Bay Sanitary District

Los Trancos Woods Sewer Expansion Initial Study. Mr. Grassetto prepared an Initial Study and Mitigated Negative Declaration for a proposed new sewer system in the Los Trancos Woods area of Portola Valley. Client: West Bay Sanitary District

Arastradero Road Sewer Expansion Initial Study. Mr. Grassetto prepared an Initial Study and Mitigated Negative Declaration for a proposed new sewer system in the Arastradero Road area of Portola Valley. Client: West Bay Sanitary District

Lower Orinda Pumping Station Initial Study/Negative Declaration. Mr. Grassetto prepared an Initial Study/Negative Declaration for renovating or relocating a wastewater pumping plant in Orinda, CA. Client: Central Contra Costa Sanitary District.

GRASSETTI QUALIFICATIONS

Shell Martinez Breakout Tanks Project Initial Study. Mr. Grassetto prepared an Initial Study for two proposed new wastewater storage tanks at Shell's Martinez Manufacturing Complex. Major issues included air quality, odors, and visual impacts. Client: City of Martinez.

Shell Martinez Biotreater Facility Initial Study. Mr. Grassetto prepared the Initial Study/Negative Declaration for a proposed new biotreater facility for Shell's Martinez Manufacturing Complex wastewater treatment plant. Major issues included water quality, wetlands, growth-inducement, and cumulative impacts. Client: City of Martinez.

Vallejo Solar Power Plant Initial Study. Mr. Grassetto prepared a CEQA Initial Study/Negative Declaration for a proposed photovoltaic array intended to power a water pumping plant in the City of Vallejo. Major issues included land use compatibility and visual quality. Client: City of Vallejo.

Ranch on Silver Creek CEQA Consulting. Mr. Grassetto prepared the Mitigation Monitoring and Reporting Program and other CEQA compliance tasks for a large residential/golf course project in San Jose. Client: Sycamore Associates.

Morgan Hill Ranch Initial Study Analyses. Mr. Grassetto prepared the Hydrology, Geology, and Hazardous Materials analyses for the Morgan Hill Ranch Mixed Use Project Initial Study. Client: Wagstaff and Associates.

East Bay MUD Water Conservation Study. Mr. Grassetto conducted the field portion of a major water conservation survey for the East Bay MUD service area. Client: Water Resource Engineering.

East Bay MUD Pipeline CEQA Analyses. Mr. Grassetto prepared technical analyses for two EIRs regarding proposed new East Bay MUD pipeline in Sacramento, San Joaquin, and Calaveras Counties. Client: Uribe & Associates.

Sunnyvale Landfill Power Plant CEQA Initial Study. Mr. Grassetto prepared an Initial Study for a proposed landfill gas-fueled power plant at the Sunnyvale Landfill in Santa Clara County. Recommendations for mitigation and further environmental review were prepared. Client: 3E Engineering.

Fremont Redevelopment Project Hydrologic Analysis. Mr. Grassetto prepared the hydrology section for an environmental impact report for four redevelopment projects in Fremont. Client: Wagstaff and Associates.

Ostrom Road Landfill Hydrologic Analysis. Mr. Grassetto prepared the hydrology section for an environmental impact report on the proposed vertical expansion of an existing Class II landfill in Yuba County. Client: ESA Associates.

Pinole Portion of the Bay Trail Hydrologic, Geologic, and CEQA QA/QC Analyses. Mr. Grassetto prepared the hydrologic and geologic analyses for a CEQA Initial Study on a half-mile segment of the Bay Trail in the City of Pinole. Mr. Grassetto also provided CEQA process consulting services on this project. Client: Placemakers.

GRASSETTI QUALIFICATIONS

Kennedy Park Master Plan Hydrologic and CEQA QA/QC Analyses. Mr. Grassetto prepared the hydrologic analyses for an environmental impact report on a proposed park master plan in the City of Napa. Client: Placemakers.

U.S. Navy Bay Area Base Closure and Re-Use Environmental Studies. Mr. Grassetto assisted in the NEPA/CEQA review process for US Navy Base Closures and Re-Use for the San Francisco Bay Area. Work tasks include CEQA compliance overview, internal peer review, quality control reviews, and preparation of technical analyses. Specific projects are summarized below:

Mare Island Naval Shipyard EIR/EIS Studies. Mr. Grassetto prepared the hydrology section of the EIR/EIS on the shipyard closure and reuse program, conducted a peer review of the geology section, and conducted QA/QC review of the entire EIR/EIS. Client: Tetra Tech, Inc.

Oak Knoll Naval Medical Center EIR/EIS Studies. Mr. Grassetto conducted a CEQA/NEPA quality control and peer review of the EIS/EIR prepared for disposal and reuse of the Oak Knoll Naval Medical Center EIS/EIR in the City of Oakland. Client: Tetra Tech, Inc.

NAS Alameda EIR/EIS Studies. Mr. Grassetto prepared the hydrology section of EIR/EIS on reuse of the Naval Air Station, conducted a peer review of the geology section, and conducted QA/QC review of the entire EIR/EIS. Client: Tetra Tech, Inc.

Naval Station Treasure Island EIR/EIS Studies. Mr. Grassetto prepared the hydrology section of the EIR/EIS on reuse of Naval Station Treasure Island, conducted a peer review of the geology section, and conducted QA/QC review of the entire EIR/EIS. Client: Tetra Tech, Inc.

Hunters Point Naval Shipyard EIR/EIS. Mr. Grassetto assisted in the responses to comments and peer review of the EIR/EIS for the Hunters Point Naval Shipyard in San Francisco. Client: Uribe and Associates.

Naval Fuel Depot Point Molate. Mr. Grassetto conducted overall internal peer reviews of several drafts of the EIR/EIS for reuse of the former Naval Fuel Depot Point Molate in Richmond, CA. In addition, he prepared the Noise, Socioeconomics, and Cultural Resources sections of the EIS/EIR. Client: Uribe and Associates.

GRASSETTI QUALIFICATIONS

CEQA/NEPA PEER REVIEW AND EXPERT WITNESS CONSULTING PROJECTS

Jackson State Forest CEQA Review. Mr. Grassetto prepared a detailed analysis of the CEQA adequacy of the California Department of Forestry's EIR on a new management plan for the 40,000 acre Jackson State Forest. Major issues included forestry practices, water quality, and biological resources. Client: Dharma Cloud Foundation

Los Angeles Airport Arrival Enhancement Project Environmental Assessment NEPA Peer Review. Mr. Grassetto prepared a peer review and expert declarations regarding the adequacy of the NEPA Environmental Assessment for rerouting of flight paths for aircraft arriving at Los Angeles International Airport. Major issues included adequacy of assessment of noise effects on traditional cultural practices of the Morongo Band of Mission Indians. Client: Law Offices of Alexander & Karshmer.

St Mary's College High School Master Plan Peer Reviews. Mr. Grassetto conducted peer reviews of two Initial Studies for proposed expansions of a high school. Major issues included noise and traffic. Client: Peralta Park Neighborhood Association.

Lawson's Landing EIR Peer Review. Mr. Grassetto conducted detailed peer reviews of numerous CEQA documents for the proposed master plan for the Lawson's Landing mobile home park and campground in Marin County. Client: Environmental Action Committee of West Marin.

Coaches Field Initial Study Peer Review. Mr. Grassetto conducted a peer review of a proposed lighted ballfield project in the City of Piedmont. Mr. Grassetto's review resulted in the Initial Study being withdrawn and an EIR being prepared. Client: Private Party.

Metropolitan Oakland International Airport Development Plan Environmental Impact Report CEQA Review. Mr. Grassetto performed a critical review and assisted in the preparation of comments and ultimately successful litigation regarding the proposed expansion of Metropolitan Oakland International Airport. Major issues included noise, cumulative impacts, and alternatives selection/analyses. Client: Law Office of John Shordike.

San Francisco International Airport Environmental Liaison Office Consulting. MR. GRASSETTI conducted various internal peer review tasks associated with environmental studies being prepared for SFIA's proposed runway expansion. Client: LSA Associates, Inc.

El Cerrito Lumber Yard CEQA Peer Review. Mr. Grassetto conducted an internal peer review for an Initial Study on a controversial parcel in the City of El Cerrito. Client: City of El Cerrito.

Sausalito Marina CEQA Critique. Mr. Grassetto prepared a peer review and critique of an EIR for a proposed new marina in Sausalito. Client: Confidential

Sausalito Police and Fire Station CEQA Critique. Mr. Grassetto prepared a peer review and critique of an EIR for a proposed new public safety building in Sausalito. Client: Confidential

GRASSETTI QUALIFICATIONS

Napa Verison Tower CEQA Critique. Mr. Grassetto conducted a peer review and critique for a cellular telephone tower in the City of Napa. Client: Confidential.

Morongo Mining Projects Environmental Reviews. Mr. Grassetto provided CEQA, NEPA, and technical consulting to the Morongo Band of Mission Indians regarding two aggregate mines adjacent to their reservation in Riverside County, CA. Client: Law Office of Alexander & Karshmer.

Napa Skateboard Park Peer Review. Mr. Grassetto conducted a peer review and critique for a neighborhood association on a proposed skateboard park in the City of Napa. Client: Confidential.

Headwaters Forest Project EIR/EIS Review. Mr. Grassetto conducted an expert review of the CEQA and NEPA adequacy and technical validity of EIR/EIS on the Headwaters Forest Habitat Conservation Plan, Sustained Yield Plan, and land purchase. Clients: Environmental Law Foundation; Environmental Protection and Information Center, and Sierra Club.

Global Photon Fiber-Optic Cable EIR Peer Review. Mr. Grassetto assisted in a third-party peer review of an EIR on a proposed offshore fiber-optics cable. Client: Tetra Tech, Inc., and California State Lands Commission.

Coachella Valley Water Management Plan CEQA Peer Review. Mr. Grassetto assisted a consortium of Coachella Valley Indian Tribes in reviewing CEQA documents on the Coachella Valley Water Management Plan. Client: Consortium of Coachella Valley Tribes.

Salton Sea Enhanced Evaporation System Initial Study/Environmental Assessment Peer Review. Mr. Grassetto reviewed the draft IS/EA for a spray project to evaporate excess return flow water from the Salton Sea. Client: Morongo Band of Mission Indians.

Santa Rosa Home Depot CEQA Peer Review: Mr. Grassetto conducted a peer review and provided expert testimony regarding the adequacy of the Environmental Impact Report and associated technical studies for a proposed Home Depot shopping center in Santa Rosa. Client: Redwood Empire Merchants Association.

Mitsubishi Mine CEQA Litigation Review. Mr. Grassetto conducted a review of legal briefs regarding the adequacy of CEQA analyses for a proposed mine expansion in San Bernardino County. Client: Law Offices of Thomas Mauriello.

Alamo Gate Permitting Review. Mr. Grassetto performed a critical review and prepared expert testimony and correspondence regarding the adequacy of CEQA and land use permitting and studies for a proposed gate on Las Trampas Road, which would preclude vehicular access to a regional park staging area. Client: Las Trampas Trails Advocates.

Cambria Condominiums Environmental and Planning Review. Mr. Grassetto prepared expert reviews of the potential environmental effects and Local Coastal Plan compliance of a proposed condominium development in Cambria, San Luis Obispo County. Client: Law Office of Vern Kalshan.

GRASSETTI QUALIFICATIONS

Mariposa County Planning Policy Reviews. Mr. Grassetto conducted a review of proposed alterations to the Mariposa County General Plan for CEQA compliance. Client: Dr. Barton Brown.

Gregory Canyon Landfill Environmental Processing Review. Mr. Grassetto was retained to review the environmental permitting and CEQA analyses for the proposed Gregory Canyon Landfill in northern San Diego County. Procedural issues include landfill siting requirements and CEQA process compliance. Technical issues include cultural resources, hydrology, endangered species, traffic, and health and safety. Client: Law Offices of Alexander & Karshmer and Pala Band of Mission Indians.

Otay Ranch Development CEQA Review. Mr. Grassetto prepared an expert review of the Environmental Impact Report for the 23,000-acre Otay Ranch project in San Diego County in connection with ongoing litigation. Major issues were CEQA compliance, compliance with the California planning process, biological impacts, cumulative impacts, and alternatives. Client: Law Offices of Charles Stevens Crandall.

Punta Estrella Chip Mill Environmental Report Compliance Review. Mr. Grassetto prepared a review of a proponent's environmental report for a proposed wood chip mill in Costa Rica to determine compliance of documentation with U.S. environmental standards and policies. Major compliance issues included US Clean Air Act and Clean Water Act standards, NEPA standards, and adequacy of overall impacts analysis. Client: Scientific Certification Systems.

Carroll Canyon Burn Facility CEQA Compliance Review. Mr. Grassetto prepared a CEQA process review for a proposed Negative Declaration on a planned contaminated-earth burning facility in the City of San Diego. Client: Law Offices of William Mackerzie.

Monterey Bay Marine Lab CEQA Compliance Review: Mr. Grassetto assisted attorneys in review of a CEQA Negative Declaration, NEPA Environmental Assessment, and associated documents for the relocation of the Monterey Bay Marine Laboratory. Issues included the effectiveness of mitigation to cultural and biological resources, the appropriateness of the Negative Declaration versus an EIR, and other CEQA issues. Client: Law Offices of Alexander & Karshmer.

Monterey Ground Water Ordinances CEQA Compliance Review. Mr. Grassetto provided expert CEQA consulting services to attorneys regarding the appropriateness of Monterey County's CEQA processing of proposed ground water ordinances. Client: Salinas Valley Water Coalition.

Jamestown Whistlestop CEQA Adequacy Review. Mr. Grassetto performed an expert review and assisted in successful litigation regarding an Initial Study for a proposed mini mall in Jamestown, Tuolumne County. Client: Law Offices of Thomas Mauriello.

Sunrise Hills Environmental Impact Report Peer Review. Mr. Grassetto performed a critical review of the applicability of the EIR for a proposed 200-unit residential development in Sonora, Tuolumne County. Major issues include grading, erosion, water quality, biological impacts, and visual quality. Client: Sylva Corporation.

Sonora Crossroads Shopping Center Environmental Impact Report Review. Mr. Grassetto performed a review of an EIR for a major new shopping center in Sonora, Tuolumne County.

GRASSETTI QUALIFICATIONS

Major issues included geologic and hydrologic impacts. Findings were presented to the Sonora City Council, and pre-litigation assistance was provided. Client: Citizens for Well Planned Development.

Blue Oaks Residential Development CEQA Studies Review and Critique. Mr. Grassetti performed several tasks related to a proposed residential development in western Tuolumne County. Tasks included review of County CEQA procedure, review of Initial Study, review of Draft EIR, and coordination with attorneys. Client: Western Tuolumne County Citizens Action Group.

Yosemite Junction Project CEQA Review. Mr. Grassetti prepared a review and critique of a proposed Negative Declaration for a 40-unit outlet mall in Tuolumne County, California. The Negative Declaration was subsequently denied and the project application rescinded. Client: Sylva Corporation.

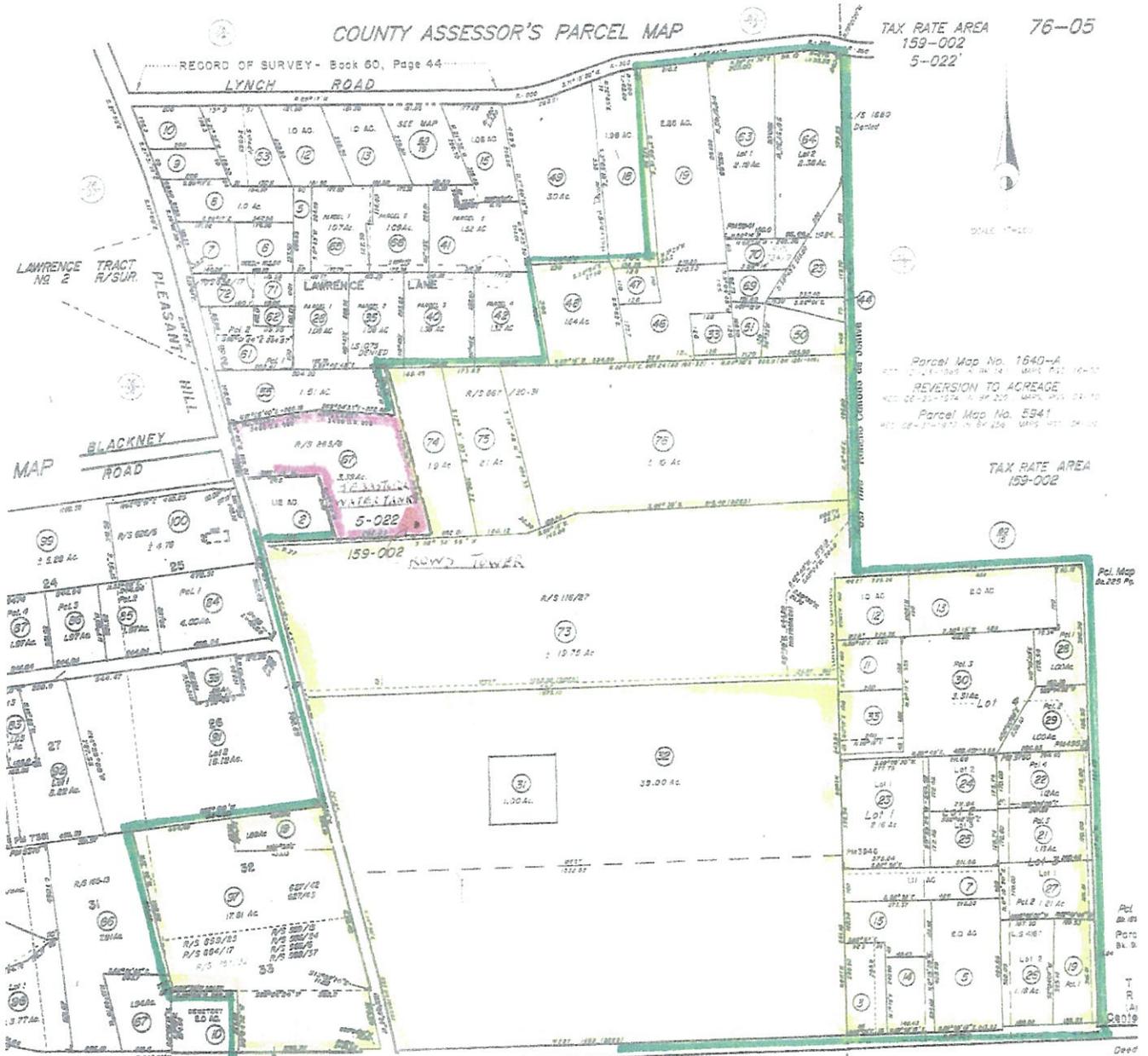
Sonora Mining Corporation CEQA Review/Expert Witness Services. Mr. Grassetti conducted a review and critique of CEQA compliance for the proposed expansion of Sonora Mining Corporation's Jamestown Gold Mine in Tuolumne County, California. Client: Law Office of Alexander Henson.

Save Our Forests and Rangelands Expert Review and Witness Services. Mr. Grassetti provided expert review, consulting services, and expert witness testimony on CEQA issues for a successful legal challenge to an EIR and Area Plan for 200,000 acres in the Central Mountain Sub-region of San Diego County. Client: Law Offices of Milberg, Weiss, Bershad, Specthrie, & Lerach.

COUNTY ASSESSOR'S PARCEL MAP

TAX RATE AREA 76-05
159-002
5-022

RECORD OF SURVEY- Book 60, Page 44

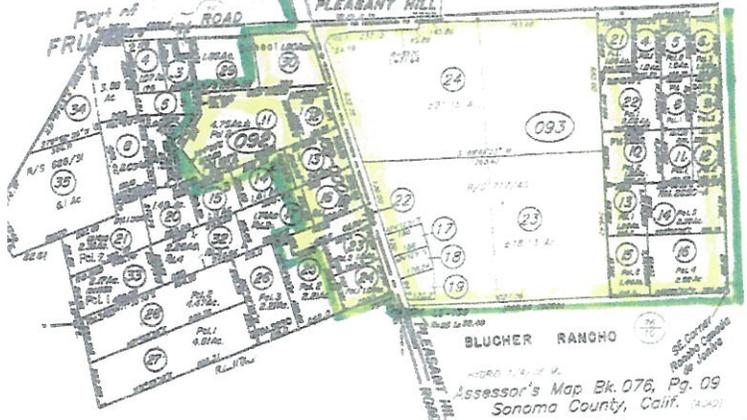


Parcel Map No. 1640-A
REVERSION TO ACREAGE
Parcel Map No. 5341

TAX RATE AREA 159-002

NOTE: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSURED FOR THE ACCURACY OF THE DATA DELINEATED HEREON.

SANBORN'S SUBDIVISION of the ELPHICK TRACT Assessor's Map B Sanoma County, Calif.



Assessor's Map Bk. 076, Pg. 09 Sanoma County, Calif.

Zoning Database (OZD)

The Sonoma County Permit and Resource Management Department (PRMD) maintains an Official Zoning Database (OZD) in digital form. The OZD was adopted by the Board of Supervisors on June 12, 2007 and became official on July 12, 2007. This zoning database was created using Geographic Information Systems (GIS) mapping software and replaces all hard-copy zoning maps that were formally located in the self-help lobby at PRMD.

The reports provided below are generated from the OZD and contain zoning sorted by Sonoma County Assessor's Parcel Number (APN). These reports are updated as needed at the end of each month, so you should contact the PRMD to verify current zoning before making decisions.

Within these reports, both "Base Zoning" and "Combining District" (aka overlay) are listed. When indicated, a Combining District may be Biotic Habitat (BH), Scenic Resources (SR), Flood Zones (F1 or F2), etc. Combining Districts are site specific and most likely do not follow APN boundaries. It cannot be determined where on the APN the Combining District is located from these reports. For information on Combining District boundaries, please contact the PRMD Planning Information Phone.

A complete description of Zoning and Combining Districts can be found in the current area of this site.

You can locate the zoning for a specific property by using the Assessor's Parcel Number (APN).

How to find zoning by APN:

The Assessors Parcel Map Book Numbers are broken down into report segments containing a range of parcel numbers. In the list below, the range for each report segment contains only the parcel number's first three digits. For example, the first item is listed as "003-029" which denotes a range of all parcel numbers containing 003-000-000 through and including 029-999-999. Click on the appropriate Assessors Parcel Map Book Number range to open the report. While viewing the report, perform a text search for the desired APN, including hyphens.

Example APN: 000-000-000

APN

Base Zoning

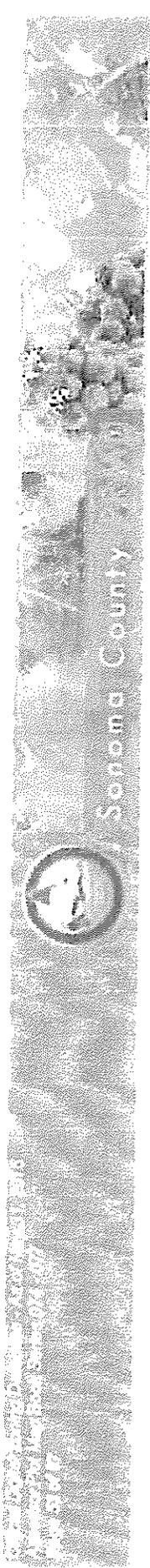
Combining District

076-050-010 RR B6 2
 076-050-012 RR B6 2
 076-050-013 RR B6 2
 076-050-015 RR B6 2
 076-050-018 RR B6 2
 076-050-019 RR B6 2
 076-050-023 RR B6 2
 076-050-028 RR B6 2
 076-050-033 RR B6 2
 076-050-035 RR B6 2
 076-050-040 RR B6 2
 076-050-041 RR B6 2
 076-050-042 RR B6 2
 076-050-044 RR B6 2
 076-050-046 RR B6 2
 076-050-047 RR B6 2
 076-050-048 RR B6 2
 076-050-049 RR B6 2
 076-050-050 RR B6 2
 076-050-051 RR B6 2
 076-050-053 RR B6 2
 076-050-055 DA B6 20 Z
 076-050-061 RR B6 2
 076-050-062 RR B6 2
 076-050-063 RR B6 2
 076-050-064 RR B6 2
 076-050-065 RR B6 2
 076-050-066 RR B6 2
 076-050-069 RR B6 2
 076-050-070 RR B6 2
 076-050-071 RR B6 2
 076-050-072 RR B6 2

NONE
 NONE
 NONE
 NONE
 NONE
 LG/116
 LG/116
 NONE
 LG/116
 NONE
 NONE
 NONE
 NONE
 LG/116
 LG/116
 LG/116
 LG/116
 NONE
 LG/116
 LG/116
 NONE
 NONE
 NONE
 NONE
 LG/116
 LG/116
 NONE
 NONE
 LG/116
 LG/116
 NONE
 NONE
 LG/116
 LG/116
 NONE
 NONE



Sonoma County



APN



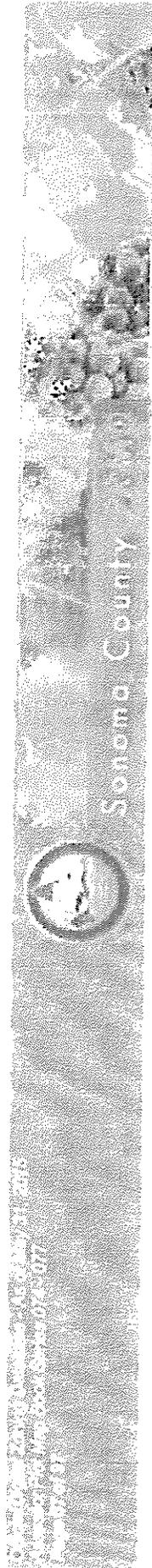
Base Zoning

076-072-003 RR B6 2
 076-072-006 DA B6 10
 076-072-007 DA B6 10
 076-072-008 DA B6 10
 076-072-009 DA B6 10
 076-072-012 DA B6 10
 076-072-013 DA B6 10
 076-072-014 DA B6 10
 076-072-015 RR B6 2
 076-072-016 RR B6 2
 076-072-017 RR B6 2
 076-072-018 RR B6 2
 076-072-021 DA B6 10
 076-072-022 RR B6 2
 076-072-023 RR B6 2
 076-072-024 DA B6 10
 076-072-025 DA B6 10
 076-072-026 DA B6 10
 076-072-027 DA B6 10
 076-080-010 DA B6 10
 076-080-019 DA B6 10
 076-080-022 DA B6 10
 076-080-028 DA B6 10
 076-080-029 DA B6 10
 076-080-032 DA B6 10
 076-080-033 DA B6 10
 076-080-036 DA B6 10
 076-080-038 DA B6 10
 076-080-039 DA B6 10
 076-080-043 DA B6 10
 076-080-044 DA B6 10
 076-080-053 DA B6 10



Combining District

NONE
 SR
 SR
 SR
 SR
 SR
 SR
 SR
 NONE
 NONE
 NONE
 NONE
 SR
 NONE
 NONE
 F2 RC200/50 SR VOH
 SR
 SR
 SR
 NONE
 LG/116
 NONE
 NONE
 RC200/50
 NONE
 RC200/50
 NONE
 NONE
 NONE
 NONE
 NONE
 NONE
 NONE



Sonoma County

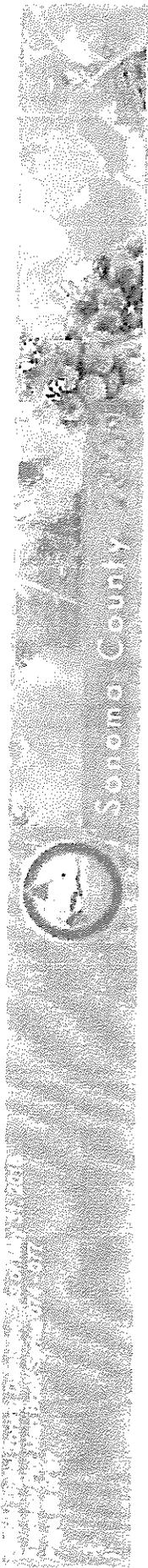
APN

Base Zoning

076-080-054 DA B6 10
 076-080-056 DA B6 10
 076-080-058 DA B6 10
 076-080-059 DA B6 10
 076-080-061 DA B6 10
 076-080-063 DA B6 10
 076-080-065 DA B6 10
 076-080-066 PF
 076-080-067 PF
 076-080-069 DA B6 10
 076-080-070 DA B6 10
 076-080-071 DA B6 10
 076-080-074 DA B6 10
 076-080-077 DA B6 10
 076-080-078 DA B6 10
 076-080-079 DA B6 10
 076-080-081 DA B6 10
 076-080-082 DA B6 10
 076-080-083 DA B6 10
 076-080-084 DA B6 10
 076-080-085 DA B6 10
 076-080-086 DA B6 10
 076-080-087 DA B6 10
 076-080-091 DA B6 10
 076-080-092 DA B6 10
 076-080-093 DA B6 10
 076-080-094 DA B6 10
 076-080-095 DA B6 10
 076-080-096 DA B6 10
 076-080-097 DA B6 10
 076-080-098 DA B6 10
 076-080-099 DA B6 10

Combining District

NONE
 NONE
 NONE
 NONE
 NONE
 NONE
 RC200/50
 NONE
 RC200/50 SR VOH
 SR
 NONE
 NONE
 LG/116
 NONE
 NONE

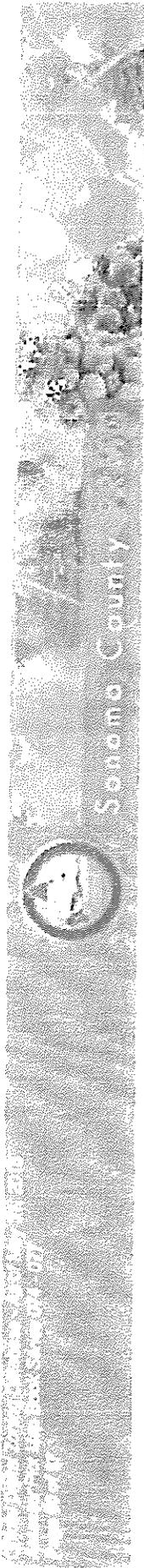


APN

Base Zoning

Combining District

076-092-000	DA B6 10 Z	NONE
076-092-021	DA B6 10 Z	VOH
076-092-022	DA B6 10 Z	LG/116
076-092-023	DA B6 10 Z	LG/116
076-092-024	DA B6 10 Z	LG/116
076-092-025	DA B6 10	NONE
076-092-026	DA B6 10 Z	NONE
076-092-027	DA B6 10 Z	VOH
076-092-028	DA B6 10 Z	VOH
076-092-029	PF	NONE
076-092-030	DA B6 10 Z	LG/116
076-092-031	DA B6 10 Z	NONE
076-092-032	DA B6 10 Z	NONE
076-092-033	DA B6 10 Z	VOH
076-092-034	DA B6 10 Z	VOH
076-092-035	DA B6 10 Z	VOH
076-093-004	DA B6 20 Z	LG/116
076-093-005	DA B6 20 Z	LG/116
076-093-006	DA B6 20 Z	LG/116
076-093-008	DA B6 20 Z	LG/116
076-093-009	DA B6 20 Z	LG/116
076-093-010	DA B6 20 Z	LG/116
076-093-011	DA B6 20 Z	LG/116
076-093-012	DA B6 20 Z	LG/116
076-093-013	DA B6 20 Z	LG/116
076-093-014	DA B6 20 Z	LG/116
076-093-015	DA B6 20 Z	LG/116
076-093-016	DA B6 20 Z	LG/116
076-093-017	DA B6 20 Z	LG/116
076-093-018	DA B6 20 Z	LG/116
076-093-019	DA B6 20 Z	LG/116
076-093-021	DA B6 20 Z	LG/116





CEQA and the KOWS Tower



CEQA is the **California Environmental Quality Act**. As part of the application process for any building project, city officials must determine the level of environmental review required for the project at a particular site.

The site for a proposed KOWS 70 foot broadcast antenna tower is a small island of city-owned property known as the Pleasant Hill Reservoir, that has housed two city water tanks since 1987. It is zoned Community Facilities by the City of Sebastopol, but is surrounded by county properties zoned as Rural Residential and Diverse Agricultural.

KOWS, the applicant, is responsible for the costs of any studies that CEQA requires. KOWS indicated during the Sebastopol Planning Commission meeting that they "could not afford" such costs.

The Staff Report indicated that the project met all CEQA requirements and was therefore Categorically Exempt. Planning Director Kenyon Webster, in his review of the report, emphasized the "small footprint" of the project and its "minimal impact". Ironically, the project is categorized as a Major Telecommunications Facility.

All but one commissioner expressed concerns about this **minimizing characterization**.

Evert Fernandez said that he could not, in good conscience, call the project a minor physical alteration, nor did he support the "bad reasoning" that since there were already two large tanks on the site, the tower created a relatively small footprint, pointing out that the footprint of the base of the tower is certainly not the issue with a 70 foot tower.

He also did not believe that the tower was a minor antenna installation, nor a supplemental use, given that it has nothing whatsoever to do with the water tanks already on the site. He very directly stated to the staff that "**the CEQA is not solid**".

Paul Fritz agreed that a 70 foot tower is not a small footprint; that it is a significant physical alteration to the site, not a minor alteration. He went on to say that the tower could not in any way be characterized as a small change in an existing facility.

He suggested that other sites, particularly in a more urban environment, would be a better placement, even though such a site might not have as broad a reach. He also pointed out that it was "**not the city's responsibility to provide the widest possible audience**" for KOWS.

Zachary Douch suggested that further analysis regarding CEQA was something to consider, including a look at alternative sites as part of that process and the lofting of a balloon to help make a decision regarding impact.

Michael Jacob said that he would like for KOWS to come back with more information.

Linda Kelley said that she had major issues with the viewshed, indicating that she felt strongly about the affect of the project on the surrounding neighbors. She wanted KOWS to further explore whether there might be another site that would be less invasive.

Russ Pinto was not sure that this was the best of all possible sites.

It was disheartening to hear a suggestion by **Colin Doyle** that they could decide as a group to deny the application so that KOWS could expedite an appeal, and then watch a successful last minute sympathy bid by KOWS, who claimed both poverty (real) and homelessness (false).

We hope that the men and women of the City Council will look carefully at the possibility of a win-win alternative site for the antenna, particularly given that there is no immediate need to re-locate, the station is currently streaming online, and **there is an excellent alternative site**. A decision to deny this application would at the same time discourage new and unprecedented telecommunications tower use at the Pleasant Hill Reservoir.

Zoning Database (OZD)

The Sonoma County Permit and Resource Management Department (PRMD) maintains an Official Zoning Database (OZD) in digital form. The OZD was adopted by the Board of Supervisors on June 12, 2007 and became official on July 12, 2007. This zoning database was created using Geographic Information Systems (GIS) mapping software and replaces all hard-copy zoning maps that were formally located in the self-help lobby at PRMD.

The reports provided below are generated from the OZD and contain zoning sorted by Sonoma County Assessor's Parcel Number (APN). These reports are updated as needed at the end of each month, so you should contact the PRMD [Planning Information Phone](#) to verify current zoning before making decisions.

Within these reports, both "Base Zoning" and "Combining District" (aka overlay) are listed. When indicated, a Combining District may be Biotic Habitat (BH), Scenic Resources (SR), Flood Zones (F1 or F2), etc. Combining Districts are site specific and most likely do not follow APN boundaries. It cannot be determined where on the APN the Combining District is located from these reports. For information on Combining District boundaries, please contact the PRMD Planning Information Phone.

A complete description of Zoning and Combining Districts can be found in the current [zoning code regulations](#) area of this site.

You can locate the zoning for a specific property by using the Assessor's Parcel Number (APN).

How to find zoning by APN:

The Assessors Parcel Map Book Numbers are broken down into report segments containing a range of parcel numbers. In the list below, the range for each report segment contains only the parcel number's first three digits. For example, the first item is listed as "003-029" which denotes a range of all parcel numbers containing 003-000-000 through and including 029-999-999. Click on the appropriate Assessors Parcel Map Book Number range to open the report. While viewing the report, perform a text search for the desired APN, including hyphens.

Example APN: 000-000-000

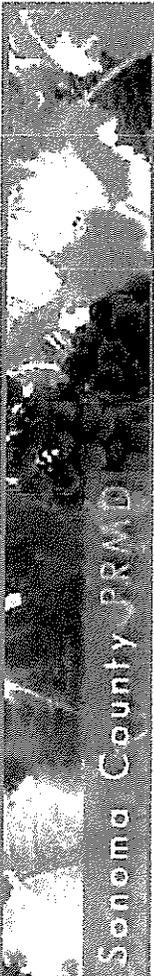
APN

Base Zoning

076-050-010 RR B6 2
 076-050-012 RR B6 2
 076-050-013 RR B6 2
 076-050-015 RR B6 2
 076-050-018 RR B6 2
 076-050-019 RR B6 2
 076-050-023 RR B6 2
 076-050-028 RR B6 2
 076-050-033 RR B6 2
 076-050-035 RR B6 2
 076-050-040 RR B6 2
 076-050-041 RR B6 2
 076-050-042 RR B6 2
 076-050-044 RR B6 2
 076-050-046 RR B6 2
 076-050-047 RR B6 2
 076-050-048 RR B6 2
 076-050-049 RR B6 2
 076-050-050 RR B6 2
 076-050-051 RR B6 2
 076-050-053 RR B6 2
 076-050-055 DA B6 20 Z
 076-050-061 RR B6 2
 076-050-062 RR B6 2
 076-050-063 RR B6 2
 076-050-064 RR B6 2
 076-050-065 RR B6 2
 076-050-066 RR B6 2
 076-050-069 RR B6 2
 076-050-070 RR B6 2
 076-050-071 RR B6 2
 076-050-072 RR B6 2

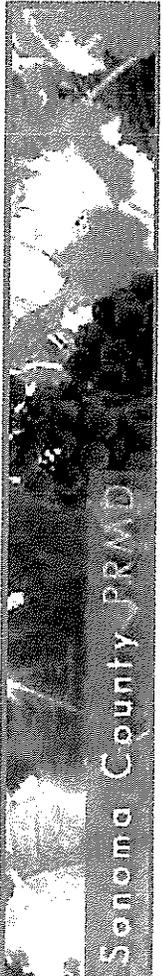
Combining District

NONE
 NONE
 NONE
 NONE
 NONE
 LG/116
 LG/116
 NONE
 LG/116
 NONE
 NONE
 NONE
 NONE
 LG/116
 LG/116
 LG/116
 LG/116
 NONE
 LG/116
 LG/116
 NONE
 NONE
 NONE
 NONE
 LG/116
 LG/116
 NONE
 NONE
 LG/116
 LG/116
 NONE
 NONE
 LG/116
 LG/116
 NONE
 NONE



APN Base Zoning

APN	Base Zoning	Combining District
076-072-005	RR B6 2	NONE
076-072-006	DA B6 10	SR
076-072-007	DA B6 10	SR
076-072-008	DA B6 10	SR
076-072-009	DA B6 10	SR
076-072-012	DA B6 10	SR
076-072-013	DA B6 10	SR
076-072-014	DA B6 10	SR
076-072-015	RR B6 2	NONE
076-072-016	RR B6 2	NONE
076-072-017	RR B6 2	NONE
076-072-018	RR B6 2	NONE
076-072-021	DA B6 10	SR
076-072-022	RR B6 2	NONE
076-072-023	RR B6 2	NONE
076-072-024	DA B6 10	F2 RC200/50 SR VOH
076-072-025	DA B6 10	SR
076-072-026	DA B6 10	SR
076-072-027	DA B6 10	SR
076-080-010	DA B6 10	NONE
076-080-019	DA B6 10	LG/116
076-080-022	DA B6 10	NONE
076-080-028	DA B6 10	NONE
076-080-029	DA B6 10	RC200/50
076-080-032	DA B6 10	NONE
076-080-033	DA B6 10	RC200/50
076-080-036	DA B6 10	NONE
076-080-038	DA B6 10	NONE
076-080-039	DA B6 10	NONE
076-080-043	DA B6 10	NONE
076-080-044	DA B6 10	NONE
076-080-053	DA B6 10	NONE



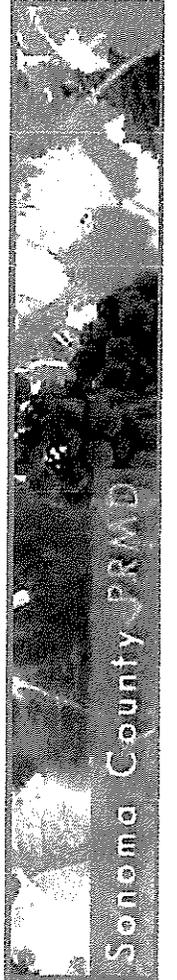
APN

Base Zoning

076-080-054 DA B6 10
 076-080-056 DA B6 10
 076-080-058 DA B6 10
 076-080-059 DA B6 10
 076-080-061 DA B6 10
 076-080-063 DA B6 10
 076-080-065 DA B6 10
 076-080-066 PF
 076-080-067 PF
 076-080-069 DA B6 10
 076-080-070 DA B6 10
 076-080-071 DA B6 10
 076-080-074 DA B6 10
 076-080-077 DA B6 10
 076-080-078 DA B6 10
 076-080-079 DA B6 10
 076-080-081 DA B6 10
 076-080-082 DA B6 10
 076-080-083 DA B6 10
 076-080-084 DA B6 10
 076-080-085 DA B6 10
 076-080-086 DA B6 10
 076-080-087 DA B6 10
 076-080-091 DA B6 10
 076-080-092 DA B6 10
 076-080-093 DA B6 10
 076-080-094 DA B6 10
 076-080-095 DA B6 10
 076-080-096 DA B6 10
 076-080-097 DA B6 10
 076-080-098 DA B6 10
 076-080-099 DA B6 10

Combining District

NONE
 NONE
 NONE
 NONE
 NONE
 NONE
 RC200/50
 NONE
 RC200/50 SR VOH
 SR
 NONE
 NONE
 LG/116
 NONE
 NONE





Sonoma County General Plan 2020

**OPEN SPACE AND RESOURCE CONSERVATION
ELEMENT**

**Sonoma County Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, CA 95403**

**Adopted by Resolution No. 08-0808
of the Sonoma County Board of Supervisors
September 23, 2008**

**Amended by Resolution No. 10-0636 on August 24, 2010
Amended by Resolution No. 13-0350 on September 10, 2013**

**OPEN SPACE AND RESOURCE CONSERVATION ELEMENT
TABLE OF CONTENTS**

1. INTRODUCTION5
 1.1 PURPOSE.....5
 1.2 RELATIONSHIP TO OTHER ELEMENTS5
 1.3 SCOPE AND ORGANIZATION7
2. SCENIC RESOURCES7
 2.1 POLICY FOR COMMUNITY SEPARATORS8
 2.2 POLICY FOR SCENIC LANDSCAPE UNITS..... 13
 2.3 POLICY FOR SCENIC CORRIDORS..... 18
 2.4 POLICY FOR OUTDOOR LIGHTING.....20
 2.5 POLICY FOR URBAN DESIGN22
 2.6 POLICY FOR RURAL CHARACTER23
3. BIOTIC RESOURCES..... 25
 3.1 POLICY FOR BIOTIC HABITAT AREAS 25
 3.2 POLICY FOR RIPARIAN CORRIDORS31
 3.3 POLICY FOR MARINE FISHERY AND HARBOR RESOURCES.....36
4. SOIL RESOURCES37
 4.1 POLICY FOR CONSERVATION OF AGRICULTURE AND TIMBER SOILS37
 4.2 POLICY FOR REDUCTION OF SOIL EROSION.....38
5. TIMBER RESOURCES.....39
7. ENERGY RESOURCES42
 7.1 POLICY FOR ENERGY CONSERVATION AND DEMAND REDUCTION43
 7.2 POLICY FOR ENERGY PRODUCTION AND SUPPLY.....45
8. AIR RESOURCES47
9. OUTDOOR RECREATION49
 9.1 POLICY FOR PARKS AND EQUESTRIAN AND HIKING TRAILS.....49
 9.2 POLICY FOR BIKEWAYS52
10. ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL RESOURCES.....55
11. OPEN SPACE AND RESOURCE CONSERVATION IMPLEMENTATION PROGRAM57

OPEN SPACE AND RESOURCE CONSERVATION ELEMENT

1. INTRODUCTION

1.1 PURPOSE

State law recognizes that open space land is a limited and valuable resource which must be conserved wherever possible. The element addresses open space for the preservation of natural resources, for the managed production of resources, for outdoor recreation, for public health and safety, and for Archeological, Historical, and Cultural resources.

The purpose of the Open Space and Resource Conservation Element is to preserve the natural and scenic resources which contribute to the general welfare and quality of life for the residents of the county and to the maintenance of its tourism industry. This element provides the guidelines for making necessary consistency findings and includes an implementation program, as required by law.

1.2 RELATIONSHIP TO OTHER ELEMENTS

The Open Space and Resource Conservation Element is coordinated with the Public Safety, Public Facilities and Services, Agricultural Resources, and Water Resources Elements. The Land Use Element reinforces the policies of this element and is consistent with the preservation of open space lands for all five of the purposes identified below. Following are the relationships among these elements:

Open Space for Preservation of Natural Resources:

- The Land Use Element establishes the Countywide Land Use Policy Framework. This framework provides the underpinning for the preservation of natural resources by stressing city and community centered growth, compact city and community boundaries, use of environmental suitability for guiding rural growth, protection of agricultural lands, preservation of scenic and biotic resources, and sustainability.
- The Open Space and Resource Conservation Element includes policies addressing the preservation of scenic resources and biotic habitats and riparian corridors. It also

Open Space for the Protection of Archaeological, Historical, and Cultural Resources:

- The Open Space and Resource Conservation Element includes policies addressing the preservation and protection of archaeological, historical, and cultural resources. It includes policies for the preservation and protection of Native American cultural resources or sacred sites, places, features, and objects, including historic or prehistoric ruins, burial grounds, cemeteries, and ceremonial sites. It also addresses the confidentiality of records pertaining to such resources. It also provides for appropriate treatment of human remains and Native American human remains discovered during a project.

1.3 SCOPE AND ORGANIZATION

The Open Space and Resource Conservation Element has three major components, a policy framework for the preservation of open space and conservation of natural resources, an open space map for each planning area designating lands subject to various policies, and an implementation program.

There are ten classifications of open space and resource conservation:

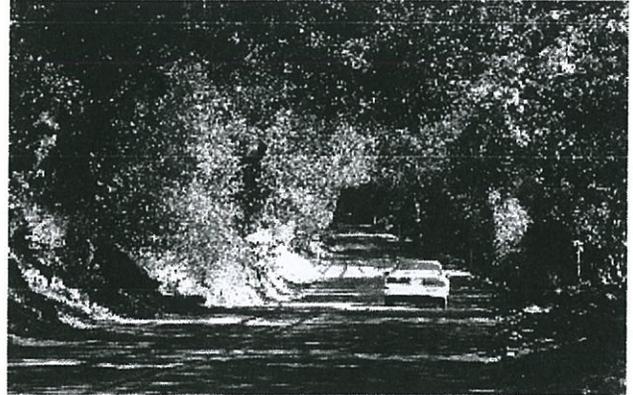
- scenic resources,
- biotic resources,
- aquaculture,
- soil resources,
- timber resources,
- mineral resources,
- energy resources,
- air resources,
- outdoor recreation, and
- archaeological/historical/cultural resources

2. SCENIC RESOURCES

The unique quality of Sonoma County results from the attractiveness and diversity of its landscape. The scenic resources component includes three categories, Community Separators, Scenic Landscape Units, and Scenic Highway Corridors. Figure OSRC-1 shows these designated scenic resource areas.

2.3 POLICY FOR SCENIC CORRIDORS

Many residents of Sonoma County value highly the variety and beauty of the County's many landscapes as viewed from rural roadways. Motorists can travel from urban centers into orchard and forest covered hills, rolling dairy lands, and scenic valleys planted in vineyards. Preserving these landscapes is important to the character of the County.



GOAL OSRC-3:

Identify and preserve roadside landscapes that have a high visual quality as they contribute to the living environment of local residents and to the County's tourism economy.

Objective OSRC-3.1:

Designate the Scenic Corridors on Figures OSRC-5a through OSRC-5i along roadways that cross highly scenic areas, provide visual links to major recreation areas, give access to historic areas, or serve as scenic entranceways to cities.

Objective OSRC-3.2:

Provide guidelines so future land uses, development and roadway construction are compatible with the preservation of scenic values along designated Scenic Corridors.

The following policies shall be used to achieve these objectives:

Policy OSRC-3a: Apply the Scenic Resources combining district to those portions of properties within Scenic Corridor setbacks.*

Policy OSRC-3b: For development on parcels located both within Scenic Landscape Units and adjacent to Scenic Corridors, apply the more restrictive siting and setback policies to preserve visual quality.

Policy OSRC-3c: Establish a rural Scenic Corridor setback of 30 percent of the depth of the lot to a maximum of 200 feet from the centerline of the road unless a different setback is provided

Footnote: *Mitigating Policy

Open Space & Resource Conservation Element

unincorporated Sonoma County that reflect the character of the community.

Policy OSRC-5b: Use the following general urban design principles until Urban Design Guidelines specific to each Urban Service Area are adopted.

- (1) Promotion of pedestrian and/or bicycle use.
- (2) Compatibility with adjacent development.
- (3) Incorporation of important historical and natural resources.
- (4) Complementary parking out of view of the streetscape.
- (5) Opportunities for social interaction with other community members.
- (6) Promotion of visible access to buildings and use areas.
- (7) Appropriate lighting levels.*

2.6 POLICY FOR RURAL CHARACTER

Sonoma County is nationally recognized for its agrarian and "wine country" atmosphere, its diverse and beautiful scenic resources, and unique quality of life. Regulating the design of certain types of new development in agricultural, rural, and resource areas will help to preserve the very qualities that attract new development and enhance economic vitality. Rural character design guidelines that avoid urban development requirements in rural areas and promote integration with the surrounding landscape and quality construction and landscaping, will benefit not only property owners and developers but all who live in and come to visit Sonoma County.



The rural character of Sonoma County is quite diverse. Over time, development guidelines and/or design standards have been adopted for several areas, such as Bennett Valley and Sonoma Mountain. These guidelines, while generally similar to each other, reflect the unique quality of each area. As a result, the development of countywide rural character design guidelines must be done in a way that recognizes local character. It is the intent of this policy section that, where proposed development is subject to Area Plan and/or Local Area

Development Guidelines, those guidelines will take precedence over countywide rural character design guidelines.

GOAL OSRC-6:

Preserve the unique rural and natural character of Sonoma County for residents, businesses, visitors and future generations.

Objective OSRC-6.1:

Develop Rural Character Design Guidelines to achieve the following: preservation of existing site features contributing to rural character; siting of buildings and development features to blend in with the surrounding landscape; and allowance for rural design features in rural areas.

Objective OSRC-6.2:

Establish Rural Character as a primary criterion for review of discretionary projects, but not including administrative design review for single family homes on existing lots outside of Urban Service Areas.

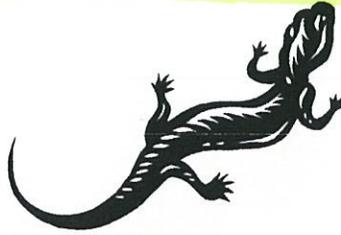
The following policy shall be used to achieve these objectives:

Policy OSRC-6a: Develop design guidelines for discretionary projects in rural areas, but not including administrative design review for single family homes on existing lots, that protect and reflect the rural character of Sonoma County. Use the following general design principles until these Design Guidelines are adopted, while assuring that Design Guidelines for agricultural support uses on agricultural lands are consistent with Policy AR-9h of the Agricultural Resources Element.

- (1) New structures blend into the surrounding landscape, rather than stand out.
- (2) Landscaping is included and is designed to blend in with the character of the area.
- (3) Paved areas are minimized and allow for informal parking areas.
- (4) Adequate space is provided for natural site amenities.
- (5) Exterior lighting and signage is minimized.*



Chapter 17.92 ESOS – ENVIRONMENTAL AND SCENIC OPEN SPACE DISTRICT



Sections:

17.92.010	Purpose/Applicability
17.92.020	Districts with Which the "ESOS" Districts May Be Combined
17.92.030	Uses Permitted
17.92.040	Conditionally Permitted Uses
17.92.050	Objectives And Criteria
17.92.060	Review of Use Permit
17.92.070	Exempt Projects
17.92.080	Administrative Review of Projects
17.92.090	Modification of Study Requirements

17.92.010 Purpose/Applicability

The purpose of the ESOS Environmental and Scenic Open Space Combining District is to control land use within areas of great scenic or environmental value to the citizens of the Sebastopol General Plan Area, to control any alteration of the natural environment and terrain in areas of special ecological and educational significance to the entire community as unique vegetative units or wildlife habitats or as unique geological or botanic specimens, and to enhance and maintain for the public welfare and well being the public amenities accrued from the preservation of the scenic beauty and environmental quality of Sebastopol. The ESOS Combining District is applicable to areas of great natural beauty, high visibility or ecological significance such as areas bordering Atascadero Creek or the Laguna de Santa Rosa. The ESOS Combining District is established to implement the goals, policies and objectives of the Conservation, Open Space and Parks Element of the General Plan.

17.92.020 Districts With Which The "ESOS" District May Be Combined

The ESOS Combining District may be combined with any District. An Environmental and Scenic Open Space Combining District shall be designated by the letters "ESOS" following the full district designation. If the regulating conditions of the District to be combined differ from the corresponding regulations specified herein for the ESOS District, then the more stringent of the two shall apply.

17.92.030 Uses Permitted

Open, passive recreational areas, parks, wildlife preserves, including environmental restoration and walkways, information kiosks, and signage related to such open uses.

A. Non-commercial Minor Antenna that meet: the requirements of sections 17.100.010 (B) through (F), obtain site plan approval from the Planning Director, and comply with the following as appropriate:

- (1) Ground mounted antenna may not exceed 20 feet in height, except that citizens band radio antenna or a ground- or tower-mounted antenna operated by a federally licensed radio operator as a part of the Amateur Radio Service, may not exceed 30 feet in height.
- (2) Building mounted antenna may not exceed 15 feet (including any mast height) on a building that does not exceed 35 feet in height.

All other uses require a Use Permit.

17.92.040 Conditionally Permitted Uses

A. Uses which are permitted in the District with which the "SOS" is combined only in accordance with the regulations of the underlying zoning district as well as the SOS District.

B. Non-commercial Minor Antenna exceeding the permitted height limits, Commercial Minor Antenna, Minor Telecommunication facilities, and Major telecommunication facilities are not permitted in this zone, unless a finding is made by the Planning Commission that no technically feasible alternative location outside this zoning district is possible, that the facility blends with the surrounding existing natural and man-made environment in such a manner as to be effectively unnoticeable; and that the requirements of sections 17.100.010 (A) through (X) are met, as appropriate.

17.92.050 Objectives And Criteria

A. The following objectives and criteria shall be adhered to in all SOS Combining Districts: To protect the character and quality of the natural environment of critical parcels as identified within the General Plan:

- (1) The elements of scale, form and color derived from the topography and native vegetation of the land shall be preserved.
- (2) Development should be located in such a manner that the overall natural features and processes of the land can still be accommodated.

B. Setback Buffers: Unless otherwise determined by the Planning Commission upon review of the resource analysis required by Section 17.92.050 D. below, in conjunction with the findings required by Section 17.92.060 below, the following minimum setback buffers shall be provided in those areas identified by General Plan Conservation, Open Space and Parks Element Map 4 from the edge of a wetland, identified riparian dripline, identified endangered species population, or California Department of Fish and Game Preserve, except that up to 20 feet of the setback area may be provided as a landscaped trail area:

- (1) North of the Joe Rodota Trail except the Laguna Youth Park area: 100 feet, except that a setback of not less than 50 feet may be provided if the Commission finds that resources of concern do not occur in the reduced setback area, or due to the existing character of the property or the size, scope, or nature of the proposed project, resources of concern will not be adversely affected by the project.
- (2) Laguna Youth Park area: No building shall extend beyond 200 feet from the centerline of Morris Street.
- (3) South of the Joe Rodota Trail: 200 feet, or 100 feet from the City of Sebastopol 100-year flood contour, whichever is greater, except that a setback 200 feet, or not less than 50 feet from the 100-year flood contour, whichever is greater, may be provided if the Commission finds that resources of concern do not occur in the reduced setback area, or due to the existing character of the property or the size, scope, or nature of the proposed project, resources of concern will not be adversely affected by the project.
- (4) Other areas: 100 feet, or as determined appropriate by the Planning Commission. A setback of not less than 100 feet may be provided if the Commission finds that resources of concern do not occur in the reduced setback area, or due to the existing character of the property or the size, scope, or nature of the proposed project, resources of concern will not be adversely affected by the project.

C. Objectives:

To preserve the quality and integrity of certain unique scenic, ecologic or biotic environments as identified in General Plan Conservation, Open Space and Parks Element Map 2:

- (1) Only those land uses shall be allowed which can be executed in a manner sensitive to the existing natural resources and constraints of the land.
- (2) Only those land uses shall be allowed which do not significantly alter the existing terrain and natural vegetation of the land.

D. Procedures:

An application for a Use Permit in the ESOS Combining District shall not be determined complete until a Resource Analysis of the visual, vegetative and biotic characteristics of the property is prepared and

ENCLOSED

**KOWS CONDENSED STEERING COMMITTEE NOTES FROM APRIL 8, 2014 TO
MARCH 8, 2016**

**(KOWS STEERING COMMITTEE NOTES FROM MARCH 2012 TO MARCH 2016
AVAILABLE ON-LINE AT KOWSCOM.WORDPRESS.COM)**

**SUMMARY OF KOWS BANK BALANCES FROM 4/8/14 TO 3/8/16 AS STATED IN
THE STEERING COMMITTEE NOTES:**

MARCH 8, 2016: "\$1,400 TO \$1,500 IN THE BLACK"

FEBRUARY 2, 2016: "\$1,800 IN ACCOUNT, DOWN TO \$1,300 AFTER RENT"

**AUGUST 26, 2015: COSTS FOR ANTENNA TOWER AT PLEASANT HILL
RESERVOIR..."COULD BE \$25,000 - \$30,000 OR MORE".**

"RESPNI RANCH WOULD BE IN THE RANGE OF \$5-10,000 (APPROX.)"

**JULY 7, 2015: "\$7,182 IN HAND LESS \$5,000 DEDICATED TO ANTENNA
RELOCATION"**

MAY 13, 2014: "CURRENTLY, KOWS IS \$940 IN THE BLACK"

APRIL 8, 2014: "CURRENTLY, WE HAVE AT LEAST \$600 IN THE BANK"

KOWS SC notes 3-8-16

Posted on March 11, 2016 by kowscom

KOWS Steering Committee – March 8, 2016

Antenna – SHARP group filed an appeal. May 3rd will be the hearing date in front of city council (waiting for confirmation on date). Will want maximum participation from KOWS at this meeting.

could
Lower
Tower @
reservoir
to 50'

Antenna – other options? Lower antenna from 70 ft to 50 ft (would lose half the listeners). Not as much loss at 60 ft. Respini Ranch.

Respini
Better

Volunteer information: Alan expresses he is having difficulty accessing volunteers. People have not been responding to Don's emails calling for volunteers. Dave suggests that as part of the orientation process, before newcomers start their show, they first contact Alan with their information. Don will send Alan a complete list of programmer emails for future outreach.

Few
Volunteers

Manual: Don is going to construct a list of mentors to offer help to new programmers.

PROGRAMMING

Patrick Woodworth had 1st show, still needs additional training/ board babysitting.

Liza Brickey needs training. Not in schedule yet.

Stefan Wenger starts March 15, evens Wed 10-12midnight. Don need to send info to Dave. Stefan is trained.

FINANCIAL



\$1400
to
1500
in
Account

Current balances: About \$1400-\$1500 in the black.

KOWS SC notes 2-2-16

Posted on February 13, 2016 by kowscom

Antenna

- Objection: Jenkins have come forward with objection to antenna. Led objection in 1995 when cell phone tower was proposed. Complaints include visual blight. Will need to address.
- Concern: CDS Wireless Yelp reviews are unfavorable. Alternative is Digital Path, they are going to send quote. Dave understands they don't have a lot of service on this side of the freeway. (To provide downstream from studio to tower.) CDS is willing to eat monthly cost if we give underwriter privileges.
- Other: Have met with city inspector, are figuring out what they need to move forward (wet stamps, dry stamps, concrete). Getting to point where need to put down \$1500 bucks for structural drawings to give to building department for approval. Would drawings be applicable to other sites if Pleasant Hill falls through? Basically, but depends on if soil is similar, etc.

Antenna
&
Tower
costs
ed
\$15000
to
build
at
reservoir

•Finances: Final cost analysis depends on various factors but need about another \$15,000 on top of what we already have. (Doesn't include \$5000 matching.) So \$10-15k.

Technical

- Hiccups with loop. At some point may want to consider getting new loop computer to replace Mac Mini. Even a decent laptop, something newer and faster with more capacity. What is reasonable re: budget? Donation would be ideal. Or exchange for underwriter. Don will contact ___ for info.

Programming

lack of quality programming

- Programming committee meeting necessary: Some people concerned about perceived lack of quality in programmers and unprofessional behavior on air.

Don't vet well

- Don't vet well enough.
- Arnold: don't want to vet too intensely because want diverse voices out there.

- Perhaps need rotating staff like engineers.
- Dave thinks it important for programming committee to sit down and discuss this.

Need to address quality issues

- Need to update programming training, manual, figure out way to address quality issues.
- Also need to develop process for when new programmers come on: checklist, of sorts, to get programmers feeling confident before they're set loose.
- Put together idea of what programming committee meeting would look like. Maybe need board baby sitters for the first few times.

- Other: A lot of music repetition on live programming

Operations

- Studio was a mess when Loren came in, need to put out to everyone to keep it clean.

Fundraising/Financial

- Dues: Donald produced dues chart on 19th. Hung up before coming to meeting. Reese is in excess of 2 months.

1300 in account

- \$1800 in account, down to \$1300 after rent

KOWS Steering Committee Meeting: January 5, 2016, 6:30 pm

Emergency Alert System (EAS) Training for hosts: Don will send out a message to address this.

Antenna status: every host needs to have and share accurate info about antenna status. Don will send out a message to address this as well.

TECHNICAL

CD1: some issues seem to be training issues, there is also a cable issue. Tascam left-channel problem is a cord issue. RCA connector.

CD2: Popping noise coming from CD 2 went away after powering off and on again. Use knob to advance the track on CD2.

Steve Moore info: commercial radio station has board and a couple CD players after replacing their equipment. Dave is going to follow up.

Loop: ever since stopped leaving Safari running, loop seems to be stable.

If power outage occurs, everything should reboot itself when power comes back on.

STUDIO OPERATIONS

Behind couch supposed to be clear and open, not for storage. Nothing on the oval table, etc. so people have room to put things down. Cathy took some things out that came during the move but more needs to go. Don says dump it. Vinyl? Cathy intends to do some cleaning and decluttering.

on-line streaming in Sebastopol

Alan: would like to increase promotion for online streaming in Sebastopol

FUNDRAISING/FINANCIAL

\$1500 in account

About \$1500 in account after bills (rent, insurance, etc.)

Another \$7700 for antenna

Memberships: revitalize campaign

Don wants to rethink memberships in addition to rebranding

Local underwriters: how do we get them to provide perks? Tap into these resources

Memberships include access to events?

10% referral credit towards monthly dues for members?

Hire Gary for collecting underwriters at 20% commission?

High school students will have to pay \$10 member fee also

Milestone: submitted use permit to city 2 days ago

Antenna relocation committee: deadline for committee to come up with recommendations for putting antenna at water tank site – 30 days from today

going for Pleasant Hill

Posted on December 8, 2015 by kowscom

KOWS SC meeting notes 12-01-15

attended by Arnold Levine, Mark Hogan, Donakld True, Randy Wells, Don campau, Dave Stroud, David Dillman, Alan Linsley, Teresa Tudury

SC for 2016 is:

Arnold Levine: Fundraising/Financial

Donald True: Operations and Treasury

Cathy Corzine/ Teresa Tudury: Operations, Cleanliness, Maintenance

Mark Hogan: Events
 Stuart Goodnick: technical
 Dave Stroud: Social Media, Web and Technical
 Alan Linsley: Volunteer Group
 Don Campau: spokesperson, Programming
 ARC presentation
 SC approves by vote of 72' tower

KOWS SC notes 11-16-15

Posted on November 19, 2015 by kowscom

attended by Arnold Levine, Cathy Corzine, Don Campau (note taker), Alan Linsley, Dave Stroud, Donald True and Stuart Goodnick.

programmer policy:

new policy being developed incorporating some of the following:

programmer
 dues
 not
 paid

When programmer reaches 2 months past dues send reminder about consequences.

3 months late dues automatic suspension

4 months late (must pay all past dues as well) automatic termination

Communicate to spokesperson and financial team information

Work with Arnold, Donald, Dave and Don

Outreach and manage new members (on air, by email social media, direct mailing, handouts around Sebastopol, etc)

contact programmers after 2 months of unpaid dues with warning

contact Don after 3 months for suspension of programmer

antenna discussion

30 days remaining until final ARC recommendation.

Progress being made with city.

KOWS SC notes special session 8-26-15

Posted on September 21, 2015 by kowscom

somewhat out of order. The notes for 9-9-15 should come after this but are posted first.

at Solar Works, Sebastopol

attended by Arnold Levine, John Parry, Laura Goldman, Randy Wells, Don Campau (note taker), Alan Linsley, David Dillman, Donald True.

Members of the Antenna Relocation Committee joined the Steering Committee for this special meeting.

Antenna Relocation

After their own meeting the ARC presented current information to the SC.

The results can be summarized approximately

Using the Pleasant Hill ("Water Tower") site there appear to be two options:

1. An antenna of approx 100 feet that would use omnidirectional transmission and cover outlying areas of the West County but somewhat erratically. Transmission into Sebastopol would not be a strong as option #2 below.
2. An Antenna of approx 60 feet using directional transmission and would saturate the Sebastopol area but perhaps lose much of the surrounding area outside of that.

Both choices would use towers which would need various levels of consent from city, etc.

Approx costs involved for tower transmitting:

\$2000 design and assembling, purchasing of various equipment

\$500 (I think this is for Minor Modification fees)

\$200 (more fees or engineering costs I think)

\$1-2,000 for antenna itself

\$20,000 (approx) for tower

total could be approx \$25,000- \$30,000 or more. Maybe less ...researchingⁿ ow.

In another scenario, KOWS would move to the Respini Ranch site. Broadcast saturation to Sebastopol would not be effective as either tower option but costs would be exponentially less.

There would be no tower (eliminating a large portion of the expense), antenna would be in tree (as it is now), omnidirectional antenna would be used (costs less I believe).

The total costs are unclear but would be in the range of less than \$5,000-\$10,000 (approx).

Any of the options above would provide a better and wider signal than we currently have to The West County.

A suggestion was made by Campau to first move to Respini and then with added audience support raise the funds to move to the Pleasant Hill site eventually. No motions were made.

A decision was made to file immediately for 92.5 FM which would become our new frequency. This frequency would give us less interference with other surrounding stations. The ARC will file for this immediately. Costs were approved.

A motion was made and passed to pay Paul Bame \$500 for more research and effort regarding the Pleasant Hill site.

A motion was made and passed to spend approx \$200 to do a test broadcast from the Respini Ranch and Pleasant Hill sites using a large "scissor" track outfitted with necessary equipment.

501 (c) 3

Reservoir Antenna
Costs 2,500 to 30,000

Respini a good option for antenna cheaper too

Respini costs \$ 5-10,000

Respini recommended

Respini testing

Matt Savinar has indicated that he will finish work on the new form for 501 (c) 3 filing by this weekend. He has been instructed to contact The OAEC for use of their card to pay for filing.

Karse programmer dues from \$15/mo. to \$20/mo.

Options for revenue streams discussed: raise dues (to \$20/month?), Assessment (1 time donation from Herd members), more underwriters (need people contacting lapsed UWs and get new ones)

(from \$15/mo.)

KOWS SC notes 8-11-15

Posted on September 21, 2015 by kowscom

attended by Dave Stroud, Arnold Levine, Donald True, Alan Linsley, Don Campau (note taker).

Miscellaneous items:

Grant from Fessenden Fund. Plan for matching funds. Set date for General meeting.

Kows Received \$5,000 for antenna tower before a site was found before it was seized

KOWS awarded \$5K in immediate grant money by The Fessenden Fund. Will be paid out in September solely for The Antenna project. They also gave a \$5K matching grant if we can raise the money by June 2016. Our goal is to raise it by the end of 2016 and move forward with the antenna by then.

Volunteer complaint action

The SC has decided that moving one volunteer to another time slot is enough but also added a warning that suspension will be taken if other similar complaints are made.

501 (c) 3 progress

501c3 still being processed in late August 2015

Will be redoing the shorter form that Matt Savinar has informed us about. Goal is to get this in by end of August.

from Matt Savinar

I went to fill out the new (much shorter) forms, the only catch is they want whoever is filling them out to both fill them out and pay online at the same time. So whoever fills them out needs to have the KOWS credit/debit card on hand, or whatever other method we're planning on paying. the fee for the shorter form is \$400 instead of \$850 with the longer ones.

KOWS Steering Committee meeting 7-7-15

Posted on July 14, 2015 by kowscom

attended by Arnold Levine, John Parry, Dave Stroud, Alan Linsley, Mark Hogan, Paura Goldman, Randy Wells, Donald True, Stuart Goodnick, David Dillman, Don Campau (note taker).

•Antenna Discussion

◦Financial

- We have \$7182 in hand to start the proceeding
- Assume \$5000 of this is dedicated to antenna relocation matters

◦Overview

- Laura: we have been going through a lot of data and gathering of information
- We do not have a firm recommendation but a series of choices
- Still looking at what the recommendation might be
- Key question: what is it that we want

| ▪What are the choices

| ▪Pleasant Hill

- | ▪Police station pole on Laguna Parkway
- | ▪Note that this location is short spaced to the Redwood Justice on 92.3
- | ▪Other three sites in the Grandview/Cherry Ridge area

| ▪Respini Ranch

- Need to understand if we go here whether we lose the option of going to the Pleasant Hill sit because of distance -ask Paul
- Dusty Lane
- New Cherry Ridge property
- These choices are partly a product of working with the new Radio Engineer
- | ▪Most require a change of frequency to 92.5 FM
- City properties also entail a 6 – 12 month process of approval
- Concern raised by Stuart that if we wait to file for a frequency change to 92.5 and a relocation to the Pleasant Hill Water Tank location, we may get short-spaced out of this option when the Redwood Justice Center finally gets a permanent site – best to file now and cancel later than to wait.
- We need to understand what our goals are as a station
- Mark – we should go for the location that offers the possibility of greatest growth
- John Parry passes around a triangle (cost, expediency, new listeners) for everyone to locate their preferences

•David – signal strength into Sebastopol gives us businesses in downtown Sebastopol to provide financial support

•Alan – we should go for the best and claim the commons in Sebastopol (the airwaves) before someone else does

•Arnold – how long do we wait, technology is changing. If we have a cheap stronger solution (e.g. Respini). Want a quick and dirty way to move to increase our signal.

•Randy – I see the \$60k option and the 1 year city process as insurmountable. We have an available option for Respini

•John Parry – I disagree that the city process needs to be insurmountable. John has talked to the city planning committee and reviewed this. The city planner says 6 – 12 months. Dealing with a public entity is a more solid proposition. No guarantee that Respini would be any faster or cheaper. City provides legal coverage.

•Next steps

•Explore city receptivity for making this

•Would need to provide engineering drawings for a site plan

•File for the 92.5 shift and the location shift to the Pleasant Hill water tower

•90 day investigation

•Unanimous vote from the SC (Mark and Cathy absent)

•Let the minutes also acknowledge Randy's contributions to the station and the antenna project

•Alan proposes an Open Space session with the herd to unify the station

◦This would focus on aligning the herd around our plans to relocate the antenna and change the frequency

◦It would also focus on aligning the commitment of all programmers around the needs of the station as a community rather than just around the needs of each individual's show

•Some issues with CD players may have been operator issues

ARC report

A lengthy discussion and assessment of where we are at currently with the antenna move. Various sites and a frequency change were mentioned and discussed. The extension of our Modification has been sent in and should give us another 18 months to get this done.

A "triangle" sheet of priorities was used to mark people's ideas of maximizing listenership, cost and expediency. In the end, a motion was made to pursue the site known Pleasant Hill or The Water Tank site in Sebastopol. The SC has given the ARC 90 days to flesh out this plan and move forward on it until such a time that it might be eliminated from the discussion. Since it is the optimum site The SC has

cheap
strong
solution at
Respini

Sebastopol
provides
Kow's
legal
coverage?



decided to go straight for it. The costs and hurdles may be insurmountable but these are facts we need to know. We are headed toward Pleasant Hill to give maximum saturation and coverage in Sebastopol.

Part 2 of the motion was to delegate someone to apply for the 92.5 frequency that will be needed if we move to The Pleasant Hill or other sites to maximize coverage. We must act rapidly in case another possible applicant stakes claims on this frequency. Randy Wells said he will take care of this aspect.

In October, when the final verdict regarding The Water Tank site is in we will move forward on it or towards our second choice location. Then, we will call a Herd Meeting to discuss all the options and let the full group know what the choices are.

Tech Stuart

On the Technical Committee front, I believe Dave, Donald, Arnold, and Don are up to date on technical issues. I understand from emails that we likely need a new CD. A couple of weeks ago we had a scare in which I thought the Nicecast server had died, but this turned out to be my own misunderstanding. I may need a new monitor for the equipment closet and I definitely need to reinstall TeamViewer on the Nicecast server to restore remote access. Other than that streaming and transmitting are working well.

We appear to have around \$7K in the bank right now plus or minus recent bills and deposits its for July. This would give us around \$5K to spend on an antenna currently.

KOWS Steering Committee notes 6-2-15

Posted on June 15, 2015 by kowscom

attended by Don Campau (note taker), Mark Hogan, Cathy Corzine, Dave Stroud, Donald True, Arnold Levine.

Miscellaneous Items

Programmer complaint

The Programmer Complaint we had during this month is still in resolution although we have moved one programmer to a new time band this should take care of some of it. The original programmer with the accusations will get back to us by July if they want to pursue further process on this matter.

Antenna Relocation Committee.

Cherry Ridge site 1st picked for antenna re-location

A motion was made and agreed to that the ARC take immediate action to secure a lease with the new property owners on Cherry Ridge. Our 18 month window ends in August so the SC has decided we cannot wait any longer. If a lease cannot be secured with the new people on Cherry Ridge we will need to act fast on an alternative. The SC would like details in place by July ideally.

It is unclear how much the Antenna Project will cost until we know the details of where it will be placed and what type of transmitter and other equipment we will need.

(Later, it was determined that the SC had acted out of process and the vote was rescinded to give the Antenna Relocation Committee the opportunity to give additional information. That information will be pasted on below these notes. The Steering Committee will evaluate this updated information in their next meeting in July).

Technical (from Stuart Goodnick)

*Eqpt.
problems*

I will not be able to attend the SC meeting tomorrow as I will be in the air returning from Vancouver BC. Beyond the issues with CD1 that have been reported, I took steps to make the power failure recovery of the streaming server more reliable so that we might not need a manual restart each time the power goes down. I have on my list of things to do to install the CD recorder that Alan donated, but have not had a chance to do that just yet.

*Eqpt.
problems*

There have been various complaints about CD player 1 so we will keep an eye on it. We may have to install another player if this keeps up.

Financial

Don forgot to ask Jenyng at The OAEC for report. (he did this later). There has still been no response to this request as of 6-15-15.

IndieGoGo

Dave Stroud discussed the final days of the IndieGoGo program. Only 5 KOWS programmers have contributed anything. Only 21 people overall. We are close to \$1500 of the \$6K we were seeking.

We need to fix the Thermometer on the KOWS web site. It is wrong with regards to how much we have raised.

Grants

*NO
volunteers*

No grants yet and still looking for volunteers to do them.

Programming

Pat Rothchild quit,

Potential

Jane Austin (training 6- 4-15)

Steve Morse (needs time slot that works)

Lori Curtis (has not responded).

Robert Garfias ethnic music show from KRAB archives being considered for possible use.

ANTENNA RELOCATION COMMITTEE NOTES by Stuart Goodnick (6-9 -15)

Hi all,

Below are my notes from the ARC meeting we held today from 4:30 -- 6:30pm. The format of the meeting was as follows:

- 4:30 – 5:00pm: Brainstorm questions for radio engineer Paul Bame
- 5:00 – 6:00pm: Discuss KOWS options for relocation with Paul Bame
- 6:00 – 6:30pm: Debrief and determine next steps

We had a detailed conversation with Paul Bame from The Prometheus Network regarding his analyses to date and our options for moving forward. The following are some notes capturing highlights of the discussion followed by the actions we asked Paul to take (for a fee) as the next concrete steps to gathering necessary information to make a clear recommendation.

- We confirmed with Arnold that the current FCC Construction Modification expires on August 10, 2015
- Paul explained that it is a routine business to file for an 18 month extension with a sufficient reason.
- Sufficient reasons include things like the planned site no longer being available and not having sufficient funds to proceed with construction.
- Paul can facilitate the application for an 18 month extension with the FCC for \$80. This will include helping us with the necessary paperwork, filing the application, and checking in with the FCC for progress.
- Generally, The Prometheus Network files extension for their clients around 2 months prior to the expiration of the permit, so our timing is spot-on for proceeding in this matter.

• We have two high level choices in front of us regarding relocating the antenna:

◦ Staying at 107.3 FM and moving the antenna: As we learned earlier from Michael Brown, the 107.3 FM frequency has become progressively more short spaced as time has gone on. Paul does not think that were we to apply for the original Lockhart Cherry Ridge Road location today, we would even get it. He does not think the FCC would approve a modification to our waiver to move our antenna to the new Cherry Ridge location at 107.3 FM. We would need to change the frequency of the station. It appears that the Respini Ranch location is still viable for a modification to our FCC waiver while staying on 107.3 FM because it is within the short spaced allowable locations as originally determined by Michael Brown.

Respini viable option for antenna

This will need additional research (\$100) to determine whether we could apply for a modification to our FCC approved waiver or whether we would need to let the existing major waiver expire and apply for a minor waiver for the Respini Ranch location

◦ Moving to 92.5 FM and moving the antenna: Paul feels that we have more flexibility in relocating the antenna and changing the frequency to 92.5 FM. Because there are second adjacent frequencies in the region (e.g. 92.9 FM), there are FCC constraints on the power, the antenna complexity (multiple bays), and the antenna height. Technically, we have to guarantee that we can reduce the power of the signal directly below the antenna so that nearby homes do not suffer interference in their attempts to listen to either 92.9 FM or 92.1 FM. This can be accomplished by a 4 bay antenna mounted on a tower that could be as much as 100' high. Were we to move in this direction, the number of available sites increases.

Most notably we have identified a site at the Sebastopol City water tanks on Pleasant Hill Road, a home owner's property at the intersection of Grand View and Cherry Ridge Road, and a farm at the end of Dusty Lane off of Cherry Ridge Road. The technical term for this detailed configuration to minimize the possible interference of our signal with existing stations for homeowners near our antenna is a "non-

population waiver." The practical implications are that we would need to invest in a significant tower structure and have approval from the county and the site owners for its installation. This is not necessarily different than what we had originally envisioned for the Lockhart property, but for 92.5 FM we do not have the option to stick an antenna in a tree. To better understand the relative antenna heights and allowable power that we could transmit at 92.5 FM, Paul would need to do a detailed study at one of these sites (e.g. the Pleasant Hill water tanks). This would tell us for instance whether we could have a 100' tower at 100 watts or a lower tower at 50 watts. This analysis will enable us to understand the relative cost/benefit of different tower architectures.

- In terms of procedure, if we decide to make a frequency change as well as a location change to our current approved waiver, we can file for the frequency change and the location change at the same time. This application would cost KOWS between \$500 and \$700 for the engineering and application work. The approval time could be as little as one month. Paul could start this work in approximately two weeks. Note that filing for a modification to an approved waiver does not change the construction time, so if we do not think we can get this all done by August 10th, then we need to file for an extension as a first order of business.

- ARC Directions to Paul Bame for next steps

- The ARC directs Paul to proceed immediately with an application for an extension to our current FCC construction permit. We will use the explanation that the cited property is no longer available to host our antenna. (\$80)

- The ARC directs Paul to perform an analysis of the Respini Ranch location to determine 1) if it is a viable option for 107.3 FM, 2) if it requires a modification to our currently approved FCC construction permit, or 3) if it requires that we let the current permit expire and then apply for a minor waiver for relocation to Respini Ranch. (\$100)

- The ARC directs Paul to perform an analysis of the requirements for a "non-population waiver" for the Pleasant Hill Road water tank location so that we understand the options for power level, antenna height, and antenna configuration (e.g. multiple bays) for a transmitter broadcasting at 92.5 FM. (\$100)

The ARC feels that these actions are the most concrete actions we can take in response to the concerns raised by the KOWS Steering Committee in the short term. Based on the input from Paul Bame, KOWS does not really have the option to move immediately into negotiations with the owners of the new Cherry Ridge Road site under the existing approved construction permit. If we do secure the site, it would very likely entail a switch from 107.3 FM to 92.5 FM. If we decide to take the path of a move from 107.3 FM to 92.5 FM, with all the attendant non-population waiver issues, then we have the opportunity to evaluate a number of other possible sites that might prove better candidates for increasing listenership.

Once we have the analysis done by Paul on the Respini Ranch and Pleasant Hill Road water tank sites, we can provide to the KOWS Steering Committee a clearer set of alternatives for review and discussion. In the mean time, we will proceed post haste with the filing of an extension request to address our impending permit expiration. Stuart (on behalf of the ARC)

re analysis done

Respini

KOWS Steering Committee notes 5-5-15

Posted on May 11, 2015 by kowscom

attended by Dave Stroud, Stuart Goodnick, Arnold Levine, Donald True, Don Campau (note taker), Alan Linsley, Mark Hogan.

We still need many programmers to submit content for the new site.

Summary of your show (140 words or less)

Description of show in more detailed terms (any length)

Timeline for web roll out will be sometime in summer possibly.

We may need a Volunteer to head up and maintain the new web site. WordPress architecture should be easy to train and maintain.

Technical

Stuart has revived the Mac G5 and we will develop a use for it. The extra mixing board will be passed to a friend of Don's for possible repair.

Reset CD burner to record one track only and not break recording into several segments.

Radio Logick software needs some clean up. Don will help delete unused shows.

Antenna

Paul Bame is now working with the ARC and advising on ways to move forward. Respini Ranch is still the leading candidate although other options were discussed. We will need to do a test broadcast from Respini as next step. The funding for the Antenna is almost in reach and then we will need to buy transmitter appropriate for the location.

501 (c) 3

Don will ask Matt Savinar about the progress.

Fundraising

Nearly at our goal for Antenna funding but will now need more for the transmitter.

Grants: we still need someone to pursue this revenue stream. Person who receives grant also gets 20% of total.

We need underwriters. We are down to about 17 underwriters. We need people to sign up lapsed businesses and get new ones. People who get underwriters get a 20% commission which can be applied to their dues or taken as cash.

Operations

Vincent will tune up office computer.

CD burner will be reset for recording.

lean antenna site is Respini as of June 2015

only 17 under-writers programmers get a 20% commission on new under-writer

new Lori Curtis, needs training

KOWS Steering Committee notes 4-7-15

Posted on April 11, 2015 by kowscom

attended by Cathy Corzine, Arnold Levine, Don Campau (note taker), Dave Stroud, Donald True, Alan Linsley and Mark Hogan.

Committee Reports

Technical

Fairly stable lately. When Radio Logick quits unexpectedly it starts up again automatically.

Dave is working on installing new drive for TheLoop to replace unstable small drive used currently.

Ipod cord may be faulty. Dave may have extra cord. Donald or Dave will replace.

Install small mini mixer for live guests behind

Fundraising

Don will talk or write Jenyng about financial update for KOWS and how to make purchases and get reimbursements.

IndieGoGo campaign about to begin (and did begin two days later)

Will be a \$6K campaign to raise \$ for antenna relocation.

Web Site development

Dave Stroud will cap spending at \$500 for various software and development items for our new site. He has offered to donate \$250 of this amount.

The new site will be a wordpress format and will be editable by password protected members.

Hopmonk spread sheet indicates that our spending will be around \$2K fir this event and we already have over \$1800 income.

Programming

Discussion of Sadie Damascus' adult themed program for Sunday nights 10PM-12 midnight.

SC voted and agreed based on the following stipulations.

Must make disclaimer at start of show and then at top of the next hour. Don will provide disclaimer language.

If there are two complaints then this will initiate a review of this show with possible suspension or termination a result.

Adult themed program

(later Sadie agreed and will begin on April 19. She will continue her laughing Lady show on Wednesday until the end of the month. She will also keep her British Ballads repeats from KGGV on Thursdays).

This is the only KOWs show allowed to broadcast this adult material. Any others must have approval by KOWS SC and be during the so called "safe harbor" period of 10PM-6AM.

The request from Hayet Amatullah to have a weekly one hour show by waiving the 3 month probation period was denied by SC vote. She can have a bi weekly show and can apply for a weekly program in 3 months.

Contact Dean Fernandez. Is he still doing his show? (Don wrote him on 4-9).

KOWS SC notes 3 March 2015

Posted on March 10, 2015 by kowscom

at Arnold Levine's House

attended by Alan Linsley, Arnold Levine, Donald True, Mark Hogan, Don Campau (note taker), Dave Stroud

Antenna

Cherry Ridge: now out

Respini Ranch: still considered

A couple of other locations being pursued.

Pay Michael Couzens \$100 if we have it for legal services past due.

Respini
Viable
March
2015

SC notes January 2015

Posted on January 24, 2015 by kowscom

at Arnold Levine's house.

attended by Arnold Levine, Donald True, Cathy Corzine, Mark Hogan, Alan Linsley, Stuart Goodnick, Dave Stroud and Don Campau (note taker).

agenda

Robb wants handrail for bathroom

> Donald will install.

510 (c) 3

Exact status unknown but papers are in progress.

antenna

> Don will call Michael Brown for update

committee reports

Technical

*Egypt,
problems*

Stuart will look into dynamic DNS after static IP sudden change. IP static address can be had for \$30 month.

KOWS owes Stuart \$55.97 for blank CDs (for Best of KOWS) ands \$66 for Radio Logick license for 2015. Reimbursement approved.

Operations

Donald fixed vacuum cleaner.

Got a free year of Quickbooks for accounting.

Fundraising/Events

Since there is no chairperson for Events now we have decided to make this committee part of Fundraising. Arnold chairs this committee.

Strategy for fundraising for 2015?

Strategy for tasks for members?



We will reach out to volunteers for help with specific tasks and remind them of the importance of paying dues. Don will formulate a letter to the Herd . DJs shows may be in jeopardy if they will not consider paying dues.

*Dues
not
paid*

Keep it positive to volunteers. No threats but emphasize the consequences of non funding.

KOWS Steering Committee notes 5-13-14

Posted on May 21, 2014 by kowscom

at Arnold Levine's house

attended by: Arnold Levine, Donald True, Robb Perrone, Cathy Corzine, Matt Savinar, Stuart Goodnick, Alan Linsley, Mark Hogan, Don Campau (note taker).

Miscellaneous topics

501 (c) 3, bylaws,etc

Matt headed up the discussion period regarding our non profit filing status.

SC appointed the following positions to be on the initial Board.

President: Arnold Levine, Treasurer: Robb Perrone, Secretary: Don Campau,



We need description of each fundraising stream: underwriter, membership, grants, dues, donations, etc.

Do we file as a "private foundation" or a "Charitable organization". (Don emailed Ben at KWTF for advice and ben said "charitable org").

We will also need to fill out the Projected Financial Sheet for the next 3 years.

Antenna relocation

Identifying the next steps to make this happen.

Lease agreement.

Tower position and county and neighborhood sign off.

These are the first two crucial steps. Will be addressed by the Antenna relocation Committee and report back to the SC.

Alan proposed 3 people to head up The Antenna Relocation from SC.

He also proposed another possible crowdfunding project to raise funds.

Fundraising

Arnold discussed the various revenue streams and actions to make regarding each.

Membership gear up will involve re-doing off on the air message. (Arnold later printed up a sheet with all pertinent info to read).

Waving of Antenna relocation permit: Value \$2898

Technical

Stuart discussed equipment issues. Currently, doing well although we still need to repair backup board. Recent stream problem was due to software programming errors. Not an inherent problem.

Treasurer

\$ 940
in
account

Currently, KOWS is \$940 in the black.

Operations

Cathy will will ask for internet hosting reimbursement because it is now grown to more than her dues.

Eqpt.
issues

Cathy will investigate the wear on the turntable stylus.

Donald had made folders for all new DJs.

New trainees include: Richard Ruge, Dean Fernandez, ChoQosh, Roberta Teller.

KOWS Steering Committee notes 4-8-14

Posted on April 11, 2014 by kowscom

held at Arnold Levine's house

attended by: Alan Linsley, Cathy Corzine, Arnold Levine, Donald True, Stuart Goodnick, Mark Hogan, Don Campau (note taker).

Various miscellaneous topics and agenda items (submitted by Arnold).

1) Newsletter printing costs. Because it has expanded and more people are reading it, it is costing me more than I can afford. I will need about \$120/issue, that's \$60 per month for ink & paper.

The Steering Committee agreed to reimburse Arnold for any costs to print the newsletter. We tabled discussion to only print the newsletter quarterly until after the next issue.

Kows people not coming to events

2) Events. We are not getting enough KOWS people to the KOWS events, whatever and wherever they are. What to do?

Volunteers are programmers

Ask new programmers which committees they will be signing up for and encourage all volunteers to think about joining in. Remind all programmers their extra effort is needed.

More than anything else we need a Volunteer Co-ordinator to call out the troops and organize actions.

3) Bring Dave Henson of OAEC up to date & into antenna lease discussions for lawyer stuff?

Don will contact Matt Savinar to see about the progress for our 501 (c) 3. Then, Don will report to the SC and Dave Henson/OAEC.

Possibly ask Dave Henson for template about lease to use with property owner.

5) A rah rah email/announcement: We need to compliment the Herd on having doubling the bandwidth needed for online listeners, KOWS getting known in the world. People are listening etc.

Discussion regarding this but no actionable items to report.

Financial

\$600 in account

Currently, our financial reports indicates we have at least \$600 in the bank so we are slightly in the black. There was also another deposit made that will be reported for April later.

late dues

Suggestion to place paper invoice on wall with dues reminders and names on them. Also make yahoo post discussing and reminding of dues.

Grant writers needed badly to go after the support needed to move antenna.

We need to identify possible donors and make a plan to approach them.

Technical

Loop running OK but need remote start up for Loop.

Back up hard drive needed for iTunes library. Back up computer needs configuring.

Blakeslee Land Services

245 Kentucky Street, Suite F

Petaluma, CA 94952

707-495-0522

Chris.landservices@comcast.net

March 31, 2016

Sebastopol Hills Alliance for Rural Preservation (SHARP)

C/O Robert Jenkins

1411 Pleasant Hill Rd.

Sebastopol, CA 95472

Re: Effect on nearby Real Estate Property Values from a proposed 70 foot tall FM radio antenna tower at 1281 Pleasant Hill Rd. in Sebastopol as of March 30, 2016

Dear Mr. Jenkins

Your neighborhood organization, SHARP, retained my services to determine the estimated property valuation impacts that a proposed 70 foot tall FM radio antenna tower at 1281 Pleasant Hill Road in Sebastopol, CA would have on the surrounding neighborhood properties within view of the proposed antenna tower. There appear to be up to 20 nearby homes or vacant parcels that would be affected by the proposed antenna tower.

After inspections of your properties, the neighboring properties, the proposed antenna tower site, review of the available studies, and interviews with my peers and real estate associates, it is my opinion that if a 70 foot tall antenna tower were to be erected on the 3.39 acre City of Sebastopol property located at 1281 Pleasant hill Road, AP# 076-050-067, that you and your neighboring properties would have home and home site value reductions from 10% to 20% of their market values. Further, if you or your neighbors were to decide to sell your property in a buyers' market, your properties would likely have more difficulty in selling.

While I have not been tasked with providing specific appraisal devaluation amounts for each of the homes and properties that would be affected by the proposed 70 foot antenna tower, most of the impacted homes would have a value range of \$600,000 to \$1 million and could therefore incur negative valuation impacts of \$60,000 to \$100,000 at the 10% devaluation level and \$120,000 to \$200,000 at the 20% devaluation level, with homes and properties closest to the proposed antenna tower having the greatest negative impact. The proposed antenna tower could therefore cause combined property devaluations in the surrounding neighborhood exceeding \$1 million.

Properties have their individual values determined by the various bundle of rights of ownership & amenities such as: location, site, setting, view, potential or perceived health hazards, size and quality of home etc. If a buyer notes that one of those qualities/rights are lacking in relation to a substitute property then the buyer will either select a substitute property with a similar price or reduce their offer based upon the perceived negative effect of lacking rights on value. Buyers in western Sonoma County pay a premium for un-obstructed views to the hills, mountains or agricultural lands and any artificial elements that detract from this amenity will affect the desirability and therefore value to a potential property buyer. Antenna towers and other artificial elements in view of homes have a negative impact on desirability and value from not only my experience but from the studies I have reviewed.

In order to determine the value impacts in your neighborhood surrounding the proposed 70 foot antenna tower, I researched more than 50 articles written from various points of view, along with other statistical research/appraisal reports. Sandy Bond, PhD, a noted real estate expert has produced three studies that I reviewed for this report, including:

1. The Bond and Hue – Proximate Impact Study. This Study conducted in Orange County Florida in 2004 analyzed 9,514 residential home sales in 10 suburbs. Home sales within close proximity to antenna towers had an average reduced price of 15%.
2. The Bond and Wang – Transaction Based Market Study involved the analysis of 4,283 residential homes in 4 suburbs between 1984 and 2002 and the study concluded that homes in close proximity to an antenna tower had a reduced price of about 21%.
3. The Bond and Beamish – Opinion Survey Study involved a survey of people who lived within 100 feet of an antenna tower. 38% said they would reduce the price by more than 20%, 38% said they would reduce the price by 1-9%, and 24% said they would reduce the price by 10-19%, in the event of a sale.

These three studies were the only ones found that relied on large samples and did not appear to show any bias. Proximity to towers in these studies reduced property values from a low of 5% to a high of 21%.

I also interviewed fellow appraisers and realtors in Sonoma County as part of the research for this report, which helped determine the affect a 70 foot antenna tower would have on adjacent property values. What I found is that realtors and appraisers in west Sonoma County are all in agreement that having an antenna tower near a home site will negatively affect the desirability and value of the home and site. In my interviews with Sonoma County realtors, the consensus was that in any market there is a pool of buyers for a particular type of property and if there are any unusual/negative visual issues or perceived health issues with the property, then potential buyers will either look for a substitute property or offer less for the property. Negative visual effects and perceived negative health effects could each account for 30% or more of the value impact affecting homes and properties near an antenna tower. A 70 foot antenna tower would also increase the difficulty of closing a sale as a buyer would want to do some of their own research (due diligence) on the effect on property value and the possible negative health issues (electromagnetic health dangers) that may be associated with being in close proximity to a 70 foot antenna tower. In the appraisal business, HUD requires it's appraisers to take antenna towers into consideration when determining the value of a single family residence. HUD guidelines categorize antenna towers with "hazards and nuisances". FHA underwriting prohibits mortgages for homes that are within the engineered fall zone of an antenna tower.

Further, a reduction of property values due to antenna towers leads to lower property taxes which reduces the funding to local and state governments and schools, which also reduces the desirability of homes and properties in the neighborhood.

The area of Sonoma County surrounding the proposed antenna tower site has a SR (Scenic Resources Combining District) overlay designation as described below, which addresses the County's concern for views:

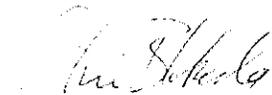
Article 64. – SR - Scenic Resources Combining District.

Sec. 26-64-005. – Purpose: To preserve the visual character and scenic resources of lands in the county and to implement the provisions of Sections 2.1, 2.2 and 2.3 of the general plan open space element. (Ord. No. 4643, 1993.)

A 70 foot tall antenna tower would not seem to conform to the County's goals set forth in the Scenic Resources Combining District for this area. Although the tower site itself is owned by the City of Sebastopol, all surrounding properties are located in the county and not in the City of Sebastopol.

Please don't hesitate to contact me should you have any questions or require further information.

Sincerely,

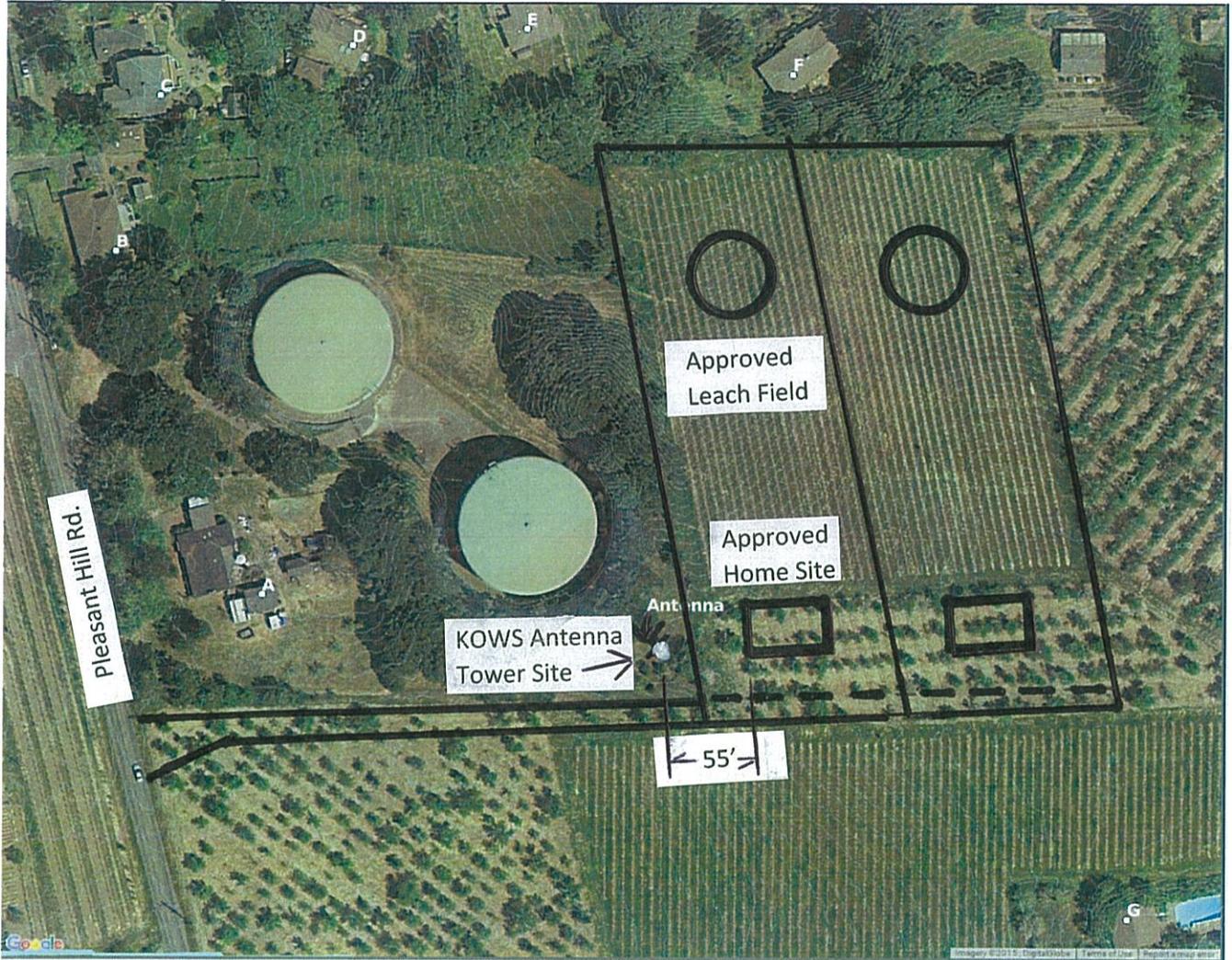


Chris Blakeslee

Blakeslee Land Services

[Chris Blakeslee is a Certified General Real Estate appraiser with the highest appraiser licensing level the State of California confers and has been appraising properties in California since the early 1980's. He is a licensed real estate broker for the State of California. He specializes in the valuation/evaluation and sale of rural residential, vineyards and winery properties in the North Coast, but primarily in Sonoma and Napa Counties. He has lived in rural western Sonoma County since 1979.]





1281 PLEASANT HILL ROAD & THE KOWS TOWER SITE

TWO ADJACENT 2 ACRE PARCELS WITH APPROVED LEACH FIELDS

& HOME SITES WITHIN 55' OF THE KOWS TOWER SITE

An Alternative Site: Respini Ranch



Respini Ranch has been a major contender for a KOWS antenna relocation site since December 2014.

*All content on this page has been copied directly from the [KOWS Steering Committee notes](#), which are available online. **ONLY italics, bold type, and bracketed comments have been added by SHARP.***

December 2014 SC Meeting: Primary relocation prospects:

Respini Ranch
Vinegar Creek
Cherry Ridge

A Longley- Rice survey (a statistical model of radio propagation) was authorized for Respini Ranch.

May 2015 SC Meeting: Paul Bame from Prometheus Radio was hired to work with the Antenna Relocation Committee. Respini Ranch was still the leading candidate. They needed to do a test broadcast from Respini Ranch.

June 2015 SC Meeting: Respini Ranch was still a major contender which would not require a signal change. [

See the [June 2015 Steering Committee notes](#) for an in depth discussion of sites, frequencies, adjacent signals, interference, and site pros and cons.]

July 2015 SC Meeting: Relocation sites still under consideration:

- Pleasant Hill Reservoir
- Police station pole on Laguna Parkway
- Three other sites in Grandview/Cherry Ridge area
- Respini Ranch
- Dusty Lane
- New Cherry Ridge property

Most sites required a change of frequency to 92.5 FM [not Respini Ranch]. City properties would entail 6-12 months approval process. Concern was expressed about losing the Pleasant Hill Reservoir site if KOWS didn't file for the 92.5 frequency.

The following discussion revealed two directions:

- Respini Ranch– easily expedited with no long approval process, relatively inexpensive, no need to change frequencies, no need for antenna tower structure (antenna would be in in a redwood tree), less range but adequate range.
- Pleasant Hill Reservoir– Potential approval process difficulties and delays, the biggest range available, required a frequency change, very expensive, tower infrastructure necessary.

It was decided that the Antenna Relocation Committee would have 90 days to pursue the Pleasant Hill Reservoir site and then either move forward or pursue the second choice location at Respini Ranch.

August 2015 SC Meeting: Options at Pleasant Hill Reservoir:

- An antenna tower of approx 100 feet that would use omnidirectional transmission and cover outlying areas of west county but somewhat erratically. Transmission into Sebastopol would not be as good as next listed option.
- An antenna of approx 60 feet using directional transmission, which would saturate Sebastopol area but perhaps not much of surrounding area.

The total cost could be approx **\$25,000-30,000** or more.

In another scenario, KOWS would move to the Respini Ranch site.

Broadcasting there would be as effective as either tower option, but costs would be exponentially less. There would be no tower, eliminating a large portion of the expense. The antenna would be in a tree, as it is currently, an omnidirectional antenna would be used, which it was guessed cost less.

The total costs at Respini Ranch would be in the range of less than \$5,000-10,000.

Any of the options listed above would provide a better and wider signal than the current one at the OAEC.

A suggestion was made by Don Campau to **first move to Respini Ranch** and then, with the added audience support, raise the funds to move to the PHR site eventually. No motions were made.

A decision was made to file for 92.5 FM which would become the new frequency. A motion was made and passed to spend approx \$200 to do a test broadcast from the Respini Ranch and PHR sites using a large "scissor track" outfitted with necessary equipment.

September 2015 SC Meeting: A frequency change was filed for. Benefits, costs etc of Respini Ranch vs PHR were again reviewed. 30 days was allotted for the final ARC decision.

December 2015 SC Meeting: The Antenna Relocation Committee made a presentation. The Steering Committee approved the PHR site **by vote of 7-2.**

March 2016 SC Meeting [after the Planning Commission meeting]: Other options for antenna were discussed, including going down to 50 feet at Pleasant Hill Reservoir, which would lose half the (potential) listeners; but there would be less loss of potential listenership at 60 feet at Respini Ranch.



©2016 SHARP Watch

SHARP - Sebastopol Hills Alliance for Rural Preservation

Preserving the natural beauty and character of the West Sonoma

County Hills, for today and for future generations. Next action: Limit the proliferation of CELL PHONE Towers in the Hills of Sebastopol.



Occidental Community Council Minutes – September 19, 2015

PRESENT: Diane Masura, Carolyn Neiman, Fawn & MacKenzie Nekton, Candi Penn, Mary Szecsey, and Donald True

APPROVAL OF MINUTES: Yes.

PUBLIC SERVICE ANNOUNCEMENTS:

Joy Road Neighborhood Assoc. Annual Picnic is Sunday, Sept. 20th.

Occidental Community Center Advisory Committee Next Meeting: Thursday, Oct. 1st, 6:30pm

School Cleanup of Salmon Creek Beach – Sept. 19th

(Sonomacountygazette.com has a Guide to Sonoma Co. Watershed & Beach Clean-Ups)

Sonoma County Art Trails - October 10, 11, 17 and 18.

(Preview Exhibit at the Sebastopol Center for the Arts where each artist is represented.)

Last Occidental Bohemian Farmers Market will be Oct. 30th.

TREASURER'S REPORT: \$8817.67

CRAFTS FAIRE: December 12 & 13, 2015

Vendor Application Deadline extended to Oct. 7th, due to website Application glitch.

Jurying Vendors postponed to Oct. 8th at 3:30. Carolyn, Diane, Fawn, Candi

Publicity – posters, digital, print – Fawn will set up with Jenny.

Signs will go up the week before Thanksgiving. Donald.

Food – Soup, Salad, Bread, Drinks – Personnel needed to serve!

Raffle - Business Donations – November Request/Gather by Candi;

Gathering from Vendors at event/Printing List - Candi & Shyla day of.

Security/ Vendor Greet & Set up - Gino

Decorate – tree, garlands ordered. Thursday, Dec. 10th – 3 to 6pm

Santa – Courtney? Specify time he will be at the event each day.

Music – Local Ukelele Group expressed interest to perform again. YES.

WEBSITE: Traffic: 7745 Hits / 577 Local

The New Mural will be featured this month. It is going to be started soon.

CORRESPONDING SECRETARY:

Senior Resource Center Newsletter – Sept. Scoop

Minutes from OCCAC Meeting Sept. 3, 2015.

OCA & other events posted on the OCC Calendar (Google).

Thank you letter from School for Resource Donation.

NEW BUSINESS:

A request from OCCAC was received and tabled: Discussion of OCC as a fiscal sponsor for this group will be on the agenda next month. A member will attend the meeting.

KOWS: Check out the New Website! <http://kows107-3.org>

The final application for the IRS 501c3 status is complete.

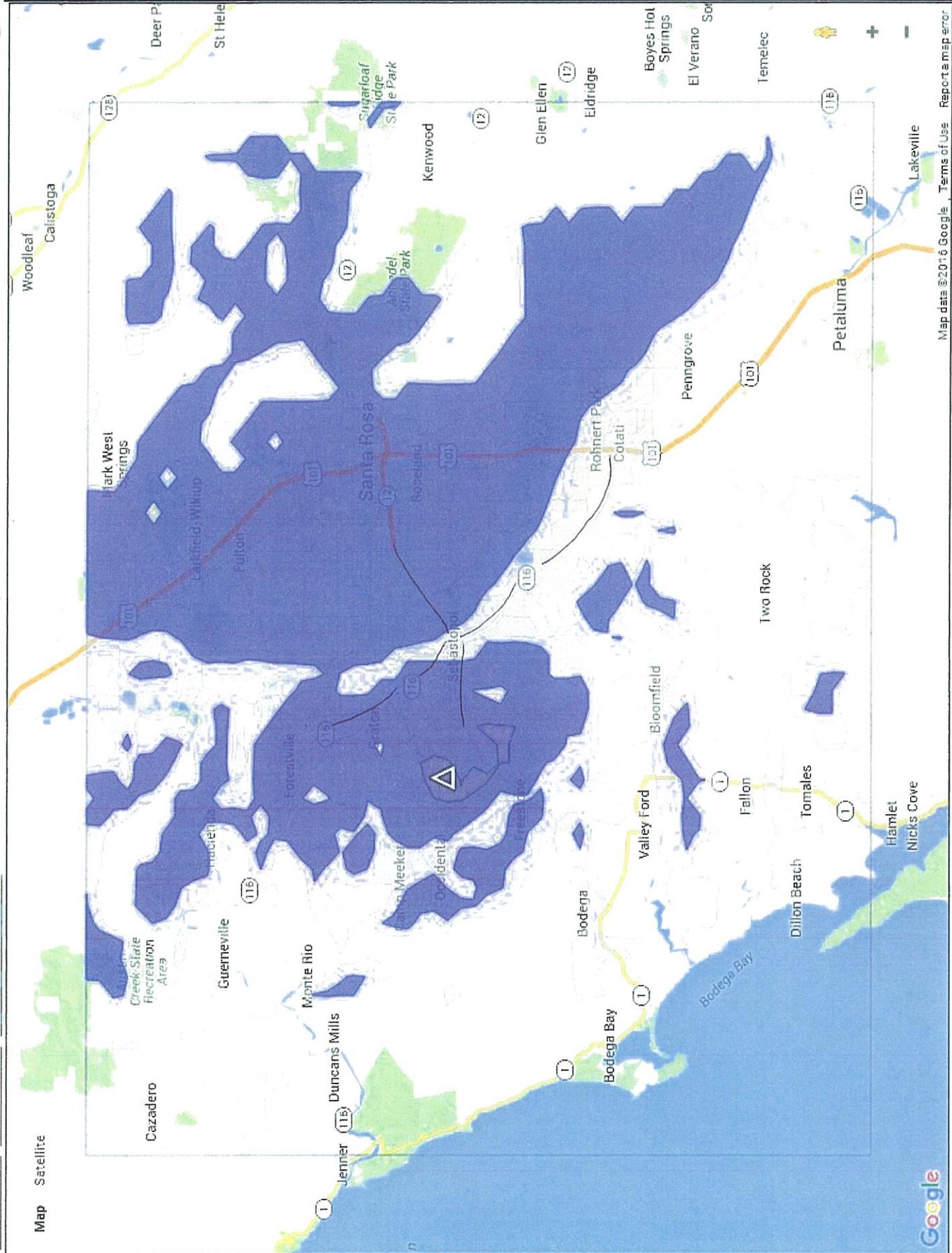
Approval for the Frequency Change has been received.

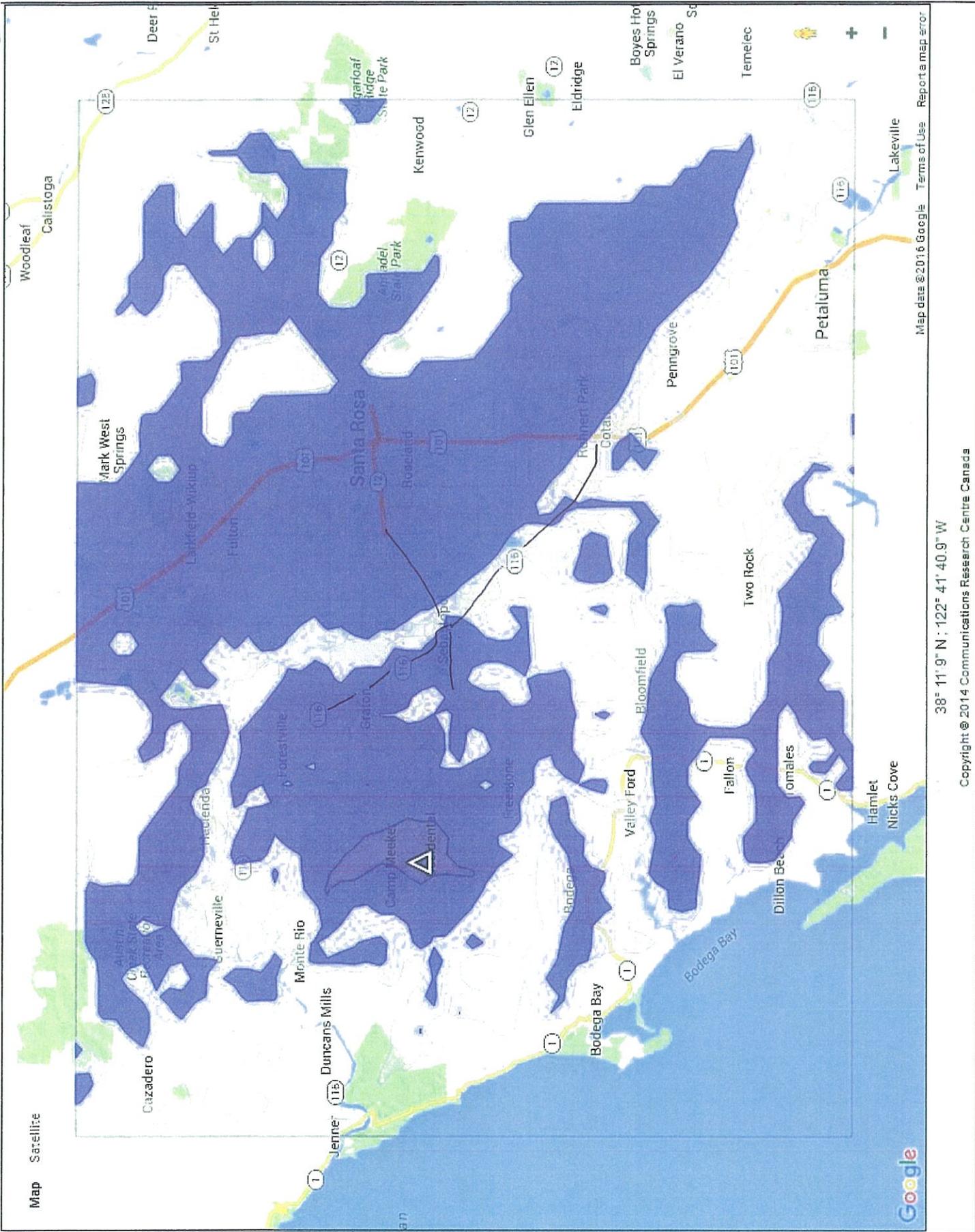
The antennae relocation can move forward at either the Respini site, or the Pleasant Hill Water Tank site in Sebastopol.

Big news: KOWS.fm must vacate the current building and move by Dec. 31st!!!!

Please contact if you have a solution: kows@sonic.net or 707 874 9090.

25 Swatts - Respin





38° 11' 9" N ; 122° 41' 40.9" W

Copyright © 2014 Communications Research Centre Canada

Map data © 2016 Google Terms of Use Report a map error



KOWS ANTENNA TOWER SIMULATION

PROVIDED BY SHARP

L411 PLEASANT HILL ROAD DRIVEWAY ENTRY AT PLEASANT HILL ROAD



KOWS ANTENNA TOWER SIMULATION

PROVIDED BY SHARP

1426 PLEASANT HILL ROAD DRIVEWAY ENTRY AT PLEASANT HILL ROAD



KOWS ANTENNA TOWER SIMULATION

PROVIDED BY SHARP

1575 PLEASANT HILL ROAD DRIVEWAY ENTRY AT PLEASANT HILL ROAD



KOWS ANTENNA TOWER SIMULATION

PROVIDED BY SHARP

1400 PLEASANT HILL ROAD DRIVEWAY ENTRY AT PLEASANT HILL ROAD



THESE TREES
ARE NOT
ADJACENT TO
THE PROPOSED
ANTENNA;
THEY ARE
APPROX.
500' AWAY
TO THE NORTH

Sebastopol Water Tanks	View From Pleasant Hill Road	Photo #2 Simulation
1281 Pleasant Hill Rd Sebastopol, CA 95472	KOWS Radio Tower	Autumn Streamfellow 12/29/2015
PHOTO BY KOWS RADID		



Proposed Tower

Sebastopol Water Tanks

1281 Pleasant Hill Rd
Sebastopol, CA 95472

View From Pleasant Hill Road

KOWS Radio Tower

PHOTO
BY
KOWS
RADIO

Photo-#1-Simulation

Autumn Streamfellow

12/29/2015

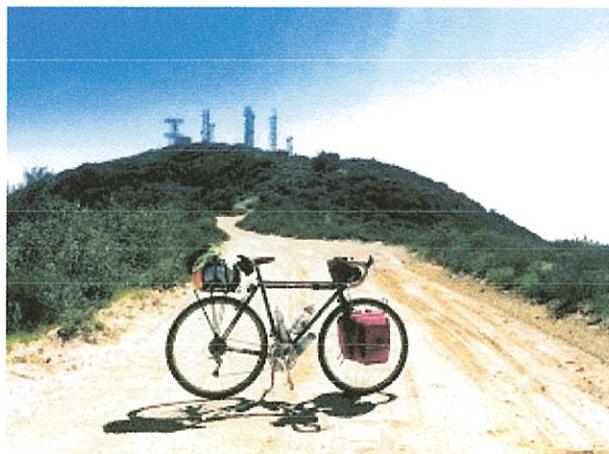
34

Collocation and Microwaves at the Pleasant Hill Reservoir



We are concerned that the Sebastopol City Council members may be under the impression that they can simply write restrictions into the KOWS lease and thereby prevent any future telecommunications towers or antennas at the Pleasant Hill Reservoir.

*But **new FCC regulations** have made it much more difficult for cities to deny the requests of telecommunications companies to collocate on existing structures.*



The FCC states in these regulations that existing towers can be strengthened by virtue of being extended in height and width, to support additional telecommunications equipment.

*Such allowances make Planning Director **Kenyon Webster's** statement, that the KOWS tower is "on the lightweight side", and could not handle any additional structures, completely irrelevant. The tower could clearly be **significantly reinforced** under these new regulations. Furthermore, **wireless antennas** are compact and lightweight, and can be installed at relatively low levels on a tower with no effect on a broadcast signal.*

*The majority of commissioners expressed concern about collocation at the **Planning Commission meeting** in February:*

***Paul Fritz:** "If we approve this tower, there is nothing to stop someone from bringing another application forward, and we will have set a precedent for putting towers on properties like this, and I do have some concerns about possible future proliferation."*

***Zachary Douch:** "Collocation is my biggest concern..."*

***Evert Fernandez:** "Based on a historical perspective, I don't think there's anything that can be done to absolutely assure that no further changes, that this audience won't be back here in another ten years. Administrations change..."*

***Linda Kelley:** "I... have an issue with collocation. I don't know if we could condition this to where in the future there wouldn't be another applicant, because it sways in the political arena..."*

The proposed KOWS antenna tower, classified as a

Major Telecommunications Facility in the City of Sebastopol's Planning Commission Staff Report, would absolutely become a magnet for AT&T, Verizon, and other cellular companies who may have shied away from the reservoir site after the 1994 battle neighbors carried out with GTE MobilNet.

According to the independent analytics firm RootMetrics, central Sonoma County, including Sebastopol, ranked in the bottom 4 metro areas for mobile network performance. The top eight companies are going to be actively seeking to enhance their coverage.

Lease agreements from these top tier tenants can generate substantial income, up to \$50,000 per year per collocation tenant.

Writing restrictions into a KOWS lease **will not stop** future cell towers at the Pleasant Hill Reservoir. Any restrictions could simply and easily be erased by a future City Council needing to generate income. The FCC's collocation regulations would facilitate the process, and provide a convenient buffer against neighborhood opposition.

Once the door is opened for the first antenna tower, the City of Sebastopol puts the Pleasant Hill Reservoir property at high risk of becoming an Antenna Farm. SHARP doesn't believe that this is what the City of Sebastopol really wants for its county neighbors.

To understand more about the problems the City of Sebastopol would face by allowing a new antenna tower to be erected on the reservoir's city island site, we recommend that you see [this link](#).

Broadcast towers are profitable collocation sites. To read more about broadcasters as cell company landlords, see [this link](#) and [this link](#).



Collocation and Microwaves at the Pleasant Hill Reservoir



We are concerned that the Sebastopol City Council members may be under the impression that they can simply write restrictions into the KOWS lease and thereby prevent any future telecommunications towers or antennas at the Pleasant Hill Reservoir.

*But **new FCC regulations** have made it much more difficult for cities to deny the requests of telecommunications companies to collocate on existing structures.*



The FCC states in these regulations that existing towers can be strengthened by virtue of being extended in height and width, to support additional telecommunications equipment.

*Such allowances make Planning Director **Kenyon Webster's** statement, that the KOWS tower is "on the lightweight side", and could not handle any additional structures, completely irrelevant. The tower could clearly be **significantly reinforced** under these new regulations. Furthermore, **wireless antennas** are compact and lightweight, and can be installed at relatively low levels on a tower with no effect on a broadcast signal.*

*The majority of commissioners expressed concern about collocation at the **Planning Commission meeting** in February:*

***Paul Fritz:** "If we approve this tower, there is nothing to stop someone from bringing another application forward, and we will have set a precedent for putting towers on properties like this, and I do have some concerns about possible future proliferation."*

***Zachary Douch:** "Collocation is my biggest concern..."*

***Evert Fernandez:** "Based on a historical perspective, I don't think there's anything that can be done to absolutely assure that no further changes, that this audience won't be back here in another ten years. Administrations change..."*

***Linda Kelley:** "I... have an issue with collocation. I don't know if we could condition this to where in the future there wouldn't be another applicant, because it sways in the political arena..."*

The proposed KOWS antenna tower, classified as a

Major Telecommunications Facility in the City of Sebastopol's Planning Commission Staff Report, would absolutely become a magnet for AT&T, Verizon, and other cellular companies who may have shied away from the reservoir site after the 1994 battle neighbors carried out with GTE MobilNet.

According to the independent analytics firm RootMetrics, central Sonoma County, including Sebastopol, ranked in the bottom 4 metro areas for mobile network performance. The top eight companies are going to be actively seeking to enhance their coverage.

Lease agreements from these top tier tenants can generate substantial income, up to \$50,000 per year per collocation tenant.

Writing restrictions into a KOWS lease **will not stop** future cell towers at the Pleasant Hill Reservoir. Any restrictions could simply and easily be erased by a future City Council needing to generate income. The FCC's collocation regulations would facilitate the process, and provide a convenient buffer against neighborhood opposition.

Once the door is opened for the first antenna tower, the City of Sebastopol puts the Pleasant Hill Reservoir property at high risk of becoming an Antenna Farm. SHARP doesn't believe that this is what the City of Sebastopol really wants for its county neighbors.

To understand more about the problems the City of Sebastopol would face by allowing a new antenna tower to be erected on the reservoir's city island site, we recommend that you see [this link](#).

Broadcast towers are profitable collocation sites. To read more about broadcasters as cell company landlords, see [this link](#) and [this link](#).



STAFF MISREPRESENTATION OF COLLOCATION POTENTIAL

Staff Report: “Classification (of the proposed KOWS project): **Major Telecommunications Facility.**”

Kenyon Webster: “**Cell companies collocate where there is an existing facility** or willing property owner who wants to host it. It would be up to the City to allow it and I don’t believe they could be forced.”

FCC: “**Definition of a ‘tower’ is any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities.**”

FCC: “**‘Collocation’ includes the first placement of any transmission equipment.**”

Paul Fritz: “**If we approve this tower, there is nothing to stop someone from bringing another application forward, and we will have set a precedent for putting towers on properties like this, and I do have some concerns about possible future proliferation.**”

Zachary Douch: “**Collocation is my biggest concern...**”

Evert Fernandez: “**I don’t think there’s anything that can be done to absolutely assure that no further changes, that this audience won’t be back here in another ten years. Administrations change...**”

Linda Kelley: “**I don’t know if we could condition this to where in the future there wouldn’t be another applicant, because it sways in the political arena...**”

**COMPARISON OF EMF EXPOSURE AT OAEC AND PHR SITES
FROM KOWS NIER REPORTS**

	EXPOSURE AT NEAREST PROPERTY BOUNDARY	% OF FCC EXPOSURE LIMIT OF 200uW/cm2	TIMES HIGHER AT PHR THAN AT OAEC	% OF EXPOSURE LIMIT FOR CHINA and RUSSIA 10uW/cm2	% OF EXPOSURE LIMIT FOR SWITZERLAND 4uW/cm2
OAEC	.0086 uW/cm2	.004%		.086%	.2%
PHR PHR worst case scenario	0.3 uW/cm2	1.0%	35X HIGHER	20%	50%
	16.0 uW/cm2	8%	1860X HIGHER	160%	400%
PHR tank workers	112 uW/cm2	56%	13,020X HIGHER	1120%	2800%
	EXPOSURE AT NEARBY HOUSE	% OF US EXPOSURE LIMIT OF 200uW/cm2	TIMES HIGHER AT PHR THAN AT OAEC	% OF CHINA and RUSSIA EXPOSURE LIMIT OF 10uW/cm2	% OF SWISS EXPOSURE LIMIT OF 4uW/cm2
OAEC	.0032 uW/cm2	.0016%		.032%	.08%
PHR PHR perked lot- worst case scenario	.03 uW/cm2	.2%	95X HIGHER	4%	10%
	16.0 uW/cm2	8%	5000X HIGHER	160%	400%

Some Effects of Weak Magnetic Fields on Biological Systems

RF fields can change radical concentrations and cancer cell growth rates

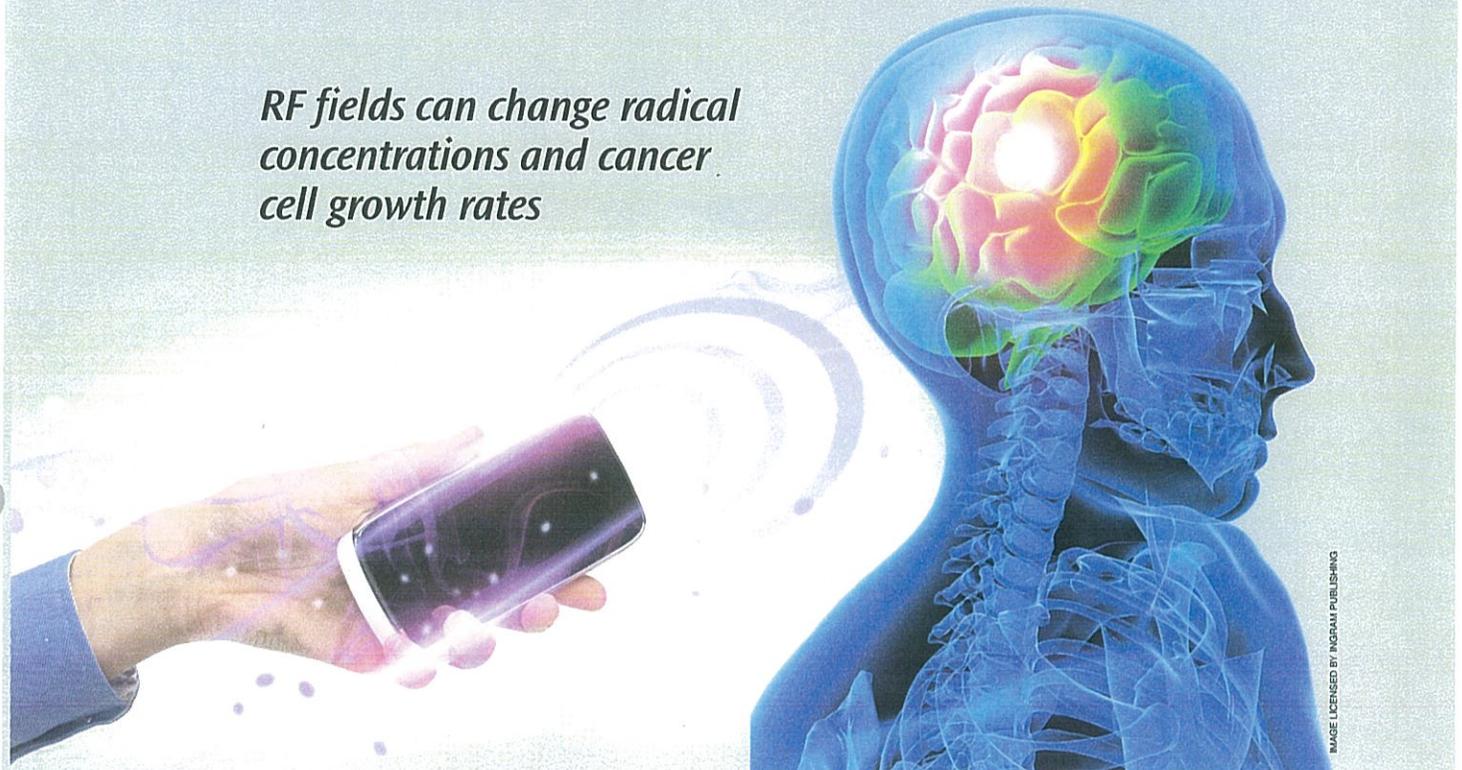


IMAGE LICENSED BY NORDAM PUBLISHING

by Frank Barnes and Ben Greenebaum

Concerns have been raised about the possible biological effects of nonionizing radiation since at least the late 1950s with respect to radar, other radio, and microwave sources.

More recent concerns have arisen about the potential effects of low-intensity fields, including low-frequency fields from the electric power generating, transmission, and distribution system and the devices it energizes, as well as intermediate, radio-frequency (RF), and higher-frequency radiation from devices such as cell

phones, broadcast antennas, Wi-Fi, security monitors, and so forth. These are concerns about the direct effects of radiation on humans or other organisms. They are distinct from the electromagnetic compatibility issues that concern interference by the fields from one device with the function of another, though human health can be indirectly affected by electromagnetic interference with the function of medical devices, including hospital equipment or pacemakers.

Because of the difficulties in establishing the direct biological effects of long-term low-level exposures, the lack of an understood mechanism, and difficulties in obtaining reproducible results, the guidelines for exposure limits have

Digital Object Identifier 10.1109/MPEL.2015.2508699
Date of publication: 7 March 2016

been set based on relatively short-term exposures (minutes) that show clear-cut damage with the addition of a substantial safety factor. The current guidelines from the U.S. Federal Communications Commission (FCC) for limiting exposures in free space to the general public for the frequency range 100 kHz–100 GHz are given in Table 1. These guidelines are based on American National Standards Institute (ANSI) and IEEE recommendations. For cell phones, the specific absorption rate (SAR) is limited to

1.6 W/kg averaged over 1 g of tissue. These limits have been set based on providing a significant safety factor over exposure levels known to cause damage, where the primary damaging mechanism is heating and an increase in temperature. At low frequencies, the limits are based on induced current densities that would excite nerve firing, and the permissible exposures recommended by IEEE C95.6 are shown in Table 2. The International Commission on Nonionizing Radiation Protection (ICNIRP) sets electric field exposure limits at 50 Hz to 5 kV/m and magnetic flux density limits at 100 μ T. It also sets guidelines for general public exposures in the frequency range 3 kHz–10 MHz at $E = 83$ V/m, $B = 27$ μ T and a whole-body SAR = 0.08 W/kg, and 1.6 W/kg over 1 g.

In general, environmental exposures at any frequency do not exceed these guidelines, especially for the general public. Instances of occupational exposures approaching or exceeding the guidelines are less uncommon [1]. However, the time constants for cell growth cycles and many other growth

Damages, such as aging, cancer, and Alzheimer's, are associated with radical concentrations that are elevated for extended periods of time.

phenomena are often hours or days. The most favored proposed mechanism for effects from low-level, long-term exposures involves radicals, such as super oxide O_2^- , NO_x , and H_2O_2 , which is readily converted into the radical OH^\cdot , molecules with unpaired electron spins that are highly reactive. These molecules are both signaling molecules and molecules that can cause damage to important biological molecules, such as lipids and DNA. Damages, such as aging, cancer, and Alzheimer's, are associated with radi-

cal concentrations that are elevated for extended periods of time [2]. In this article, we present the possible theoretical mechanisms and experimental data that show long-term exposures to relatively weak static, low-frequency, and RF magnetic fields can change radical concentrations. As a consequence, a long-term exposure to fields below the guideline levels may affect biological systems and modify cell growth rates, while an organism's built-in mechanisms may compensate for these changes.

Background

Much of the public concern dates from epidemiological studies that show small, though statistically significant increases in childhood leukemia for children living near power lines and possible increases in brain tumors for heavy use of cell phones. The early study by Wertheimer and Leeper [3] has shown an increase that was just statistically significant in childhood leukemia for children living near power lines. Of the many additional studies since then,

Table 1. The FCC limits for maximum permissible exposure (MPE).

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time (H ² , H ² or S) (min)
0.3–3	614	1.63	(100)*	6
3–30	1842/f	4.89/f	(900/f ²)*	6
30–300	61.4	0.163	1	6
300–1,500			f/300	6
1,500–100,000			5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time (H ² , H ² or S) (min)
0.3–1.34	614	1.63	(100)*	30
1.34–30	824/f	2.19/f	(180/f ²)*	30
30–300	27.5	0.073	0.2	30
300–1,500			f/1,500	30
1,500–100,000			1	30

f = Frequency in MHz

Source: OET Bulletin 56, 4th edition, 08/1999, FCC

*Plane-wave equivalent power density

Table 2. IEEE C95.6 environmental electric field MPEs, whole body exposure.

General Public		Controlled Environment	
Frequency Range (Hz)	E-rms* (V/m)	Frequency Range (Hz)	E-rms* (V/m)
1–368 ^c	5,000 ^{a,d}	1–272	20,000 ^{b,e}

^a Within power line rights of way, the MPE for the general public is 10 kV/m under normal load conditions.

^b Painful discharges are readily encountered at 20 kV/m and are possible at 5–10 kV/m without protective measures.

^c Limits below 1 Hz are not less than those specified at 1 Hz.

^d At 5 kV/m induced spark discharges will be painful to approximately 70% of adults (well-insulated individual touching ground).

^e The limit of 20,000 V/m may be exceeded in the controlled environment when a worker is not within reach of a grounded conducting object. A specific limit is not provided in this standard.

*rms = root mean square

about half show small correlations with proximity to power lines and/or weak magnetic fields, and about half do not [4]. However, the possibility that there may be a cause and effect for a long-term exposure to low levels of low-frequency electromagnetic fields has led to the classification by the International Agency for Research on Cancer (IARC), an agency of the World Health Organization (WHO), as a possible cause of cancer. However, this classification has not been included in the International Committee on Electromagnetic Safety or ICNIRP reference levels because of conflicting results and a lack of physical mechanisms by which weak magnetic fields could be expected to modify biological systems. The IARC has published an extensive review of the research epidemiological and laboratory research used in its determination concerning cancer [5]; the WHO has previously published a similar monograph concerning low-frequency field effects and various diseases, including cancer [6].

Although the earliest questions about exposure to high-frequency fields predate the concerns arising from power frequencies, these were generally related to higher-intensity exposures of military personnel or industrial workers. Concerns about more widespread exposures of the general public arose with the advent of the cell phone. Similar to the situation with power frequency fields, there have been many epidemiological studies on RF exposures and, particularly, cell phone use [7]. Among the largest of these is the Interphone study [8]. There have been many challenges to interpretations of the results of this study that no increase in risk of glioma or meningioma was observed with the use of mobile phones. Another view is that the data definitely show an increased risk of brain cancers for individuals with long-term, heavy cell phone use. This report also shows a slightly reduced incidence of cancers for light users. Many challenges to the various conclusions are associated with possible selection bias and the accuracy of the exposure data. Roosli [9] provides detailed discussions of the weaknesses of many epidemiology studies.

However, the net result of a review of many epidemiology studies is that there is epidemiological evidence for an association of small increases in cancer rates with long-term exposures to magnetic fields, and the IARC has also classified RF exposure as a possible carcinogen. It has also published a volume summarizing the epidemiological and laboratory RF research related to this finding [10]. The WHO published a 1993 monograph on RF exposure effects and disease [11] and is expected to publish a revision in the near future.

While public concern about the field effects is primarily about adverse health effects, there is also considerable interest in the potential of using either low- or high-frequency fields beneficially. At present, medical uses of electromagnetic fields involve relatively high intensities. For example, RF fields are used for their heating effect in diathermy and ablation of tissues, and pulsed lower-frequency magnetic fields have entered medical practice to encourage healing of recalcitrant bone fractures. A long-term goal of research in this area is to find reliable field effects at lower levels that could be used as noninvasive diagnostic or treatment tools or as research probes of underlying biological processes.

It has long been known that magnetic fields can change chemical reaction rates and radical concentrations. Most of these studies were done with relatively large magnetic fields, 1 mT or greater. Reviews of much of this work have been done by Grissom [12] and Steiner and Ulrich [13]. These reviews show that both changes in nuclear spin states and changes in the angular momentum for electrons in a molecule occur with variations in the magnetic field and affect chemical reaction rates. Some of the earliest work on the effects of nuclear polarizations states on chemical reaction rates of alkyl radicals is described in [14]. This work is followed by numerous papers showing the effects of nuclear polarization and nuclear spin states on chemical reaction rates, including Kaptein [15], Charlton and Bargon [16], Den Hollander et al. [17], and Buchachenko [18]. Woodward et al. [19], among others, find many RF absorption spectra lines in the range 1–160 MHz. Reviews of dynamic spin chemistry by Nagakura et al. [20] and by Hayashi [21] present detailed descriptions of the theory for the conversion of singlet to triplet states for radical pairs and the resulting changes in radical concentrations as a function of magnetic field strength, orientation, and the viscosity of the medium.

Radicals perform a wide variety of biological functions. Reactive oxygen species (ROS), such as superoxide, $O_2^{\cdot-}$, and nitrogen species, such as NO_x , are used both as signaling molecules and to attack bacteria and other pathogens. $O_2^{\cdot-}$ is released by neutrophils to as part of the immune systems response in killing bacteria. NO can activate guanylate cyclase, which results in a rise in cyclic guanosine monophosphate in smooth muscle tissue and vasorelaxation. It is also involved in the activation of macrophages [22]. In addition, the

Concerns about more widespread exposures of the general public arose with the advent of the cell phone.

ion-radical mechanism for the phosphorylation of a very large number of biological molecules is affected by magnetic fields, and phosphorylation is an important step in many biological signaling systems and the activation of biological processes [23].

Our work in this area was triggered by the observation that reducing the Earth's magnetic field to less than 1 μT inhibited the growth of fibrosarcoma HT1080 cells [24] and the theoretical and experimental work by Batchelor et al. [25]. Data from one such experiment involving radicals are shown in Figure 1, and additional work is summarized by Brockdehurst and McLauchlan [26].

A peak value for the concentration of the radical near the Earth's magnetic field with a magnetic flux density range below 1 mT is shown in Figure 1. This result, along with the results given in Figure 2 from [19], shows a large number of resonances in the radical spectra throughout the RF spectrum, provides the theoretical bases by which weak magnetic fields can change radical concentrations.

It is clear from these results that changes in magnetic fields on the order of tens of microtesla can change the concentrations of radicals. We have elaborated on these results to show that one can expect to change radical concentration when magnetic fields are applied at frequencies corresponding to resonances and at level crossings [27]–[29]. Some of these resonances may have narrow line widths corresponding changes in nuclear spin states [30]. In addition, as the static magnetic field (SMF) is varied in

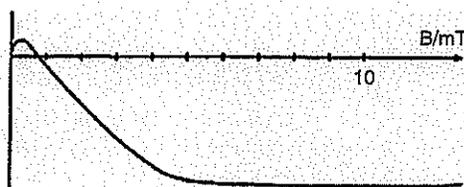


FIG 1 A schematic representation of the experimentally observed field effect in the pyrene/1,3-dicyanobenzene system. At the lowest low-field values, including that of the geomagnetic field, the effect of the field is to increase the proportion of radicals, which survives the geminate period and diffuses into the surroundings, but at high field, the reverse happens. The schematic presentation is used, since the actual published results measured the derivative of the curve, and to display them would introduce an unnecessary complication [25].

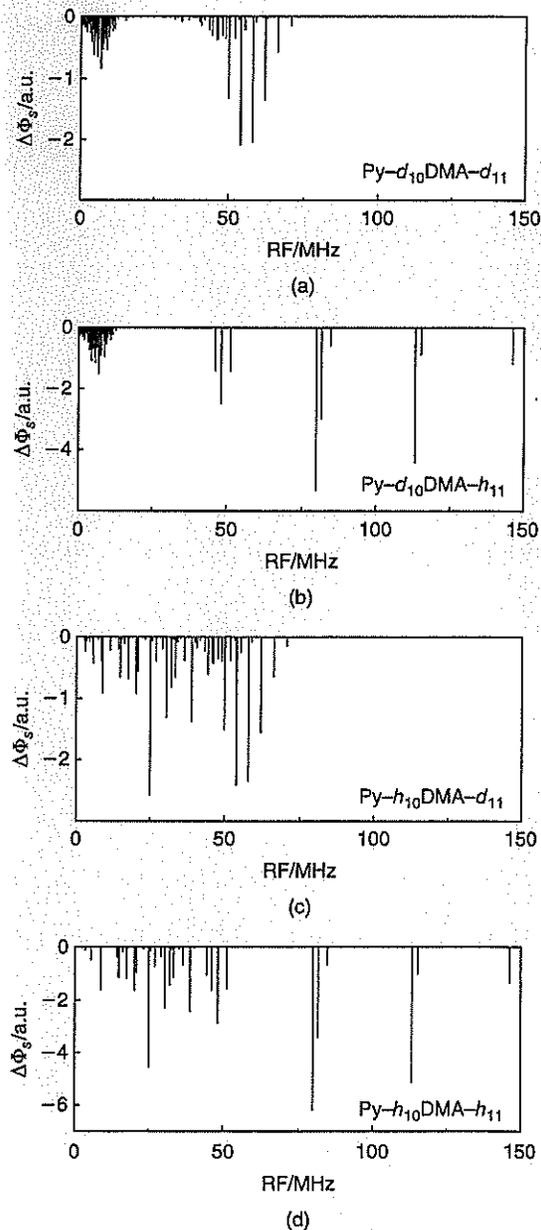


FIG 2 (a)–(d) The RF spectra for pyrene⁺-N,N-dimethylaniline⁺⁺(DMA⁺⁺) [19].

intensity and as the angle between the static and ac magnetic field changes, the recombination rates between the fragments of a radical pair will change [30]. More recent work shows a quantum limit for the detection of weak magnetic fields by changes in chemical reactions using radicals to be on the order of tens of nanotesla [31].

Hypothesis

The proposed hypothesis, which is based on extensive work by others, e.g., [2], [18], [19], [26], and, extended by some of our own [27], is that weak magnetic fields change the rate of recombination for radical pairs that are generated by the metabolic activity in cells, which, in turn, change the concentration of radicals such as $O_2^{\cdot-}$ and molecules such as H_2O_2 . Most of the time, the signaling properties of these molecules generate antioxidants and other radical scavengers so that damaging health effects are not seen, and, in some cases, positive effects, such as the activation of the immune system, may be observed. However, long-term exposure to elevated magnetic fields can lead to elevated radical concentrations and an association with aging, cancers, and Alzheimer's. This hypothesis is supported by some theoretical and experimental results. However, because biological systems contain a lot of feedback, feedforward, and repair processes, changes in radical concentrations will often have no observable effects. There is much work that needs to be done to illuminate the conditions in which magnetic fields can lead to either positive health effects or negative health effects, and observable effects may only occur when the exposures are combined with other biological stresses.

Some Theoretical Observations

Radicals are created during many biological reactions, including the metabolic processes in mitochondria. Figure 3 shows a schematic for the formation of a radical pair in either a singlet (S) state, where the spins are aligned with electron spins with opposite spins, or a triplet (T) state, with the spins parallel.

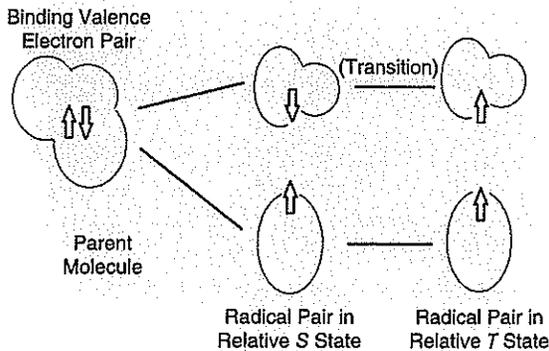


FIG 3 The vector representations of the components of the electron spin, electron angular momentum, and the nuclear spin with respect to the applied magnetic field.

In the singlet state, these pairs recombine with typical lifetimes between 10^{-6} and 10^{-10} s. In the triplet state, they are not allowed to recombine, and the opportunity for them to diffuse away increases so that they can react with other molecules. The coupling between the unpaired electrons and the nuclei in each fragment of the radical pair is different and, typically, can be described by magnetic fields in the range $10 \mu\text{T}$ – 3 mT [26]. For many radicals, this is stronger than the Earth's magnetic field flux density of about $50 \mu\text{T}$ so that the quantum numbers describing the state of each fragment are determined by the sum F of the electron angular momentum and electron spin J and the nuclear spin I (see Figure 4).

The unpaired electrons in the outer orbit of each of the radical pair fragments can be thought of as rotating about their nuclei at different rates, so the net magnetic

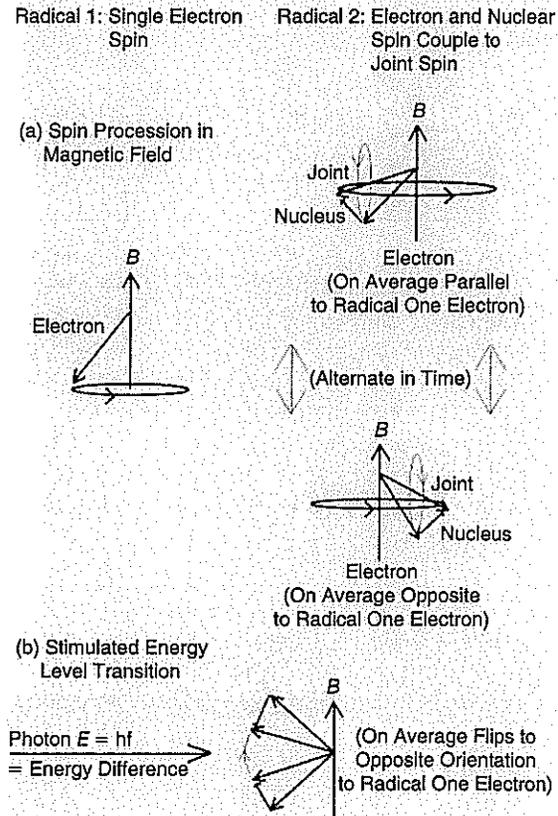


FIG 4 A schematic diagram of evolution of spins of two members of a radical pair, one with only an electron spin and the other with both an electron and a nonzero nuclear spin, illustrating changes between relative S and T states under two sets of conditions. (a) Precession of spins in an external magnetic field. (b) Stimulated transition by absorption of photon of energy corresponding to energy difference between levels in one radical. A photon must also carry angular momentum corresponding to the difference between levels.

moments for the two fragments switch from an S to a T state and back [26]. The rate at which this happens is perturbed by the external magnetic field. The energy levels in each fragment are shifted by different amounts by the external magnetic fields [see Figure 4(a)].

Changes in the applied magnetic field shift the size of the energy barrier for the recombination and the recombination rate. Nuclear magnetic spectra may have very narrow absorption lines with bandwidths of a few cycles with corresponding lifetimes for excited states of seconds or longer. Magnetic fields at the frequency corresponding to differences in the energy levels can drive molecules between energy levels of different nuclear spin states and change the concentration in these energy levels, which, in turn, can change the recombination lifetimes for radical pairs [27], as shown in Figures 4(b) and 5. Note that these narrow line widths can lead to saturation effects with magnetic fields in the range $10^{-8} - 10^{-9}$ T [32]. With large molecules that contain many atoms with nuclear spins, the calculations of the recombination rates are very complex as the contributions to the magnetic field seen by the electron that is active is dependent on the nuclear spin of each atom, and the shielding by other electrons in different orbits. For examples, see the calculations in [19], [25], [26], [28], and [33]. For our purposes, we will assume that the sum of these fields is large enough so that coupling can lead to relatively sharp resonances, and the nuclear spin states are important in determining the recombination rates for the radical pairs. Nuclear resonance spectroscopy at radio frequencies shows that nuclear spin states may have lifetimes of seconds or longer and corresponding resonant line widths of a few cycles [30]. We postulate that, in weak magnetic fields, where the magnetic coupling between the active electrons and the nuclei in the radicals is stronger than the perturbing external field, that we will also see shifts in radical concentrations that are frequency and amplitude dependent with relatively narrow line widths [27], as shown in Figure 5. This figure also gives an explanation for effects seen when the ambient magnetic is shielded [37], for then level energy differences are below the natural line widths and spontaneous transitions can occur.

Experimental Results

The experiments that most clearly show that weak magnetic fields affect biological processes and radical concentra-

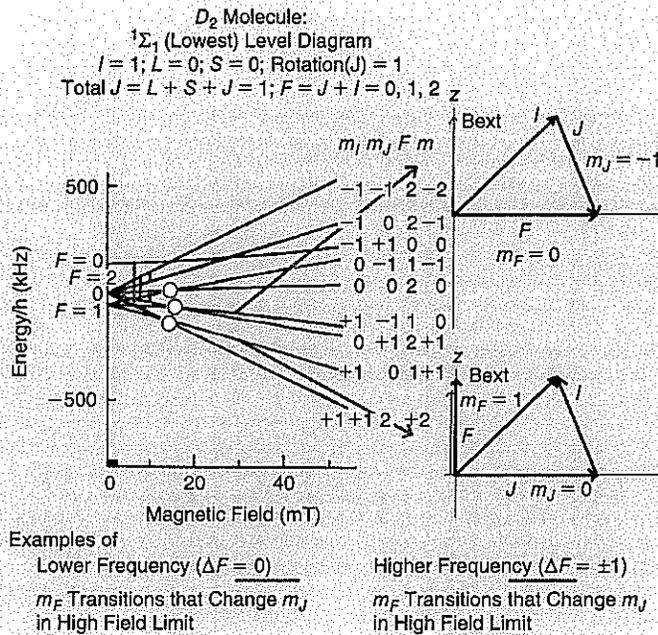


FIG 5 The energies of D_2 molecule states as a function of magnetic field with low field (F, m) and high field (J, m_J, m_I). Quantum number labels m_J and m_I are the projections of the electron angular momentum and nuclear spin on the external magnetic fields. Note the linearity of curves in low-field region, where $F = J + I$ is a good quantum number, and curvature as well as crossovers as field increases (after Ramsey [29]). Vertical lines (left diagram) indicate allowed transitions. Relative orientations of one transition's upper and lower state angular momenta are shown (right upper and lower diagrams). In the left diagram, circles indicate the examples of possible level-crossing transition points and box on horizontal axis indicates the region of possible zero-field transitions.

tions are those that involve changes in the SMF. The fact that birds, salmon, and other animals can sense small changes in the Earth's magnetic field and use them for navigation says that biological systems can sense small changes in these fields. Experiments in vitro that show changes in the growth rates of cells are more relevant to potential health effects. The results in reference [24] have shown a reduction in the growth rate of *E. coli* by reducing the SMF below $18 \mu\text{T}$. It has also been shown that we can reduce the growth rates of HT1080 fibrosarcoma cells by 20–30% by reducing the SMF to less than $1 \mu\text{T}$, while normal fibroblast cell are reduced by less than 10%.

In addition, we have data that show that changes in magnetic field change the growth rate of cancer cells more than normal cells of the same type. Typically, the interior of a quiescent normal cell is more negative with respect to the exterior than growing cells or cancer cells of the same type. For example, a normal fibroblast cell might have a membrane potential of -70 mV and a fibrosarcoma -30 to -35 mV [34]. Radicals have been shown to modify the channel currents of Na^+, K^+ , and Ca^{++} [35]. Preliminary data on fibrosarcoma cells in our lab show both changes in oxidative stress and

Experiments in vitro that show changes in the growth rates of cells are more relevant to potential health effects.

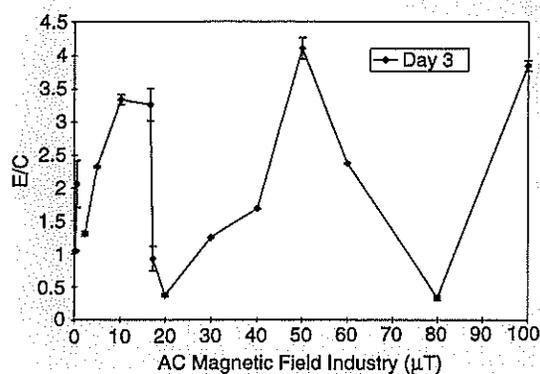


FIG 6 Normalized mastocytoma cell growth at 60 Hz and $B_{dc} = 38 \mu\text{T}$ [38].

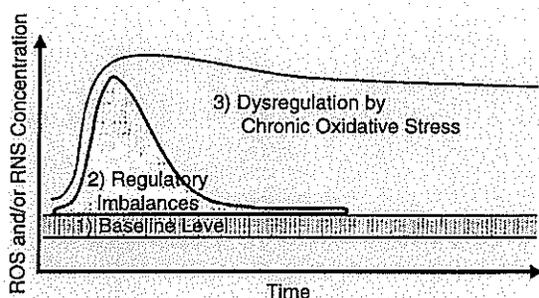


FIG 7 The regulatory events and their dysregulation depend on the magnitude and duration of the change in ROS or reactive nitrogen species (RNS) concentration. ROS and RNS normally occur in living tissues at relatively low steady-state levels. The regulated increase in superoxide or nitric oxide production leads to a temporary imbalance that forms the basis of redox regulation. The persistent production of abnormally large amounts of ROS or RNS, however, may lead to persistent changes in signal transduction and gene expression, which, in turn, may give rise to pathological conditions [2].

membrane potential for changes in magnetic fields from 45 to 100 μT and 200 μT (unpublished results).

At low frequencies, the magnetic fields can both increase and decrease the growth rates of cells. Zmyslony et al. [36] have shown changes in the number of free oxygen radicals in rat lymphocytes in vitro upon the application of weak 50-Hz magnetic fields. Prato et al. [37] have shown a reduction in the pain sensitivity upon exposure to 33 nT at 30 Hz. Bingham [38] has shown both increases and decreases in the growth rates of mastocytoma cells at 60 Hz, as shown in Figure 6. Note that the location of the peaks shift with changes in the SMFs and also with the induced electric fields and the corresponding induced current densities.

Usselman et al. [39] have shown that for rat pulmonary arterial smooth muscle cells, enhanced cell proliferation was observed with continuous applied 45 μT SMF and 7 MHz at 10 μT_{RMS} magnetic fields compared with the control group with only 45 μT SMF. The RF magnetic fields enhanced cellular proliferation by up to 40% on day two and 45% on day three in proportion to the SMF control group, and at three days, it led to a decrease of 45% in $\text{O}_2^{\cdot-}$ and an increase in H_2O_2 of 50%. Note that the calculated SAR is estimated to be approximately 0.12 W/kg. Other results [40] have shown that the exposure of HT1080 fibrosarcoma cells to 45 μT SMFs oriented vertical to the plane of growth or to SMFs combined with weak 5- and 10-MHz RF magnetic fields of 10 μT_{RMS} perpendicular to the static field inhibits the growth rate. Cell numbers were reduced up to 30% on day two for the cells exposed to the combination of SMF and a 10-MHz RF magnetic field compared with the SMF control cells. In addition, cells exposed to 10-MHz magnetic fields for 8 h increased H_2O_2 production by 55% [40]. The results demonstrate an overall magnetic-field-induced biological effect that shows elevated H_2O_2 levels with accompanying decrease in cellular growth rates. These effects are time dependent, and different cells can respond in opposite directions. Both the forgoing results are believed to occur through the interaction of the RF fields with hyperfine transitions between energy level associate with the generation or absorption of the radicals in the cells.

In addition, exposure at 1 mW and an estimated SAR of 0.76 W/kg for 10 h have been shown to reduce the growth rate of *E. coli* by a more than a factor of two while doing very little to *B. subtilis* [41].

Discussion

We have shown that both a theoretical base and the experimental results exist, demonstrating that weak static, low-frequency, and/or high-frequency magnetic fields can affect the concentration of radicals. There are also results that indicate that weak magnetic fields can change the growth rate of cells. However, there

are many experiments where no changes are seen. This, we believe, is due to the many feedback and repair processes in the body. Droge [2] has shown in Figure 7 how extended elevations of ROS and nitrogen oxide species lead undesired biological effects, such as aging, cancer, and Alzheimer's.

The question becomes: What does all of this mean for people designing wireless power-transfer systems? Typical systems have been designed so that the fringing fields meet current safety standards that have been set on relatively short-term exposures. For example, a system for charging car batteries using capacitive coupling at 6.78 MHz has a calculated maximum electric field of 33 V/m at 0.25 m from the charging plates, and the magnetic flux density is expected to be less than a few microtesla. A 6.6-kW system being developed under contract through Oak Ridge National Labs for charging car batteries using two coils separated 160 mm at 22–26 kHz with 85% efficiency has fringing magnetic fields of less than 6.125 μ T and fringing electric fields less than 87 V/m at 0.8 m.

These values are moderately close to the ICNIRP standards of 83 V/m and 27 μ T. However, the magnetic flux density is only a little less than 10 μ T, which has been shown to change a smooth muscle cell growth rate over a period of days. As people are not likely to stand next to their car for days, long-term effects are not likely to be important. However, there may well be other situations where designers may need to be concerned about the possible effects of long-term exposures.

Conclusions

We think that there are now both the theoretical bases and sufficient experimental results for further consideration of the possibility that long-term exposures to magnetic fields can lead to both useful applications in treating diseases and to undesired health effects. It is expected that these effects are frequency, amplitude, and time dependent. They will also be dependent on other biological conditions that can lead to changes in radical concentrations. In short, we have only begun to scratch the surface, and there is a lot of exciting research to be done before we can understand the ways in which low levels of magnetic fields can be used to control biological systems.

*The question becomes:
What does all this
mean for people
designing wireless
power-transfer
systems?*

Acknowledgment

We appreciate the support of Khurram Afridi, Robert Erickson, and Dragan Maksimović for obtaining information on current wireless transfer systems and the University of Colorado and the Milheim Foundation for financial support. In addition, the contributions of the many students and, in particular, Lucas Portelli, Carlos Martino, Cynthia Bingham, Julian Cyrus, Aly Ashraf, and Tosin Feyintola, who have worked on this topic at the University of Colorado are greatly appreciated.

About the Authors

Frank Barnes (Frank.Barnes@colorado.edu) is a distinguished professor emeritus at the University of Colorado, Boulder. He was elected to the National Academy of Engineering in 2001 and received the Gordon Prize 2004 for innovations in Engineering Education from the National Academy. He is a Fellow of the IEEE and the American Association for the Advancement of Science and has served as vice president, Publication Activities of the IEEE and as the chair of the IEEE Electron Devices Society. He and his students have built lasers, flash lamps, superconductors, avalanche photo diodes, and other electron devices as well as working on the effects of electric and magnetic fields on biology. Recently, they have shown that weak magnetic field can both increase and decrease the growth rate of two kinds of cancer and *E.coli*. His other work includes energy storage for renewable energy and the integration of wind and solar energy into the grid.

Ben Greenebaum (greeneba@uwp.edu) is emeritus professor of physics at the University of Wisconsin-Parkside. He has been engaged in research on biological effects of electromagnetic fields on biological systems since 1972, primarily collaborating on experiments on cellular and subcellular systems. He was an editor of the peer-reviewed journal *Bioelectromagnetics* from 1993 to 2006.

References

- [1] K.-H. Mild and B. Greenebaum, *Environmentally and Occupationally Encountered Electromagnetic Fields*, F. S. Barnes and B. Greenebaum, Eds., (Bioengineering and Biophysical Aspects of Electromagnetic Fields). Boca Raton, FL: CRC Press, 2007, pp. 1–33.
- [2] W. Droge, "Free radicals in the physiological control of cell function," *Physiol. Rev.*, vol. 82, no. 1, pp. 47–95, 2002.
- [3] N. Wertheimer and E. Leeper, "Electrical wiring configurations and childhood cancer," *Amer. J. Epidemiol.*, vol. 109, no. 3, pp. 273–284, 1979.
- [4] L. Kheifetz, *Epidemiological Studies of Extremely Low-Frequency Electromagnetic Fields*, Biological and Medical Aspects of Electromagnetic Fields, The CRC Handbook on Biological Effects of Electromagnetic Fields, 3rd ed., F. Barnes and B. Greenebaum, Eds., Boca Raton, FL: CRC Press, ch. 6, 2007, pp. 227–264.
- [5] IARC. (2013). Non-ionizing radiation, Part 2: Radiofrequency electromagnetic fields. *IARC Monographs on the Evaluation of Carcinogenic Risks to*

- Humans. Lyon, France. vol. 102. [Online]. Available: <http://monographs.iarc.fr/ENG/Monographs/vol102/index.php>
- [6] WHO. (2007). Environmental Health Criteria 238. Extremely Low Frequency (ELF) Fields. WHO: Geneva, Switzerland, [Online]. Available: http://who.int/peh-emf/publications/elf_ehc/en
- [7] M. Feychting, *Epidemiologic al Studies of Radio Frequency Fields*, ch. 7, Biological and Medical Aspects of Electromagnetic Fields. (The CRC Handbook on Biological Effects of Electromagnetic Fields, 3rd ed., F. Barnes and B. Greenebaum, Eds.). Boca Raton, FL: CRC Press, 2007, ch. 6, pp. 265–276.
- [8] The Interphone Study Group, E. Cardis, “Brain tumor risk in relation to mobile telephone use: Results of the Interphone International case-control study,” *Int. J. Epidemiol.*, vol. 39, no. 3, pp. 675–694, 2010.
- [9] M. Roosli, *Epidemiology of Electromagnetic Fields*, Boca Raton, FL: CRC Press, 2014.
- [10] IARC. (2002). IARC monographs on the evaluation of carcinogenic risks to humans. *Non-Ionizing Radiation, Part 1: Static and Extremely Low-Frequency (ELF) Electric and Magnetic Fields*. Lyon, France. vol. 80. p. 429. [Online]. Available: <http://monographs.iarc.fr/ENG/Monographs/vol80/index.php>
- [11] WHO. (1993). Environmental Health Criteria 137. Electromagnetic Fields (300 Hz–300 GHz). WHO: Geneva, Switzerland. [Online]. Available: <http://www.inchem.org/documents/ehc/ehc/ehc137.htm#PartNumber:1>
- [12] C. Grissom, “Magnetic field effects in biology: A survey of possible mechanisms with emphasis on radical pair recombination,” *Chem. Rev.* vol. 95, no. 1, pp. 3–24, 1995.
- [13] U. Steiner and T. Ulrich, “Magnetic field effects in chemical kinetics and related phenomena,” *Chem. Rev.*, vol. 89, no. 1, pp. 147–151, 1989.
- [14] R. Kaptein, “Chemically induced dynamic nuclear polarization in five alkyl radicals,” *Chem. Phys. Lett.*, vol. 2, no. 4, pp. 261–267, 1968.
- [15] R. Kaptein, “Chemically induced dynamic nuclear polarization in five alkyl radicals,” *Chem. Phys. Lett.*, vol. 2, no. 4, pp. 261–267, 1968.
- [16] J. L. Charlton and J. Bargon, “Chemically induced dynamic nuclear polarization at zero magnetic field,” *Chem. Phys. Lett.*, vol. 8, no. 5, pp. 442–444, 1971.
- [17] J. den Hollander, R. Kaptein, and P. Brand, “Chemically induced dynamic nuclear polarization (CIDMP) VII Photoreactions of Aliphatic Ketones,” *Chem. Phys. Lett.*, vol. 10, no. 4, pp. 430–435, 1971.
- [18] A. Buchachenko, “Magnetic isotope effect: Nuclear spin control of chemical reactions,” *J. Phys. Chem. A*, vol. 105, no. 44, pp. 9995–10011, 2001.
- [19] J. Woodward, C. Timmel, K. McLauchlan, and P. Hore, “Radio frequency magnetic field effects on electron-hole recombination,” *Phys. Rev. Lett.*, vol. 87, pp. 077602-1–077602-4, July 2001.
- [20] S. Nagakura, H. Hayashi, and T. Azumi, Eds., *Dynamic Spin Chemistry*. New York: Wiley, 1999, pp. 249–297.
- [21] H. Hayashi, *Introduction to Dynamic Spin Chemistry*. Singapore: World Scientific Publishing Co, p. 268, 2004.
- [22] H. Forman, J. Fukuto, and M. Torres, *Signal Transduction by Reactive Oxygen and Nitrogen Species*. New York: Kluwer Academic Publishers, 2003.
- [23] A. Buchachenko and D. Kuznetsov, “Magnetic control of enzymatic phosphorylation,” *J. Phys. Chem. Biophys.*, vol. 4, no. 2, p. 9, 2014, DOI: 10.4172/2161-0398.1000142.
- [24] C. Martino, K. McCabe, L. Portelli, M. Hernandez, and F. Barnes, “Reduction of the Earth’s magnetic field inhibits growth rates of model cancer cell,” *Bioelectromagn.* vol. 31, no. 8, pp. 649–655, 2010.
- [25] S. Batchelor, C. Kay, K. McLauchlan, and I. Shkrob, “Time-resolved and modulation methods in the study of the effects of magnetic fields on the yields of free radical reactions,” *J. Phys. Chem.*, vol. 97, no. 50, pp. 13250–13258, 1993.
- [26] B. Brocklehurst, K. McLauchlan, “Free radical mechanism for the effects of environmental electromagnetic fields on biological systems,” *Int. J. Radiat. Biol.*, vol. 69, no. 1, pp. 3–24, 1996.
- [27] F. Barnes and B. Greenebaum, “The effects of weak magnetic fields on radical pairs,” *Bioelectromagn.*, vol. 36, no. 1, pp. 45–54, pp. 1649–1658, Jan. 2015.
- [28] K. Wang and T. Ritz, “Zeeman resonances for radical-pair reactions in weak static magnetic fields,” *Mol. Phys.*, vol. 104, no. 10–11, pp. 1649–1658, 2006.
- [29] N. Ramsey, *Molecular beams*. Oxford: Clarendon Press, 1956, p. 237.
- [30] F. Bovey, L. Jelinski, and P. Mirau, *Nuclear magnetic resonance spectroscopy*, ch. 7, 2nd ed. Cambridge, MA: Academic Press Inc, 1988.
- [31] J. Cai, F. Caruso, and M. Plenio “Quantum limits for the magnetic sensitivity of a chemical compass,” *Phys. Rev. A*, vol. 85, no. 4, 040304(R), 2012.
- [32] F. Bovey, *Nuclear Magnetic Resonance Spectroscopy*, 2nd ed., p. 29. Cambridge, MA: Academic Press, 1988.
- [33] C. Rodgers, S. N. Henbest, C. Timmel, and P. Hore, “Determination of radical re-encounter probability distributions from magnetic field effects on reaction yields,” *J. Amer. Chem. Soc.*, vol. 129, no. 21, pp. 6746–6755, 2007.
- [34] M. Levin, “Endogenous bioelectric signals as morphogenetic controls of development, regeneration and neoplasm,” in *The Physiology of Bioelectricity in Development, Tissue Regeneration and Cancer*, C. Pullar, Ed., Boca Raton, FL: CRC Press, 2011, ch. 3, p. 49.
- [35] J. Kourie, “Interaction of reactive oxygen species with ion transport mechanisms,” *Amer. J. Physiol.*, vol. 275, no. 1 pt 1, pp. C1–C24, 1998.
- [36] M. Zmyslony, E. Rajkowska, P. Mamrot, J. Politanski, and J. Jajte, “The effect of weak 50 Hz magnetic fields on the number of free oxygen radicals in rat lymphocytes in vitro,” *Bioelectromagn.*, vol. 25, no. 8, pp. 6607–6612, 2004.
- [37] F. Prato, D. Desjardins-Holmes, L. Keenlside, J. DeMoor, J. A. Robertson, and A. W. Thomas, “Magnetoreception in laboratory mice: Sensitivity to extremely low-frequency fields exceeds 33 nT at 30 Hz,” *J. Roy. Soc. Interface*, vol. 10, no. 81, 2013, DOI: 10.1098/rsif.2012.1046.
- [38] C. Bingham, “The effects of DC and ELF AC magnetic fields on the division rate of Mastocytoma cells,” Ph.D dissertation, Univ. of Colorado, Boulder, 1996.
- [39] R. Usselman, I. Hill, D. Singel, and C. Martino, “Spin biochemistry modulates reactive oxygen species production by radio frequency magnetic fields,” *PLoS ONE*, vol. 9, no. 3, p. e101328, 2014.
- [40] P. Castello, I. Hill, F. Sivo, L. Portelli, F. Barnes, R. Usselman, and C. Martino, “Inhibition of cellular proliferation and enhancement of hydrogen peroxide production in fibrosarcoma cell line by weak radio frequency magnetic fields,” *Bioelectromagnetics*, vol. 35, no. 8, pp. 598–602, 2014.
- [41] A. Akbal and H. Balik, “Investigation of the antibacterial effects of electromagnetic waves emitted by mobil phones,” *Polish J. Environmental Studies*, vol. 22, no. 6, pp. 1589, 2013.



goodHealthinfo.net

Home

Holistic Self-Defense

[A Better Health Plan](#)

[Chi Kung](#)

[Food and Energy](#)

["Dangers of Soy" Myth](#)

["Drink Water" Myth](#)

["Enzyme Heat" Myth](#)

[Frequency Techniques](#)

[ABPA Review](#)

[F100 Series Review](#)

[F-SCAN Review](#)

[GB-4000 Review](#)

[Rife Handbook Review](#)

[Spooky2 Review](#)

[Hadoscan and EAV](#)

[Meditation](#)

[Helpful Sites](#)

Cancer

[A Holistic Approach](#)

[What I Learned](#)

[Beware the FDA!](#)

[The FDA's Panacea](#)

[Thirteen Years](#)

[The Forbidden Fruit](#)

[Aloe Irritates the FDA](#)

[Institutional Torture](#)

[The FDA's Cozy Little](#)

[Relationship](#)

Macrobiotic

Dietary

Recommendations

Radiation

[Effects \(Eastern View\)](#)

[Effects \(Western View\)](#)

[The FCC Standard](#)

[Radiation Links](#)

Seven Herbalists Speak

[Elisa Adams](#)

[Diane Brigida](#)

[Bill Fage](#)

[Gene Fitzpatrick](#)

[Cheryl Kelly](#)

[Jeanne Polcari](#)

[Joan Reardon](#)

Doesn't the FCC Standard Protect Us?

[I]ndications that the technology is potentially less than safe have been, and continue to be, *studiously ignored*, both by the industry and by national and international regulatory bodies ... The concern of the public is thus not unfounded ...

[March 2001 report by the European Parliament STOA](#)

No.

The FCC standard was originally intended to prevent interference between pieces of electronic equipment and was later modified to protect workers exposed to microwaves from heating effects (the only effects recognized at the time). It was not created to protect the general public, including those most vulnerable (children, the elderly, the infirm). It was created by engineers, not anyone with knowledge of physiology or biology. It was, and still is, created with heavy industry involvement. Therefore, to suppose that it provides adequate protection is erroneous.

The FCC standard is purely arbitrary and unrealistically high. Many countries do not permit levels anywhere near the FCC standard, as can be seen from the following listing. Only the U.K. is higher. The unit in which microwave exposure is often measured is "microwatts per square centimeter" ($\mu\text{W}/\text{cm}^2$), referred to as the "power density." The idea behind this is that if you consider a transmitter a point source, microwaves radiate from it in all directions, forming an imaginary sphere. The energy falling on a square centimeter of the sphere at a particular distance is the power density at that distance.

Country	Exposure level ($\mu\text{W}/\text{cm}^2$)
United Kingdom	1000–10,000
Canada, Germany, Japan, New Zealand, U.S.	200–1000
Australia	200
Auckland, New Zealand	50
Italy	10
China	7–10
Bulgaria, Hungary, Russia, Switzerland	2–10
Salzburg, Austria (pulsed transmissions)	0.1

Source: *Radio Wave Packet*, Cellular Phone Taskforce

What the FCC standard protects you from is high levels of radiation. If you're worried about being fried by microwaves, the FCC standard is just the ticket. If your next-door neighbor installs an army-surplus radar station pointed directly at your home and you call the FCC, they'll be there in minutes to make your neighbor take it down — no question about it.

But what about lower levels of radiation? At a distance of one meter, the output of these microwave meters (about 2–4 nanowatts, or thousandths of a microwatt) is about 200,000 times lower than the FCC standard. However, extensive research has shown adverse health effects as a result of long-term, low-level exposure (see the [Health Effects — Western](#) page). The industry chooses to ignore this—understandably, since no industry will voluntarily admit that its product could cause adverse health effects.

Here's an analogy. You might expect that if you touch a 480,000-volt high-tension wire, you could experience an adverse health effect. You could probably touch a 110-volt (U.S.) household power line briefly and feel only a mild jolt. But would you want to touch it 24 hours a day, even though it's thousands of times lower than the power from the high-voltage line?

And what about something much less—a 1-volt battery, say. Would you be willing to have it hooked up to you around the clock? Does anyone seriously think there wouldn't be any effect over the long term, even though it's nearly 500,000 times less than the high-voltage line? What about a tenth of a volt? A hundredth of a volt?

What is the lowest level at which you can be assured of no long-term effect? And what about vulnerable members of the population — children, the elderly, and the infirm? They couldn't withstand even what others could.

The point is that if you start with an arbitrary, unrealistically high number, you can always say that something is a million times less, and it will sound impressive, but it has no relation to actual effects. The body is a low-voltage system, and effects have been documented at levels not previously thought possible.

A more reasonable comparison is to naturally occurring background radiation, which is 10^{-17} to 10^{-14} microwatts per square centimeter, because the absorption rate of the atmosphere depends on the frequency of the radiation. Then, instead of saying that the meter output is 200,000 times lower than the FCC standard, we could point out that it's ten thousand to ten million times higher than natural background radiation — which is what the human organism developed in. The amount of radiation we're receiving began to increase during the mid-1900s and has increased dramatically in the last few years.

"Thermal" vs. "Nonthermal"

For a decades, it was thought that the only effects of microwaves were due to heating of tissue: "thermal" effects.

However, some research at the time and much more recently has shown that so-called "nonthermal" effects occur at levels where no measurable heat increase occurs. "Nonthermal" is a misnomer, since some heating always occurs at the cellular level from molecular excitation. However, the industry and the military still maintain that the only effects possible from microwaves are due to heating and that "nonthermal" effects do not exist.

Where Does the FCC Standard Come From?

Part of it is adopted from a standard set by a committee of the Institute of Electrical and Electronic Engineers and later approved by the American National Standards Institute. However, even the FCC recognizes that the ANSI/IEEE standard is too high at higher frequency levels, so it also incorporates part of the National Commission on Radiation Protection (NCRP) standard.

The IEEE is a professional association with heavy industry representation. Its Standards Coordinating Committee (SCC) 28 decides the standard. The 1991 standard, which has been modified only slightly since, did not include any studies later than 1986. Only a few were on non-thermal effects (many more have been done since the mid-90s), and in any case, the SCC-28 committee still does not seem inclined to take any notice of non-thermal effects.

Arthur Firstenberg, president of the Cellular Phone Taskforce, submitted an affidavit to the Irish High Court in January 1998 regarding a cell-tower case. The affidavit contained a copy of the ANSI/IEEE Ballot Summary of May 14, 1991, for the adoption of the standard by the IEEE SCC-28 committee.

Firstenberg says, "The voting membership was overwhelmingly dominated by military and industrial interests, to the total exclusion of the general public and the health care community. Of the three health and safety agency representatives on the voting committee, two voted 'no' on the adoption of this standard."

He also says the following:

Further, the ANSI/IEEE C95.1 1992 standard ... has been criticized on health grounds by every health and safety agency in the United States which commented on its proposed adoption as a national standard by the Federal Communications Commission. The U.S. Environmental Protection Agency recommended "against adopting the 1992 ANSI/IEEE standard because it has serious flaws that call into question whether its proposed use is sufficiently protective of public health and safety." ... The Food and Drug Administration (FDA), in its comments, said "... We do not believe this standard addresses the issue of long-term, chronic exposures to RF fields." The National Institute for Occupational Safety and Health (NIOSH) was "concerned about the lack of participation by experts with a public health perspective in the IEEE RF standards setting process."

The chairman of the SCC-28 committee is John Osepchuk, a Concord, Massachusetts, resident who is a consultant and has acted as a representative of the wireless industry at town meetings, attempting to assure boards and residents that microwave antennas are safe. To some, this might seem a conflict of interest: chairing a committee that sets safety standards for an industry that pays him to represent it.

An editorial in the March/April 2001 issue of Microwave News said this:

The Pentagon's new microwave weapon has been brought to you by the U.S. Air Force and Raytheon. ... These are the same organizations that control the IEEE's SCC-28 committee that writes the standard for exposures to RF and microwaves.

Dr. John Osepchuk, the chair of SCC-28, worked for Raytheon for most of his professional career. And three of the other five members of the SCC-28 executive committee work either at Brooks Air Force Base or for Raytheon.

...

It seems obvious, but it's worth repeating: Health standards should be written by medical and public health professionals, not those who make weapons for the military-industrial complex.



eISSN: 09748369

**Impacts of radio-frequency electromagnetic
field (RF-EMF) from cell phone towers
and wireless devices on biosystem
and ecosystem – a review**

Biology and Medicine

Review Article

www.biolmedonline.com

Impacts of radio-frequency electromagnetic field (RF-EMF) from cell phone towers and wireless devices on biosystem and ecosystem – a review

S Sivani*, D Sudarsanam

Department of Advanced Zoology and Biotechnology, Loyola College, Chennai, Tamil Nadu, India.

*Corresponding Author: sivani.padmakumar@gmail.com

Accepted: 3rd Dec 2012, Published: 6th Jan 2013

Abstract

This paper summarizes the effect of radio-frequency electromagnetic field (RF-EMF) from cell towers and wireless devices on the biosphere. Based on current available literature, it is justified to conclude that RF-EMF radiation exposure can change neurotransmitter functions, blood-brain barrier, morphology, electrophysiology, cellular metabolism, calcium efflux, and gene and protein expression in certain types of cells even at lower intensities. The biological consequences of such changes remain unclear. Short-term studies on the impacts of RF-EMF on frogs, honey bees, house sparrows, bats, and even humans are scarce and long-term studies are non-existent in India. Identification of the frequency, intensity, and duration of non-ionizing electromagnetic fields causing damage to the biosystem and ecosystem would evolve strategies for mitigation and would enable the proper use of wireless technologies to enjoy its immense benefits, while ensuring one's health and that of the environment.

Keywords: Radio-frequency electromagnetic field; cell phone tower; power density; SAR; non-ionizing radiation; non-thermal.

Introduction

There has been an unprecedented growth in the global communication industry in recent years which has resulted in a dramatic increase in the number of wireless devices. Mobile services were launched in India in 1995 and it is one of the fastest growing mobile telephony industries in the world. According to the Telecom Regulatory Authority of India (TRAI, 2012), the composition of telephone subscribers using wireless form of communication in urban area is 63.27% and rural area is 33.20%. By 2013, it is estimated that more than one billion people will be having cell phone connection in India. This has led to the mushrooming of supporting infrastructure in the form of cell towers which provide the link to and from the mobile phone. With no regulation on the placement of cell towers, they are being placed haphazardly closer to schools, creches, public playgrounds, on commercial buildings, hospitals, college campuses, and terraces of densely populated urban residential areas. Hence, the public is being exposed to continuous, low intensity radiations from these towers. Since the

electromagnetic radiations, also known as electrosmog cannot be seen, smelt or felt, one would not realize their potential harm over long periods of exposure until they manifest in the form of biological disorders. Various studies have shown the ill-effects of radio-frequency electromagnetic field (RF-EMF) on bees, fruit flies, frogs, birds, bats, and humans, but the long-term studies of such exposures are inconclusive and scarce, and almost non-existent in India (MOEF, 2010; DoT, 2010). In 2011, International Agency for Research on Cancer (IARC), part of WHO, designated RF-EMF from cell phones as a "possible human carcinogen" Class 2B (WHO, 2011). Cancer, diabetes, asthma, infectious diseases, infertility, neurodegenerative disorders, and even suicides are on the rise in India. This invisible health hazard pollution (IHHP) is a relatively new environmental threat.

Electromagnetic radiation, in the form of waves of electric and magnetic energy, have been circulating together through space. The electromagnetic spectrum includes radio waves, microwaves, infrared rays, light rays, ultraviolet rays, X-rays, and gamma rays (ARPANSA, 2011;

FCC, 1999). The electromagnetic radiations are of two types, one being ionizing radiations such as X-rays and gamma rays, and the other being non-ionizing radiations such as electric and magnetic fields, radio waves, radio-frequency band which includes microwaves, infrared, ultraviolet, and visible radiation (Figure 1). The biological effects of RF-EMF at molecular level induce thermal and non-thermal damage, which may be due to dielectric heating leading to protein denaturation, polar molecular agitation, cellular response through molecular cascades and heat shock proteins, and changes in enzyme kinetics in cells (Instituto Edumed, 2010). The three major physical parameters of RF-EMF radiations is frequency, intensity, and exposure duration. Although the non-ionizing radiations are considered less dangerous than ionizing radiation, over-exposure can cause health hazards (FCC, 1999).

Electromagnetic Spectrum and RF-EMF Radiation

The RF-EMF radiations fall in the range of 10MHz–300GHz. Cell phone technology uses frequencies mainly between 800 MHz and 3GHz and cell tower antenna uses a frequency of 900 or 1800MHz, pulsed at low frequencies, generally known as microwaves (300 MHz–300 GHz).

Power Density and Specific Absorption Rate (SAR)

Variables used in the measurement of these radiations are power density, measured in watts per meter squared (W/m^2) and specific absorption Rate (SAR). The term used to describe the absorption of RF-EMF radiation in the body is SAR, which is the rate of energy that is actually absorbed by a unit of tissue, expressed in watts per kilogram (W/kg) of tissue. The SAR measurements are averaged either over the whole body or over a small volume of tissue, typically between 1 and 10g of tissue. SAR was set with the help of a phantom, known as specific anthropomorphic mannequin (SAM) derived from the size and dimensions of the 90th percentile large adult male reported in a 1988 US Army study who is 6 feet 2 inches and weighed 200 pounds (Davis, 2010). SAR is set at 1.6W/kg averaged over 1g of body tissue in the US and Canada and 2W/kg averaged over 10g of body tissue in countries adopting the ICNIRP guidelines. The SAR is used to quantify energy absorption to fields typically between 100 kHz and 10 GHz and encompasses radio-frequency radiation from devices such as cellular phones up through diagnostic magnetic resonance imaging (MRI). The biological effects depend on how much of the energy

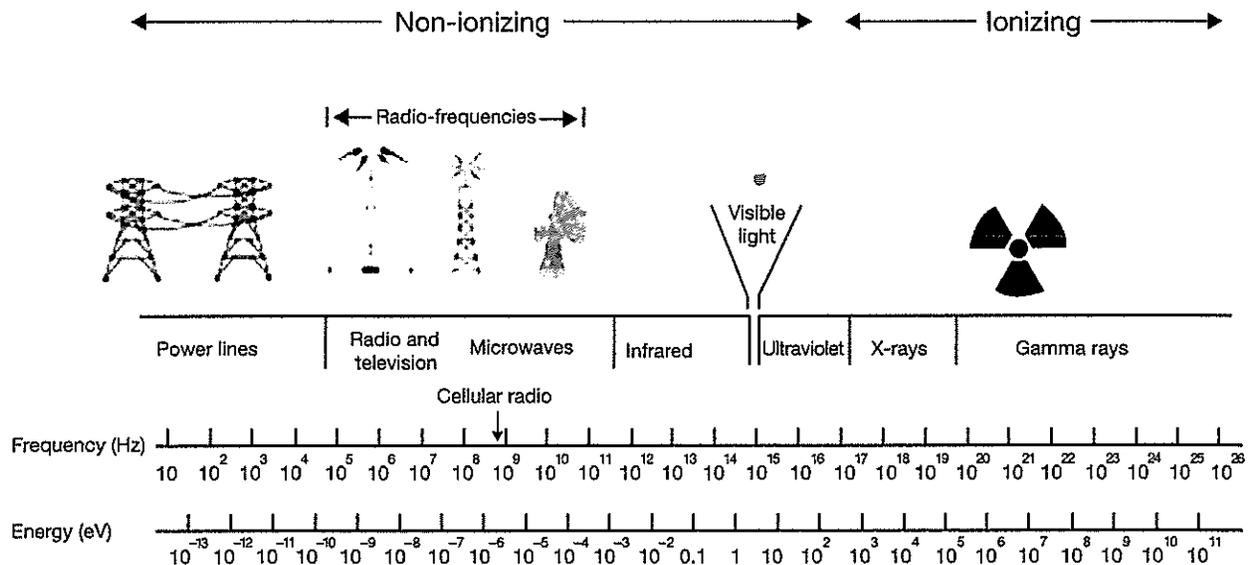


Figure 1: Electromagnetic spectrum from the Federal Communications Commission (FCC), OET Bulletin 56, 1999.

is absorbed in the body of a living organism, not just what exists in space. Absorption of RF-EMF radiations depend on frequency of transmission, power density, distance from the radiating source and the organism's size, shape, mineral, and water content. Exposure will be lower from towers under most circumstances than from cell phones because the transmitter is placed directly against the head during cell phone use whereas proximity to a cell tower will be an ambient exposure at a distance (Levitt and Lai, 2010). Exposure guidelines for RF protection had adopted the value of 4 W/kg averaged over the whole body (SARWB) as the threshold for the induction of adverse thermal effects associated with an increase of the body core temperature of about 1°C in animal experiments. This standard is set by International Commission on Non-ionizing Radiation Protection (ICNIRP), national Radiological Protection Board (NRPB), and Institute of Electrical and Electronics Engineers (IEEE) (Barnes and Greenebaum, 2007).

Cell Phones and Cell Tower Standards in India

India has adopted ICNIRP guidelines as the standard for safety limits of exposure to radio-frequency energy produced by mobile handsets for general public as follows: whole-body average SAR of 0.08 W/kg, localized SAR for head and trunk of 2 W/kg, and localized SAR for limbs 4 W/kg. The basic restrictions/proper limits for power density specified in ICNIRP guidelines for safe frequencies between 400 and 2000 MHz, adopted in India, for occupational exposure is 22.5 W/m², and general public is 4.5 W/m² for 900 MHz (ICNIRP, 1998).

Antennas of cell tower transmit in the frequency range of 869–890 MHz for CDMA, 935–960 MHz for GSM-900, 1805–1880 MHz for

GSM-1800, and 2110–2170 MHz for 3G. Wi-Fi frequency range is 2.4 GHz, WIMAX is 2.5–3.3 GHz, and 4G LTE is 2.99 GHz. The antennas for cellular transmissions are typically located on towers mounted on terraces of houses, apartments or other elevated structures including rooftops and the sides of buildings, and also as a freestanding tower. Typical heights for cell towers are 50–200 feet. Sector antennas for 2G and 3G transmission, broader sector antennas for 4G transmission, and parabolic microwave antennas for point-to-point communications are used in urban and suburban areas (Table 1). There are different types of base stations used by operators in India and they include the macro cell, micro cell, or pico cell. Categorization is based on the purpose of the site rather than in terms of technical constraints such as radiated power or antenna height. In India, macro cellular base station provide the main infrastructure for a mobile phone network and their antennas are mounted at sufficient height to give them a clear view over the surrounding geographical area. The maximum power for individual macro cellular base station transmitter is 20 W. According to FCC (1999), depending on the cell tower height, the majority of cellular base stations in urban and suburban areas operate at an effective radiated power (ERP) of 100 W per channel or less. ERP is a quantity that takes into consideration transmitter power and antenna directivity. An ERP of 100 W corresponds to an actual radiated power of about 5–10 W, depending on the type of antenna used. In urban areas, an ERP of 10 W per channel (corresponding to a radiated power of 0.5–1 W) or less is commonly used. In India, cell tower sites transmit hundreds of watts of power with antenna gain of 50, so ERP sometimes equals 5000 W (Kumar, 2010).

For installation of mobile towers, the standing advisory committee on radio frequency

Table 1: Radio-frequency sources in India.

RF source	Operating frequency	Transmission powers	Numbers
AM towers	540–1600 kHz	100 KW	197 towers
FM towers	88–108 MHz	10 KW	503 towers
TV towers	180–220 MHz	40 KW	1201 towers
Cell towers	800, 900, 1800 MHz	20 W	5.4 lakh towers
Mobile phones	GSM-1800/CDMA GSM-900	1 W 2 W	800+ million
Wi-Fi	2.4–2.5 GHz	10–100 mW	Wi-Fi hot spots

allocations (SACFA) clearances are issued by the wireless monitoring organization, Department of Telecommunications (DoT), after getting no objection from defence and airport authority considering aviation hazards, obstruction to line of sight of existing/planned networks and interferences. In many metros in India, there is no restriction on the location of the towers leading to a situation of overlapping of towers, where even more than 30 cell towers can be seen within 1 km².

As mobile technology progresses, the data demands on mobile network increases, coupled with lower costs, their use has increased dramatically and the overall levels of exposure of the population as a whole had increased drastically. Table 2 gives the reference levels for general public exposure adopted by various countries and organizations.

Impacts on Biosystem and Ecosystem

Every living being is tuned into the earth's electromagnetism and uses it for various purposes. A natural mineral magnetite, which is found in living tissues, seems to play an important role. These magnetite crystals are found in

bacteria, protozoa, teeth of sea mollusks, fish and sea mammals, eye and beak of birds, and in humans. They are also found in the ethmoid bone above the eye and sinuses and blood-brain barrier (Warnke, 2007). Migratory birds rarely get lost, but sometimes there are disruptions due to storms and magnetic disturbances caused by man (Kirschvink *et al.*, 2001). The traditional and most effective approach to study cause–effect relationships in biological sciences is by experimentation with cells and organisms. The areas of enquiry and experimentation of *in vitro* studies include genotoxicity, cancer-related gene and protein expression, cell proliferation and differentiation, and apoptosis and *in vivo* studies include thermal effects, animal behavior, brain biochemistry, neuropathology, teratogenicity, reproduction and development, immune function, blood-brain barrier, visual auditory systems and effects on genetic material, cell function, and biochemistry (Repacholi and Cardis, 2002). In human health studies, concerns have been expressed about the possible interactions of RF-EMF with several human organ systems such as nervous, circulatory, reproductive, and endocrine systems. In order to reveal the global effects of RF-EMF on gene and protein expression, transcriptomics,

Table 2: Reference levels for the general public.

Country/organization Standards	Power density (W/m ²)	
	900 MHz	1800 MHz
ICNIRP, 1998, adopted by India	4.5	9
FCC, 1999	6	10
IEEE, USA, 1999	6	12
Australia	2	2
Belgium	1.1	2.4
Italy	1	1
Israel	x	1
New Zealand	x	0.5
China	x	0.4
Russia	x	0.2
Hungary	0.1	0.1
Toronto Board of Health, Canada, 1999	0.06	0.1
Switzerland	0.04	0.1
France	x	0.1
Germany, ECOLOG, 1998	x	0.09
Austria's precautionary limit	0.001	0.001

and proteomics as high-throughput screening techniques (HTSTs), were eventually employed in EMF research with an intention to screen potential EMF responsive genes and/or proteins without any bias (Nylund and Leszczynski, 2004). The safety standards set by ICNIRP, adopted by India, has only taken into account the short-term effects and not against the biological effects from long-term, non-thermal, low-level microwave exposure from mobile phones, cell phone towers, and many other wireless devices.

Current Research

Various studies have shown that even at low levels of this radiation, there is evidence of damage to cell tissue and DNA, and it has been linked to brain tumors, cancer, suppressed immune function, neuroendocrine disruption, chronic fatigue syndrome, and depression (Rogers, 2002; Milham, 2010). Oncogenesis studies at molecular and cellular levels due to RF-EMF radiations are considered particularly important (Marino and Carrubba, 2009). Orientation, navigation, and homing are critical traits expressed by organisms ranging from bacteria through higher vertebrates. Across many species and groups of organisms, compelling evidence exists that the physical basis of this response is tiny crystals of single-domain magnetite (Fe_3O_4) (Kirschvink *et al.*, 2001). All magnetic field sensitivity in living organisms, including elasmobranch fishes, is the result of a highly evolved, finely-tuned sensory system based on single-domain, ferromagnetic crystals. Animals that depend on the natural electrical, magnetic, and electromagnetic fields for their orientation and navigation through earth's atmosphere are confused by the much stronger and constantly changing artificial fields created by technology and fail to navigate back to their home environments (Warnke, 2007).

Studies on Plants

Tops of trees tend to dry up when they directly face the cell tower antennas and they seem to be most vulnerable if they have their roots close to the water (Belyavskaya, 2004). They also have a gloomy and unhealthy appearance, possible growth delays, and a higher tendency to contract plagues and illnesses. According to Levitt (2010), trees, algae, and other vegetation may

also be affected by RF-EMF. Some studies have found both growth stimulation and dieback. The browning of tree tops is often observed near cell towers, especially when water is near their root base. The tree tops are known as RF waveguides. In fact, military applications utilize this capability in trees for low-flying weapon systems. In an observational study, it was found that the output of most fruit-bearing trees reduced drastically from 100% to <5% after 2.5 years of cell tower installation in a farm facing four cell towers in Gurgaon–Delhi Toll Naka (Kumar and Kumar, 2009).

Studies on Insects

Monarch butterflies and locusts migrate great distances using their antennae to sense air currents and earth's electromagnetic fields. Moths are drawn to light frequencies. Ants, with the help of their antennae are adept at electrical transmission and found to respond to frequencies as low as 9 MHz. Flying ants are very sensitive to electromagnetic fields (Warnke, 2007).

Bees have clusters of magnetite in the abdominal areas. Colony collapse disorder (CCD) was observed in beehives exposed to 900 MHz for 10 minutes, with sudden disappearance of a hive's inhabitants, leaving only queen, eggs, and a few immature workers behind. With navigational skills affected, worker bees stopped coming to the hives after 10 days and egg production in queen bees dropped drastically to 100 eggs/day compared to 350 eggs (Sharma and Kumar, 2010). Radiation affects the pollinators, honeybees, whose numbers have recently been declining due to CCD by 60% at US West Coast apiaries and 70% along the East Coast (Cane and Tepedino, 2001). CCD is being documented in Greece, Italy, Germany, Portugal, Spain, and Switzerland. Studies performed in Europe documented navigational disorientation, lower honey production, and decreased bee survivorship (Kimmel *et al.*, 2007). EMFs from telecommunication infrastructure interfere with bees' biological clocks that enable them to compensate properly for the sun's movements, as a result of which, may fly in the wrong direction when attempting to return to the hive (Rubin *et al.*, 2006). Bee colonies irradiated with digital enhanced cordless communications (DECT) phones and mobile handsets had a dramatic impact on the behavior of the bees, namely by inducing the worker

piping signal. In natural conditions, worker piping either announces the swarming process of the bee colony or is a signal of a disturbed bee colony (Favre, 2011).

A study by the University of Athens on fruit flies exposed to 6 minutes of 900 MHz pulsed radiation for 5 days showed reduction in reproductive capacity (Panagopoulos *et al.*, 2004). Likewise in 2007, in both 900 and 1800 MHz, similar changes in reproductive capacity with no significant difference between the two frequencies were observed (Panagopoulos *et al.*, 2007). In a third study, it was found it was due degeneration of large numbers of egg chambers after DNA fragmentation (Panagopoulos *et al.*, 2010). When *Drosophila melanogaster* adult insects were exposed to the radiation of a GSM 900/1800 mobile phone antenna at different distances ranging from 0 to 100 cm, these radiations decreased the reproductive capacity by cell death induction at all distances tested (Levengood, 1969).

Studies on Amphibians and Reptiles

Salamanders and turtles have navigational abilities based on magnetic sensing as well as smell. Many species of frogs have disappeared all over the world in the last 3–5 years. Amphibians can be especially sensitive because their skin is always moist, and they live close to, or in water, which conducts electricity easily (Hotary and Robinson, 1994). Toads when exposed to 1425 MHz at a power density of 0.6 mW/cm² developed arrhythmia (Levitina, 1966). Increased mortality and induced deformities were noted in frog tadpoles (*Rana temporaria*) (Levengood, 1969). It was observed that experimental tadpoles developed more slowly, less synchronously than control tadpoles, remain at the early stages for a longer time, developed allergies and that EMF causes changes in the blood counts (Grefner *et al.*, 1998). In a two-month study in Spain in common frog tadpoles on the effects of mobile phone mast located at a distance of 140 m noted low coordination of movements, an asynchronous growth, resulting in both big and small tadpoles, and a high mortality (90%) in exposed group. For the unexposed group in Faraday cage, the coordination of movements was normal, the development was synchronous, and a mortality of 4.2% was obtained (Balmori, 2009). In the eggs and embryos of *Rana sylvatica* and *Ambystoma maculatum* abnormalities at

several developmental stages were noted such as microcephalia, scoliosis, edema, and retarded growth. Tadpoles developed severe leg malformations and extra legs, as well as a pronounced alteration of histogenesis which took the form of subepidermal blistering and edema. Effects were noted in reproduction, circulatory, and central nervous system, general health and well being (Balmori, 2010; Balmori, 2005).

Studies on Birds

A study by the Centre for Environment and Vocational Studies of Punjab University noted that embryos of 50 eggs of house sparrows were damaged after being exposed to mobile tower radiation for 5–30 minutes (MOEF, 2010). Observed changes included reproductive and coordination problems and aggressiveness. Tower-emitted microwave radiation affected bird breeding, nesting, and roosting in Valladolid, Spain (US Fish & Wildlife Service, 2009). House sparrows, white storks, rock doves, magpies, collared doves exhibited nest and site abandonment, plumage deterioration (lack of shine, beardless rachis, etc.), locomotion problems, and even death among some birds. No symptoms were observed prior to construction of the cell phone towers. According to Balmori, plumage deterioration and damaged feather are the first signs of weakening, illnesses, or stress in birds. The disappearance of insects, leading to lack of food, could have an influence on bird's weakening, especially at the first stages in young bird's life. In chick embryos exposed to ELF pulsed EMR, a potent teratogenic effect was observed, leading to micropthalmia, abnormal trunkal torsion, and malformations on the neural tube (Lahijani and Ghafoori, 2000).

White storks were heavily impacted by the tower radiation during the 2002–2004 nesting season in Spain. Evidence of a connection between sparrow decline in UK and the introduction of phone mast GSM was established (Balmori, 2009). In a study in Spain, the effects of mobile phone mast has been noted in house sparrow (*Passer domesticus*), white stork (*Ciconia ciconia*), reporting problems with reproduction, circulatory, and central nervous system, general health and well-being (microwave syndrome) (Balmori, 2009). Deformities and deaths were noted in the domestic chicken embryos subjected to low-level, non-thermal radiation from the standard 915 MHz cell phone

frequency under laboratory conditions (US Fish & Wildlife Service, 2009). Neural responses of Zebra Finches to 900 MHz radiation under laboratory conditions showed that 76% of the neurons responded by 3.5 times more firings (Beason and Semm, 2002). Eye, beak, and brain tissues of birds are loaded with magnetite, sensitive to magnetic fields, interferes with navigation (Mouritsen and Ritz, 2005).

Studies on Mammals

In a survey of two berry farms in similar habitats in Western Massachusetts (Doyon, 2008), one with no cell phone towers, there were abundant signs of wildlife, migrating and resident birds, bats, small and large mammals, and insects including bees and the other farm with a cell-phone tower located adjacent to the berry patch, virtually no signs of wildlife, tracks, scat, or feathers were noted. The berries on bushes were uneaten by birds and insects and the berries that fell to the ground were uneaten by animals. Whole body irradiation of 20 rats and 15 rabbits at 9.3 GHz for 20 minutes revealed statistically significant changes in cardiac activity (Repacholi *et al.*, 1998). Bradycardia developed in 30% of the cases. Separate ventricular extra systoles also developed. In a study on cows and calves on the effects of exposure from mobile phone base stations, it was noted that 32% of calves developed nuclear cataracts, 3.6% severely. Oxidative stress was increased in the eyes with cataracts, and there was an association between

tumor promotion. A study on pregnant rats and brains of fetal rats was carried out after irradiating them with different intensities of microwave radiation from cellular phones for 20 days three times a day. Superoxide dismutase (SOD), glutathione peroxidase (GSH-Px), malondialdehyde (MDA), noradrenaline (NE), dopamine (DA), and 5-hydroxyindoleacetic acid (5-HIAA) in the brain were assayed. The significant content differences of noradrenaline and dopamine were found in fetal rat brains (Jing *et al.*, 2012). A study in rabbits exposed to continuous wave and pulsed power at 5.5 GHz found acute effects in the eyes, where lens opacities developed within 4 days (Birenbaum *et al.*, 1969).

Behavioral tasks, including the morris water maze (MWM), radial arm maze, and object recognition task have been extensively used to test cognitive impairment following exposure of rodents to mobile phone radiation (GSM 900 MHz) on various frequencies and SAR values (Fragopoulou *et al.*, 2010). Exposed animals in most of the cases revealed defects in their working memory possibly due to cholinergic pathway distraction. Mobile phone RF-EMF exposure significantly altered the passive avoidance behavior and hippocampal morphology in rats (Narayanan *et al.*, 2010).

With regards to DNA damage or cell death induction due to microwave exposure, in a series of early experiments, rats were exposed to pulsed and continuous-wave 2450 MHz radiation for 2 hours at an average power density of 2 mW/cm² and their brain cells were subsequently examined for DNA breaks by comet assay. The authors found a dose-dependent

Misrepresentations and Omissions at the Planning Commission Meeting



KOWS has misrepresented information in their presentation to Planning Commissioners, and in other publicly available venues and documents, in four critical areas:

- **Alternative sites**
- **Current location stability**
- **EMF exposures**
- **Visual impact**

ALTERNATIVE SITES:

Respini Ranch was first suggested as a potential relocation site in **December of 2014**. It was and is still considered an excellent site for many reasons— it is easily expedited, far less expensive, with no visual impact (in a tree, as at the OAEC), creates an expanded signal range including Sebastopol, and does not require a frequency shift.

KOWS has commissioned several technical studies at Respini Ranch, including [a Longley-Rice Survey](#) and [a test broadcast](#). It was analyzed, along with the Pleasant Hill site, in **June 2015**, in order to “provide to the KOWS Steering Committee a clearer set of alternatives for review and discussion.”

As recorded in the Steering Committee notes from June 2015 :

“The Respini Ranch location is still viable for a modification to our FCC waiver while staying at 107.3 FM, because it is within the short spaced allowable locations as originally determined by Michael Brown (radio engineer).”

When asked repeatedly by Planning Commissioners about other sites they had considered, KOWS never mentioned Respini Ranch. Yet Respini Ranch was so much of a contender that it was down to a **final choice** between the two sites, Respini Ranch and Pleasant Hill Reservoir, according to the [KOWS Steering Committee notes on August 26 of last year](#). At this special meeting, in which the Antenna Relocation Committee (ARC) presented ultimate relocation options to the Steering Committee, the two sites were closely compared regarding expense, speed of relocation, and range.

It was stated that “either site would provide a better and wider signal than we currently have to the west county”.

At the February 23rd **Planning Commission Meeting**, all but one planning commissioner suggested that further information be forthcoming regarding alternative sites. SHARP believes that withholding information about Respini Ranch left some commissioners with the false impression that KOWS had no other alternatives.

The KOWS Steering Committee was still considering Respini Ranch as a possible site during their [March meeting](#) this year, two weeks after the Planning Commission meeting. Clearly Respini Ranch has been a well-considered alternative for KOWS, and still could be. But coupled with the misleading statements about their current status at the OAEC, KOWS omission of discussion about this important alternative site was critical in contriving the impression of a station in peril.

CURRENT LOCATION STABILITY:

When asked directly by Commissioner Michael Jacob if KOWS was able to stay at the current OAEC site, KOWS host John Parry said that they had been asked to leave the OAEC in Occidental, creating the false impression that the station would be in jeopardy of failing if it were not able to move to the Pleasant Hill site.

When he was questioned about whether KOWS was asked to leave the OAEC by a SHARP member, OAEC Director Dave Henson responded that KOWS had *initiated their own departure*, and that *they were invited to stay at the OAEC as long as they needed to*. His comments are corroborated by KOWS own [Steering Committee notes from September 9, 2013](#), when Henson, who was present at the meeting, spoke on the subject:

“Dave Henson is giving KOWS all the time it needs to make our independence happen and also said very generously that all of the equipment used by KOWS will be donated to KOWS from the OAEC when the time times. He also said our place in the tree (the antenna and transmitter) is secure and can be used until they find another location.”

But at the Planning Commission meeting, KOWS told a different story.

Michael Jacob: “So you could maintain your radio station by keeping your antenna at OAEC, or have you given up that right by making this application?”

John Parry: “They have asked us to leave that site. They used to be our fiscal sponsor, they’ve asked not to do that, so we became our own 501(c)3 and they want us to be out by June.” He then amended that statement to say there had not been an exact date given, but “that’s what they want us to do.”

Jacob: “I don’t want us to feel like we are being asked to save the station, but I’m also hearing that if we deny it ...we *could be shutting KOWS down*. They’ve looked, [there’s one place to put this tower](#), and they can’t keep it where it is for very long.”

The current site is in fact guaranteed. The station is streaming online and will be able to do so no matter what happens with its broadcasting antenna. There is no threat at all.

EMF EXPOSURE:

KOWS has been quoting from an NIER report from 2006 to describe the harmlessness of EMF emissions that would be generated at the proposed Pleasant Hill site. They have done so both directly to Planning Commissioners and more explicitly in [public blog posts](#).

The problem is that the 2006 report was specific to the antennas and transmission at the current OAEC site. That site has a completely different radiation profile than the proposed site. Power densities as well as proximity to nearby homes and property lines are *vastly different*.

The EMF exposure is 100 times greater at the proposed site than at the current one. In some circumstances, described in the KOWS Pleasant Hill Reservoir NIER Report, it is 5000 times greater.

By creating the impression that EMF exposure at the proposed site is significantly less than it really is, KOWS encouraged Planning Commissioners to dismiss important health issues that could effect residents who are, as one commissioner put it, “slammed right up against these water tanks.”

It is certainly in KOWS best interest to try to sweep this serious concern under the carpet. But it is alarmingly self-serving to attempt to alter perceptions of decision makers regarding the actual EMF exposure that residents would be experiencing, 24 hours a day, for the foreseeable future.

VISUAL IMPACT:

KOWS information packet to neighbors and the city’s Staff Report include [a photo-shopped representation of the proposed antenna tower](#) at the Pleasant Hill Reservoir site. This photo shows the tower backed by eucalyptus trees taller than the tower itself, and providing the appearance of a buffer of branches and leaves for most, if not all, of its height.

The trees in the photo are actually more than 800 feet from the tower site, on a property on the far side of Lawrence Lane. A balloon lofted by SHARP at the site demonstrated what we already knew, that those trees do nothing whatsoever to mitigate the proposed tower’s stark appearance against the sky for any of the neighbors, who would see it completely unscreened from the windows of their homes, yards and gardens.

KOWS’ attempt to mislead the city and the neighbors regarding the visual impact of its proposed tower raises serious concerns

about honesty. KOWS has repeatedly claimed "total transparency" in communications with the city and with neighbors, but this doctored photo raises serious questions about the group's willingness to reconfigure the truth to achieve their own goals.

©2016 SHARP Watch

SHARP - Sebastopol Hills Alliance for Rural Preservation

Preserving the natural beauty and character of the West Sonoma County Hills, for today and for future generations. Next action: Limit the proliferation of CELL PHONE Towers in the Hills of Sebastopol.



KOWS MISREPRESENTATION OF HEALTH EFFECTS

Anold Levine, KOWS host, addressing the Planning Commission regarding an antenna tower proposed for Pleasant Hill Reservoir, and quoting **from 2006 NIER Report addressing radiation exposure at the OAEC site**: "They (emissions) are an infinitesimal fraction of accepted standards, making health risks non-existent."

Paul Bame, engineer, from new NIER Report **addressing radiation exposure at proposed Pleasant Hill Reservoir site**: "The effects of electromagnetic radiation on humans are unlikely to be fully understood at this time and **these safety limits may well change as research proceeds....**"

Paul Bame, same report, regarding emissions that were measured at **112 uW/cm²** near the tanks: "**The safety of workers at the top of the nearby water tank must also be considered. Recommendation: offer to reduce power when work is to be performed on the antenna or upon the nearest water tank.**"

KOWS MISREPRESENTATION OF ALTERNATE SITE (RESPINI RANCH)

Arnold Levine, KOWS host (when asked by a commissioner about alternative sites): **"Nothing else quite worked."**

Arnold Levine (from KOWS Steering Committee notes September 2016): **"... we have a cheap stronger solution at Respini Ranch, if we want a quick and dirty way to move to increase our signal."**

Randy Wells, KOWS host, as above): "I see the \$60k option and the one year city process as insurmountable. **We have an available option for Respini."**

Donald True, KOWS host, to the Occidental City Council, September 2015: **"The antenna location can move forward at either the Respini Ranch site or the Pleasant Hill Water tank site in Sebastopol."**

KOWS Steering Committee notes, March 2016: **"We could go down to 50 feet at Pleasant Hill Reservoir, which would lose half the (potential) listeners; but there would be less loss (of potential listenership) at 60 feet at Respini Ranch."**

KOWS MISREPRESENTATION OF FORCED OAEC DEPARTURE

John Parry, KOWS host, when asked by a commissioner if the station can keep its antenna at the OAEC: **"They have asked us to leave that site."**

Commissioner Michael Jacob: "I don't want us to feel like we are being asked to save the station, but I'm **also hearing that if we deny it ...we could be shutting KOWS down**. They've looked, there's one place to put this tower, and they can't keep it where it is for very long."

Dave Henson, Director at OAEC, to KOWS Steering Committee, Sept, 2013: **"We are giving KOWS all the time it needs to make its independence happen. Your place in the tree (the antenna and transmitter) is secure and can be used until you find another location."**

Dave Henson, email response February 2016: **KOWS initiated their own departure. We were delighted to host the antenna.**

KOWS MISREPRESENTATION OF VISUAL IMPACT

Laura Goldman. KOWS host, to City Council: **"This is not a tower, but an antenna."**

Planning Staff Report: "Classification (for this project): **Major Telecommunications Facility; 70 foot steel grid work tower with four antennas.**"

KOWS MISREPRESENTATION OF PROPOSED TRANSMISSION POWER

Councilwoman Una Glass: "How low is the power and how much wattage is this?"

John Parry, KOWS host: "**3 watts**"

Councilman Robert Jacob: "But what is the wattage KOWS is planning to extend to with the new antenna?"

Arnold Levine: "**35-50 watts.**"

Paul Bame, engineer, from KOWS NIER Report for Pleasant Hill Reservoir site: "(This) **FM Model is configured for 100 watts,** which is the maximum power allowed for LPFM stations."

KOWS MISREPRESENTATION OF ROLE AS EAS PROVIDER

Laura Goldman to City Council: "KOWS is THE emergency alert station for West Sonoma County."

Laura Goldman to Planning Commission: "KOWS is THE emergency alert station for West Sonoma County."

FCC: "All broadcast stations are required to participate in the Emergency Alert System, and to transmit any alerts that they may receive during their hours of operation."

KZST: "KZST is the primary designated Emergency Alert System (EAS) radio station for Sonoma County. During an emergency, KZST will broadcast emergency disaster information and instructions."

What Is the Emergency Alert System (EAS)? And What Does It Have to Do with KZST?

The Emergency Alert System is a national public warning system addressing the American public during national, state, and local emergencies. We provide the public with alerts and warnings regarding dangerous weather and other emergency conditions.

100.1 FM, KZST is the primary designated Emergency Alert System (EAS) radio station for Sonoma County. During an emergency, KZST will broadcast emergency disaster information and instructions.

When Emergency Alerts go into effect, we will interrupt our normal broadcasting to bring you breaking and important news coverage to help Sonoma County residents stay safe. Providing valuable information regarding: Flooding, Fires, AMBER Alerts (Missing Children), Hazards, Road Closures, School Closures, Power Outages and more. We also will provide resources and information where people can get the critical information they are looking for in these times of emergency.

For more information on the Emergency Alert System (EAS) go to:
<https://www.fcc.gov/consumers/guides/emergency-alert-system-eas>

***For Local, Sonoma County Emergency Updates Stay Tuned to
100.1 FM, KZST!***

KOWS Steering Committee notes 9-10-13

Posted on September 25, 2013 by kowscom
KOWS Steering Committee Meeting 9-10-13
at Arnold Levine's house

attended by Arnold Levine, Donald True, Robb Perrone, Robert Feuer, Teresa Tudury, Don Campau (note taker), Stuart Goodnick, Dave Henson (from The OAEC) and Matt Savinar.

Dave Henson , Director The OAEC, addressed the Steering Committee giving a short history of our relationship together and reasons for KOWS to become it's own fiscal agent and 501 (c) 3 entity.

The Steering Committee thanked Dave and The OAEC for its support and efforts throughout the years.

There was general agreement about making KOWS its own fiscal agent and taking responsibility for all of its actions as a solely operated entity.

Dave Henson is giving KOWS all the time it needs to make our independence happen and also, very generously, said that all of the equipment used by KOWS will be donated to KOWS from The OAEC when the time comes. he also said our place in the tree (the antenna and transmitter) is secure and can be used until we find another location (part of another discussion later).

Dave suggested we check out NOLO press publications in Oakland to get advice on this transition. Dave offered his own legal advice in our transition.

The main points that will be required when creating our own 501 (c) 3 are:

1. public benefit activity
2. financial information
3. mission narrative

When we apply for our new tax status, we are to contact The OAEC to stay co-ordinated along the way.

The Steering Committee thanked Phil Tymon for his hard work in creating KOWS and giving it direction through the years.

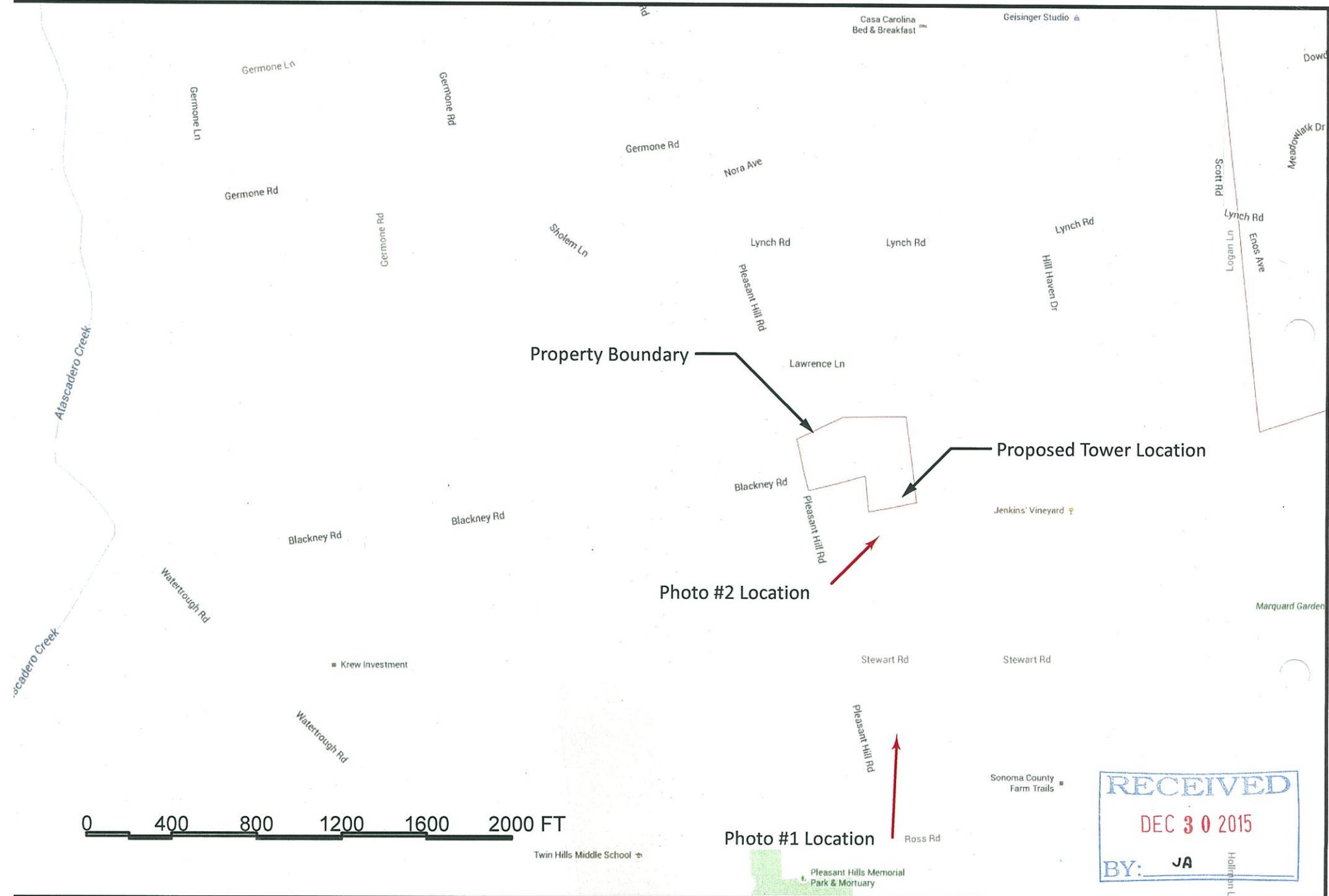
Committee reports

Financial (given by Robb Perrone, Treasurer):

The financial information had not yet arrived at meeting time so Robb still needs to meet with Arnold to sort out the details of his resumption of Treasury duties. They have agreed to meet and set up the necessary financial spread sheets.

ATTACHMENT #4

LOCATION MAP



RECEIVED
 DEC 30 2015
 BY: JA

Sebastopol Water Tanks
 1281 Pleasant Hill Rd
 Sebastopol, CA 95472

KOWS Radio Tower

Location & Key Map
 Autumn Streamfellow
 12/29/2015

ATTACHMENT #5

SITE PHOTOGRAPHS

North View

Proposed Tower Location

Sebastopol Water Tanks

1281 Pleasant Hill Rd
Sebastopol, CA 95472

KOWS Radio Tower

Site Photograph

Autumn Streamfellow

12/29/2015

East View



Proposed Tower Location

Sebastopol Water Tanks		Site Photograph
1281 Pleasant Hill Rd Sebastopol, CA 95472	KOWS Radio Tower	Autumn Streamfellow
		12/29/2015

South View

Proposed Tower Location

Sebastopol Water Tanks

1281 Pleasant Hill Rd
Sebastopol, CA 95472

KOWS Radio Tower

Site Photograph

Autumn Streamfellow

12/29/2015

West View



Proposed Tower Location

Sebastopol Water Tanks

1281 Pleasant Hill Rd
Sebastopol, CA 95472

KOWS Radio Tower

Site Photograph

Autumn Streamfellow

12/29/2015

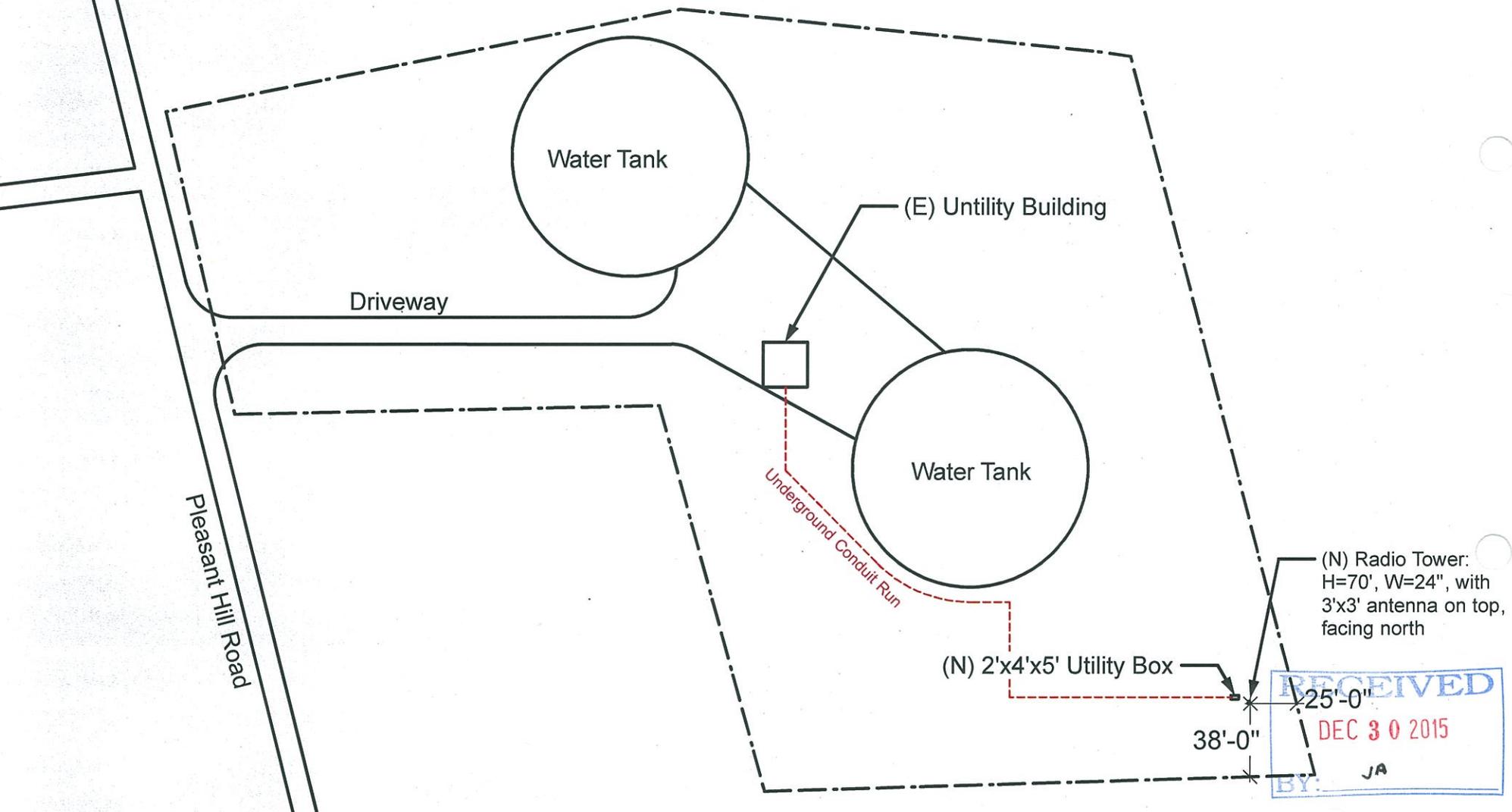


Sebastopol Water Tanks		Area Development Map
1281 Pleasant Hill Rd Sebastopol, CA 95472	KOWS Radio Tower	Autumn Streamfellow 12/29/2015

ATTACHMENT #6

SITE PLAN

0 40 80 120 160 200 FT



(N) Radio Tower:
H=70', W=24", with
3'x3' antenna on top,
facing north

(N) 2'x4'x5' Utility Box

25'-0"

38'-0"

RECEIVED
DEC 30 2015
BY: JA

Sebastopol Water Tanks		Site Plan	
1281 Pleasant Hill Rd Sebastopol, CA 95472	KOWS Radio Tower		Autumn Streamfellow
			12/29/2015

ATTACHMENT #7

KOWS RESPONSE TO SHARP APPEAL



**KOWS - LP COMMUNITY RADIO
107.3 FM**

P.O. Box 1073 OCCIDENTAL, CALIFORNIA 95465

OFFICE PHONE: (707)874-9090
STUDIO PHONE: (707) 874-1073

WEBSITE: WWW.KOWS.FM
EMAIL: KOWS@SONIC.NET

April 25, 2016

From: David Dillman, on behalf of KOWS Community Radio, email: sasha@monitor.net

To: Kenyon Webster, Director, City of Sebastopol Planning Department

KOWS Antenna Relocation Project Response to SHARP Appeal

Overview

The purpose of this response is to provide the City of Sebastopol accurate information and facts about the proposed KOWS antenna project. Our intent is to set the record straight and separate factual information from unsubstantiated claims and false allegations submitted by the Appellant.

In the following report, we include an itemized list addressing main points of contention stated by the Appellant in the City of Sebastopol Appeal Form, echoing concerns they raised at the February 23, 2016 Planning Commission meeting.

These include: CEQA authority; co-location of future antennas; radio frequency (RF) emissions; importance to the community; listening audience size; emergency alert system (EAS) designation; search for FCC-allowable low power FM (LPFM) antenna sites; timely notification of neighbors; need to relocate KOWS antenna; neighborhood property values; potential financial liability to Sebastopol; visual impact of the antenna structure; KOWS financial stability; and a number of Appellant misperceptions and incorrect statements.

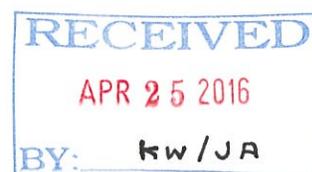
We also include supplemental information with this response: **Attachment A** documents the search for an appropriate site. **Attachment B** contains photo simulations of the proposed antenna; and **Attachment C** documents our work to reach out to and inform surrounding neighbors.

KOWS response to Appellant's Claims and Allegations

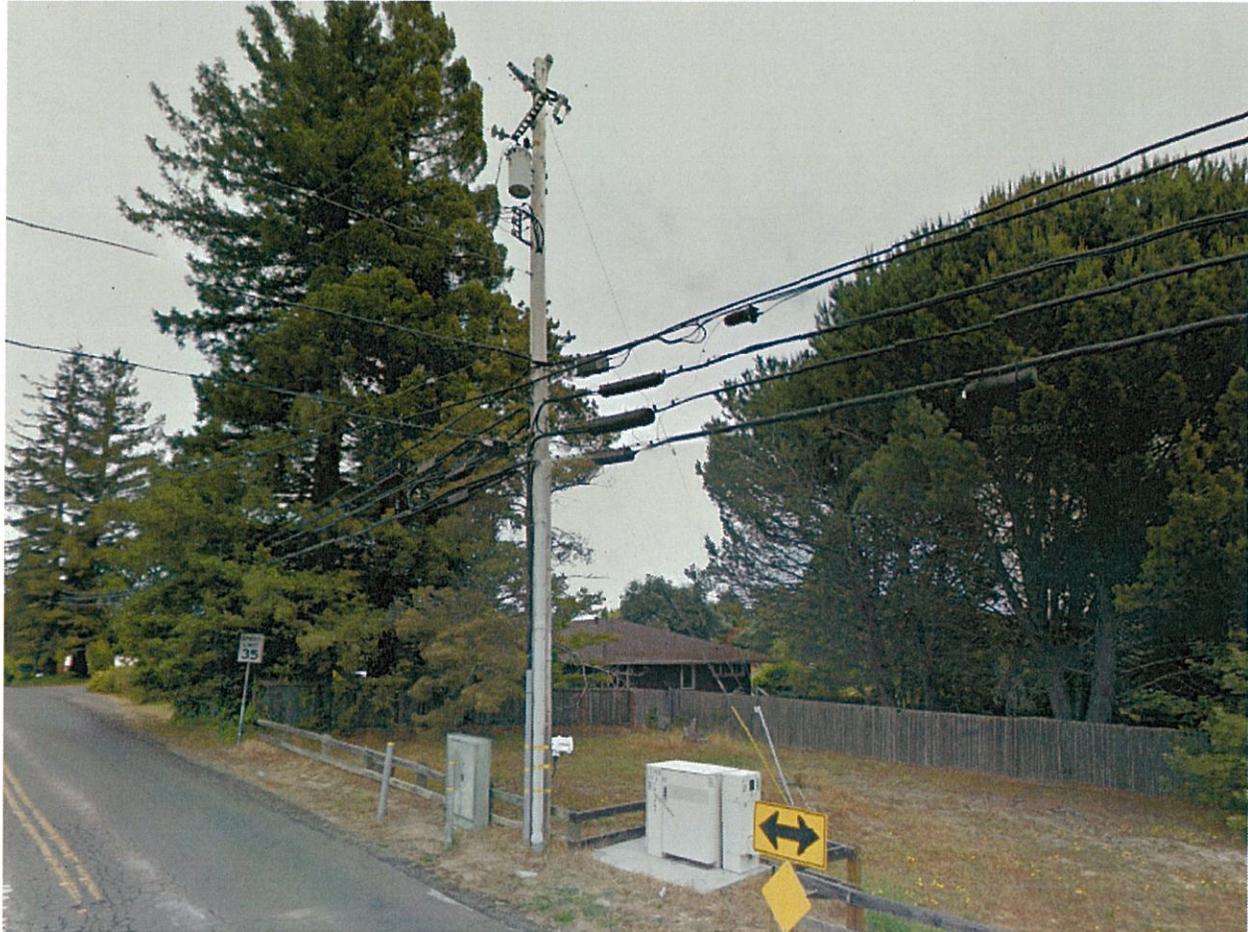
Page I, Item B, CEQA

This is under the authority of the City of Sebastopol, not KOWS Community Radio. However, KOWS disputes the Appellant's claims the Planning Commission "abused its discretion by failing to consider environmental regulations governing the application for the construction permit." A brief review of a variety of Planning Commission decisions on Construction Use Permits (CUPs) related to antenna structures throughout California in recent years shows the Sebastopol Planning Commission acted consistently in determining the KOWS application exempt from the California Environmental Quality Act (CEQA) pursuant to State CEQA Guidelines Section 15303, Class 3, "New Construction or Conversion of Small Structures." Examples of such ruling can be found in the following links:

- <http://services.countyofnapa.org/AgendaNetDocs/Agendas/PlanningAgenda/3-19-2014/10B.pdf>
- http://www.elkgrovecity.org/UserFiles/Servers/Server_109585/File/City%20Government/Committees/Planning/Agendas/2014/12-04-14-agenda-item-5-2.pdf
- <http://www.ssf.net/DocumentCenter/View/5237>
- http://www.co.merced.ca.us/pdfs/commissionarchive/2015/02-25/item_a_cup14_009_verizon_wireless.pdf



KOWS also disputes the Appellant's characterization of the Planning Commission discussion on possible environmental impacts of the antenna project as "arbitrary and capricious". However, the four-to-three vote approving the Use Permit in fact suggests a deliberative process that balanced a variety of concerns and perspectives. Not included in the Appellant's response is the Planning Commission's discussion about the relative visual and environmental impacts of functional structures throughout the neighborhood of the proposed antenna site. For instance, Commissioners heard public testimony about the recent installation of 8' deer fencing around the vineyard property adjacent to the proposed antenna site. Commissioners also discussed the relatively high density of nearly 50-foot PG&E utility poles on both sides of Pleasant Hill Road at the proposed site:



The Planning Commission considered the relative impact of the proposed KOWS antenna structure both environmentally and aesthetically to existing structures in the immediate vicinity. Commissioners concluded the KOWS antenna proposal was low impact and thereby exempt from CEQA under Section 15303, Class 3. Thus, if the above-pictured utility pole and the many others like it along Pleasant Hill Road are not seen as "blights" on the environment, it is difficult to see how the proposed KOWS antenna structure with a thin profile and lattice construction rises to this level of concern. In fact, one Commissioner commented during the Use Permit hearing that in a few years, no one will notice the antenna structure.

Page 2, Item C, Potential for co-location of other telecommunication devices

This item is under authority of the City of Sebastopol. However, KOWS will not add to or change the approved antenna in the future, and we request inclusion of this agreement in a lease. KOWS also agrees to remove the antenna structure and related equipment at the end of the lease period. The

Appellant is correct in asserting that this is a complex area of telecommunication law and cites a number of recent Federal regulations relating to a local government's obligations in the approval or denial of applications for telecommunication services. However, the Appellant omits a critical distinction in the sphere of applicability of these laws from its review of regulations. The federal laws discussed in the Appellant's response apply to local authorities in their exercise of regulatory authority but do not apply to decisions taken in a proprietary capacity. For example, at least one court has recognized that to the extent a local government acts not as a zoning authority or regulator, but as a property owner for its own sites, the local government may request and obtain different RF emissions conditions. (See *Sprint Spectrum L.P. v. Mills*, 283 F.3d 404, 421, 2d Cir. 2002.) The City of Sebastopol Planning Department director raised this distinction during the Planning Commission hearing. Under the proposed KOWS project, the City of Sebastopol would be leasing access to the City's Pleasant Hill Road Reservoir site in its capacity as a property owner. In its proprietary capacity, The City of Sebastopol can, at a minimum, set strict limits on the permissible RF emissions from the proposed antenna structure. This would effectively future-proof the proposed structure from unintended later additions of commercial telecommunication services. Given the extremely low RF emissions of the proposed KOWS antenna, the City of Sebastopol retains wide latitude in controlling the destiny of the Pleasant Hill site.

As we previously stated in the antenna Use Permit application, the proposed project is a radio structure, designed and engineered for this use only, and is not structurally appropriate for additional antennas. The antenna is not a cell tower, nor will it ever be used for any purpose other than KOWS low-power radio signal transmission. KOWS is an FCC-licensed LPFM radio station, and may only transmit a low power broadcast signal, much weaker than full power FM radio stations. LPFM rules do not allow KOWS to increase power, now or in the future, or be sold to any corporate entity.

Page 4, Continuation of Item C, Line 20, paragraph on EMF sensitivity, “environmental effects of radio frequency emissions” and PG&E smart meters

Some people report sensitivity to EMF signals; however, we refute claims of harmful radio frequency (RF) emissions. KOWS is a Low Power (LPFM), FCC-licensed radio station, and as such, may only transmit a low power broadcast signal, much weaker than full power FM radio stations. KOWS fully complies with all FCC regulations, and the KOWS LPFM radio antenna is a miniscule and in no way dangerous addition to FM RF emissions in residences and elsewhere. KOWS transmits an FM radio signal of the type in use since 1937, with a long-term safety record and no reports of serious health conditions or fatalities resulting from Non-ionizing Electromagnetic Radiation (NIER) exposure due to FM radio transmission. (See two NIER reports submitted with the KOWS antenna Use Permit application for further details.)

KOWS already broadcasts in the City's Pleasant Hill Road reservoir area, and thus is not a new source of RF emissions. According to the most recent NIER report (submitted with KOWS antenna Use Permit application) “exposure to non-ionizing electromagnetic radiation due to an artificial worst-case KOWS-LPFM radio station, at the locations of the nearby homes, is less than 1/500th of the stringent NIER limit, and estimated at less than 1/3000th of the limit if the presently-authorized antenna were in use rather than the worst case.” FM RFs from the KOWS antenna site will be far lower in neighboring homes than those of any other public or commercial radio station. The design of the KOWS antenna “squeezes” the signal to prevent any leakage or interference to nearby homes.

We ask that KOWS be treated in the same way as any other FCC-compliant radio station regarding relocation of transmitters or changes in transmission power. As an example, the KOWS signal strength in the neighborhood homes will be 25% of RFs already emanating from Berkeley's KPFA and 20% of Santa Rosa's KRCB. We did not find evidence of complaints from the EMF Network or those with RF sensitivity when KLUV moved its transmitter from Livermore to Vallejo, causing a significant increase in FM RF emissions in our area. Neither did we find such evidence when KPFA in Berkeley and KRCB in

Santa Rosa recently increased the power output of their FM transmitters, even though the amount of RFs they emit at the proposed antenna site is far greater than RFs from the proposed KOWS antenna. (NIER reports submitted with antenna Use Permit Application.)

Page 5, Item D, Importance to community

Since 2007, KOWS has grown from a handful of founders to over 100 local volunteers, with thousands of visitors to our studios, scores of underwriters and a growing “herd” of members and listeners. KOWS would not still be broadcasting without a proven value to our community’s residents, businesses and organizations. We hope to move our antenna to the City’s Pleasant Hill Road reservoir site to fully respond to the public’s ongoing expressed need for local radio in Sebastopol and West County areas. Local and independent community radio is a valuable resource, and given the packed FM airwaves, KOWS provides the only available opportunity to reach and provide coverage to many listeners, including elders, people with disabilities and others who are marginalized in our community.

As we stated in the antenna Use Permit application, KOWS provides multiple, unique benefits, including:

- Uninterrupted broadcasting of local news, emergency alerts and vital information
- Promotion, coverage and support of local services, organizations, activities, events
- Increased City tax revenues from more people attending events, patronizing businesses
- Collaboration with local schools to inspire and involve students in community radio
- Effective outreach via information on municipal topics and issues of local importance
- Civic engagement and involvement by broadcasting public meetings, events, discussions
- Showcase for musicians, writers, artists, etc. via in-studio performances and interviews
- Access and welcome to diverse ages, abilities, backgrounds, cultural/ethnic communities
- Affordable opportunities to promote locally owned and operated businesses
- Enhanced branding of the City of Sebastopol as the cultural center of West Sonoma County

Page 5, Item D, Line 21, Current and potential listening audience

We can only calculate current radio audience numbers (from homes, work, vehicles) based on reports from listeners, and estimates that represent the population that can be reached by our current antenna. More precise figures would require a costly, commercial Nielsen-type study, which at best would yield only a derived number. With increased transmission capability, KOWS may reach an estimated 25,000 up to 150,000 listeners, based on population projections. KOWS subscribes to services to track online listeners, but figures are imprecise and only tell how many server connections are made, not a tally of individual listeners. West Sonoma County residents often report an inability to listen to KOWS, either via radio or online, because of spotty radio coverage due to an inconsistent signal, or widespread Internet problems, such as lack of service, poor connectivity, exceeding data allowances, or affordability. Additionally, many people enjoy listening to radio while driving, which requires a strong transmitter signal. This is especially important during times of crisis or emergency. Many local residents ask when they will be able to listen to KOWS on the radio at home or while driving for those very reasons.

Page 6, Item D, Line 1, Emergency Alert System

We take our FCC Emergency Alert System designation as a serious community responsibility, irrespective of the number of KOWS radio listeners at any particular time. We know from experience that people depend on KOWS for local news, safety advisories and emergency alerts, and believe that this responsibility justifies an expanded broadcast reach. In times of crisis or concern, our community cannot rely on larger stations or those located further from Sebastopol for in-depth local coverage, important information or timely assistance.

Page 6, Item D, Line 8, incorrect statement about radio station KJZY

KJZY is a Santa Rosa-based station, not in Sebastopol, although this location is shown on their license.

Page 6, Item D, Line 11, “...few audience members testified in favor of the station”

Although there was a large contingent of KOWS supporters at the Planning Commission meeting, we intentionally did not ask volunteers, listeners and others in favor of the antenna Use Permit to testify, preferring to rely on the substance of our formal presentation.

Page 6, Item E, Compliance with General Plan policy to minimize visual impact

This item is under authority of the City of Sebastopol, not KOWS. However, our earlier comments on CEQA considerations relate directly to the question of visual impact. During the discussion phase of the antenna Use Permit hearing, commissioners described how they had personally visited the proposed antenna site and walked the neighborhood to assess its potential visual impact. One commissioner commented that some homes near the proposed site have PG&E utility poles so close by that they would loom far larger in the view from a window than the antenna structure itself. This comment was not intended to dismiss neighborhood concerns, but rather to place these concerns in context. A typical response to any proposed construction change in a neighborhood is for residents to heighten the impact of what will be different and to discount the impact of what has already been present for years. Planning Commission members toured the neighborhood to assess for themselves as objectively as possible the visual impact of the proposed antenna. These commissioners sought to weigh the potential for the community good represented by the KOWS proposal with the potential for harm to the neighbors of the proposed antenna site. The resulting four-to-three vote in favor of the KOWS antenna Use Permit demonstrates that the Planning Commission determined the potential for community good outweighs the potential for harm. This assessment is as objective as can be expected in the current situation, given that the Planning Commission represents disinterested parties.

Page 7, Item F, Search for appropriate, FCC-allowable KOWS antenna locations

In 2009, KOWS began researching potential antenna relocation sites, and in 2013 we launched an exhaustive search for an appropriate FCC-allowable site, but without success. Sites considered for relocation did not meet FCC LPFM guidelines, or presented insurmountable constraints listed below.

Our search continued until we found the City of Sebastopol’s Pleasant Hill Road reservoir site, by far the best location identified. The property meets all FCC regulations for LPFM radio stations and fulfills the need for direct line of sight signal coverage into downtown Sebastopol. It also has PG&E and Internet availability; a stable, long-term property owner; secure, fenced site with locked gates; property zoned for a community facility; and in an area of relatively low population density.

The City of Sebastopol was receptive to our application, so we discontinued any further search. The site is an excellent location for KOWS broadcast equipment: It is zoned “community facility” (CF), and thus an entirely appropriate use for a non-profit, volunteer-operated, community radio station’s low-power antenna structure, particularly when evaluating restrictions and constraints limiting antenna locations that may be considered for an LPFM radio station.

There are two primary considerations when considering a suitable site for the LPFM transmitter and antenna: 1) FCC regulations restricting antenna location, and 2) property specific constraints related to construction and ongoing maintenance. The following sections describe these factors in more detail.

FCC Regulations

Locating an FM radio station in a populated community is highly constrained. There are three primary considerations that determine an allowable antenna location and height:

- First and Second Adjacent Channel Interference: The allowable frequencies for an FM station range from 87.9 to 107.9 MHz. Due to the nature of frequency modulation, the

designated FM channel center frequencies end in 0.1, 0.3, 0.5, 0.7, and 0.9 MHz. A first adjacent channel represents the next allowable lower or higher frequency to the channel in question. So the first adjacent channels to KOWS 107.3 are at 107.1 and 107.5. A second adjacent channel represents the next allowable channels after the first adjacent channels. The second adjacent channels to KOWS 107.3 are 106.9 and 107.7.

FCC regulations restrict the location of FM antennas to avoid interference of first and second adjacent channels. FM radio stations in a single region cannot be licensed on adjacent frequencies. Thus, if a station is licensed on 99.5 MHz in a city, the first-adjacent frequencies of 99.3 MHz and 99.7 MHz cannot be used anywhere within a certain distance of that station's transmitter, and the second-adjacent frequencies of 99.1 MHz and 99.9 MHz are restricted to specialized usages such as low-power (LPFM) stations.

While evaluating possible antenna relocation sites, we commissioned a number of studies by radio engineers to determine locations consistent with FCC interference requirements. For KOWS to broadcast at 107.3 MHz, possible sites were severely limited by a full power Livermore station (KLUV 107.3 FM) as well as a Santa Rosa station (KRRS 107.5 FM) and a Cloverdale station (KSRT 107.1 FM). Maps of allowable locations restricted the eastward relocation of the KOWS antenna to just west of Grandview and Cherry Ridge Roads.

Additional research showed the possibility of a more eastward location (to reach downtown Sebastopol) if KOWS changed broadcast frequency to 92.5 MHz. The first and second adjacent channel interference issues were less restrictive at this frequency.

- **Major and Minor Waivers:** Any changes to LPFM transmission or license require a waiver to an existing station license to be approved by the FCC. Major changes to a license entailing significant relocations of the antenna or increases in power require a major waiver to be approved. Major changes to LPFM transmission can only be approved during LPFM filing windows. Since these filing windows rarely open, requesting a major waiver for antenna relocation is no longer a feasible option for KOWS. A minor waiver can be requested and applied for at any time. This represents the most effective way to address relocation issues.

A minor waiver covers changes in antenna height, new antenna tower construction, relocation of the antenna within 5.6 km (3.5 miles) of its existing location, and changes in channel/frequency. Early in the KOWS relocation project, we reviewed a possible location on Cherry Ridge Road near the top of Grandview Road. We requested and received a major waiver to relocate the antenna from the OAEC property to the new location, but after unsuccessful efforts to reach agreement with the property owner, we determined this location was not suitable for relocation (see **Attachment A**). However, since we had approval for this site, we could subsequently apply for a minor waiver to move the antenna from the Cherry Ridge location to another site within the 5.6 km allowable area.

Changes in location and power levels of FM stations in Sonoma County are part of a dynamic process. We found that what might be an allowable location east of Occidental at a particular time would cease to be allowable because of another station's minor waiver. The only way to secure a "claim" on a location is to file for a minor waiver well in advance of an uncertain although potential guarantee of securing the location via permits and leasing.

In working with our radio engineer, we determined the optimal relocation of the KOWS antenna to serve downtown Sebastopol and the greater West County area was to select the Pleasant Hill location and change our broadcast frequency to 92.5 MHz. We applied for

and received an FCC waiver in 2015 to make this change.

- Interference Waiver: In addition to FCC restrictions on first and second adjacent channel interference, there are restrictions that LPFM stations may not interfere with the ability of antenna site neighbors to receive first and second adjacent stations. This requires that the antenna design comply with an interference waiver guaranteeing that residents near an antenna site do not have their signals disrupted. KOWS worked with an FCC-certified antenna engineer to specify height and antenna configuration to meet this requirement. Our proposed 70-foot antenna structure minimizes any impact to adjacent properties while maximizing the potential listenership in the greater Sebastopol area.

Property-specific constraints of previously considered antenna sites

- Site outside FCC-allowable area
- No direct line-of-sight into City of Sebastopol
- Problematic or no utility (PG&E or Internet) service
- Site development costs, including trenching to provide services
- Lack of 24-hour access to broadcast equipment
- Property accessibility, security and safety concerns
- Nearby trees causing line-of-sight signal interference
- Difficulty in mounting antenna in tree, with resulting degraded signal
- Geographic roadblocks, e.g., North/South ridge interfering with line-of-sight signal
- Inability to attain agreement/lease with private property owner

(See **Attachment A** for detailed information and maps documenting the antenna site search, and **Attachment B** for photo simulations of the proposed antenna.)

Page 7, Item F, Line 21, Notification of neighbors

KOWS volunteers contacted the surrounding 20 neighborhood homes by letter and in person on November 3, November 16, and December 31, 2015, inviting replies with any concerns or questions. (See **Attachment C** for KOWS notification letters and emails, and all neighbor replies received.)

Page 8, Item F, Line 2, Need for KOWS to re-locate antenna from OAEC

No KOWS spokesperson has made any statement about “eviction” from OAEC (Occidental Arts and Ecology Center) or expressed fear that the station would “die” if denied a use permit. Over the past two years, owners of the OAEC property (Sowing Circle LLC) have asked KOWS to move the antenna from the site as soon as possible. Previously, OAEC was the license holder and fiscal sponsor of KOWS, and hosted the antenna. However, concerns about liability to the property owners (because we need access to the site to maintain and repair equipment located high in a fir tree, a dangerous climb) prompted an intensified need to find an alternate location for the antenna. Since attaining our own non-profit status in 2015, we have removed all fiscal responsibility and sponsorship from OAEC. The current antenna location is being used for other purposes at OAEC, and KOWS needs to move its equipment. Contrary to the Appellant’s allegations, the property owners initiated the KOWS disengagement from OAEC, and staff was not authorized to make decisions about the future of the antenna equipment on the property.

Page 8, Item G, Neighborhood property values

We consulted with experienced, long-time real estate professionals who concurred that local property values are market driven and subjective, with many variables determining property valuation.

Pages 8 and 9, Item H, Potential financial liability to the City of Sebastopol

KOWS and the City of Sebastopol maintain liability insurance for equipment and people on site. The antenna structure will be protected against unauthorized climbing, in compliance with the City of Sebastopol Planning Department requirement for obtaining a Use Permit.

Page 8, Note #3, Line 20, KOWS timely notification of neighbors

KOWS contacted surrounding neighbors well before the antenna Use Permit hearing. (See **Attachment C** for documentation and replies from neighbors.)

Page 8, Note #4, Line 25, KOWS antenna structure purchase

KOWS has not bought an antenna structure, nor put down a deposit. We have only obtained quotes on different options that enabled KOWS to have a modified, thinner design engineered.

Page 9, Item I, Due process and equal protection

This item is under authority of the City of Sebastopol, not KOWS.

KOWS Response to Appellant's Section: "Supplemental Facts and Information"

Item #2: Simulation photographs

Our intent in providing photo simulations was to provide the Planning Commission and neighbors an accurate picture of the antenna structure, to the best of our ability. (See **Attachment B**)

Item #9: KOWS Financial stability

For ten successful years, KOWS has been using an all-volunteer, low-cost, collaborative operating model. Most other community-oriented stations employ staff, greatly increasing the need for major fundraising, grant-writing, and pledge drives. We manage our budget carefully, and due to our frugality we have saved thousands of dollars, making the antenna re-location affordable. For example, KWMR radio (Pt. Reyes) has an annual budget of \$350,000, compared to KOWS at \$20,000. Our volunteers are committed, well-respected professionals in their fields, and take responsibility for managing a community radio station very seriously. A major benefit of increased broadcast coverage and wider listenership will be increased income from additional underwriters and listener memberships, key factors in increasing our financial stability. In terms of growth, an LPFM station must be owned by a non-profit, and is limited to 100 watts at sea level (adjusted for actual antenna elevation) ensuring that KOWS will always be a local community radio station, never for sale to any corporate entity.

Item #11: Visual Impact

We have chosen to limit the antenna structure height to a maximum of 70 feet, rejecting a 100-foot design recommendation by our FCC-certified broadcast engineer. We plan to locate the antenna structure in the southeast corner of the City-owned reservoir property, the area with the least visible impact on immediate neighbors and at the farthest distance possible from Pleasant Hill Road. The lower part of the slim, see-through antenna structure will be painted flat green to blend in with surrounding trees, and the exposed, narrow upper section blue-grey to blend in with the sky.

In our continuing efforts to address neighborhood concerns about visual impact, we reviewed additional antenna structure options, and in the past month we selected a manufacturer that offers a narrower, more tapered design than the 24"-wide model specified in our antenna Use Permit application. The selected antenna structure (33" wide at ground level; 24" wide at 30'; 18" wide at 50'; 12" wide at 70') has important features that conform to our need for the least visual impact, including:

- Narrow, tapered design
- Self-supporting, no guy wires needed
- Angled steel pipe see-through "lattice" construction, in easily paintable 10' metal sections

Concluding Statement

We appreciate the opportunity to respond with accurate information on the proposed KOWS antenna facts. We have worked diligently throughout the project to comply with all FCC regulations, fulfill all City of Sebastopol requirements, inform neighbors and invite feedback on their concerns and questions, and modify the antenna structure design to address concerns about visibility. We also have conducted substantial research, hired experts, produced reports, and used the creativity, skills and dedication of many KOWS volunteers to address and overcome challenges and constraints. We believe we have done all we can to be cooperative, collaborative, informative and community-minded, and now the decision to sustain our use permit is with the City of Sebastopol. We thank you for your consideration.

Attachment A
Information and Maps Documenting Search for Appropriate Site

Early History of KOWS Antenna

Since KOWS began, there have been efforts to find a permanent location for our broadcast antenna. The station's founder, a staff member at Occidental Arts and Ecology Center, arranged for OAEC to be the fiscal sponsor and for the antenna to be located on the property. However, the property is owned by Sowing Circle LLC, a collection of partners, including some who reside on site and work for OAEC. Sowing Circle has complete control of site use decisions, and agreed to host the antenna temporarily in a fir tree on the property until KOWS was able to find a more appropriate location. They were concerned about the safety and liability of KOWS technicians climbing a tree on their property and needing 24 hour a day access to the site. The owners decided that permanent approval was not congruent with their land use priorities and KOWS would need to eventually move off site as soon as possible. This was a mutually agreeable decision, as KOWS needed to increase on-air listenership, which would entail a move as close to Sebastopol as allowable.

At OAEC's request, KOWS severed the fiscal sponsor relationship and gained 501(c)3 non-profit status. In December 2015, the KOWS studio moved from downtown Occidental to central Sebastopol, with the expectation that an antenna move would soon follow.

Initial Site Searches

From 2009 to 2013, exhaustive efforts were made to find a new location for the antenna, primarily in the Occidental area. Many sites were evaluated and several landowners were approached. We continued to explore sites with the greatest potential. (See green markers on Antenna Site Search Locations map.) However, none of the sites met all the criteria for an improved site, and at best were lateral moves that offered no clear advantage over the OAEC site. It was later determined that the FCC-permitted area for KOWS 107.3 FM broadcasting signal exerts serious constraints on allowable sites and eliminated most previously considered sites. (See *Allowable Area for 107.3FM* pink line on Antenna Site Search Locations map).

Expanded Site Search

In 2013 the Antenna Relocation Committee, (ARC), was formed with volunteers from the KOWS community to address Sowing Circle LLC's request that we find a new site. We contracted with FCC-certified radio engineers to help guide KOWS through the complex and arduous process of antenna relocation. These consultants worked to determine the FCC-allowable area and provide Longley-Rice studies that show the potential broadcast coverage at locations under consideration. Several sites near the boundary of the allowable area closest to downtown Sebastopol were pursued. One landowner initially was interested in hosting the KOWS antenna, and a major waiver and construction permit were obtained from the FCC to relocate to this site. Negotiations for the site subsequently fell through, and we had to begin the search again. There was good news, though: With FCC approval of the move and a construction permit in place for this site, new opportunities arose.

FCC regulations permit moves of up to 5.6 kilometers from the site originally approved for a construction permit. This cleared the way for a move closer to the center of Sebastopol, including the Pleasant Hill Road reservoir site. An ARC committee member began discussions with City of Sebastopol staff, which led to consideration of several City properties. At the same time, we began exploring the potential with privately owned sites that were previously outside the allowable area. Sebastopol was receptive to hosting the KOWS antenna, and offered significant advantages to working with private landowners. Furthermore, City properties were superior to any other sites under consideration, and the Pleasant Hill Road reservoir site was by far the best, and the only site meeting all essential criteria.

However, there was one problem: The City sites were not in the allowable area for 107.3 FM, so we put the City sites on hold until a solution could be found. Over a year later, after extensive research, our radio engineer found an available frequency at 92.5FM that would allow us to locate our antenna outside the 107.3FM allowable area. With a change of frequency we could increase power from 3 to 35 watts, depending on the site. To avoid encroachment into adjacent frequencies, the further to the south we were able to move, the higher our allowable power would be, thus making the Pleasant Hill Road reservoir, the southernmost City-owned site in the 5.6 km limit, the best allowable site to be found.

The combined benefits of increased power and closer proximity to Sebastopol's population center presented an ideal solution, and this site quickly became our primary focus. With the City as a stable, long-term landlord, with a safe and secure site and the potential for a strong broadcast signal into a major population center, the growth and sustainability of KOWS will be assured.

See the following page for locations of the most significant sites in our search for a new antenna.

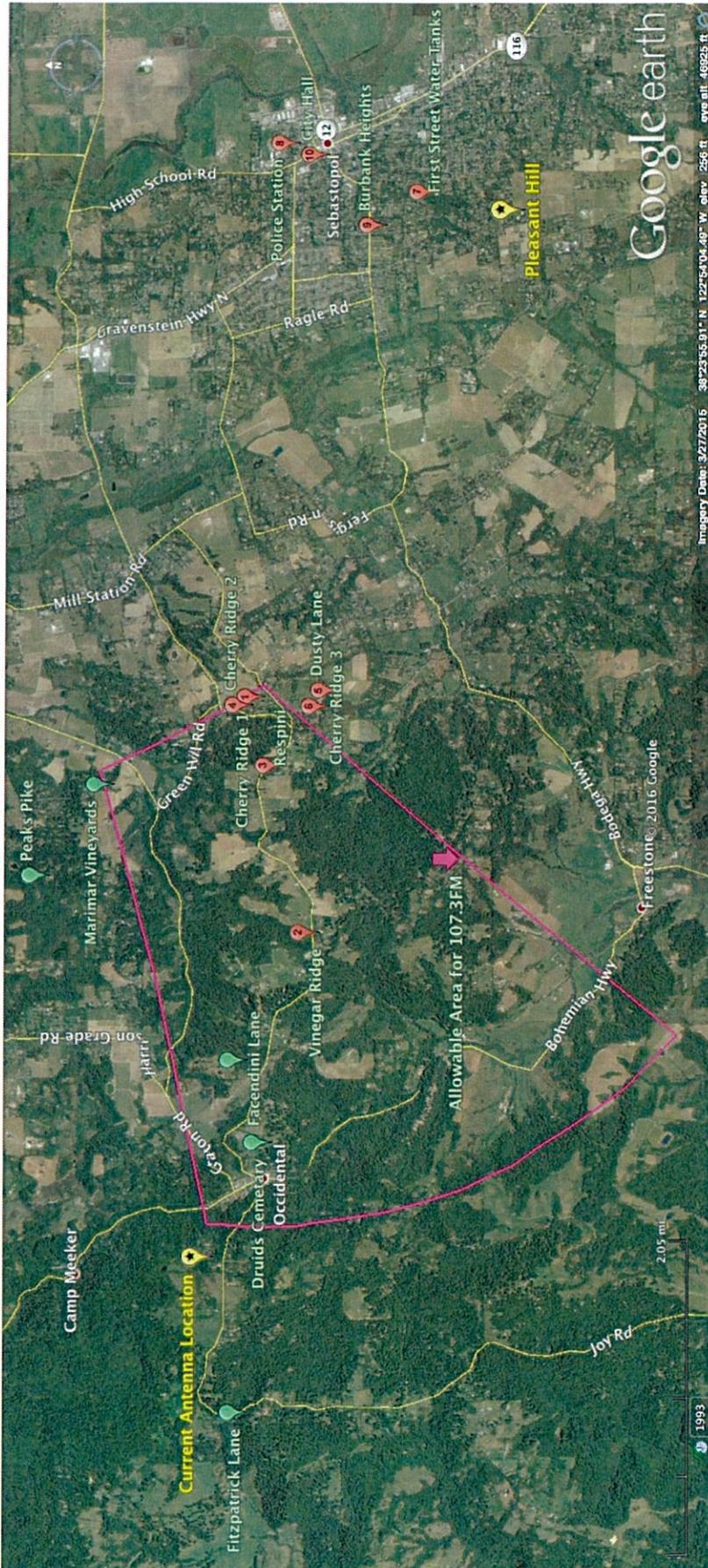
Antenna Site Search Locations

Legend for Map on Next Page

 - Preliminary sites, 2009 – 2013

 - Recent sites, 2013 – present

(Photo rotated for greater clarity)



Attachment B Photo Simulations

General Notes

Creating photo simulations is a subjective and difficult process. For example, the choice of photo location and degree of magnification can be used to skew the degree of visual impact. There are also inherent difficulties in gauging the size of objects in the shot, such as tree heights, and the actual location of the ground, as is the case for all the included photos. Additionally, the closest location where a photo can be taken that is accessible to the public is over 450 feet from the antenna structure site. Distances to the structure from the photo locations range from 500 feet to 2,120 feet. Thus, a 70-foot tower from long distances becomes a relatively small object to illustrate.

Choice of Photos

Google Earth street view photos were chosen for inclusion in the photo simulations because they are the most realistic, unbiased, and replicable images available. These public domain photos also offer a certain degree of protection against attempts to skew the photo simulations, and serve to portray visual impact as if seen by people walking or driving on the nearby roads. Unfortunately, lack of access to private property limits photo options.

Choice of Photo Locations

There are only two residences within 500 feet of the antenna structure site. The closest home is 375 feet away, with no view of the structure, and the other is 475 feet away. Six residences are located within 600 feet of the antenna structure, and only three neighbors have the potential to see it from their property. The low population density in this area was a contributing factor in location the antenna structure at the Pleasant Hill Road site. Although the tower may be visible, it will not be a prominent feature from any nearby residence.

Attempts were made to provide photos taken north of Blackney Road, towards Lynch Road, but because all street view shots contain too much close range vegetation, a clear view of the antenna site could not be found and inclusion of photo simulations would be of no value.

Lawrence Lane also lacks a clear view to the site and no Google Earth street view shots are available, so no attempt was made to do a simulation. There may be places where a view of the antenna is possible from private property and local residents may be able to provide simulations from their properties. It is not clear if such photos will accurately portray the visual impact. Photos that do not include complete and verifiable information must be viewed with skepticism. The location of the photos, distances to the tower, and sizing methodology are essential for photos to be considered credible. For example, a six-foot diameter red balloon is not a fair representation of an open lattice antenna that is one foot wide at the top, painted blue-grey to blend in with the sky and flat green to blend in with surrounding trees.

The simulations included here were taken from locations near residences that may have a view of the tower, and from other nearby places to show what would be seen from the road. The Photo Simulation Index shows the exact location and direction of each shot, which includes the distance to the antenna structure and a reference object's estimated height and distance, sufficient data to verify the validity of the simulations.

Methodology Used to Determine Relative Size of Objects

As mentioned above, certain inherent difficulties exist with simulations. Extreme care was taken to accurately portray the antenna size and location in each shot.

- All simulations were accurately created in Vectorworks, a professional CAD program.
- The antenna was carefully re-created from the manufacturer's plans and appropriately scaled in each drawing by referencing it to objects of known or easily determined height.
- Trees directly to the north of the antenna site were calculated to be approximately 45 feet tall by directly referencing their height to a 20-foot pipe placed next to the tree.
- The trees on the south side of the tanks are slightly higher, estimated to be 50 feet tall.
- The telephone pole height referenced in *Photo Simulation #1: Blackney Road* was determined through trigonometric methods to be between 45 and 50 feet tall.
- Objects used for scaling purposes are noted in each photo simulation.
- Surface distances were determined using Google Earth.

Another inherent difficulty is determining the actual location of the ground at the antenna site when it is heavily obscured by foreground vegetation, as is the case in all shots. However, a conservative interpretation was chosen so as to not intentionally diminish the visual impact. Some degree of inaccuracy is inevitable and actual heights may vary by as much as plus or minus ten percent.

Seeing the Antenna in Photo Simulations

The tower is difficult to see in most of the included photos. This is a result of trying to be as accurate as possible. Several combined factors contribute to this challenge, including:

- Without the magnifying effect of a telephoto lens the Google Earth street view images make the antenna appear relatively distant and small; however, this view accurately reflects what an observer would see at these photo sites.
- Sebastopol's Planning Department requires the tower be painted to blend in with surroundings. The structure blends in with the sky due to very little contrast between it and the background.
- The low-profile, see-through lattice design makes the tower fairly transparent. No component of the tower is wider than about 3 inches.
- The tower design is 33 inches wide at the base and tapers to 12 inches wide at the top. Thus, the top part that appears above the trees is relatively small when viewed from the distances of shots at 600, 800, 1,600 feet away.
- The $\frac{3}{4}$ " diameter stainless steel antennas are included, but are too small to be seen from long distances in the simulations and do not contrast well with the background sky, which causes them to seem to disappear.

The visual impact of the tower is minimal due to screening by the vegetation and distances to nearby residences; thus, we believe it is not of sufficient concern to deny approval of this KOWS antenna relocation project. The following photo simulations corroborate this assertion.



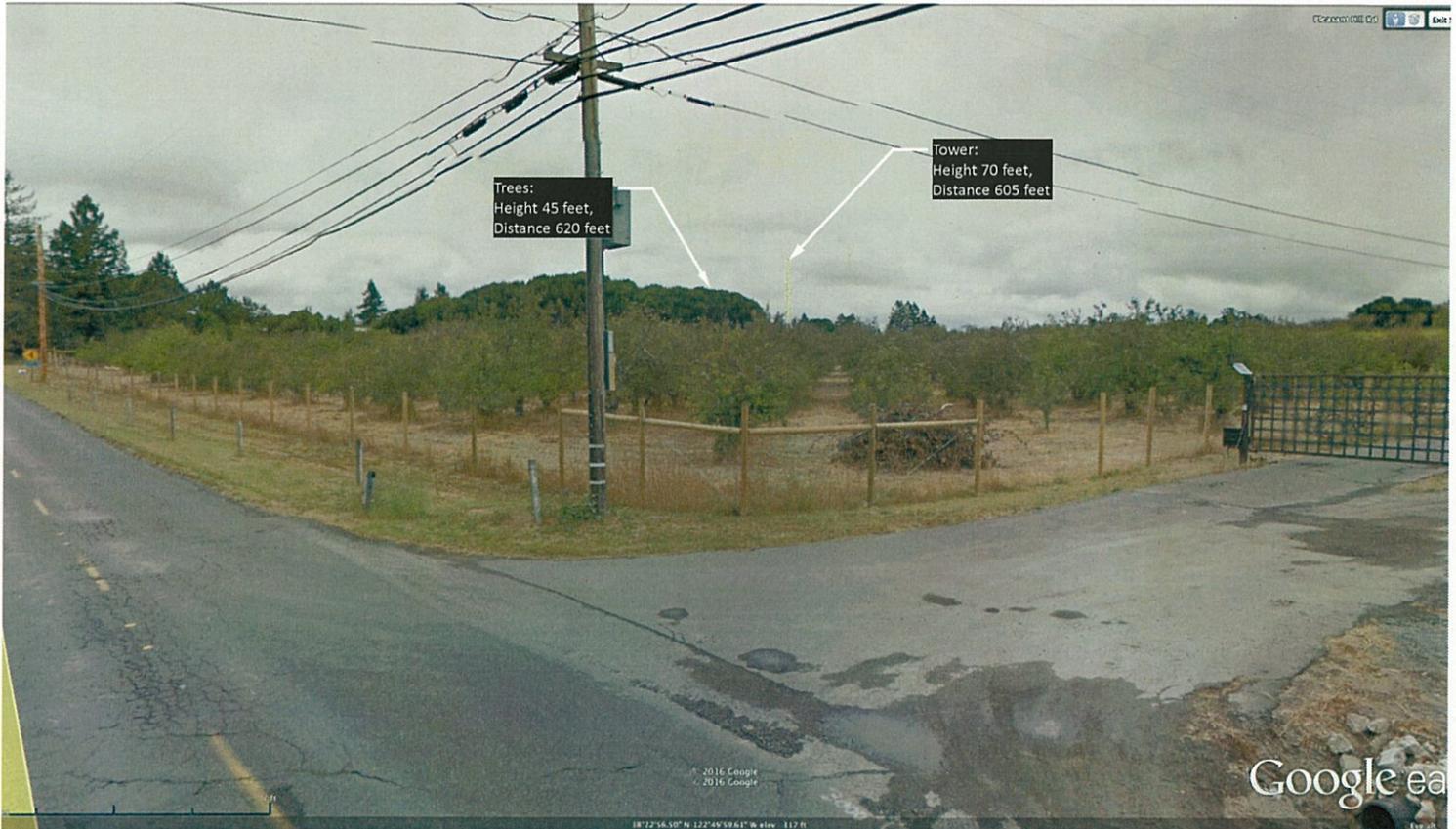
The base of each red arrow shows the location where each photo was taken. Arrows indicate the viewing direction of each shot.



Simulation 1: Blackney Road

At a distance of 810 feet, the antenna structure is difficult to see from Blackney Road and does not show up well in this simulation. There may be spots where the top 10 feet or so are visible through the trees, but for the most part, the trees block the view, resulting in minimal visual impact.

Photo Simulation 2: Pleasant Hill Road at Stewart Road

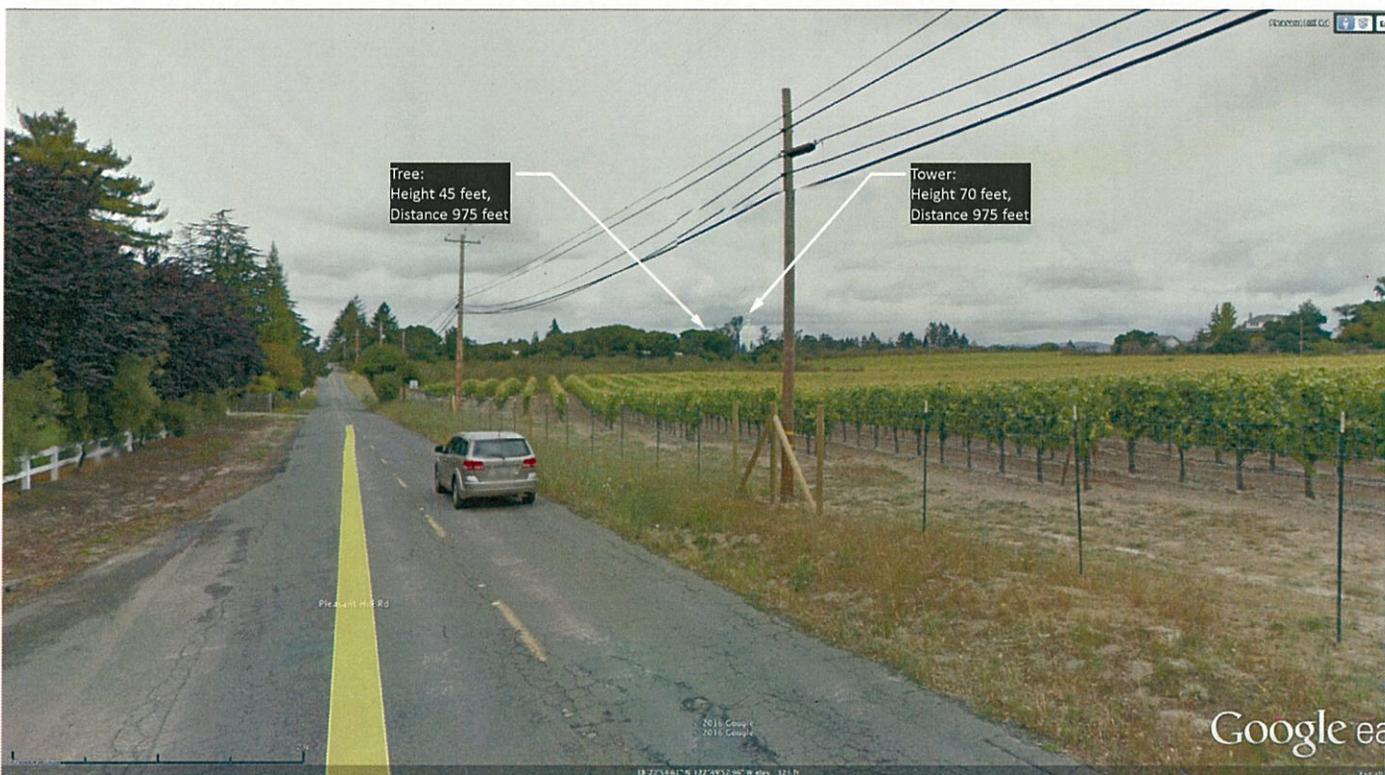


Simulation 2: Pleasant Hill Road at Stewart Road

The antenna structure may be most visible at this spot. However, from 605 feet away, and with considerable objects in the foreground, such as telephone poles, fencing and orchards, the 70-foot lattice-design tower does not stand out. The oak trees directly below the tower in the photo are approximately 25 feet tall, and the trees to the left of it are 45 to 50 feet tall.

A residence on Stewart Road approximately 550 feet from the antenna site will be able to see the structure from the rear of the house. This residence has the least obstructed view of the tower. The view from this residence would be similar to what is depicted here, only from a higher elevation and a different angle. Viewed from this higher elevation and different angle with the 45- to 50-foot trees behind it, the tower would have an even lower profile than the one shown here.

Photo Simulation 3: Pleasant Hill Road at Cemetary Entrance



Simulation 3: Pleasant Hill Road at Cemetery Entrance

At a distance of 975 feet the antenna structure is hard to see in this photo simulation even though over half of it is visible above the trees. The narrow, see-through lattice design offers transparency and low visual impact. Telephone poles, fence posts and grapevines in the foreground minimize the visual impact, blending the view of the structure into the distant trees. It is likely that many will pass by without noticing the tower at all, since it is not the predominate feature in the landscape.

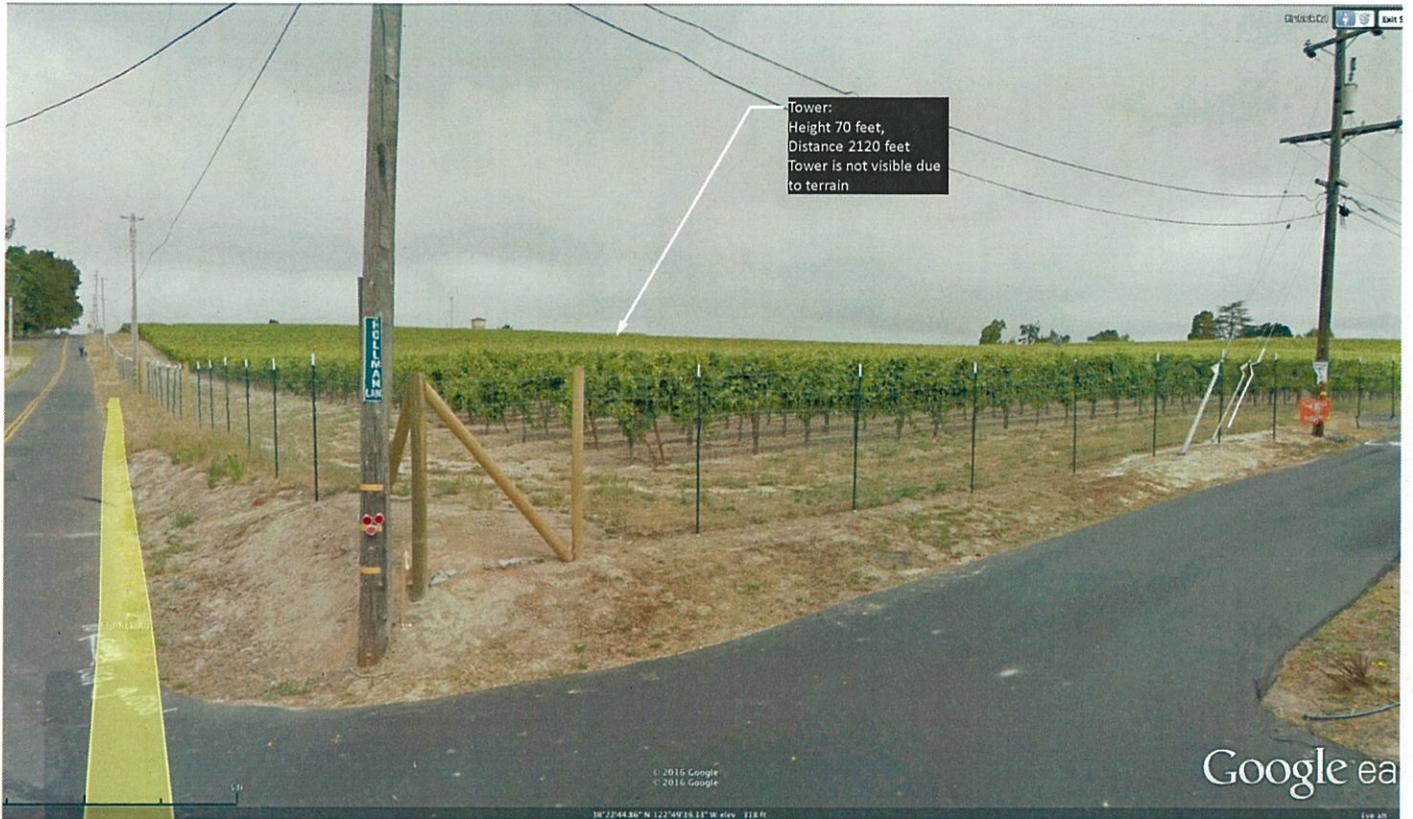
Photo Simulation 4: Pleasant Hill Road at Elphick Road



Simulation 4: Pleasant Hill at Elphick Road

Although the top five feet of the antenna structure may be visible from this location, it is so far in the distance (1,600 feet) it is difficult to see, and appears significantly smaller and lower than the adjacent telephone poles and grapevines.

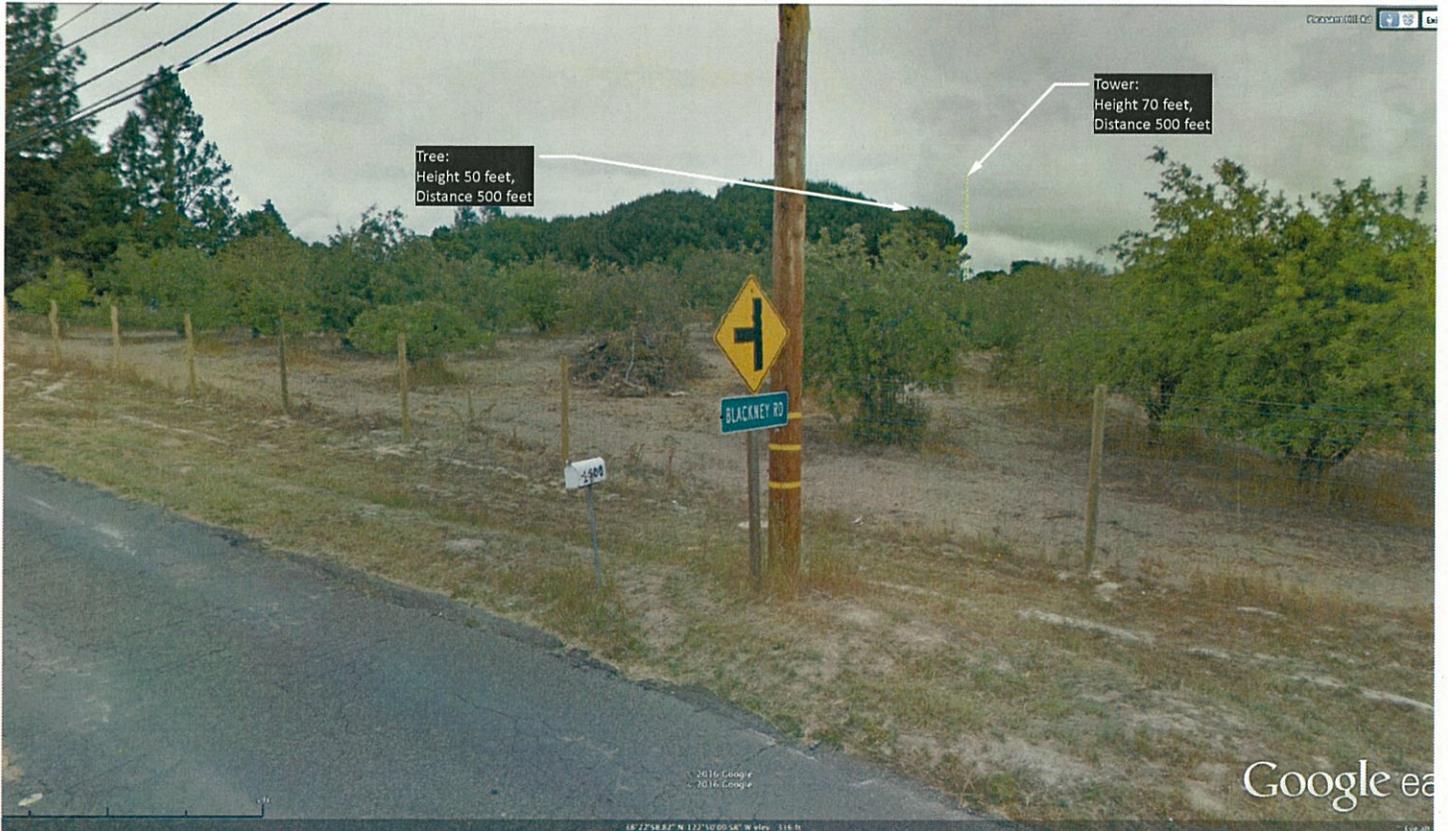
Photo Simulation 5: Elphick Road at Hollman Lane



Simulation 5: Elphick Road at Hollman Lane

At the Planning Commission hearing, an opponent of the KOWS project stated the antenna would be visible from Elphick Road. This photo, taken at Hollman Lane, clearly shows the rise in the terrain between Elphick Road and the antenna site, making visibility impossible. Even if it were visible, an object 1 to 2 feet wide from a distance of 2,120 feet would be extremely difficult to see, and would not constitute a visual impact. Due to the rise in terrain between Elphick Road and the Pleasant Hill Road reservoir site, there is no direct view of the tower from anywhere along Elphick Road.

Photo Simulation 6: 1900 Pleasant Hill Road



Simulation 6: 1900 Pleasant Hill Road

This location is 500 feet from the antenna structure and offers the closest and fullest view not on private property. Although technically visible, the tower appears to be about the same relative height as the fence posts and is significantly smaller in appearance than the telephone poles and nearby trees, thus it does not significantly stand out in the landscape. The house at 1900 Pleasant Hill Road is set back an additional 150 feet from this point with significant vegetation screening the view towards the structure.

Based on these six photo simulations, it is evident that the visual impact for nearby residents is minimal – or none. The Pleasant Hill Road reservoir site is set back from public roads and separated from all nearby residences by thick vegetation and mature pine and fir trees, making the antenna structure unseen in nearly the entire neighborhood.

Attachment C
Documentation of Contact with Pleasant Hill Road Area Neighbors and Replies Received

Note: Neighbor names and contact information were removed from this attachment to respect privacy.

KOWS voluntary notification letter hand delivered to homeowner adjacent to City reservoir site

On November 3, 2015, Arnold Levine and Laura Goldman (KOWS Antenna Relocation Committee members) took the following letter to the house closest to the proposed antenna location on Pleasant Hill Road, intending to drop it off at the door. When they arrived, the homeowner was in her driveway and they gave her the letter, discussed the antenna project with her, and provided additional details. The homeowner appeared to have no problems with what KOWS proposed, and her name has not appeared on the Appellant's petition, or SHARP membership.

Hello, *(neighbor name removed)*:

I'm contacting you on behalf of KOWS Community Radio. We hope to relocate our low-power antenna to the City of Sebastopol water tank property near your home, and in the spirit of being a good neighbor, we want to let you know about our plans as we begin the permit process.

KOWS is west Sonoma County's all volunteer, non-profit, LP (low power) radio station, broadcasting since 2007 at 107.3 FM and www.KOWS.FM online. KOWS mission is to serve our extended community, and reach, connect, and involve as many people as possible.

The proposed low-profile FM antenna will increase our broadcast range in the Sebastopol area, and as the FCC-designated Emergency Alert Station for west Sonoma County, we will be more effective in community outreach during times of need.

We are happy to begin the conversation and provide details if you have questions or would like more information.

I welcome your email or phone call,
Laura

Laura Goldman
for KOWS Antenna Relocation Committee

Laura's Living Room, Fridays 5 to 7 pm
(email and phone number removed)

Letter to neighbors in the area of the proposed antenna relocation site

On November 18, 2015, Arnold Levine and Laura Goldman, KOWS Antenna Relocation Committee members, hand-delivered the following letter to 20 surrounding homes:



Don Campau, Spokesperson
P.O. Box 1073, Occidental CA 95465
Office Phone: 707-874-9090 Studio Phone: 707-874-1073
Email: kows@sonic.net Website: www.kows.fm www.facebook.com/KOWS.fm

November 18, 2015

Hello:

We're contacting you on behalf of KOWS Community Radio. We hope to relocate our LP (low-power) FM antenna to the City of Sebastopol water reservoir property near your home, and in the spirit of being good neighbors, we want to let you know about our plans as we begin the permit process.

KOWS is west Sonoma County's all volunteer, non-profit radio station, broadcasting since 2007 from Occidental at 107.3 FM and www.KOWS.FM online. KOWS studios are now located in downtown Sebastopol, where we broadcast the best of Sonoma County. Our mission is to serve the local community with high-quality radio and reach, connect, and involve as many people as possible.

The proposed FM antenna relocation will increase our broadcast range in the Sebastopol area, and as the FCC-designated Emergency Alert Station for west Sonoma County, we will be able to reach many more people in our extended community.

If you have questions or would like more information, we are happy to provide details, and welcome your email or phone call.

With appreciation,

Laura Goldman and Arnold Levine
for KOWS Antenna Relocation Committee

Laura's Living Room, Fridays, 5 to 7 pm
livingroomlaura@gmail.com
707 [REDACTED]

Tommy's Holiday Camp, Fridays 7 to 9 pm
arnold101@earthlink.net
(707) [REDACTED]

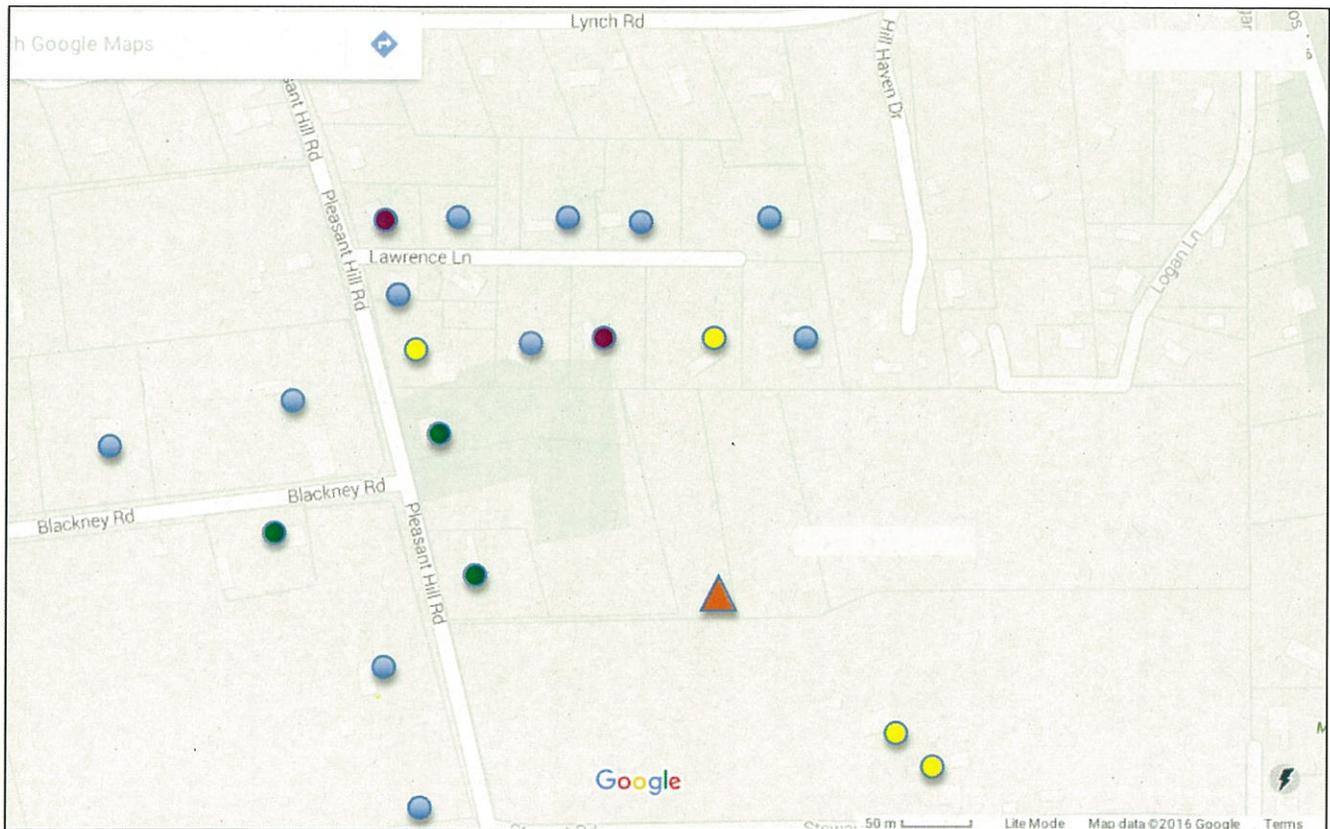
Email to antenna relocation committee after dropping off information packets to neighbors:

November 20th 2015 12.47pm

Hi ARC,

I dropped off KOWS Dear neighbour letters to 20 dwellings surrounding the water tank site....Pleasant Hill Road, Lawrence Lane, & Blackney Road. Spoke to 2 in the process, who had no problems whatsoever with it. So Don, please monitor the KOWS email carefully for anyone contacting us from the area.

Thanks,
Arnold



-  Info dropped off at door
-  Info handed to resident
-  Info handed to resident and project discussed
-  Contacted KOWS by email after 11/18/15 info.

 Proposed antenna location

**MAP OF KOWS VOLUNTARY ANTENNA
INFORMATION DISTRIBUTION TO 20 HOMES ON
11/18/15 & 12/30/15**

Emails from neighbors and replies from KOWS

From: *(email address removed)*
Date: November 20, 2015 at 3:48:48 PM PST
To: *(Laura Goldman, email address removed)*
Subject: FM antenna

Hello,

I live very near the proposed location of this antenna and would like more information. What is the exact location of the antenna on the water reservoir property? How tall will the antenna be? Will it be illuminated by flashing red lights? Please include any other pertinent information regarding this antenna.

Thank you, *(neighbor name removed)*

November 20th 2015 4.55pm

Hi *(neighbor name removed)*

Thanks for contacting Laura. She is on her way out of town for the holiday, so I can answer your questions.

Did you get a letter at your doorstep from KOWS today, or did you read about it in the newspaper?

The antenna would be located at the S.E. corner of the property, mostly surrounded by existing trees up to 50' tall. The antenna structure would be 60' tall. It is made from tubular frame steel construction with a triangular cross-section, with 18" sides. It would be painted to blend in with the trees. It is freestanding, with no guy wires. There will be no lights, as it is too low for that requirement. The broadcast antenna itself will look like the old fashioned rooftop TV antenna.

We are a low power FM community broadcaster, and the FCC allows us a 10-mile radius. We would be operating from the tanks at about 50watts, that's compared to commercial or large public stations that broadcast in the 1000s of watts and broadcast for a hundred miles. The FCC checks our engineering to make sure we comply with all broadcast requirements. We will only be using our antenna at the site, as the tower is not designed for adding any other antenna's.

I hope that helps. Please let me know if you'd like any other information.

My best,

Arnold Levine

(phone number removed)

www.kows.fm

December 31st 7.16pm

Hi *(neighbor name removed)*

Happy New Year!

I just wanted to give you an update on our antenna application. We are submitting our use permit application to the City of Sebastopol for their approval. They will discuss it at an upcoming council meeting. A couple of things have changed since I sent my email below last month. Our engineer has recommended to go to 70', as it will add quite a significant amount of area to our broadcast, and by doing this, the engineer can use a different antenna system that

sort of squeezes the signal into a more efficient broadcast pattern. It also eliminates any RF interference problems with surrounding homes. This system actually allows us to reduce our 50 watt signal to 15 watts. Flashing lights are not required at this height.

We will be dropping by an informational package for the closest neighbors today which have maps, photo's and an RF report by our FCC-approved radio engineer.

My best,
Arnold

On Nov 24, 2015, at 10:34 PM, *(neighbor name removed)* wrote:

Howdy,

I live on Pleasant Hill Road and recently received your neighborly letter about the new antenna site. Congratulations! I like your station and I'm excited that we should be able to receive it easily.

I'm a technical person and I'd be most appreciative if you could provide some technical information about this transmitter. For example, how many watts is the transmitter? Could you describe the area coverage? Is the broadcast signal uniformly omnidirectional, or is it distributed in some sort of pattern? Anyway, I'd be really interested to know more about this kind of stuff.

Thanks again and best wishes for the future of KOWS! Thanks,

-(neighbor name removed)

Hi *(neighbor name removed)*,

Thanks for replying, and so glad you already enjoy KOWS!

Last night was historic for KOWS when we began the switch over to our new studio in Sebastopol after 8 years in Occidental. We should go live in time for my show on Friday. Our downtown Sebastopol location really opens up our community outreach.

Happy to answer your questions on our proposed antenna location. I'm only semi-literate in the fine technical details, so I hope these replies will suffice. For more details, I can hand you off to our station engineer.

Until our antenna relocation, we are still broadcasting from an altitude of about 950' at 3 watts from a douglas fir tree at OAEC.

New transmitter size: The low power station wattage varies based on elevation with a maximum allowed of 100 watts at sea level. Our radio engineer has said at the reservoir we would be broadcasting from somewhere between 35 to 50 watts depending on the antenna option we go for.

Coverage: As a low power FM community station, the FCC only allows us a 10 mile radius as our primary audience range. At the reservoir that would bring in Sebastopol, Forestville, Graton, Rohnert Park, Cotati, and west Santa Rosa.

Broadcast signal: We are still looking at both omni and directional antenna options right now. There are many variables in antenna type and distribution, and our engineer has made a number of studies for us showing our options, and we are making that decision soon. For FCC requirements, our engineer must design any antenna to not interfere with the radio reception of the houses close to the antenna, and as part of the City of Sebastopol permit process we would conduct that study.

Location on reservoir property: The antenna would be located at the south-east corner.

Please let me know if I've covered your questions adequately, and if you need any more information.

My best,
Arnold Levine
for KOWS Antenna relocation committee.

(phone number removed)

www.tommysholidaycamp.com

P.S. We are always looking for a little technical and upkeep help with our studio and broadcast equipment if you're interested?

Response To SHARP Claim That KOWS Antenna Structure Can Be Seen From Highway 116

About the photos

Google Earth was used to simulate what might be seen from highway 116 by creating a line from the antenna structure site to various spots on the road. Only spots that did not have vegetation next to the road were used. Then, a vertical line was created exactly indicating the line of sight. Using Google street view, shots were created along the line of sight towards the proposed structure site.

These lines are represented in the area map with different colors to help identify them in the corresponding street views and elevation profiles.

Each shot includes a colored line indicating the exact direction to the antenna site and is accompanied by an elevation profile clearly showing the terrain between the site of the shot and the site of the antenna.

No shots were included north of Litchfield Road because the rise in the terrain around Swain Woods Terrace clearly blocks the view in the direction of the antenna. Likewise, no shots were attempted south of the La Bodega restaurant, Flea Market area because Hwy 116 is rapidly retreating from the antenna site, and, at over 2 miles away, far out of range of sight of the antenna.

Conclusions

All shots show considerable vegetation between Hwy 116 and the antenna site. Even the best locations with the clearest views, free of roadside vegetation, contain trees that average at least 50 along the line of sight that completely obstruct the view.

No locations could be identified anywhere on highway 116 that even remotely has a view of the proposed antenna structure. This is due to several contributing factors:

- Trees along the line of site, both near and far, screen the ridge from the highway. The density of trees is sufficient to block the view completely
- The terrain rises and then dips back down towards the antenna. This rise causes the view to be completely obscured
- In some cases, such as everywhere north of Fircrest Market, there are near distance rises that make it impossible to see the antenna site

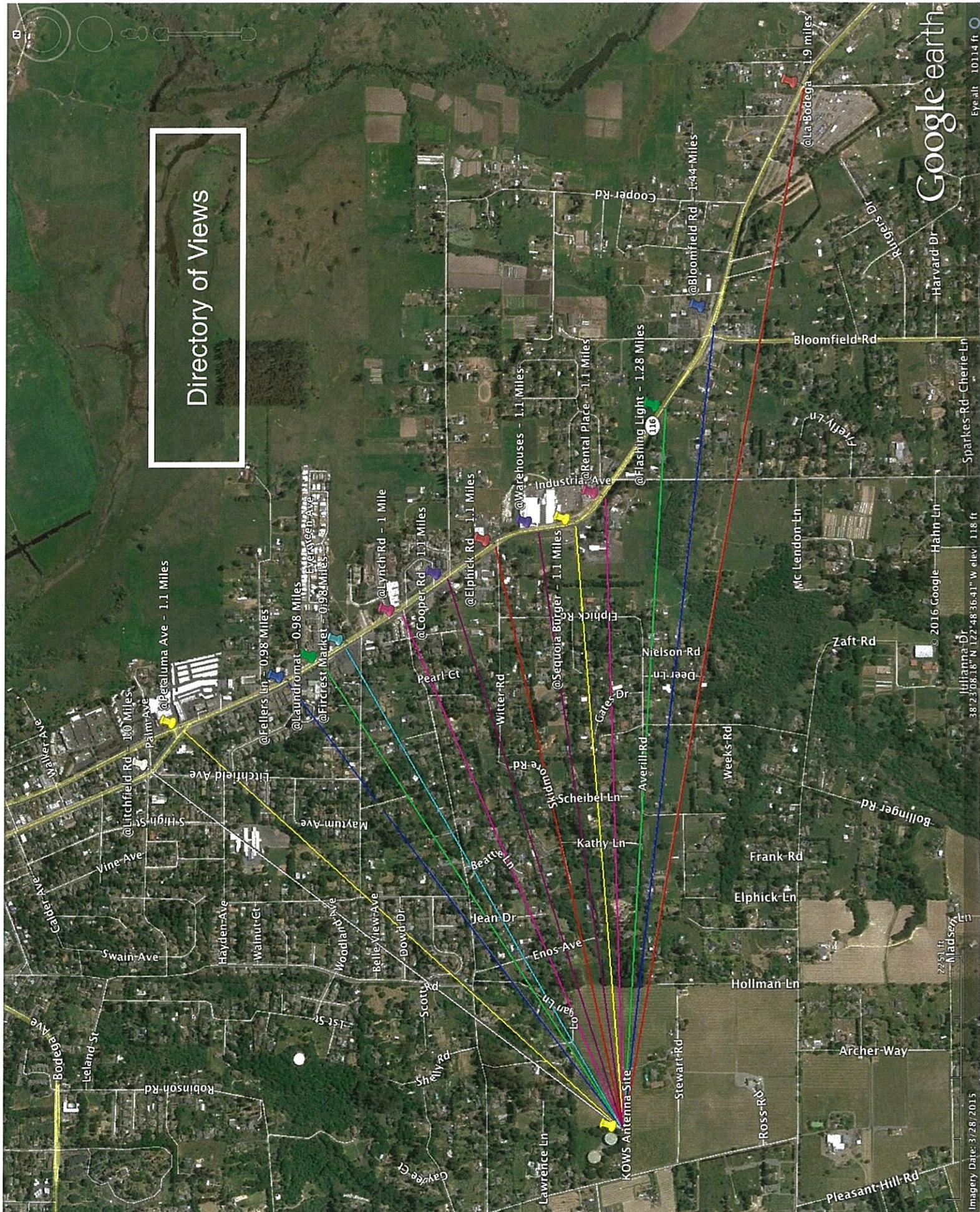
The definitive test of visibility of the antenna site from hwy 116 is the ability to see the residence at the crest of the rise near the antenna site, (Jenkins residence). This site is 30 feet higher in elevation than the antenna site. The two-story house adds another 25 feet, or so, bringing the elevation relative to the antenna structure to 55 feet. Nowhere along Hwy 116 is this house visible and therefor, it can be reasonably concluded that neither can the antenna structure. Even though the tower would be 15 feet higher in elevation than the house it is further in the distance, over the view-obscuring ridge, making it highly unlikely, if not impossible, to see if the house itself is not visible.

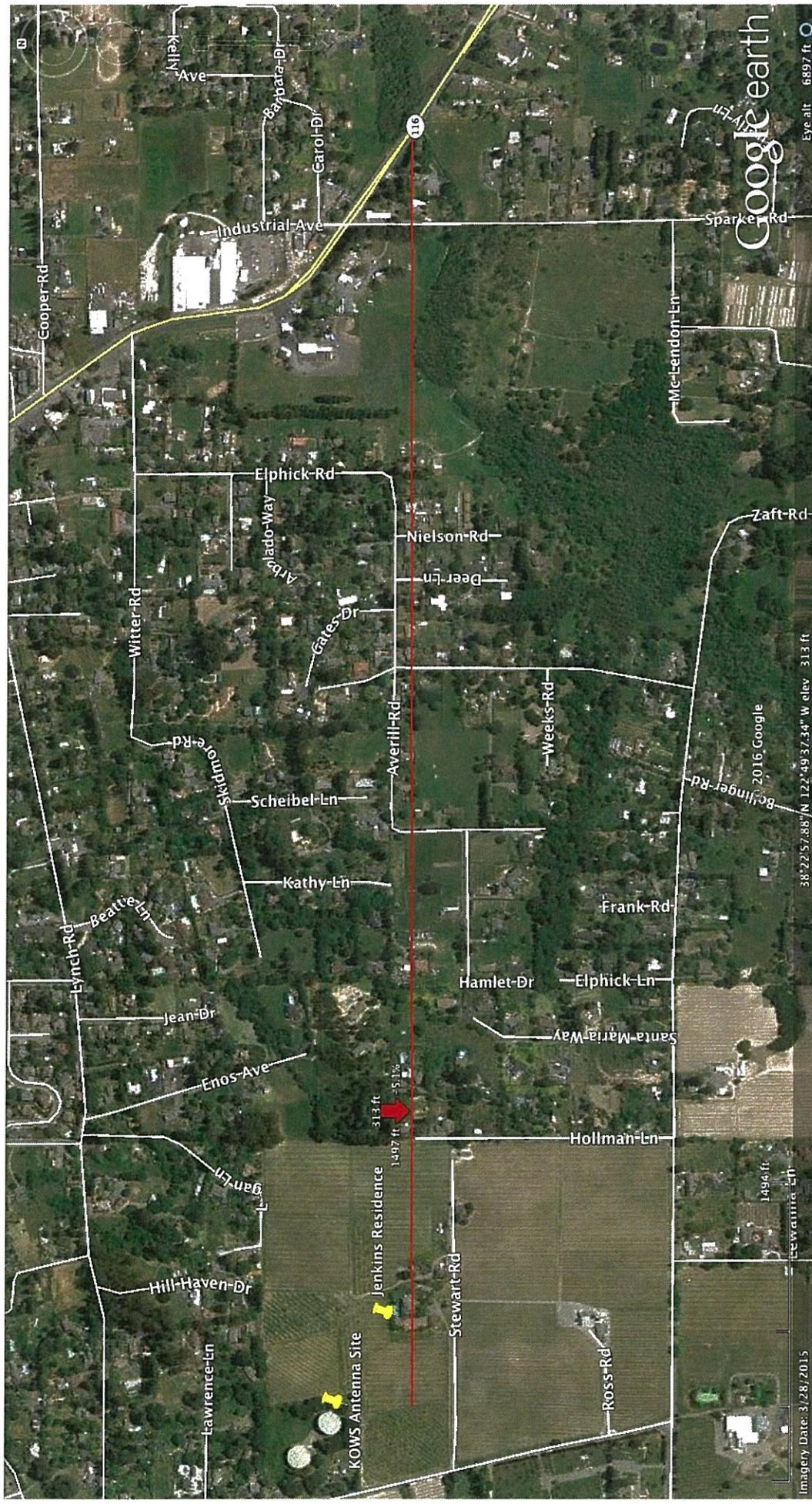


Finally, it is beyond comprehension to believe that an object one foot wide, or slightly wider, could be seen from a distance of one mile without the aid of a high powered telescope, even if it were not screened by vegetation and terrain. And with the open lattice design and camouflage painting it would be even more difficult to see.

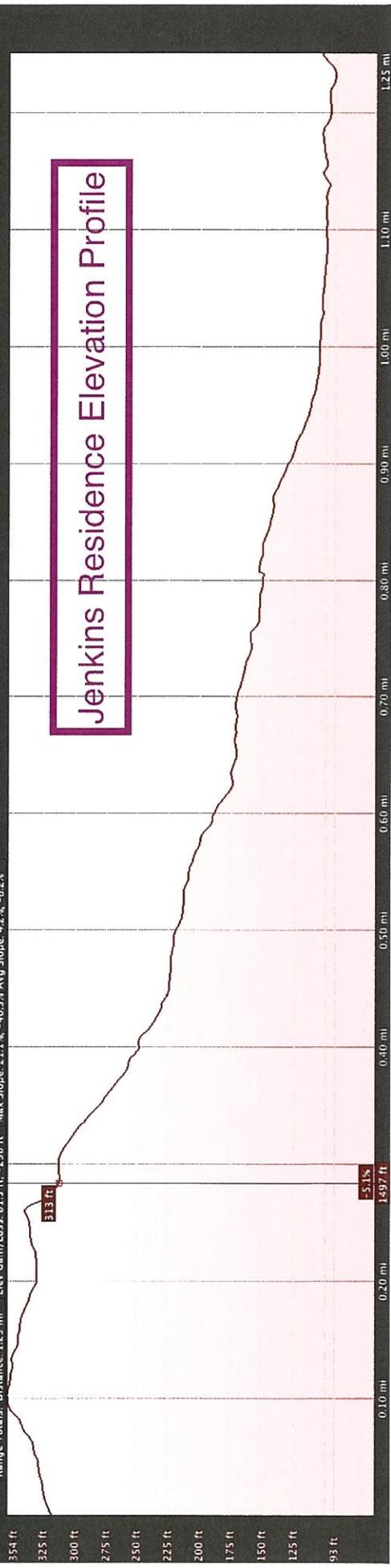
Based on the results of this analysis it must be concluded that the proposed tower cannot be seen from any point on Highway 116, and thus, does not violate view corridor ordinances. There would be no validity in denying a use permit based on this false accusation.

Directory of Views

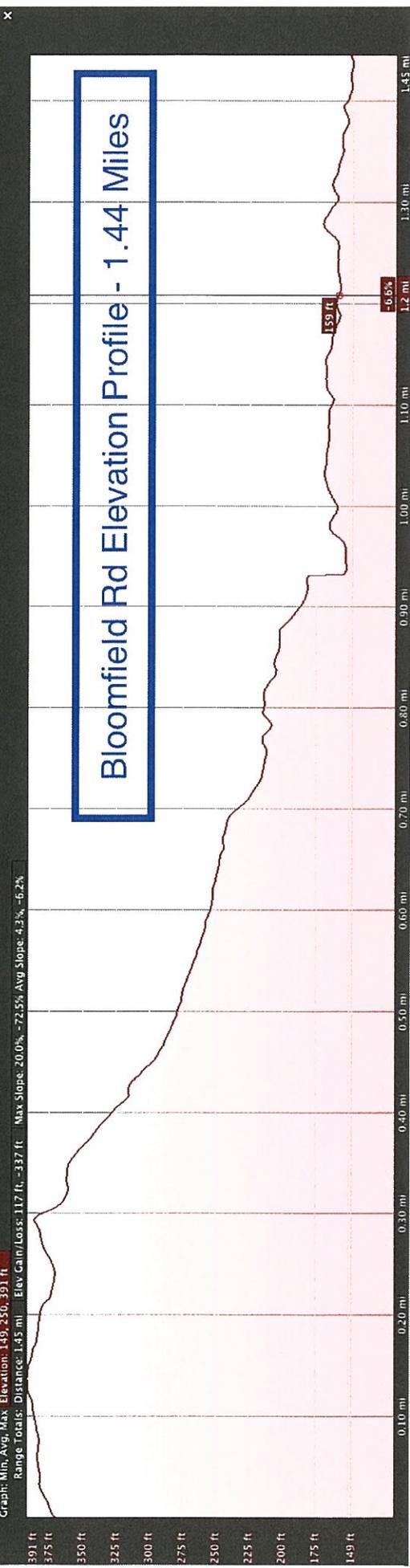
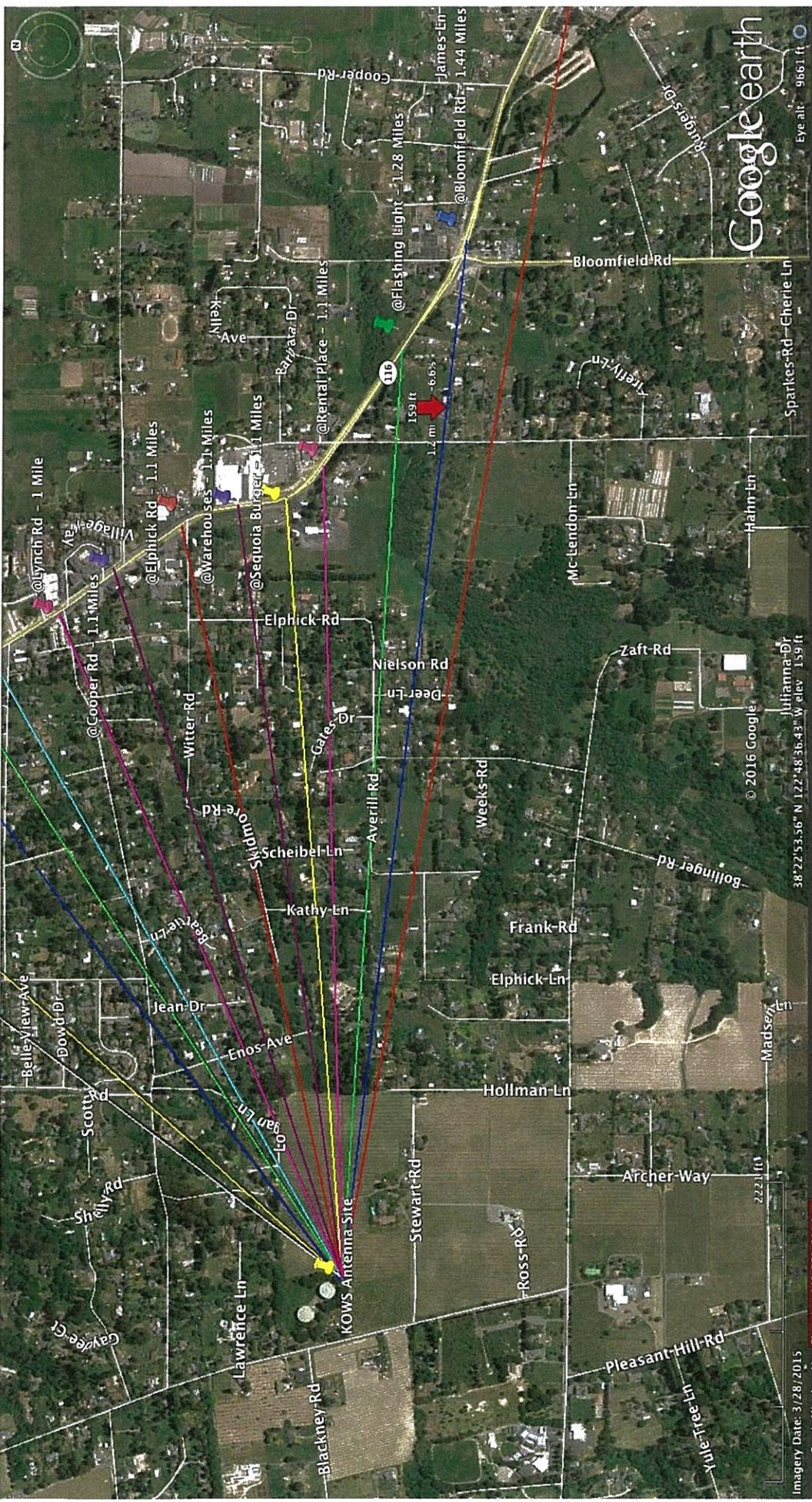




Imagery Date: 3/28/2015
 Graph: Min, Avg, Max Elevation: 93, 205, 354 ft
 Range Totals: Distance: 1.25 mi | Elev Gain/Loss: 815 ft, -286 ft | Max Slope: 2.11% | Avg Slope: -40.55% | Avg Slope: 4.2% | -6.2%



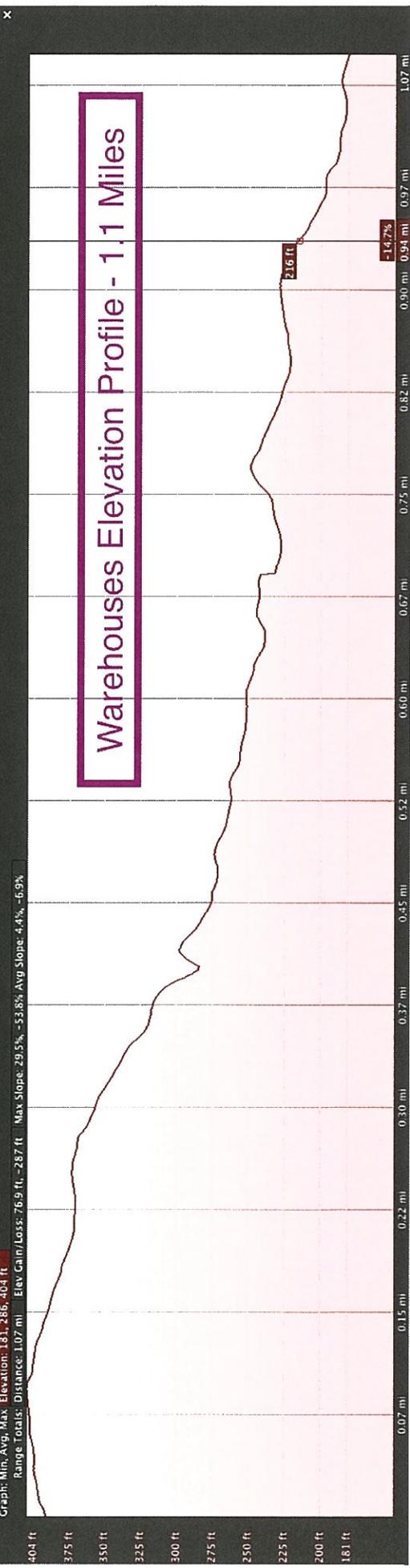
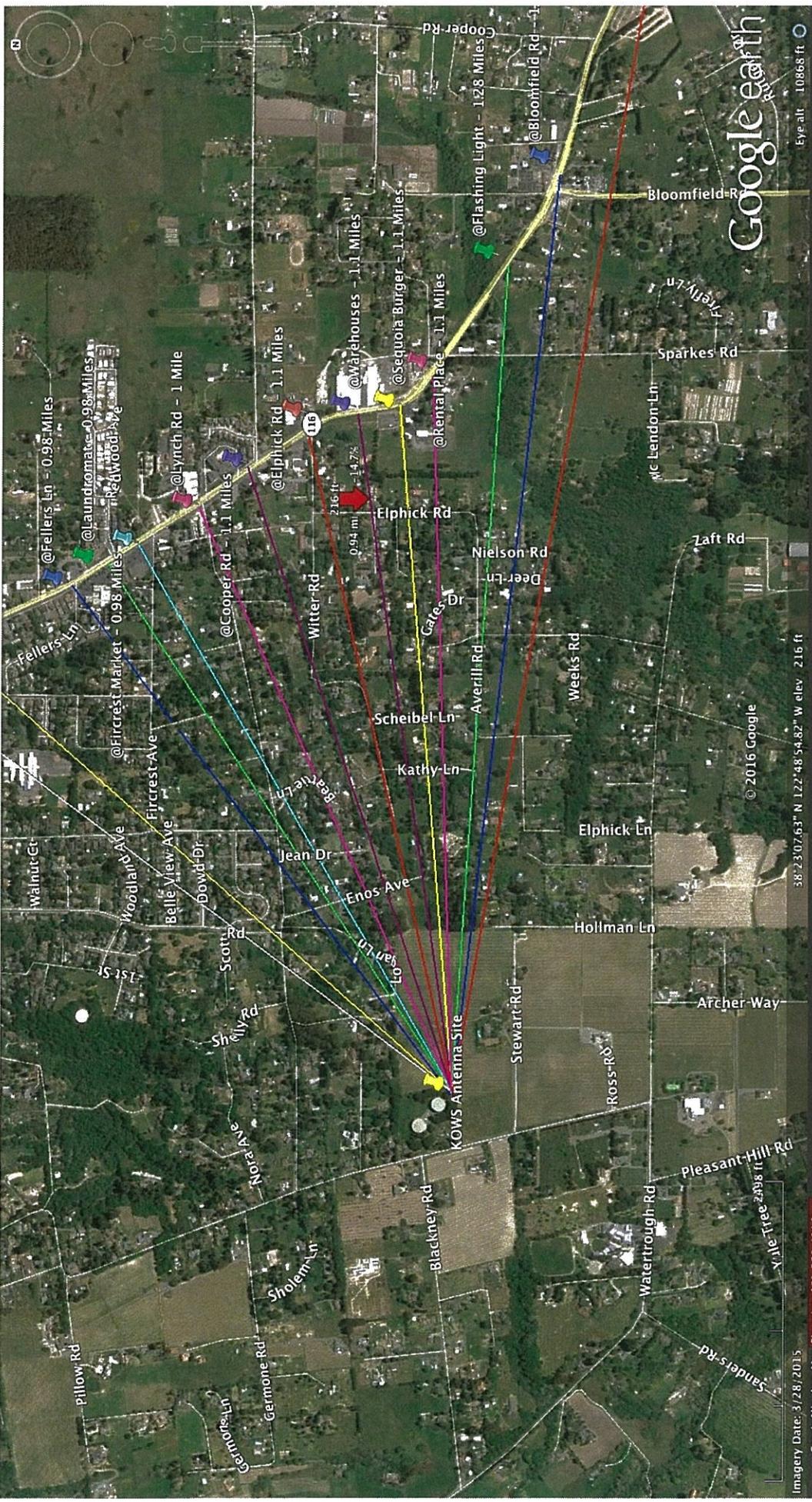
Jenkins Residence Elevation Profile



Imagery Date: 3/28/2015
 Graph: Min, Avg, Max Elevation: 149, 250, 391 ft
 Range Totals: Distance: 1.45 mi | Elev Gain/Loss: 117 ft, -337 ft | Max Slope: 20.0%, -72.5% Avg Slope: 4.3%, -6.2%

Google earth
 Eye alt: 9661 ft



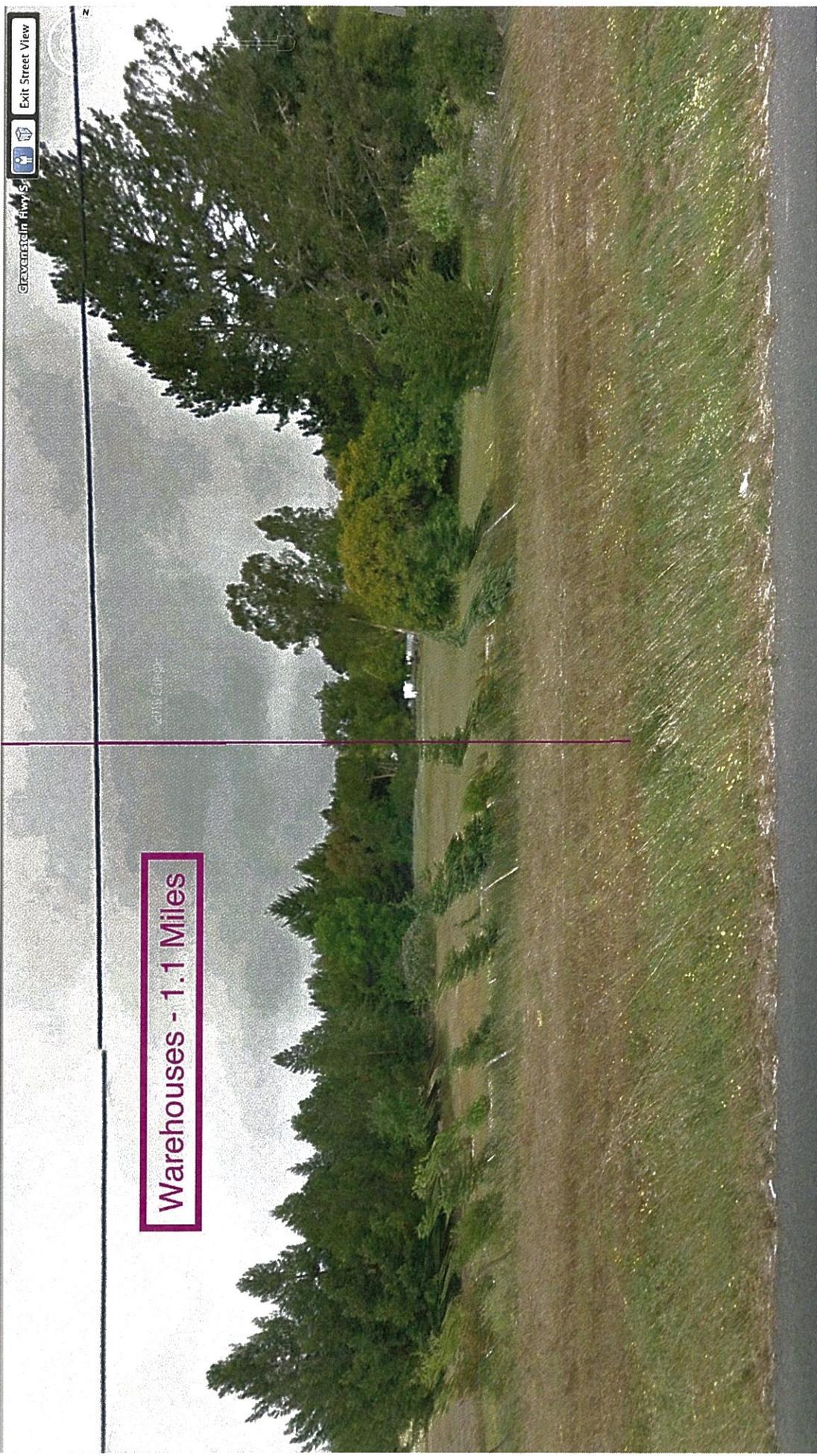


Imagery Date: 3/28/2015
 Graph: Min, Avg, Max Elevation: 181, 286, 404 ft
 Range Totals: Distance: 1.07 mi | Elev Gain/Loss: 76.9 ft, -28.7 ft | Max Slope: 29.5%, -53.8% Avg Slope: 4.4%, -6.9%

Google Earth
 Eye alt: 10868 ft

© 2016 Google

Warehouses - 1.1 Miles



4 ft

© 2016 Google

© 2016 Google

ATTACHMENT #8

MASTER PLANNING APPLICATION FORM AND WRITTEN STATEMENT

PART OF USE PERMIT APPLICATION



City of Sebastopol

Planning Department
7120 Bodega Avenue
Sebastopol, CA 95472
(707) 823-6167 (Phone) or (707) 823-1135 (Fax)
www.ci.sebastopol.ca.us

MASTER PLANNING APPLICATION FORM

PROJECT INFORMATION:

ADDRESS:	1281 Pleasant Hill Road Sebastopol, CA 95472
PARCEL #:	076-050-067
PARCEL AREA:	3.39 Acres

FOR CITY USE ONLY	
PLANNING FILE #:	2015 / 126
DATE FILED:	12/30/15
TOTAL FEES PAID: \$	N/A Waived by Council
RECEIVED BY:	JA
DATE APPLICATION DEEMED COMPLETE:	12/30/15

APPLICANT OR AGENT:

Name: Kows c/o Arnold Levine, Board Chair

Email Address: arnold101@earthlink.net

Mailing Address: 266 Jesse Street

City/State/Zip: Sebastopol, CA 95472

Phone: (707) 540-2641

Fax: none

Business License #: applied

Signature: [Signature]

Date: 12/30/15

OWNER OF PROPERTY

IF OTHER THAN APPLICANT:

Name: City of Sebastopol

Email Address: lnclaughlin@cityofsebastopol.org

Mailing Address: 7120 Bodega Avenue

City/State/Zip: Sebastopol, CA 95472

Phone: (707) 823-1153

Fax: (707) 823-1135

Business License #: n/a

Signature: [Signature]

I certify that this application is being made with my consent.

Date: 12-30-15

OTHER PERSONS TO BE NOTIFIED: (Include Agents, Architects, Engineers, etc.).

Name: David Dillman

Email Address: sasha@monitor.net

Mailing Address: PO Box 403

City/State/Zip: Occidental, CA 95465

Phone: (707) 874-2350

Fax: (707) 874-2350

Name: _____

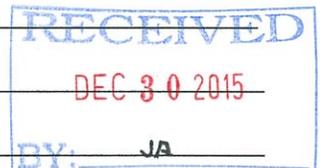
Email Address: _____

Mailing Address: _____

City/State/Zip: _____

Phone: _____

Fax: _____



PROJECT DESCRIPTION:

DESCRIBE IN DETAIL, the proposed project and permit request. (Attach additional pages, if needed):

See PROJECT DESCRIPTION

This application includes the checklist for the type of application requested: Yes No

Please indicate the type(s) of application that is being requested (example: Use Permit, Design Review, Variance, Planned Community Rezone, etc.):

ANTENNA USE PERMIT

Please describe existing uses (businesses, residences, etc.) and other structures on the property:

See PROJECT DESCRIPTION

DEVELOPMENT DATA:

SQUARE FEET BUILDING EXISTING:		<input checked="" type="checkbox"/> N/A
SQUARE FEET BUILDING DEMOLISHED:		<input checked="" type="checkbox"/> N/A
SQUARE FEET BUILDING NEW:		<input checked="" type="checkbox"/> N/A
NET CHANGE IN BUILDING SQUARE FEET:		<input checked="" type="checkbox"/> N/A
NUMBER OF DWELLING UNITS EXISTING:	<input type="checkbox"/> 0 Bedrooms	<input type="checkbox"/> 1 Bedrooms
	<input type="checkbox"/> 2 Bedrooms	<input type="checkbox"/> 3 Bedrooms
	<input type="checkbox"/> 4+ Bedrooms	<input checked="" type="checkbox"/> N/A
NUMBER OF DWELLING UNITS PROPOSED:	<input type="checkbox"/> 0 Bedrooms	<input type="checkbox"/> 1 Bedrooms
	<input type="checkbox"/> 2 Bedrooms	<input type="checkbox"/> 3 Bedrooms
	<input type="checkbox"/> 4+ Bedrooms	<input checked="" type="checkbox"/> N/A
NET CHANGE IN DWELLING UNITS:		<input checked="" type="checkbox"/> N/A
SETBACKS:	Existing:	Proposed:
	<input type="checkbox"/> Front Yard <u>15'</u>	<input type="checkbox"/> Front Yard _____
	<input type="checkbox"/> Side Yard <u>5'</u>	<input type="checkbox"/> Side Yard _____
	<input type="checkbox"/> Rear Yard <u>15'</u>	<input type="checkbox"/> Rear Yard _____
	<input type="checkbox"/> N/A	<input checked="" type="checkbox"/> N/A

EXISTING LOT DIMENSIONS:	Front: _____ Left: <u>3.39 acres</u>	Rear: _____ Right: _____	<input type="checkbox"/> N/A
PROPOSED LOT DIMENSIONS:	Front: _____ Left: _____	Rear: _____ Right: _____	<input checked="" type="checkbox"/> N/A
EXISTING LOT AREA:	<u>3.39 acres</u>		<input type="checkbox"/> N/A
PROPOSED LOT AREA:	_____ Square Feet		<input checked="" type="checkbox"/> N/A
BUILDING HEIGHT:	Existing: _____	Proposed: <u>70' tower</u>	<input type="checkbox"/> N/A
NUMBER OF STORIES:	Existing: _____	Proposed: _____	<input checked="" type="checkbox"/> N/A
PARKING SPACE (S):	Existing: _____	Proposed: _____	<input checked="" type="checkbox"/> N/A
ZONING	Existing: <u>CF: Community Facility</u>	Proposed: _____	<input type="checkbox"/> N/A

Will the project involve a new curb cut or driveway? Yes No

Are there existing easements on the property? Yes No

Will Trees be removed? Yes No

If yes, please describe (Example: Type, Size, Location on property, etc.)

Will Existing Landscaping be revised? Yes No

If yes, what is square footage of new or revised landscaping?

Will Signs be Changed or Added? Yes No

Business: Hours of Operation? Open: _____ Close: _____

Is alcohol service proposed? Yes No

If yes, what type of State alcohol license is proposed? _____

If yes, have you applied to the State Alcoholic Beverage Control for a license? Yes No

If this is a restaurant, café or other food service, bar, or nightclub, please indicate total number of seats: _____

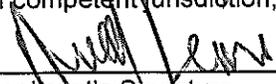
Is any live entertainment proposed? Yes No

If yes, please describe: _____

INDEMNIFICATION AGREEMENT

As part of this application, applicant agrees to defend, indemnify, release and hold harmless the City, its agents, officers, attorneys, employees, boards and commissions from any claim, action or proceeding brought against any of the foregoing individuals or entities, the purpose of which is to attack, set aside, void or annul the approval of this application or the adoption of the environmental document which accompanies it or otherwise arises out of or in connection with the City's action on this application. This indemnification shall include, but not be limited to, damages, costs, expenses, attorney fees or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the City's action on this application, whether or not there is concurrent passive or active negligence on the part of the City.

If, for any reason any portion of this indemnification agreement is held to be void or unenforceable by a court of competent jurisdiction, the remainder of the agreement shall remain in full force and effect.

 12/30/15 2015 - 126
Applicant's Signature Date Signed Planning File Number

NOTE: The purpose of the indemnification agreement is to allow the City to be held harmless in terms of potential legal costs and liabilities in conjunction with permit processing and approval.

NOTICE OF MAILING:

Email addresses or facsimiles will be used for sending out staff reports and agendas to applicants, their representatives, property owners, and others to be notified.

Please sign and acknowledge you have been notified of the Notice of Mailing for applications and have provided an email address or fax number.

 ARNOLD LEVINE
Signature Printed Name

NOTE: It is the responsibility of the applicant and their representative to be aware of and abide by City laws and policies. City staff, Boards, Commissions, and the City Council will review applications as required by law; however the applicant has responsibility for determining and following applicable regulations.

NEIGHBOR NOTIFICATION

In the interest of being a good neighbor, it is highly recommended that you contact those homes or businesses directly adjacent to, or within the area of your project. Please inform them of the proposed project, including construction activity and possible impacts such as noise, traffic interruptions, dust, larger structures, tree removals, etc.

Many projects in Sebastopol are remodel projects which when initiated bring concern to neighboring property owners, resident and businesses. Construction activities can be disruptive, and additions or new buildings can affect privacy, sunlight or landscaping. Some of these concerns can be alleviated by neighbor-to-neighbor contacts early in the design and construction process.

It is a "good neighbor policy" to inform your neighbors so that they understand your project. This will enable you to begin your construction with the understanding of your neighbors and will help promote good neighborhood relationships.

Many times development projects can have an adverse effect on the tranquility of neighborhoods and tarnish relationships along the way. If you should have questions about who to contact or need property owner information in your immediate vicinity, please contact the Building and Safety Department for information at (707) 823-8597, or the Planning Department at (707) 823-6167.

I have informed site neighbors of my proposed project:

Yes

No

If yes, or if you will inform neighbors in the future, please describe outreach efforts:

See ATTACHMENT E

WEBSITE REQUIRED FOR MAJOR PROJECTS

Applicants for major development projects (which involves proposed development of 25,000 square feet of new floor area or greater, or 25 or more dwelling units), are required to create a project website in conjunction with submittal of an application for Planning approval (including but not limited to Subdivisions, Use Permits, Rezoning's, and Design Review). Required information may be provided on an existing applicant web site.

The website address shall be provided as part of the application. The website shall be maintained and updated, as needed until final discretionary approvals are obtained for the project.

Such website shall include, at a minimum, the following information:

- ✓ Project description
- ✓ Contact information for the applicant, including address, phone number, and email address
- ✓ Map showing project location
- ✓ Photographs of project site
- ✓ Project plans and drawings

Describe in detail the type of antenna and other improvements proposed (use additional sheets as needed):

See PROJECT DESCRIPTION & ATTACHMENTS

Describe how the type of antenna and other proposed facilities will be designed and/or screened to blend in or reduce visual impacts (use additional sheets as needed):

See PROJECT DESCRIPTION & ATTACHMENTS

State the need for an Antenna Use Permit including the rationale for the proposed location.

SEE PROJECT DESCRIPTION

Describe the reason(s) for any exceptions to the City antenna regulations are being requested (use additional sheets as needed):

N/A

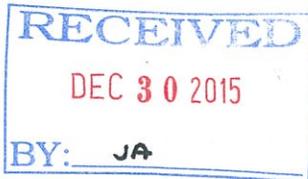
BUILDING HEIGHT AND ANTENNA HEIGHT:

	<u>Existing</u>		<u>Proposed</u>	
	Building	Antenna	Building	Antenna
Average Natural Grade	_____	_____	_____	_____
Feet Above Grade	_____	_____	70' tower	_____
Stories Above Grade	_____	_____	_____	_____
Feet Above Roof	_____	_____	_____	_____

Will the facility include a back-up generator? No, we plan to install a solar-powered battery back-up system.

Commercial Hours of Operation: N/A

Number of Peak Hour Employees: N/A





**KOWS -LP COMMUNITY RADIO
107.3 FM**

P.O. Box 1073 OCCIDENTAL, CALIFORNIA 95465

OFFICE PHONE: (707)874-9090
STUDIO PHONE: (707) 874-1073

WEBSITE: WWW.KOWS.FM
EMAIL: KOWS@SONIC.NET

December 30, 2015

From: David Dillman, on behalf of KOWS Community Radio, email: sasha@monitor.net

To: Kenyon Webster, Director, City of Sebastopol Planning Department

Master Planning Application for Antenna Placement on City of Sebastopol Property

Project Description

- Project Construction Overview
- Construction Steps
- Broadcast Operations, Equipment and Signal
- Benefits to Sebastopol
- Existing Site Uses
- Neighbor Notification
- Reduction of Visual Impact
- Need for Permit and Rationale for Location

Attachments

- A. Site-related Maps, Photos and Drawings
- B. ROHN Self-supporting Antenna Tower Specifications (Model 65G)
- C. Antenna Model OMB MP-4 Specifications (four MP-1 bays)
- D. Non-Ionizing Electromagnetic Radiation (NIER) Report
- E. Information Packet for Neighbors (Sample)
- F. Photo-Simulations (2) of Antenna/Tower Structure



Project Description

KOWS Community Radio, a registered 501(c)3 non-profit organization, and the area's FCC-designated emergency alert station, proposes placing a low-power (LP) FM antenna at the City of Sebastopol reservoir (water tank) site on Pleasant Hill Road. The accompanying site-related maps, photos and drawings provide further details. (Attachment A)

The KOWS broadcast signal will primarily serve the greater Sebastopol area to reach, inform, entertain and engage local residents, businesses, community-based organizations and visitors.

The KOWS studio is now in downtown Sebastopol at 500 N. Main Street, in the United Methodist Church. Since our December 1, 2015 relocation to this site, KOWS has attracted City-wide support.

KOWS proposes an open-ended Lease with the City, with the option for both parties to review terms every five years.

Project Construction Overview

- Erect 70-foot self-supporting tower with 24-inch diagonal bracing design for see-through visibility
- Mount omni-directional, 4-bay antenna facing north, toward Sebastopol
- Install 15-watt FCC-type approved transmitter at antenna structure base

Note: Upon purchase, the tower vendor (ROHN) will provide 2 sets of pre-engineered design drawings and calculations with a State of California PE seal, paid for by KOWS

Construction Steps

- Dig 8-foot square by 4-foot deep hole at southeast corner of site
- Reinforce foundation and fill with concrete to 6-inch above grade
- Erect self-supporting (no guy wires) 70-foot high, 24-inch wide antenna tower (Attachment B)
- Anchor lowest 10-foot section to top plate, which is set in concrete
- Stack 6 additional 10-foot sections with lifter to 70-foot height
- Mount OMB MP-4 antenna (four MP-1 bays) on top section of tower (Attachment C)
- Install and cover transmitter with approximate 3-foot x 3-foot enclosure, set on concrete pad
- Dig approximate 300-foot trench between transmitter and existing wooden shed at site (PG&E and Sonic electrical panels already in shed)
- Install underground conduits for (120-volt AC) PG&E and Sonic coaxial cable

Broadcast Operations, Equipment and Signal

KOWS plans to transmit an FM radio signal of the type in use for over 50 years. This signal has been proven safe, with no reports of serious health conditions or fatalities resulting from Non-ionizing Electromagnetic Radiation (NIER) exposure due to FM radio transmission. In comparison, cell phone and wireless technologies do not have a comparable long-term safety record.

KOWS has received an official NIER report specifically addressing radiation concerns, prepared by Paul Bame, Engineering Director, Prometheus Radio Project, a non-profit organization supporting community radio stations since 1998. (Attachment D)

KOWS is a Low Power FM (LPFM) FCC-licensed radio station. Legally, KOWS may only transmit a low power broadcast signal, much weaker than full power FM radio stations.

Broadcast Equipment and Signal details: At the base of the self-supporting antenna tower will be a doghouse-size (about 4' x 4') structure with the following equipment inside: Cable modem, Codec device, audio processor, 15-watt transmitter, Un-interruptible Power Supply, Kill-O-Watt electric use meter, and a small thermostatically-controlled vent fan. No noise will be audible beyond a 5-foot radius.

The broadcasting equipment will draw approximately 200 watts steadily at 120-volts, from a 12-2 cable buried in a conduit run from the existing wooden shed. A dedicated 15-amp breaker will serve this branch. An additional Kill-O-Watt meter may be installed here for monitoring PG&E usage.

The signal begins at the KOWS studio. Audio signals from the main mixing board travel through an FCC-Type Approved EAS (Emergency Alert System) unit. The unit automatically monitors three different sources for emergency information, thus serving the public even if the KOWS studio is unattended.

The signal then goes to an audio processor that compensates for sounds that are too soft or too loud, and then to a Codec device, which converts the analog audio to digital, and puts the signal on the Internet.

Signals are received via the Internet at the transmitting site. The received signal is taken from the Sonic modem and sent to another Codec device to be decoded back into an audio signal. The signal goes through a second audio processor, which modulates loudness to comply with rules.

Then the signal is fed to a low-power, 15-watt FCC-Type Approved transmitter. An FM signal at 92.5 megahertz is generated, translating to 92.5 FM on the radio. A 1/2-inch diameter coaxial cable carries the radio-frequency signal up the tower to a power-divider near the antenna.

The tower supports a 4-bay antenna, which consists of four identical sub-antennas, eight feet apart at 70', 62', 54' and 46' heights. The power-divider splits the power into four outlets, one for each sub-antenna. The use of four bays "squeezes" the vertical signal output and expands the horizontal output, enabling the signal to reach people in homes, buildings, cars and outdoors.

A relatively low Effective Radiated Power (ERP) of 25-watts of radio-frequency energy at 92.5 megahertz will emanate from this assembly.

Benefits to Sebastopol

Increased broadcast reach of KOWS Community Radio provides multiple benefits, including:

- Uninterrupted broadcasting of important local news, emergency alerts and vital information, (KOWS is the area's FCC-designated emergency alert station)
- Promotion, coverage and support of local services, organizations, activities, public events
- Increased City tax revenues from more people attending events, patronizing businesses
- Collaboration with local schools to inspire and involve students in community radio
- Effective outreach via information on municipal topics and issues of local importance
- Civic engagement and involvement by broadcasting public meetings, events, discussions
- Showcase for musicians, writers, artists, etc. via in-studio performances and interviews
- Access and welcome to diverse ages, abilities, backgrounds, cultural/ethnic communities
- Affordable opportunities to promote locally owned and operated businesses and entities

Existing Site Uses

There are two 3-million gallon welded-steel water storage tanks at the site that supply the City of Sebastopol, and a wooden shed with controls for level sensors in the tanks.

Neighbor Notification

KOWS Community Radio leadership volunteers have reached out with visits, phone conversations, informative letters and follow-up emails to residents in 20 dwellings closest to the proposed site, including Pleasant Hill Road, Lawrence Lane and Blackney Road.

Neighbors also received an information packet with a location map, NIER report, and photo simulations of the antenna and self-supporting tower structure. (Attachment E)

In all written and verbal communications, KOWS provided contact information to address questions or concerns. To our knowledge, everyone contacted has been supportive of the antenna relocation project.

Reduction of Visual Impact

KOWS Community Radio broadcast equipment components (antenna, tower and transmitter) are designed to blend in with the Pleasant Hill environment, thus reducing visual impact.

The omni-directional, four-bay antenna was selected for its effectiveness at a relatively low height. It can be mounted at 70-feet and not cause any potential interference problems at nearby homes.

The tower is engineered to be self-supporting, with no guy wires or other visual “eye-catching” components. It will be painted flat green (not bright, shiny or reflective) to blend in with trees. The proposed location in the southeast corner of the site was selected because it is not visible to neighbors. (Attachment F)

Need for Permit and Rationale for Location

KOWS community radio has been serving west Sonoma County since 2008 with a limited, spotty radio signal, effectively at 3 watts of power. In part, this weakness is due to FCC broadcast-range regulation of Low Power FM (LPM) radio stations.

The KOWS broadcast signal is further weakened by topography. Currently, the antenna is in a tree at the Occidental Arts and Ecology Center on Coleman Valley Road, which is in a valley. Rolling hills to the east of Occidental block radio coverage into the more populated areas of Sebastopol and Santa Rosa. Until a recent change, KOWS was prevented by FCC distance regulations from moving broadcast equipment near or within the City of Sebastopol.

Since 2008, KOWS Community Radio has explored options to relocate broadcast equipment closer to Sebastopol to reach and engage more listeners. Two years ago, an Antenna Relocation Committee (ARC) was formed to achieve this goal.

Since then, ARC members have worked with a variety of property owners, the FCC and nationally-recognized broadcast engineers to identify the best Sebastopol-area site for KOWS broadcast equipment. Although several property owners were willing to consider hosting KOWS broadcast equipment, other limiting factors thwarted our search for an alternative location.

A major hindrance is the north-south ridgeline to the west of Sebastopol along Grandview Road. We identified several promising sites to the west of this ridgeline. However, broadcast signals from these areas did not reach over the ridgeline into the valley of Sebastopol. Further, the 107.3 FM frequency in the selected locations was severely compromised by interference from competing and much more powerful commercial stations.

In the summer of 2015, prospects changed for the positive: The FCC gave KOWS permission to move to a different frequency (92.5 FM) as well as relocate the antenna a greater distance into Sebastopol. When KOWS found the City of Sebastopol's Pleasant Hill site, many advantages were evident, including:

- Direct line of sight into Sebastopol, unimpeded by the Grandview Road ridgeline
- Existing FM airwaves at the site do not compromise the approved change to 92.5 FM frequency
- The site's southeast corner is elevated so the 36-foot high water tanks below the proposed KOWS antenna structure cause no signal interference problems

We appreciate your careful consideration and approval of the KOWS antenna relocation project, which will benefit and serve the City of Sebastopol and west Sonoma County.

ATTACHMENT #9

ROHN SELF-SUPPORTING ANTENNA TOWER SPECIFICATIONS (MODEL 65G)

APPROVED BY PLANNING COMMISSION

STANDARD G-SERIES SELF-SUPPORTING



G-SERIES SELF-SUPPORTING

GENERAL USE

The self-supporting G-Series towers offer an easy, low-cost solution to get light weight antennas in the air quickly. By using the G-Series tower as a self-supporting structure, you minimize land area usage. They are functional in a wide variety of wind speeds. See ROHN's standard designs to help identify the right structure for your project. These are the same sturdy, robust tower sections that ROHN has fabricated for years. Each larger model allows for more loading capacity.

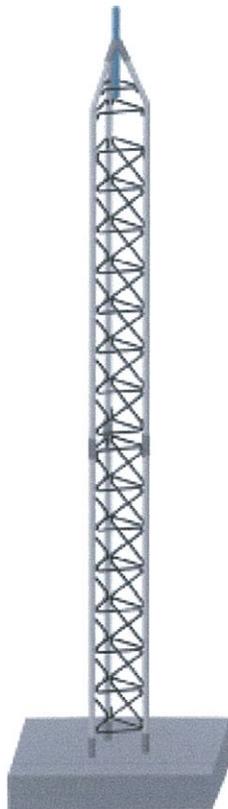
FEATURES

- Completely hot-dip galvanized after fabrication
- Cross bracing is formed by a continuous solid rod bracing fashioned into a zig-zag pattern for strength
- Pre-engineered loading charts meet varying individual specs and site conditions
- Typical uses include: small dishes, broadband, security and two-way communication
- All towers have 'fixed' bases

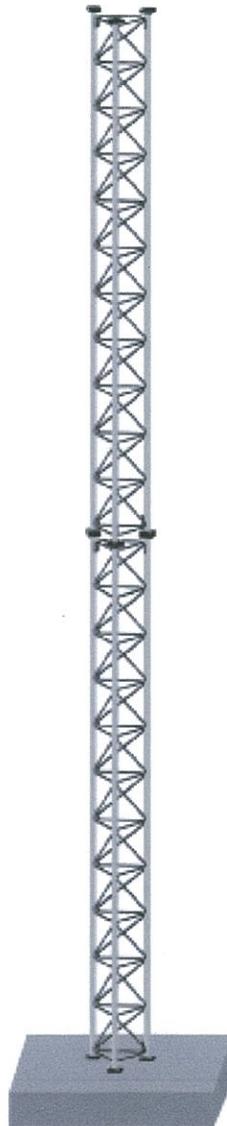
KITS

The kit part numbers for ROHN Self-Supporting G-Series towers include:

- Short base for embedment in concrete
- Rev F ground kit (Rev G optional)
- All tower sections and connection hardware
- Tapered top (25G and 45G towers)
- Top plate (55G towers)
- Cap plate kit (65G towers)



Typical Self-Supporting
25G, 45G and 55G Tower
(Tapered top available
for 25G & 45G only)



Typical Self-Supporting
45GSR and 65G Tower

Per Rev G requirements, any structure greater than 10' requires a climber safety device. Please see page 209 for ordering information.



G SERIES
REV. F ALLOWABLE ANTENNA AREAS (SQ. FT.)

70 MPH
 Fastest Mile

70 MPH Fastest Mile Wind Speed - No Ice								
Height	25G		45G		55G		65G	
	FT ²	Part No.						
10'	19.7	25SS010	42.5	45SS010	75.0	55SS010	95.0	65SS010
20'	14.2	25SS020	22.0	45SS020	43.0	55SS020	95.0	65SS020
30'	6.4	25SS030	12.0	45SS030	26.0	55SS030	76.2	65SS030
35'	3.6	25SS035	8.7	45SS035	21.9	55SS035	61.2	65SS035
40'	1.5	25SS040	5.1	45SS040	15.0	55SS040	48.8	65SS040
45'			2.3	45SS045	11.4	55SS045	39.0	65SS045
50'					6.5	55SS050	29.3	65SS050
55'					4.0	55SS055	24.4	65SS055
60'					0.8	55SS060	18.4	65SS060
70'							8.7	65SS070
80'							0.9	65SS080

80 MPH
 Fastest Mile

80 MPH Fastest Mile Wind Speed - No Ice								
Height	25G		45G		55G		65G	
	FT ²	Part No.						
10'	14.3	25SS010	30.0	45SS010	57.0	55SS010	95.0	65SS010
20'	9.0	25SS020	16.0	45SS020	30.0	55SS020	85.0	65SS020
30'	3.7	25SS030	7.5	45SS030	17.0	55SS030	55.8	65SS030
35'	1.4	25SS035	4.7	45SS035	14.5	55SS035	44.0	65SS035
40'			1.4	45SS040	8.0	55SS040	34.1	65SS040
45'					5.9	55SS045	26.2	65SS045
50'					1.5	55SS050	19.7	65SS050
55'							14.5	65SS055
60'							9.4	65SS060
70'							1.3	65SS070

90 MPH
 Fastest Mile

90 MPH Fastest Mile Wind Speed - No Ice								
Height	25G		45G		55G		65G	
	FT ²	Part No.						
10'	10.5	25SS010	25.0	45SS010	45.0	55SS010	95.0	65SS010
20'	6.9	25SS020	11.0	45SS020	23.0	55SS020	65.0	65SS020
30'	1.7	25SS030	4.0	45SS030	12.0	55SS030	40.0	65SS030
35'			1.9	45SS035	9.4	55SS035	32.2	65SS035
40'					4.0	55SS040	24.1	65SS040
45'					2.2	55SS045	17.7	65SS045
50'							14.5	65SS050
55'							7.7	65SS055
60'							3.3	65SS060

NO ICE

Note: Antenna areas, ft.², assume all round antenna members.



G SERIES
REV. G EFFECTIVE PROJECTED AREA (SQ. FT.)

90 MPH
 3-Second Gust

90 MPH 3-Second Gust Wind Speed															
Height	25G			45G			45GSR			55G			65G		
	EPA		Part No.												
	Exp.B	Exp.C		Exp.B	Exp.C		Exp.B	Exp.C		Exp.B	Exp.C		Exp.B	Exp.C	
10'	26.8	21.3	25SS010	60.0	47.5	45SS010	95	84	45SR010	80	79	55SS010	95	95	65SS010
20'	18.5	13.4	25SS020	31.3	22.7	45SS020	95	71	45SR020	56	42	55SS020	95	95	65SS020
30'	7.9	4.1	25SS030	16.1	8.4	45SS030	87	58	45SR030	34	21	55SS030	95	71	65SS030
35'	4.4	1.2	25SS035	9.8	3.8	45SS035	76	52	45SR035	25	14	55SS035	80	54	65SS035
40'	1.3	-	25SS040	4.9	-	45SS040	60	40	45SR040	17	8	55SS040	62	41	65SS040
45'				0.7	-	45SS045	48	31	45SR045	11	3	55SS045	48	30	65SS045
50'							38	23	45SR050	5	-	55SS050	37	21	65SS050
55'							29	16	45SR055				28	14	65SS055
60'							22	11	45SR060				20	7	65SS060

100 MPH
 3-Second Gust

100 MPH 3-Second Gust Wind Speed															
Height	25G			45G			45GSR			55G			65G		
	EPA		Part No.												
	Exp.B	Exp.C		Exp.B	Exp.C		Exp.B	Exp.C		Exp.B	Exp.C		Exp.B	Exp.C	
10'	20.7	16.4	25SS010	47.4	39.5	45SS010	82	66	45SR010	78	63	55SS010	95	95	65SS010
20'	14.0	9.9	25SS020	23.2	16.9	45SS020	74	55	45SR020	43	32	55SS020	95	95	65SS020
30'	5.3	2.2	25SS030	9.7	4.8	45SS030	66	43	45SR030	24	14	55SS030	81	55	65SS030
35'	2.1	-	25SS035	5.1	0.7	45SS035	59	38	45SR035	17	8	55SS035	61	40	65SS035
40'				1.2	-	45SS040	46	30	45SR040	10	3	55SS040	47	29	65SS040
45'							35	22	45SR045	5	-	55SS045	35	20	65SS045
50'							27	15	45SR050				26	13	65SS050
55'							20	9	45SR055				17	6	65SS055
60'							13	4	45SR060				11	1	65SS060

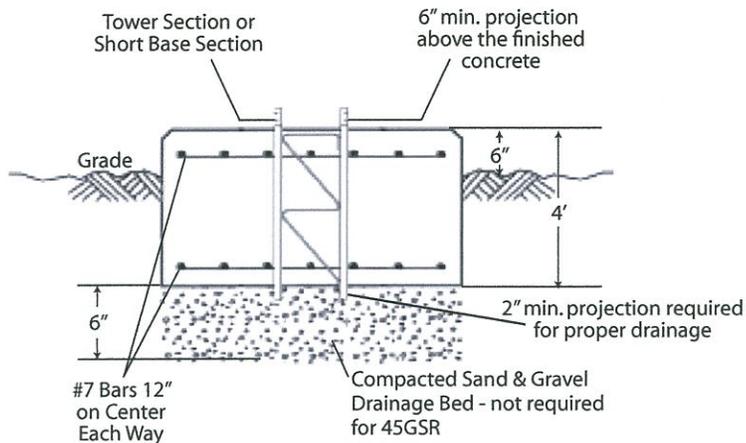
110 MPH
 3-Second Gust

110 MPH 3-Second Gust Wind Speed															
Height	25G			45G			45GSR			55G			65G		
	EPA		Part No.												
	Exp.B	Exp.C		Exp.B	Exp.C		Exp.B	Exp.C		Exp.B	Exp.C		Exp.B	Exp.C	
10'	16.5	12.7	25SS010	39.4	31.9	45SS010	67	53	45SR010	63	51	55SS010	95	95	65SS010
20'	10.6	7.2	25SS020	18.3	12.3	45SS020	59	43	45SR020	34	25	55SS020	95	81	65SS020
30'	3.1	0.4	25SS030	6.5	1.9	45SS030	51	32	45SR030	17	9	55SS030	65	43	65SS030
35'				1.7	-	45SS035	45	27	45SR035	11	4	55SS035	48	30	65SS035
40'							35	22	45SR040	5	-	55SS040	35	21	65SS040
45'							26	15	45SR045				25	13	65SS045
50'							19	9	45SR050				17	7	65SS050
55'							13	4	45SR055				10	-	65SS055
60'							7	-	45SR060				4	-	65SS060

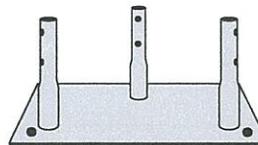
Note: Antenna areas, ft.², assume all round antenna members.

NOICE

SELF-SUPPORTING G-SERIES FOUNDATIONS

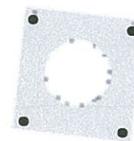


ELEVATION VIEW
25G (shown), 45G & 55G
SELF-SUPPORTING TOWER FOUNDATION



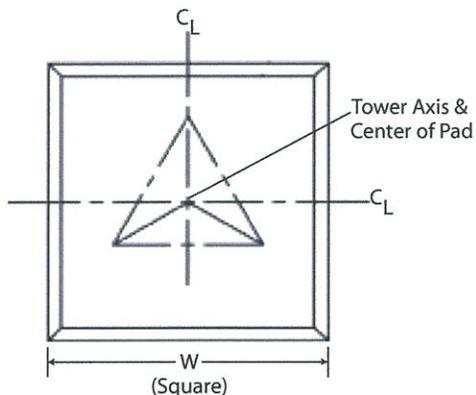
CONCRETE BASE PLATE WITH ANCHORS
25GSSB
FOR USE WITH SELF-SUPPORTING 25G TOWERS.

ALTERNATIVE TO USING SHORT BASE. BASE BOLTS & TEMPLATE MUST BE ORDERED SEPARATELY.



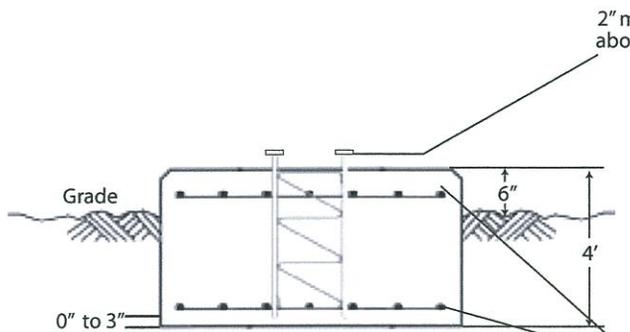
BASE BOLTS & TEMPLATE
KH8175A

FOR USE WITH 25GSSB IN SELF-SUPPORTING 25G TOWER APPLICATIONS. KIT INCLUDES (1) TEMPLATE & (4) BASE BOLTS.

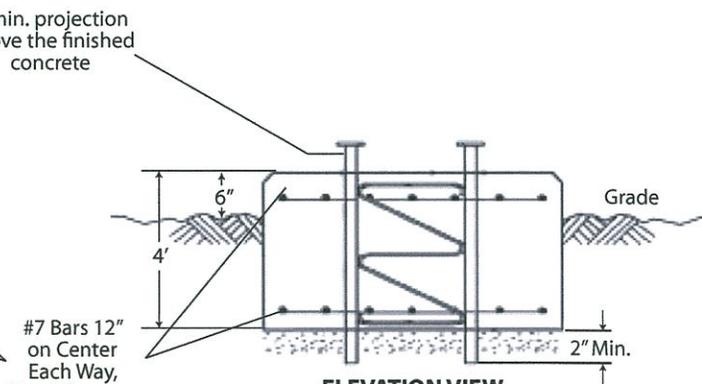


PLAN VIEW

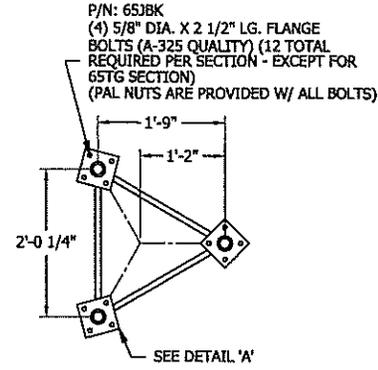
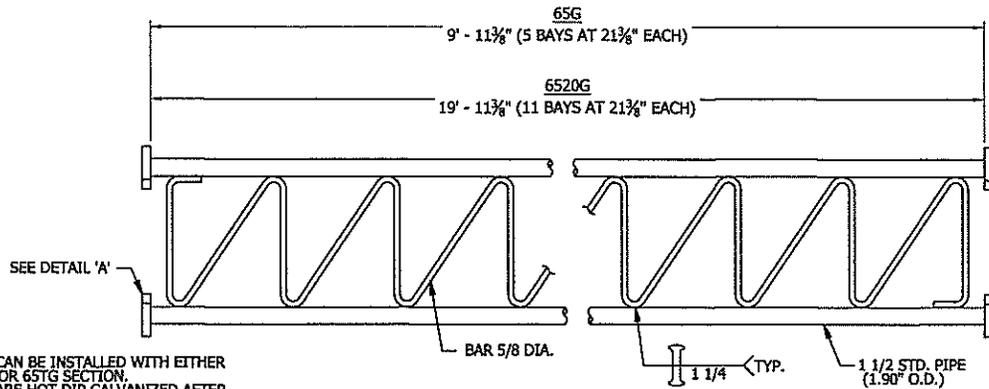
Tower	Mat Width (W)	Concrete Volume (Cu. Yds.)
25G	4' - 0"	2.4
45G	5' - 3"	4.1
55G	6' - 0"	5.3
45GSR 65G	7' - 9"	8.9



ELEVATION VIEW
45GSR
SELF-SUPPORTING TOWER FOUNDATION



ELEVATION VIEW
65G
SELF-SUPPORTING TOWER FOUNDATION



NOTE: ALL SECTIONS CAN BE INSTALLED WITH EITHER END UP, EXCEPT FOR 65TG SECTION.
NOTE: ALL SECTIONS ARE HOT DIP GALVANIZED AFTER FABRICATION.

ASSY P/N 65G SECTION AND ASSY P/N 6520G SECTION

1 - KS148
1 - 65JBK

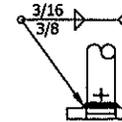
1 - KS149
1 - 65JBK

SEC.>>	P/N 65G TOWER SECTION PROPERTIES		
ITEM	LEGS	BRACES	SECTION
SIZE	PIPE 1.50 STD.	BAR 5/8 DIA.	N/A
F _y	50.0	36.0	N/A
A	0.799	0.3068	2.40
S	0.326	0.0240	15.71
I	0.310	0.0075	234.9
r	0.623	0.1563	9.90
L	21.4	30.9	VARIES
K	1.0	0.70	1.0
KL/r	34.3	138.4	VARIES
C	28.3	3.20	N/A
T	28.3	N/A	N/A
M	N/A	N/A	49.5

TOTAL SECTION WEIGHT = 191.4 LBS.

SEC.>>	P/N 6520G TOWER SECTION PROPERTIES		
ITEM	LEGS	BRACES	SECTION
SIZE	PIPE 1.50 STD.	BAR 5/8 DIA.	N/A
F _y	50.0	36.0	N/A
A	0.799	0.3068	2.40
S	0.326	0.0240	15.71
I	0.310	0.0075	234.9
r	0.623	0.1563	9.90
L	21.4	30.9	VARIES
K	1.0	0.70	1.0
KL/r	34.3	138.4	VARIES
C	28.3	3.20	N/A
T	28.3	N/A	N/A
M	N/A	N/A	49.5

TOTAL SECTION WEIGHT = 368.7 LBS.



7/16" DIA. DRAIN HOLE IS PROVIDED JUST ABOVE THE WELD AT THE BOTTOM OF EACH LEG ON SECTION 65TG ONLY.

DETAIL 'A'

NOMENCLATURE

- A = CROSS SECTIONAL AREA (SQURE INCHES)
- C = COMPRESSION CAPACITY WITH 1/3 INCREASE IN ALLOWABLE STRESS (KIPS)
- F_y = MINIMUM YIELD STRENGTH (KSI)
- I = MOMENT OF INERTIA ABOUT CENTROIDAL AXIS (INCHES**4)
- K = EFFECTIVE LENGTH FACTOR (DIMENSIONLESS)
- L = UNBRACED LENGTH (INCHES)
- M = MOMENT CAPACITY WITH 1/3 INCREASE IN ALLOWABLE STRESS (FT.-KIPS)
- N/A = NOT APPLICABLE
- r = RADIUS OF GYRATION (INCHES)
- S = ELASTIC SECTION MODULUS (INCHES**3)
- T = TENSION CAPACITY WITH 1/3 INCREASE IN ALLOWABLE STRESS (KIPS)

NOTE: CAPACITIES SHOWN ARE BASED ON ANSI/EIA/TIA-222-F-1996.

FILE NO. Standard-65G

REVISIONS				
REV.	DESCRIPTION	DWN	CHK	APP
17	REDRAWN TO AUTOCAD	JDA	JOH	H.A.
18	DATE: 3/19/2006 REVISED CALLOUTS	JDA	KTL	H.A.
19	DATE: Nov/11/2007 REMOVED 65TG SECTION	JDA	JOH	H.A.
	DATE: 3/27/2007			

DWG REFERENCE

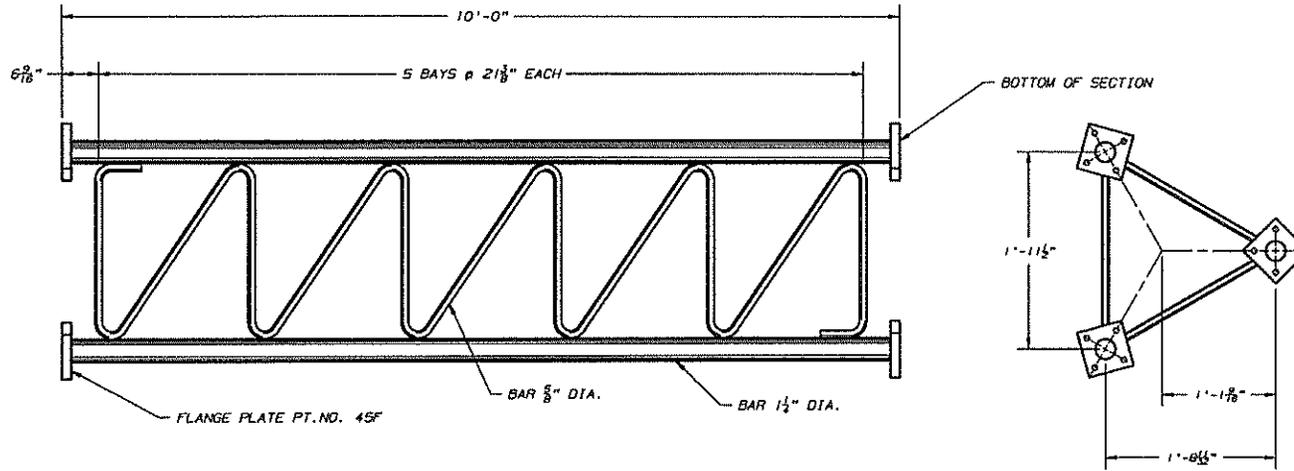
ROHN
PRODUCTS LLC
PO BOX 5999
PEORIA, IL 61601-5999
TOLL FREE 800-727-ROHN

THIS DRAWING IS THE PROPERTY OF ROHN. IT IS NOT TO BE REPRODUCED, COPIED OR TRACED IN WHOLE OR IN PART WITHOUT OUR WRITTEN CONSENT.

SECTION ASSEMBLY
65G

DWN:	CW	CHKD:	WDU	DATE:	Feb/25/1988
ENGR:	RAM				
DRAWING NO:	C630665			REV:	1.9

C770964-01.tif



ASSEMBLY PT. NO. 65GSR10

BILL OF MATERIAL

ITEM	QUAN.	PART NO.	DESCRIPTION	DWG. NO.
1	1	K5107	10' 650 SECTION	C770963
2	12	2100336A	3/8 X 2 1/2 BOLT ASSY	C770404

R3 (CHGD 2100326A TO 2100336A) REDRAWN		11/2/77	WHF	JHD	75
No. & Revision Description		A. Date & Rev. Dr. & Ckd. Dr. & App. Dr.			
THIS DRAWING IS THE PROPERTY OF ROHN. IT IS NOT TO BE REPRODUCED, COPIED OR TRACED IN WHOLE OR IN PART WITHOUT OUR WRITTEN CONSENT.					
ROHN					
Scale: NONE	By: MOI	Date: 10/12/77	SECTION ASSY 65GSR 10'1.25"DIA		
Drawn:	MOI	10/12/77			
Checked:	WDU	10/20/77			
App. Eng.:	CW	10/21/77	DWG. FILE:	DWG. NO.:	C770964 03
Recent File:				SHEET 1 OF 1	REV.



SELF-SUPPORTING G-SERIES DESIGN NOTES

1. Tower designs are in accordance with approved national standard ANSI/EIA-222-F and ANSI/TIA-222G, Structure Class I, Exposures B and C, Topographic Category I.
2. All towers must have "fixed" bases. Pinned bases may not be used.
3. Designs assume transmission lines symmetrically placed as follows:
 - 25G Tower - One 5/8" Line on each face (Total =3)
 - 45G Tower - One 7/8" Line and one 1/2" line on each face (Total = 3 @ 7/8" & 3 @ 1/2")
 - 55G & 65G Towers - Two 7/8" Lines on each face (Total =6)
4. Antennas and mounts assumed symmetrically placed at tower apex.
5. Rev F tabulated allowable antenna areas assume all round antenna members.
6. Allowable flat-plate antenna areas, based on EIA RS-222-C, may be obtained by multiplying Rev. F Antenna areas shown by 0.6.
7. Standard foundation designs are based on Rev. F normal soil and Rev. G presumptive clay soil parameters.

Refer to pages 147-153 for General Installation and Foundation Notes.



Sebastopol Water Tanks	View From Pleasant Hill Road	Photo #1 Simulation	
1281 Pleasant Hill Rd Sebastopol, CA 95472	KOWS Radio Tower	Autumn Streamfellow	
		12/29/2015	



Sebastopol Water Tanks	View From Pleasant Hill Road KOWS Radio Tower	Photo #2 Simulation	
1281 Pleasant Hill Rd Sebastopol, CA 95472		Autumn Streamfellow	
		12/29/2015	

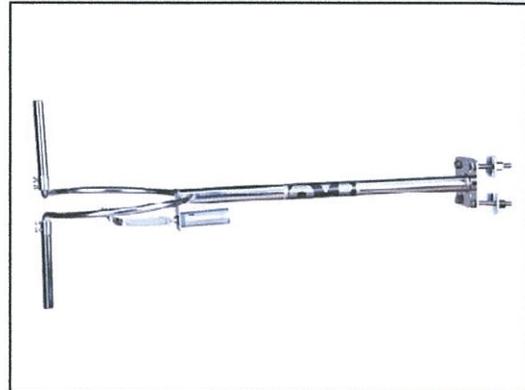
ATTACHMENT #10

ANTENNA MODEL OMB MP-4 SPECIFICATIONS (FOUR MP-I BAYS)

APPROVED BY PLANNING COMMISSION

CIRCULAR POLARIZATION ANTENNA MP-1

The **MP** antenna is designed to maintain a continuous power of 500W per element. This antenna is made of stainless steel, which guarantees the incorruptibility of its technical specifications and it comes adjusted to the desired frequency, although it can be changed if needed. This circular polarization antenna is recommended to work in extreme environmental conditions



MAIN ADVANTAGES

- Very low cost.
- Quality and operation are highly guaranteed due to the great amount of antennas supplied.
- Ideal as second antenna and as security system.

GENERAL CHARACTERISTICS

FREQUENCY RANGE	87.5-108MHz
IMPEDANCE	50 Ohm
MAXIMUM POWER	500W
POLARIZATION	Right-circular
INPUT CONNECTOR	N(F)
WEIGHT	3.9Kg
PROTECTION AGAINST ELECTRICAL SHOCK	Earth
ASSEMBLY	1-3" tube
MATERIAL	Stainless steel
TYPICAL ROE	1.10:1

AVAILABLE SYSTEMS

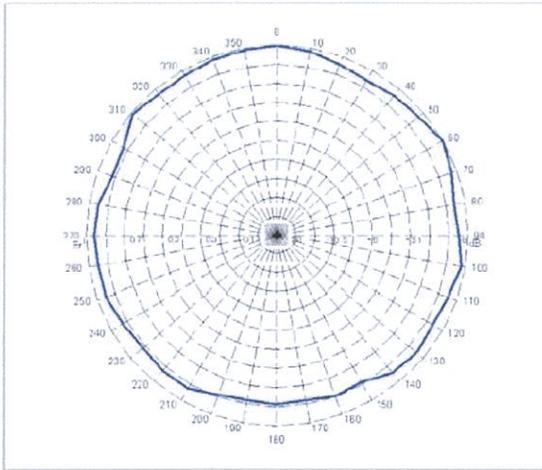
Some MP antennas stacked at $3/4\lambda$ distance from one another.

MODEL	Nº ANTENNAS	GAIN	INPUT CNC	MAX. POWER
MP-1	1	-3dBd	N(F)	600W
MP-2	2	0dBd	N(F)	800W
MP-2R	2	0dBd	7/16"	1.2KW
MP-4	4	3dBd	N(F)	800W
MP-4S	4	3dBd	7/16"	1.5KW
MP-4R	4	3dBd	EIA 7/8"	2.4KW
MP-6R	6	4.5dBd	EIA 7/8"	3KW

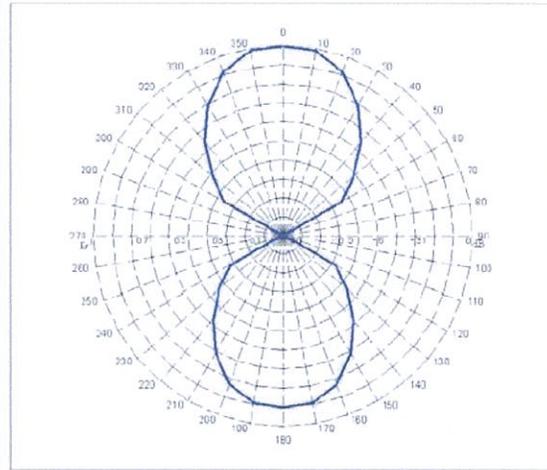
*3dB will be added to these gain values if we consider the sum of vertical and horizontal polarizations.



CIRCULAR POLARIZATION ANTENNA MP-1



HORIZONTAL RADIATION PATTERN



VERTICAL RADIATION PATTERN

* The images and/or technical specifications are subject to change without previous notice.

ATTACHMENT #11

ALTERNATIVE DESIGN FOR ANTENNA

Jonathan Atkinson

From: David Dillman <sasha@monitor.net>
Sent: Monday, April 25, 2016 3:41 PM
To: Kenyon Webster
Cc: Jonathan Atkinson
Subject: KOWS - David Dillman - Revision of tower specifications

Hello Planning Department staff and City Council members,

I am writing to you with what I hope is positive news.

In our continuing efforts to address concerns related to visual impacts, KOWS has been working diligently to come up with an alternative tower design that will be narrower in width and lower in height than the 70' tall-24" wide ROHN model specified in our Use Permit application.

In an April 21, 2016 email sent to you just last week, KOWS proposed a tower revision that specifically addressed the issue of tower width. This email today supersedes and replaces that email because we now propose a tower configuration that not only addresses tower width, but height too.

We propose to replace the original 70' ROHN tower (model 65G) specified in our application, with a 60' Trylon tower (Super Titan series, model S-100). This tower has a 2" center pole which rises up 5' from the top of the tower for a total tower height of 65'. This new Trylon configuration would operate at a power of 30 or 35 watts (the old ROHN model operated at 25 watts).

The width of this Trylon tower is not 24" from ground to top (like the former ROHN model). Instead, the tapered design has the following narrower dimensions - 30" wide at ground level; 21" wide at 30'; 15" at 50'; and 12" at 60'.

We feel these reductions in both tower height and width are substantive mitigations of visual impacts associated with our proposed antenna project.

Thank you for your consideration of this proposal for a tower revision.

David Dillman, for KOWS



Monday, April 04, 2016

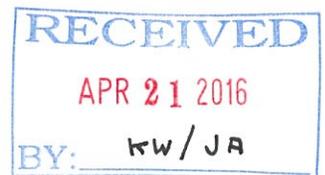
Trylon Tower Analysis TA1850-2

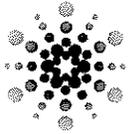
Tower Details

Tower Height (ft)	60
Tower Line	SuperTitan (ST)
Model Designation	S100
Tower Part Number	5.94.0100.060

Optional Accessories and Services

Description	Quantity	Part Number
Climbing Kit - Step-Bolt	1	4.98.0100.060
Safety Climb Kit - 3/8in Cable - Leg Mounted (No Slider)	1	4.99.0485.100
Anti Climb Shield/Mesh Kit	1	4.92.0001.006
Grounding Kit	1	4.91.0103.000
Lightning Rod - 5' Long Copper Clad with Mount	1	4.90.0200.C05
TX Line Brackets - 4 lines maximum	18	4.84.0300.100
Work Platform - Fits sections # 1 to 12HD	1	4.88.0200.000
Foundation Material	N/A	INTEGRAL
Canada P.Eng Stamped Dwg Tower Profile and Standard Foundation	1	4.77.0101.200
USA P.E. Stamped Dwg Tower Profile and Standard Foundation	1	4.77.0101.100





Trylon Tower Analysis: TA1850-2

The tower analysis was performed based on the wind speed, antenna and line loading parameters provided. Please note that the software used for this analysis depends on users supplying accurate antenna data, wind speed and other critical input parameters. Trylon assumes no liability for inaccurate user assumptions or any tower failures as a result thereof.

Please review this tower set-up to ensure it matches with the final tower design.

Upon completion it was seen that the tower under study, **PASSED** TIA-222-G with the below listed design parameters, and equipment attached.

Trylon Tower		Design Parameters	
Tower Height:	60 ft	Design Code:	TIA-222-G
Model Designation:	S100	Max. Basic Wind Speed:	85 mph
Tower Line:	SuperTitanKD	Max. Basic Wind Speed with Ice:	30 mph
Part Number:	5.94.0100.060.	Max. Design Ice Thickness:	0.00 in.
		Service Wind Speed:	60 mph
		Exposure Category:	C (Open terrain)
		Topographic Category:	1 (No abrupt changes)
		Reliability Category:	II (Substantial hazard)

Project Data	
Site Location:	Sonoma, California
Designer Initials:	SF / PS

Tower Loading

Elev. (ft)	Qty	Fixture Type	UPSA ¹ (sqft)	TX Line Qty	TX Line Type	Mounted on	Offset (ft)
60	1	OMB MP-1	1.25	1	1/2	Leg	1
53	1	OMB MP-1	1.25	-	-	Leg	1
50	1	Scala CA-FM/CP ²	1.17	1	1/2	Leg	2
46	1	OMB MP-1	1.25	-	-	Leg	1
39	1	OMB MP-1	1.25	-	-	Leg	1

¹UPSA: Un-factored Projected Surface Area (each)

²Assumed mounted on Qty (1) 5.930.0202.007 Trylon standoff mount.

Results

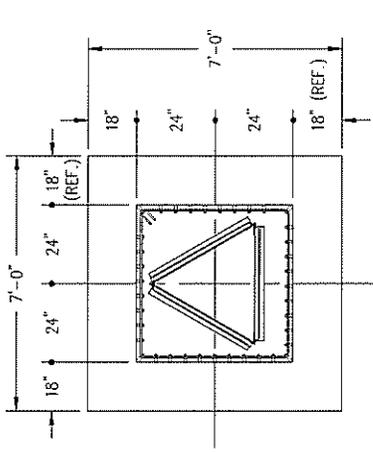
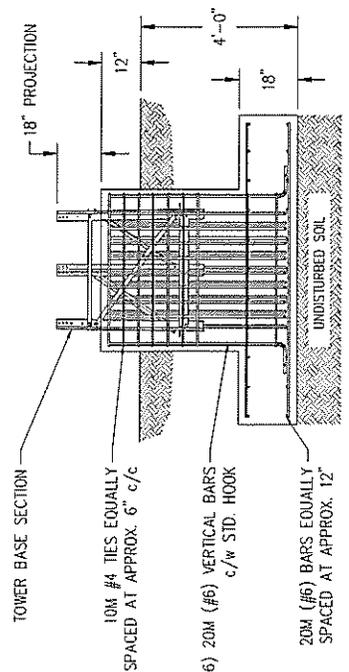
Tower with the above noted loading is at 75% Capacity .			
Tower Maximum Tilt/Twist is 0.35°/ 0.17° .			
Factored Leg Foundation Loads		Factored Global Foundation Loads	
Max Download:	29.61 kips	Max Axial:	1.84 kips
Max Uplift:	24.31 kips	Max OTM:	62.78 kipsft
Max Shear:	1.26 kips	Max Shear:	1.96 kips

P.E. Stamped Drawings:

If P.E. Stamped Drawings are required for this tower then we require a Geotechnical Report be provided to ensure a proper foundation design – If one is not available we will assume Normal Dry Soil conditions.

60FT S100 SUPERTITAN TOWER

FOUNDATION DESIGN (NORMAL DRY SOIL)
DESIGN ASSUMES THAT FROST DEPTH IS LESS THAN 4'-0"



CUBIC YARDS OF CONCRETE			
PAD CONC VOL.	PIER CONC VOL.	TOTAL VOL.	
2.7	2.1	4.8	

CONFIDENTIAL - ALL INTELLECTUAL PROPERTY RIGHTS, HEREIN ARE THE PROPERTY OF TRYLON MANUFACTURING COMPANY LTD. ALL REPLICATION, RECORDING, DISCLOSURE OR USE IS PROHIBITED WITHOUT WRITTEN CONSENT OF TRYLON MANUFACTURING COMPANY LTD.



CUSTOMER: _____ SITE: _____ SCALE: 100,000
 DATE: 07 FEB 07 BY: _____ MRH _____ CHK: _____ APP: _____
 TITLE: 60' S100 SUPERTITAN TOWER DRAWING NO. 000001620.0171

MAXIMUM ALLOWABLE ANTENNA AREA - PER TIA/EIA 222 REV. F					
WIND VELOCITY RATINGS					
NO ICE (ROUND/FLAT)		1/2" ICE (ROUND/FLAT)			
U	70 mph	90 mph	100 mph	70 mph	90 mph
S	21/15	3/2	--/--	17/12	1/--
A					100 mph
					--/--

FOUNDATION LOADS:
 MAX. OVERTURNING MOMENT (k-FT) =
 MAX. SHEAR (kips) =
 MAX. AXIAL (kips) =

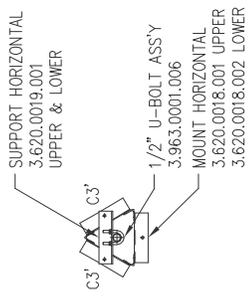
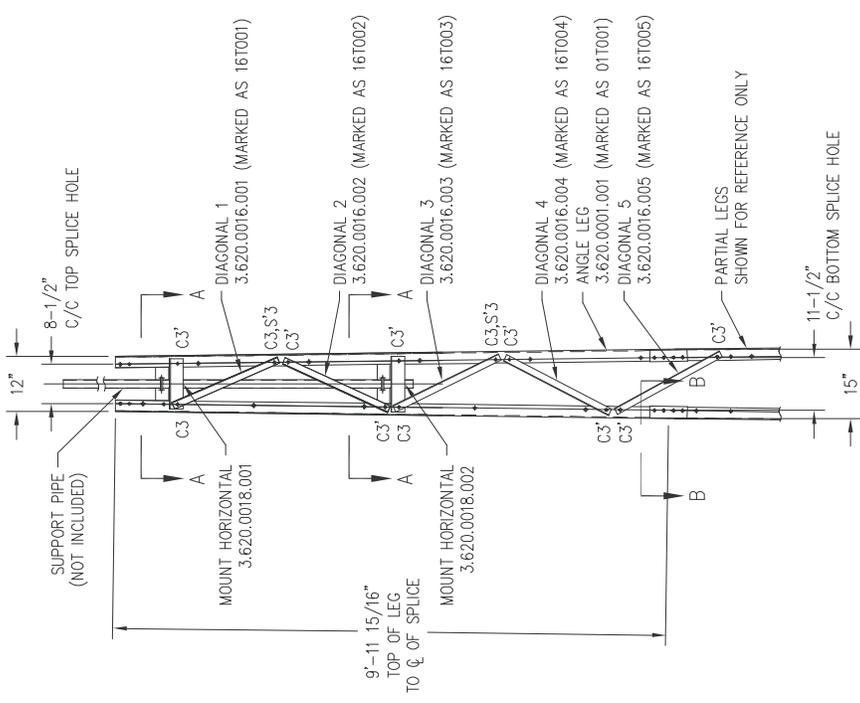
MAXIMUM ALLOWABLE ANTENNA AREA - PER TIA/EIA 222 REV. G, CLASS 1 (NO ICE)					
WIND VELOCITY RATINGS					
90 mph 3sg		110mph 3sg		120 mph 3sg	
U	75 mph FM	90 mph FM	90 mph FM	100 mph FM	100 mph FM
S	25	17	9	6	4
A	ROUND	FLAT	ROUND	FLAT	ROUND
					2.8

FOUNDATION LOADS:
 MAX. OVERTURNING MOMENT (k-FT) =
 MAX. SHEAR (kips) =
 MAX. AXIAL (kips) =

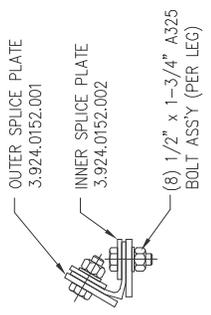
5' EMBEDMENT SECTION INCLUDED IN KITS

- NOTES:
- 1) KNOCK-DOWN PART NUMBER 5.94.0100.060.
 - 2) PRE-ASSEMBLED PART NUMBER: 5.95.0100.080.
 - 3) ANTENNA LOADS ARE CENTRALLY LOCATED AND BALANCED, 3-FT OR LESS ABOVE THE TOWER TOP
 - 4) WIND LOADING ASSUMES (1) 1/2" TRANSMISSION LINE PER 10 50.FT. OF ROUND MEMBER ANTENNA AREA

REV	BY:	CHK:	DATE	DESCRIPTION



SUPPORT INSTALLATION
SECTION A-A



SPLICE DETAIL #1
SECTION B-B

BOLT SCHEDULE		
MARK	SIZE	QTY
C3	1/2" x 1-1/2" A325	12
C3'	1/2" x 1-1/2" A325 + FLATWASHER	28
S'3	3/16" x 2" x 2" SPACER c/w 9/16" HOLE	6

PRE-ASSEMBLED TOP SECTION #1 - KIT #5.95.0012.000
KNOCK-DOWN TOP SECTION #1 - KIT #5.94.0012.000

TRYLON Tsf

CUSTOMER: _____ SITE: _____ SCALE: 25,000
 DATE: 23 JAN 03 BY: ML CHK: MAW APP: JB
 TITLE: ASSEMBLY OF SECTION #1 DRAWING NO. 000001.620.0002

REV.	CHK. BY:	DATE	DESCRIPTION

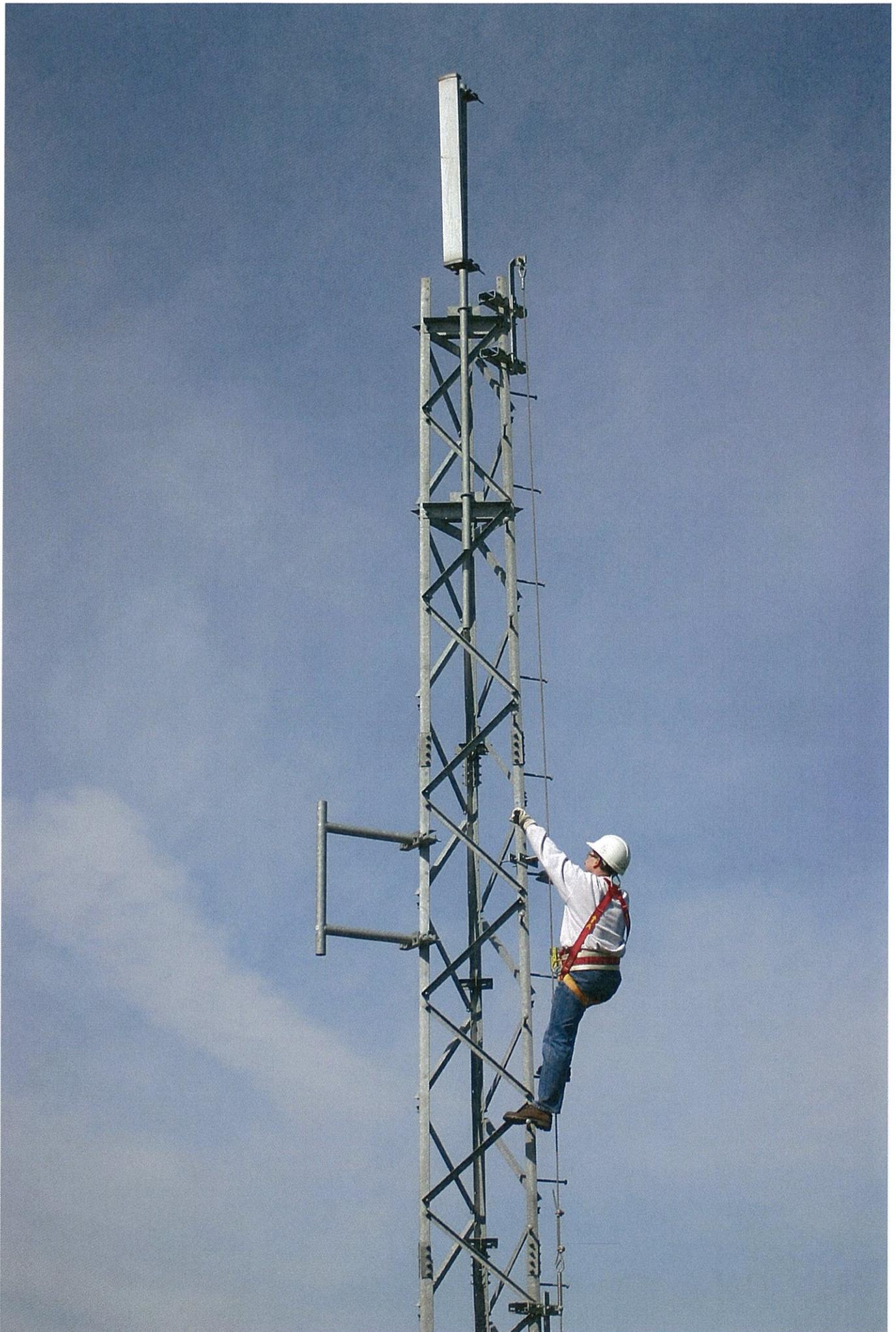


NOTES:



RECEIVED
APR 25 2016
BY: JA / KW





ATTACHMENT #12

NONIONIZING ELECTROMAGNETIC RADIATION (NEIR) REPORT



Prometheus Radio Project

Subject: KOWS-LP compliance with non-ionizing electromagnetic radiation (NIER) standards

Date: December 22, 2015

KOWS-LP, Occidental Arts and Ecology Center, holds an FCC construction permit pursuant to FCC application BMPL-20150828ABW which authorizes them to broadcast 25 watts at 92.5 MHz from a 4-Bay OMB MP-4 FM antenna located in Sebastopol at coordinates 38 23 0.83 N 122 49 59.95 W (NAD83).

This report demonstrates that KOWS-LP complies with NIER RF exposure standards specified in Federal statute **47CFR§1.1310** at the antenna site and at nearby homes.

1 - NIER Standards for Maximum Exposure

The Federal Communications Commission offers information and resources regarding NIER, which in FCC terminology is called “**RF Safety**”. It is efficient to quote at length from the instructions for KOWS-LP's low-power FM FCC application, FCC Form 318, <http://www.fcc.gov/Forms/Form318/318.pdf>: [emphasis added]

RF Exposure Guidelines. In 1996, the Commission modified its guidelines and procedures for evaluating environmental effects of RF emissions. All LPFM station applications subject to environmental processing must demonstrate compliance with the new requirements. The new guidelines are explained in more detail in OET Bulletin 65, entitled *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, Edition 97-01*, released August, 1997, and *Supplement A: Additional Information for Radio and Television Broadcast Stations* (referred to here as "OET Bulletin 65" and "Supplement A," respectively). Both OET Bulletin 65 and Supplement A can be viewed and/or downloaded from the FCC Internet site at <http://transition.fcc.gov/oet/rfsafety/>

For FM broadcast frequencies, Supplement A states that the exposure safety limit for “**general population/uncontrolled exposure is 0.2 mW/cm² (200 μW/cm²) and the limit for occupational/controlled exposure is 1 mW/cm² (1000 μW/cm²)**”.

OET Bulletin 65 is the practical implementation of the controlling statute, **47CFR§1.1310 - Radiofrequency radiation exposure limits.**





Prometheus Radio Project

2 – Site Details

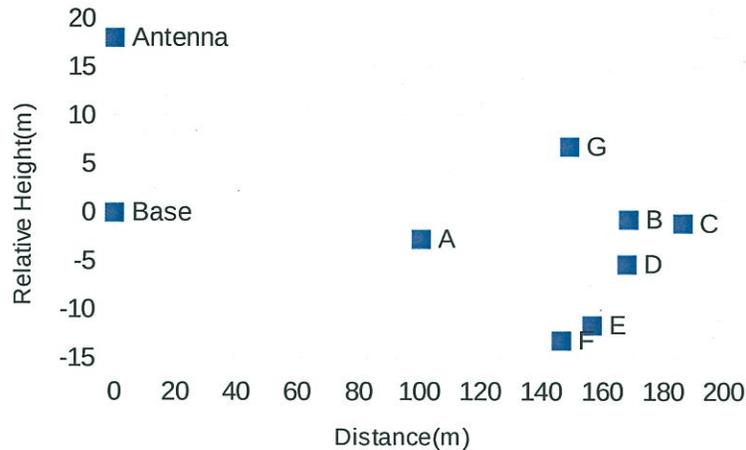
KOWS-LP is approved by the FCC to construct an antenna near Blackney Rd and Pleasant Hill Rd, just southwest of the southern water tank shown below, centered at 18 meters (approximately 60 feet) above the ground. Nearby homes labeled A-G and faint 1-foot-interval contour lines are also shown.





Prometheus Radio Project

The graph below shows the distance (meters) to each house from the antenna and the elevation of each house (meters) relative to the base of the antenna. Both the antenna base and antenna itself are shown on the left.



3 – Existing NIER Demonstration to the FCC

LPFM applicants must demonstrate compliance with NIER RF Safety standards, and KOWS-LP indicated their compliance by checking Yes to box 10 in their LPFM (FCC form 318) construction-permit application:

<p>10. National Environmental Policy Act. The applicant certifies, based on its completion of Worksheets 2 and 3 and its review of the instructions to this application, that the proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the attached General Environmental and RF Exposure Worksheets, an Exhibit is required.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 14]</p>
---	--

A goal of the LPFM radio service is accessibility, which means attempting to unburden applicants – usually small community groups – from purchasing expensive radio engineering services. To this end, the LPFM application offers a simplified method for RF safety NIER compliance. KOWS-LP utilized the simplified method and was approved by the FCC.

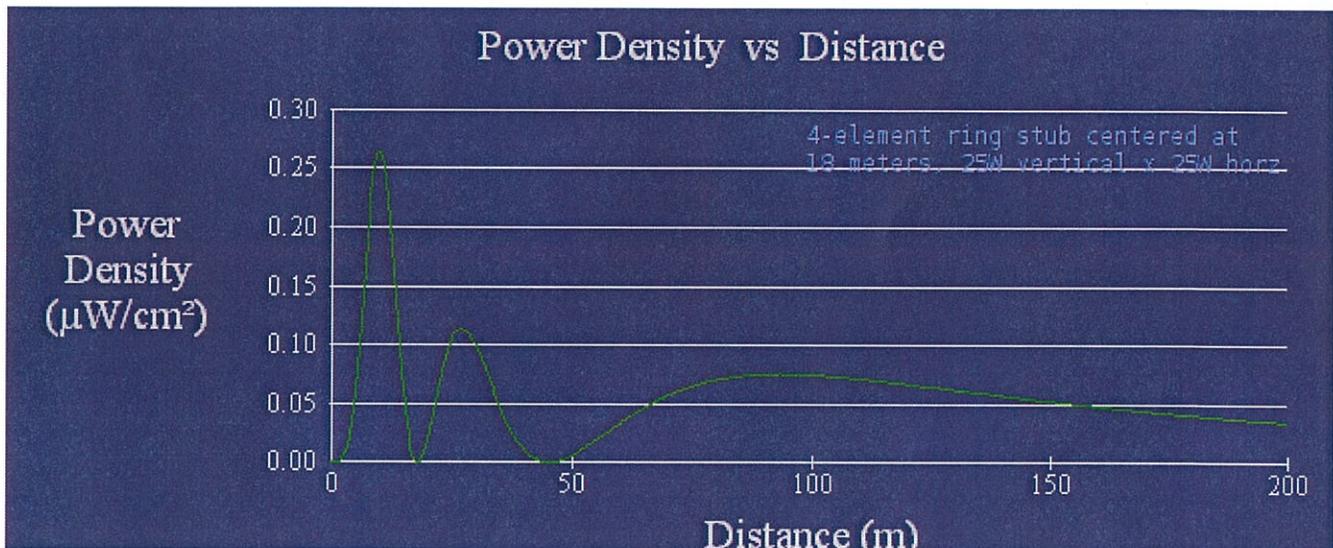


Prometheus Radio Project

4 – Exposure Calculations

In situations requiring more sophisticated NIER field calculations, the FCC's "FM Model" software, originally developed by the EPA, is normally utilized. FM Model predicts the power density around an antenna given the antenna model, height, and radiated power.

The figure below shows the radiation intensity that would be experienced by a person (assumed to be 2 meters tall) standing at the elevation of the base of KOWS-LP's antenna as currently approved by the FCC.

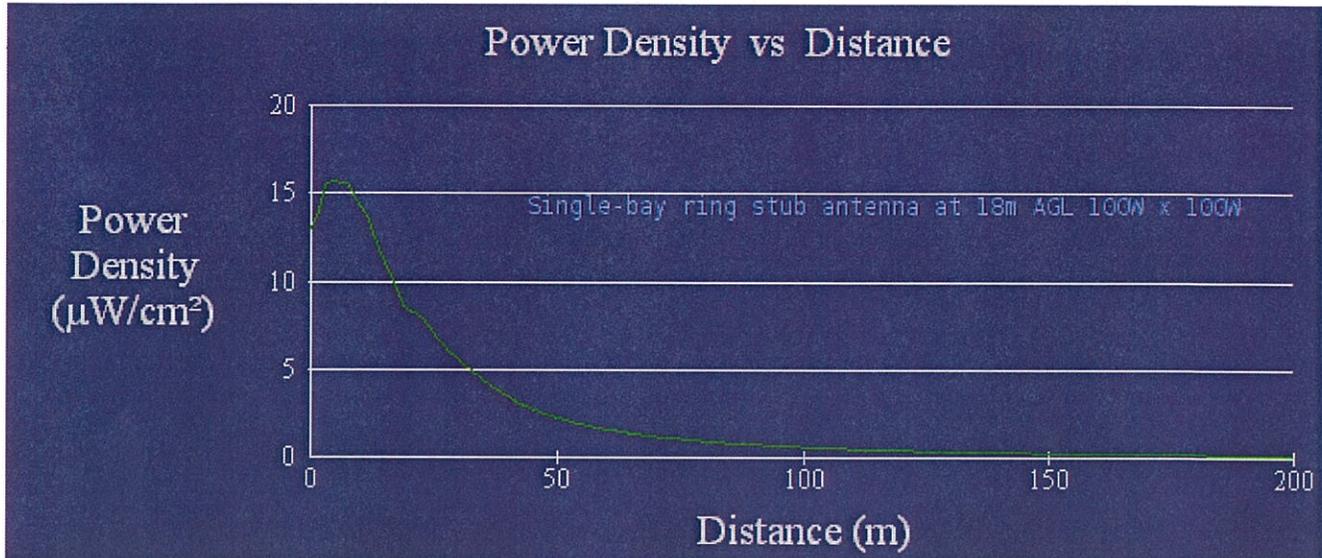


The maximum exposure level for people in the vicinity of this antenna is less than $0.30 \mu\text{W}/\text{cm}^2$. **This is less than 1% of the more-stringent exposure limit of $200 \mu\text{W}/\text{cm}^2$, therefore this installation meets NIER requirements.**

Alternatively KOWS-LP may choose a single-bay directional antenna at the same height. In order to estimate the worst-case directional-antenna exposure, FM Model is configured for a single-bay omnidirectional "ring-stub" antenna at the same center height. The FCC would allow up to 50 watts in this situation and location, yet to obtain a more conservative worst case, FM Model is configured for 100 watts, which is incidentally the maximum power allowed for LPFM stations.



Prometheus Radio Project



Radiation exposure for this artificial worst case is nearly 10 times worse than the currently-approved antenna, yet still well within regulation.

Maximum power density of approximately $16 \mu\text{W}/\text{cm}^2$ would be experienced by a person standing in the vicinity of the base of the antenna. **This is less than 8% of the more-stringent exposure limit of $200 \mu\text{W}/\text{cm}^2$, therefore a directional single-bay antenna would also easily meet NIER requirements.**

The safety of workers at the top of the nearby water tank must also be considered. Utilizing FM Model and estimating the top of the water tank as 40 feet higher than the base of the antenna, the predicted exposure according to the worst case above is $112 \mu\text{W}/\text{cm}^2$. **This is 56% of the more-stringent exposure limit of $200 \mu\text{W}/\text{cm}^2$, meeting NIER requirements.**

5 – Exposure at Nearby Homes

FM Model was used to estimate the exposure of people outdoors at the locations of the nearby homes labeled previously A through F. Note that the indoor exposure will be less due to attenuation by walls and roofs. Considering both the distance to each home and its height relative to the base of the antenna, and using the artificial worst case, the predicted exposures are listed below.



Prometheus Radio Project

Home	Distance (meters)	Relative Height (meters)	Exposure $\mu\text{W}/\text{cm}^2$	% of Limit
A	100.6	-2.8	0.21	0.1%
F	146.5	-13.2	0.29	0.1%
G	149.1	6.8	0.30	0.2%
E	156.6	-11.6	0.26	0.1%
D	168.0	-5.3	0.23	0.1%
B	168.6	-0.7	0.23	0.1%
C	186.5	-1.1	0.19	0.1%

In all cases, exposure to non-ionizing electromagnetic radiation due to an artificial worst-case KOWS-LP radio station, at the locations of the nearby homes, is less than 1/500th of the stringent NIER limit, and estimated at less than 1/3000th of the limit if the presently-authorized antenna were in use rather than the worst case.

The effects of electromagnetic radio on humans are unlikely to be fully understood at this time and these safety limits may well change as research proceeds, nevertheless the limits are based on the accepted best practices at this time. Anecdotal stories of low rigor and blatant misinformation about radiation exposure abound on the internet, by parties on all sides of the issues. Let the reader beware.

Additional FCC references:

- FAQ <http://transition.fcc.gov/oet/rfsafety/rf-faqs.html#Q17>
- Main page <https://www.fcc.gov/general/radio-frequency-safety-0>
- *Questions and Answers about Biological Effects and Potential Hazards of Radio frequency Electromagnetic Fields* <http://www.fcc.gov/encyclopedia/oet-bulletins-line#56>

6 – Recommendations

1. Offer as a courtesy to reduce power when work is to be performed on the antenna or upon the nearest water tank.
2. Post a caution sign at the antenna tower and provide mechanical discouragement to casual climbers.

Radio professionals in the course of their job are governed by the much higher occupational exposure limit of $1,000 \mu\text{W}/\text{cm}^2$.



Prometheus Radio Project

The calculations in this report were made by myself, Paul Bame, Engineering Director at the Prometheus Radio Project. I am an experienced radio engineer and have prepared many engineering exhibits accepted by the FCC. I affirm that the information and calculations herein are true to the best of my knowledge.

A handwritten signature in blue ink that reads "Paul A. Bame". The signature is fluid and cursive.

Paul Bame, Engineering Director, Prometheus Radio Project

ATTACHMENT #13

LOW POWER FM (LPFM) RADIO INFORMATION

Low Power FM (LPFM) Radio

The FCC has a special class of radio licenses called Low Power FM Radio (LPFM) to create opportunities for new voices to be heard on the radio. The LPFM radio service consists of two types of radio stations: 100-watt stations, which reach an area with a radius of approximately three and one-half miles, and 10-watt stations, which generally reach an area with a radius of between one and two miles.

Who is eligible for LPFM licenses?

To qualify for an LPFM license, you must be:

- A government or non-profit educational institution, like a public or private school or state or private university
- A non-profit organization, association or entity with an educational purpose, like a community group, public service or public health organization, disability service provider or faith-based organization
- A government or non-profit entity providing local public safety or transportation service, like a volunteer fire department, local government or state transportation authority

In addition, applicants for LPFM licenses must be based in the community in which they intend to broadcast. An organization is considered community-based if:

- It is physically headquartered or has a campus within 10 miles of the proposed transmitting antenna
- Seventy-five percent of its governing board resides within 10 miles of the proposed transmitting antenna
- It is a non-profit or governmental public safety organization that intends to broadcast within the area of its jurisdiction

Who is not eligible?

LPFM licenses cannot be issued to individual or commercial entities. Also, existing broadcasters, cable television system operators, newspaper publishers, and other media entities are not eligible for LPFM licenses.

How can I apply for an LPFM station?

The FCC has developed a computer software program ("LPFM Channel Finder") to help potential LPFM applicants find an available channel in their area. The FCC will first accept applications for 100-watt stations, followed by applications for 10-watt stations.

The FCC will give at least 30 days notice, via a Public Notice and/or the [FCC Web site \(/media/radio/lpfm\)](https://www.fcc.gov/media/radio/lpfm) when a filing window is available in your state. There is no cost to file an application for a permit to construct an LPFM station or a license to operate an LPFM station. A construction permit issued by the FCC is required before an applicant is allowed to construct an LPFM station and a license issued by the FCC is required before operation of an LPFM station can begin.

If there are conflicting LPFM applications in the same area, competing applications will be resolved through a process that awards one point to each applicant for:

- the organization's presence in the community for at least two years
- an obligation to broadcast at least 12 hours each day
- an obligation to broadcast at least eight hours of locally-originated programming each day

The applicant with the most points will receive the construction permit.

If there is a tie after the points are tallied, the competing applicants will be encouraged to share a license. Formerly-competing applicants who resubmit their applications together will be permitted to total their points and compare their total with any other applicant for a license.

How much does it cost to set up an LPFM station?

The construction and operating costs of an LPFM radio station can vary widely, depending on the type and quality of studio and broadcasting equipment used, as well as by whether a tower may be required. More information on the availability and costs of radio equipment is available from a variety of sources, such as electronics periodicals.

How does my organization apply?

Applications for new LPFM stations, construction permits, or for major changes to LPFM permits or licenses may only be filed during the dates specified for an application filing window. Such applications may only be filed via the [Media Bureau's electronic filing system \(/general/media-bureau-electronic-filing-and-public-access\)](https://www.fcc.gov/general/media-bureau-electronic-filing-and-public-access). An application will be returned, without consideration, if it is received at a time outside the filing window.

Filing a complaint

You have multiple options for filing a complaint with the FCC:

- [File a complaint online \(https://consumercomplaints.fcc.gov/\)](https://consumercomplaints.fcc.gov/)

- By phone: 1-888-CALL-FCC (1-888-225-5322); TTY: 1-888-TELL-FCC (1-888-835-5322); ASL: 1-844-432-2275
- By mail (please include your name, address, contact information and as much detail about your complaint as possible):

Federal Communications Commission
Consumer and Governmental Affairs Bureau
Consumer Inquiries and Complaints Division
445 12th Street, S.W.
Washington, DC 20554

Accessible formats

To request this article in an accessible format - braille, large print, Word or text document or audio - write or call us at the address or phone number at the bottom of the page, or send an email to fcc504@fcc.gov (<mailto:fcc504@fcc.gov>).

Print Out

[Low Power FM Radio \(LPFM\) Guide \(/cgb/consumerfacts/lpfm.pdf\)](/cgb/consumerfacts/lpfm.pdf) (pdf)

Date Last Updated/Reviewed:

Tuesday, December 22, 2015 - 8:30am

Bureau/Office:

[Consumer and Governmental Affairs \(https://www.fcc.gov/consumer-governmental-affairs\)](https://www.fcc.gov/consumer-governmental-affairs)

Tags:

[Consumers \(/tags/consumers\)](/tags/consumers)

[Broadcast Consumer Issues \(/tags/broadcast-consumer-issues\)](/tags/broadcast-consumer-issues)

[Low Power FM \(/tags/low-power-fm\)](/tags/low-power-fm)

ATTACHMENT #14

PLANNING COMMISSION MINUTES FEBRUARY 23, 2016

8. PUBLIC HEARING:

A. USE PERMIT – KOWS Radio Antenna (Project 2015-126) – This is an application submitted by KOWS Community Radio for a 70-foot tall Low-Power FM antenna installation at a 3.39-acre property owned by the City of Sebastopol located at 1281 Pleasant Hill Road, Sebastopol. KOWS operates a non-profit radio station and wishes to install an antenna to expand its broadcasts. The antenna structure would be painted flat green and would be approximately 24 inches in diameter, with diagonal bracing and having an open structure. The proposed antenna requires a Use Permit. If the Use Permit is approved, the City Council will consider a lease for the antenna to be located on City property.

Chair Doyle explained the process for tonight's meeting.

Director Webster presented the staff report.

The Commission asked questions of staff.

Chair Doyle asked if the applicants wished to make a presentation.

Laura Goldman and Arnold Levine, KOWS volunteers, gave presentations and were available for questions.

The Commission asked questions of Ms. Goldman, Mr. Levine and other KOWS volunteers.

Chair Doyle asked if members of the public wished to speak on this item.

Stephen Barncard, 7420 Leland Street, commented:

- The applicant's presentation was great.
- His background includes work in radio, both of the technical level and as an on-air personality.
- Impressed with KOWS.
- Endorsed the thoroughness of KOWS with regards to this application.
- Because this station is line of sight, the antenna kind of has to be in the location the applicants have identified because specific calculations were made, etc. to ensure that it could work.
- Had questions, however, they were answered during the applicant's presentation.
- This is not a commercial or clear-channel station.
- Likes that local people are running this station.
- The emergency information they can provide is invaluable.
- Endorses this project.
- Thanked the Commission for their time.

Bob Jenkins, 1411 Pleasant Hill Road, commented:

- Lives next door to the proposed antenna site.
- His family grows organic apples and sustainably farms grapes.
- Does not use anti-freeze fan towers as had been reported.
- Has looked at the staff report pretty thoroughly.
- Staff appears to be cutting corners in the staff report.

Mr. Jenkins comments continued:

- It's been a little shocking to see how many of our core values staff appears to be willing to turn their back on for the sake of a tiny station, with a tiny audience, that's already operating in the County.
- There are a lot of glaring statements in the staff report.
- Questioned how staff could find a 70 tower categorically exempt from CEQA.
- Staff says the tower is an existing facility and is therefore exempt.
- Staff considers this a small structure.
- A 70 tall antenna is not a small structure.
- The staff report says that the antenna meets General Plan goals such as; Protect residential neighborhoods from the effects of adjacent non-residential uses.
- 140 neighbors have signed a petition in opposition of this antenna and its unsightly blight in the neighborhood.
- Contrary to the staff report, a 70 antenna tower looming over Sebastopol's water tanks should not be considered a minor addition.
- It has taken decades for the trees to become big enough to adequately screen the water tanks.
- Staff says the tower preserves the views of the hills west of Sebastopol within the referral area.
- Staff says the tower preserves the scenic views of the natural landscape.
- Surely staff does not think a 70 tower is improving our landscape.
- Staff says the project minimizes our exposure to EMF radiation because it's consistent with FCC standards.
- Sebastopol banned SmartMeters and they were consistent with FCC standards.
- Sebastopol appears to stand for hypocrisy and false values from one project to the next.
- The General Plan states that a Use Permit shouldn't be granted when a use or structure are detrimental to the health, safety, peace, comfort and general welfare of persons residing in the neighborhood.
- The City should be trying to protect our neighborhood, rather than trying to harm it with a 70 antenna tower.
- Thanked the Commission for their time.

Peter Vangorder, 8150 Germone Road, commented:

- Much that has been presented in favor of the antenna has been boasting about the KOWS station and what it is for the community.
- Loves the station and would love for it to have a tower somewhere in town.
- Is not in favor of the proposed location.
- Has been interviewed by KOWS once on issues relating to sustainability and permaculture.
- Would love to see KOWS grow their listenership.
- KOWS can be streamed online.
- Expressed concern with the impact that the antenna will have on the surrounding neighborhood.
- There was talk about there being minimal impacts.
- The people that will be right under the antenna do not view the impacts as minimal.
- KOWS said that a better-looking antenna was cost prohibitive.
- The value of the land under the tower will be impacted.

Mr. Vangorder comments continued:

- If and where the antenna were to go up, would be in favor of allowing other people to use it so that there wouldn't be a proliferation of antennas.
- KOWS should not have a monopoly.
- Thanked the Commission for their time.

Alexandra Hart, 6066 Lone Pine Road, commented:

- Concern for the greater good.
- Seems to me that what KOWS is able to do for the people of our area amounts to greater good.
- Can understand not wanting the tower structure nearby, however, the impact seems minimal compared to what it will bring for our community.
- Hosts a show for elders on KOWS.
- Belongs to a neighborhood association in the Lone Pine/Bloomfield/Pleasant Hill area. All members, over thirty families in total, expressed being in support of the KOWS station.
- The greater good of the public will be served by allowing this to happen.
- Thanked the Commission for their time.

Shepherd Bliss, a resident of Sebastopol, commented:

- Has owned a small organic vineyard in the neighborhood of the proposed antenna for the past 24 years.
- Passes by the proposed antenna site many times per week.
- As Ms. Hart said, their neighborhood association supports this antenna.
- The President of Sebastopol Grange supports this application.
- Received a call regarding the signs in opposition that had been placed on a nearby property. The caller confirmed that the property owner did not approve the signs and stated that the signs had since been removed. Expressed being concerned by the fact that the signs had been posted without permission.
- Recently began hosting a KOWS program.
- The KOWS antenna is currently atop a tree at the Occidental Arts & Ecology Center (OAEC), which hosts an organic farm.
- 10 years ago OAEC paid \$3k for an engineer to study the impact of having an antenna on their farm. The engineer found that the proposed KOWS-LP facility would exhibit exposures that would be an extremely small fraction of the standards accepted by the Bioelectromagnetics Society, which was adopted by Europe, Canada and the United States. He noted that the primary contributors of RF exposure for most Occidental residents were in their homes.
- Made statements on other stations in the area to put the development of low power community radio in a regional context.
- KOWS has been up and running for almost a decade.
- KOWS had a lot to offer its neighbors.
- The decision that the Sebastopol Planning Commission will hopefully make will have a strong impact.
- Approval will widen KOWS listener base and provide a positive impact upon its neighbors.
- Asked the Commission to weigh the documented and numerous benefits against any alleged costs.
- Urged approval of this application.

Jerry Allen commented:

- Just finished his third term as Sebastopol Grange President.
- Now President of the Regional Grange Sonoma Pomona.
- Has a Masters in Public Health and is trained as a public educator.
- The Grange has a strong support for public radio as a vital link to community resilience, disaster preparedness and emergency preparedness.
- The expansion of the listenership of KOWS is extremely important.
- KOWS enriches the cultural fabric of our community.
- Used to live on Pleasant Hill Road and drove by the proposed location every single day.
- This is a great place to have an antenna.
- Acknowledged that there are people who live near the site who don't want the antenna to be placed there.
- When looking at the public good, factors have to be weighed in an appropriate way.
- Urges approval of this application.
- Thanked the Commission for their time.

Robert Foyer, a resident of Camp Meeker, commented:

- Will lose his ability to listen to KOWS on the radio, if the relocation is approved.
- Supports this application.
- KOWS has been struggling for 8 years.
- KOWS is a platform for non-commercial free-speech.
- A former member of the City Council, Kathleen Shaffer, propelled the idea of Sebastopol having a radio station. Ms. Shaffer told them on-air that they would be supported by the City Council since they were hungry for a radio station and had been seeking one for a while.
- The arguments in opposition are not viable.

Vicki Wayne, a resident of Pleasant Hill Road, commented:

- Lives very, very near the proposed site.
- Very much opposed to this project.
- It's easy to talk about the greater good.
- Emergency alerts can and do come from a number of sources.
- This antenna will be enormously visible and will be a complete blight on the neighborhood.
- Placing the antenna in this location would not be fair.
- While KOWS may be a nice channel, it can be accessed online and the tower should be located elsewhere.
- You're not going to listen to a radio station just because you get it.
- Doesn't listen to KOWS.
- This will affect property values as well as the general enjoyment of the neighborhood.
- Hopes the Commission will consider these impacts when making their decision.
- Thanked the Commission for their time.

Deborah Paggi, 1426 Pleasant Hill Road, commented:

- Lives across the street from the proposed site.
- Expressed strong opposition to the proposition.
- Her property is within visual and proximal site of the subject tower.
- Staunchly contests this proposal.
- The placement of this tower is inconsistent with Sebastopol's General Plan.

Ms. Paggi comments continued:

- The proposed tower is not consistent with the premier tenets of the General Plan.
- The General Plan would not want us to impose this commercial enterprise on our residential neighborhood.
- While minimizing visual impact is critical, maintaining a health environment is paramount.
- Questioned the risks of locating a radio antenna tower next to the water source for our entire community.
- Can't imagine how anyone could feel comfortable enough to approve this proposal.
- Sebastopol has always prided itself on balancing what is good for human beings against other species.
- Concerned about towerkill.
- Please consider the health of the citizens and wildlife in the area.
- Thanked the Commission for their time.

Mike Ruddick, a resident of Sebastopol, commented:

- Lives just east of the proposed location, on Logan Lane.
- When they purchased their home in 1999 they were well informed of the implications of rural residential living and what came with that, and they were fine with that.
- It took a while for them to realize the water tanks were stationed nearby.
- It was encouraging to see the lengths that were taken to hide the tanks.
- Dismayed to learn of this application that, if approved, will result in an antenna being visible from his home every single day.
- As an affected rural residential landowner he was compelled to state his opposition clearly.
- Curious as to what other sites had been explored, if any.
- Appreciates the Commission's earlier questions and commentary on this application.
- Believes there are alternative sites that can provide a huge upgrade to KOWS outreach.
- Other sites may allow a change in power, a change in height and provide less of a visual impact.
- Thanked the Commission for their time and consideration.

Jean Brashear, a resident of Sebastopol, commented:

- Owns property off of Pleasant Hill Road.
- Supports this application.
- KOWS radio is important for our community.

Janice Belding, 8561 Lawrence Lane, commented:

- The proposed site is immediately behind her property.
- She and her husband have lived there for 30 years.
- In 1986 she called the City Manager and asked specifically if any other structures, aside from the two water tanks (one of which had not yet been built), would be built on this site. The City Manager responded that no other structures would be built on the site.
- The trees screen the tanks pretty well during the spring and summer months.
- In 1994 an application for a cell tower on this site was submitted. The Planning Commission denied the application. The applicant appealed the decision to the City Council. Sebastopudlian, Helen Shane, spoke at the hearing on the importance of being good neighbors. The Council denied the application.
- Urged the Commission to live up to the integrity and ecological principals that Sebastopol is known for, to be good neighbors, and deny this request.

Ms. Belding comments continued:

- Thanked the Commission for their time.

Laurie Fusfield, a resident of Sebastopol, commented:

- Has lived on Lawrence Lane for ten years.
- Huge supporter of public radio.
- The people against this project have nothing against public radio.
- We don't need KOWS for emergency alerts.
- Expressed concern over colocation.
- We're fooling ourselves if we think that we're only talking about one low energy FM transmitter.
- It doesn't make sense to put a lot of towers up, it makes sense to co-locate.
- Federal regulations can require municipalities to put up cell towers and colocation is a real possibility.
- Heard that KOWS has already purchased a tower.
- The area is a prime corridor for entering and exiting Sebastopol.
- This site was meant for essential services, this is not an essential service.
- Thanked the Commission for their time.
- Provided a handout to the Commission.

Debbie Hurst, a resident of Sebastopol, commented:

- If approved, this will be a 70' eyesore and will obstruct the view that she has come to enjoy from the second story of her home.
- Thanked the Commission for their time.

Allen Horn, a resident of Sebastopol, commented:

- Resides at the corner of Pleasant Hill and Bodega.
- Read a statement about his time in the U.S. Coast Guard and on their use of radiation weapons.
- Urged denial of this application.
- Thanked the Commission for their time.

Doug Emery, a resident of Sebastopol, commented:

- Has nothing against KOWS.
- Loves access, Sebastopol and radio.
- This is core value of Sebastopol versus a great enterprise.
- The dilemma is in trying to figure out how we can make this work for everybody.
- 70' is pretty high up.
- Concern with colocation.
- Doesn't trust these processes.
- Wants this to be a win-win.
- This community deserves better.
- Hopes that the Commission will do the right thing and deny this application.

Terry Noe, 8555 Lawrence Lane, commented:

- Lives near the proposed site and is an Electrical Engineer.
- While within Federal limits, those limits may be too conservative.
- Sebastopol has already said no to PG&E's SmartMeters.
- Per his own calculations, this antenna would transmit 400x more than SmartMeters.

Mr. Noe comments continued:

- Asked the Commission to treat the residents, both in and outside of the City limits, at least as well as they'd treat themselves.
- Thanked the Commission for their time.

Michael Nader, a resident of Sebastopol, commented:

- Lives near the proposed site.
- Referred to a statement with fourteen points of objection to the proposed tower, which had been previously provided to the Commission.
- Urged the Commission to read them very careful.
- Thanked the Commission for their time.

Michael Carnacchi, a resident of Sebastopol, commented:

- Great to see such a turnout from the public.
- It's important to remember that people can listen to KOWS over the internet.
- Questioned how many people would actually benefit by moving the antenna to the proposed location.
- Suggested that this item be continued in order for the Commission to gain more information.
- Thanked the Commission for their time.

Mark Hogan, a resident of Sebastopol, commented:

- Lives off of Lone Pine Road.
- If he could get away with it, he'd be willing to have the antenna on his property.
- The visual impact of the tower should not be weighed so heavily.
- There's a lot of stuff that he sees that he doesn't like, yet somehow, he manages to tune it out.

Patrick Norton, a resident of Sebastopol, commented:

- Has lived near the proposed site his whole life.
- Huge supporter of community radio.
- Not in support of the proposed tower.
- Approval of this project will set a precedent for more towers.
- Has never found himself wanting for radio stations or emergency broadcasting.
- Thanked the Commission for their time.

Celia Gordy, a resident of Sebastopol, commented:

- Lives near the proposed site.
- Nobody would want this tower put up near his or her home.
- The Commission has to vote against this application.
- Approving this application would be unfair to the immediate neighbors.

Nancy Hubert, a resident of Sebastopol, commented:

- Kind of wished she lived out of town because she lives near the cell tower at City Hall.
- Existing city antennas have been added to without public input.
- The visual impact is the obvious problem.
- The main problem is the potential for ongoing, future health issues from a tower that gets loaded up with all kinds of cell antennas, and whatever else.
- Has nothing against public radio.
- Has listened to KOWS.

Ms. Hubert comments continued:

- Was previously interviewed by John Starkey on KOWS regarding SmartMeters.
- Most people don't have a clue about how harmful radio frequency microwave radiation is to human health. This is due in part to a huge cover up by the cellphone industry.
- Huge concern with impacts on health should collocation occur.
- The Telecommunications Act of 1996 has some provisions about collocation that are very scary.

Mark Hurstel, a resident of Lewanna Lane, commented:

- Hard to add anything more to the objections that have already been expressed.
- Absolutely against the proposed tower.
- The Federal Aviation Administration (FAA) may require that an anti-collision light be placed on top of the tower due to its height.
- Urged the Commission to consider the objections they'd heard in their deliberations.
- Thanked the Commission for their time.

An unidentified woman commented:

- Lives directly north of tower location.
- Purchased her home last October.
- Moved here primarily because she wanted to be away from urban sprawl, towers, and the like.
- The water tanks seem to be part of the landscaping because they're low and beautifully screened.
- The same will not be true with the tower.
- Has had recent experience with kids pulling pranks.
- The fence between her property and the City site is almost non-existent.
- People may attempt to climb the tower.
- Asked if there were surveillance cameras on site.
- There needs to be some sort of oversight on the property.
- Thanked the Commission for their time.

Sandi Maurer, a resident of Sebastopol, commented:

- Was struck by the fact that the antenna would be a gain for KOWS as they're proposing to increase from a 3-watt antenna to a 15-watt antenna.
- Questioned why KOWS would need 5 times more power than they currently have.
- The City needs a staff person with conflict resolution skills.
- Seems unfair to task the Commission with making a decision when there are such strong feelings on both sides.
- If you approve the antenna, the neighbors will lose and it's possible that wildlife will lose too.
- KOWS made a mistake when they wrote a letter in the local paper and said that radio waves are safe.
- The State of California and the Public Utilities Commission recommends prudent avoidance.
- Believes in and values progressive radio.
- This shouldn't be a taking of other people's property.
- Thanked the Commission for their time.

John Carrol, a resident of Sebastopol, commented:

- Thanked the Commission for their thoughtful consideration of all that had been said this evening.
- Has been a resident of Sebastopol for approximately 30 years.
- Loves public radio.
- Doesn't like to see the issues expressed being characterized as only local neighbors being in opposition because of the visual impact that the tower will have.
- The tower will be amongst two, 3 million gallon water tanks, which supply water to the residents of Sebastopol.
- Urged more study on the potential effects of having this tower placed near our water supply.
- The City cited scientific evidence about the effects of radio waves in denying a proposal by O'Reilly to broadcast free Wi-Fi throughout the city.
- These issues should be more prudently evaluated.
- As a nearby resident, he doesn't want to see a tower up on that ridge either.
- It's important to look at this from a health standpoint, citywide.
- Doesn't trust the Federal Government to evaluate matters relating to health.
- Wished the Commission good luck in their deliberations.

Doug Conover, a resident of Blackney Road, commented:

- Moved to Sebastopol 24 years ago.
- Spoke on his current view and on the visual impact of the proposed tower.
- The 40' water tanks are already giant.
- A 70' tall tower is a lot taller.

Gary Criss, a resident of Sebastopol, commented:

- The Youth Annex is 75' above sea level.
- The tower, if approved, will affect the culture of the larger community.
- It's hard to know what the right thing to do is.
- Thanked the Commission for their time.

Richard Rudy, a resident of Sebastopol, commented:

- Lives near the proposed site.
- Is a Programmer for KOWS.
- Believes in loving your neighbor as you would yourself.
- Sees stress of neighbors.
- KOWS provides benefits.
- Understands the dilemma.
- KOWS has been instrumental in bringing people together in a meaningful way.
- Hopes that the community can come together to support each other.
- Thanked the Commission for their time.

Hearing nothing further, Chair Doyle closed the Public Hearing.

The Commission asked additional questions of the applicants and staff.

Chair Doyle asked for comments from the Commission.

Commissioner Fritz commented:

- Appreciates hearing all of the comments that were brought forward tonight.
- Very much appreciates KOWS and what they do for our community.
- Expressed having some concerns with locating a 70' tall tower in a fairly bucolic, rural setting.
- This property is a City island.
- The site works well for the water tower function, however, this isn't necessarily a good place to start adding other uses.
- The water tanks are pretty well disguised.
- A 70' tall tower, regardless of the footprint, is still a 70' tall tower.
- Expressed concern with setting a precedent and also with possible future proliferation.

Commissioner Douch commented:

- Thanked members of the public for their helpful comments.
- Acknowledged that this was a complicated and difficult issue.
- Weighing the impacts on the neighborhood is difficult, but important.
- It's hard to judge the real impact that this tower may have.
- Biggest concern is with colocation.
- In the event of an approval, would like to explore if there is a means to prevent colocation from occurring.

Commissioner Fernandez commented:

- The work that KOWS does is commendable.
- Appreciates the value and passion that KOWS brings to the community.
- Nobody is here to speak out against KOWS and the work that they do.
- Commended the public on how they handled themselves when speaking on this item.
- The proposed use meets the General Plan designation, along with a number of the other criteria listed.
- In good conscience, he could not consider this a minor physical alteration.
- Expressed being concerned with the justification that this site is appropriate because there are already two water tanks on it.
- The footprint of the antenna is not the issue, the height is.
- There's a contradiction between the antenna being said to, constitute a minor physical alteration and the Telecommunications Ordinance which states, protect the visual character of the city from the potential adverse effects of telecommunication facility development and minor antenna installations.
- Does not consider the radio tower a supplemental use, as it is not consistent with the existing use.
- In good conscience, he could not say that installation of this antenna would not be detrimental to health, safety, peace and comfort.
- Based on historical perspective, he could not assure that no further changes would occur in the future.
- We don't actually know about the impacts on our health.
- Thought it strange that the Federal Government would state that health could not be a consideration when reviewing these types of applications.
- Determining the greater good is debatable.
- Reiterated that he could not consider this a minor physical alternation.
- The proposal is contrary to some items in the General Plan.

Commissioner Jacob asked a procedural question of Chair Doyle.

Commissioner Jacob commented:

- A lot of different issues have been brought up.
- There is a scenic and visual impact to having a tower.
- There are PG&E power lines and poles all over the place in that area.
- Expressed being less swayed by the height of the tower.
- There is value to having a local radio station.
- Not everyone has online access.
- From a community standpoint, having local radio is important.

Vice Chair Kelley commented:

- Has a history of neighborhood advocacy.
- Viewshed issues are always difficult to deal with.
- As a healthcare provider, the issue of radiofrequency pollution is a concern. Because KOWS is a low-powered station she wasn't too concerned, however noting that it would run 24 hours per day.
- Noted that one of the issues with SmartMeters was, while low-powered, the signal would repeat from neighbor, to neighbor, to neighbor, all over town.
- Her biggest concerns were the viewshed issue and the matter of colocation.
- Not convinced that another site could not be located.
- There is value of radio in state of emergency.
- Like the neighbors, she wouldn't want to live under the tower either.
- Continuing this application may be appropriate in order to allow the applicant to explore alternative sites.

Vice Chair Pinto commented:

- Echoed the fact that the Commission was being put in an awkward position.
- Could find himself approving the application with the conditions set forth in the staff report if he was convinced that there was no other site that could work.
- We need to confront the fact that regardless of the location, this room will be full with people who want to comment on it.
- In order to confront that, we need to reassure ourselves that we are dealing with a site that produces the best benefit and the least cost.
- Would like to see an analysis of other potential sites and/or additional data on how this site was arrived at.
- With regards to EMF, he purchased a meter a few years ago and carries it with him wherever he goes.
- While there are a number of 'hot spots' in town, he has concluded that the greatest disfavor we do ourselves is mostly in our own homes.
- Doesn't feel that strongly about FM transmission.
- Would like to have a deeper understanding that there has been a thorough analysis of all of the alternative sites, and that this site packs the best punch for the general community.
- We should try to accommodate this kind of use.
- Expressed concerns over setting a precedent.
- Approval of this may give KOWS a monopoly on a key site in town.
- Would like time to think about this more.

Chair Doyle commented:

- Agreed on this being a very difficult issue.
- It's impossible to please everyone.
- Absolutely sympathized with the neighbors.
- Doesn't personally have concerns on radiation, as this would be a low-powered antenna.
- Did not believe that the view disturbance would be as bad as is feared.
- There are a lot of vertical elements in that viewshed.
- While this would be one more vertical element, and by far the tallest, it would be placed a long ways away from most properties.
- Welcomes further discussion.

Commissioner Fernandez asked whether the rest of the Commission considered this to be a minor physical alteration.

Commissioner Fritz commented that he would consider a 70 tower a fairly significant modification, not minor, or small.

Chair Doyle asked Director Webster for information on the next level of scrutiny for this type of application.

Director Webster responded:

- The next level of scrutiny would be an Initial Study.
- The Initial Study would be performed by City staff or in some cases, a consultant.
- There is a checklist under CEQA that looks at a whole range of issues.
- When evaluating a project you analyze each one of the issues listed in the checklist.
- The responses have to be explained.
- If a potential impact is identified, the Initial Study can say whether or not there is a mitigation measure, change to the project, or condition of approval that can be imposed that would reduce the impact to an acceptable level.
- If a significant environmental impact is found and cannot be mitigated the next level would be an Environmental Impact Report (EIR), which is a whole other analysis.

Chair Doyle thanked Director Webster for his response and commented that an EIR would be very expensive.

Director Webster agreed and commented that an Initial Study has the potential to be quite costly as well.

Chair Doyle commented:

- It's very self evident what the issue is.
- Ultimately this is a matter for the interpretation and discretion of the Commission.
- Did not see the necessity to require the applicant to pay for more environmental review.

Commissioner Jacob asked for a straw poll on who considered the visual impact to be at the level of requiring an Initial Study.

Commissioner Pinto did not.

Vice Chair Kelley stated that she'd like to see a viewshed analysis.

Chair Doyle did not.

Commissioner Fernandez that he was not pushing for a study, he was just asking if the rest of the Commission agreed with the statement about this application being exempt from the requirements of CEQA because it was considered a minor physical alteration.

Commissioner Douch commented:

- In favor of this application in principal.
- Sympathetic to the concerns from the neighbors regarding the viewshed.
- At this stage there are still questions that need to be answered.
- More information on appropriate alternative sites is needed.
- Careful consideration of all sites is needed because most anybody will object to a tower being placed in his or her backyard.
- Although in favor of the application, the questions regarding CEQA and General Plan conformance were enough for him to want to see more information, in order to better evaluate the visual impact.
- Keen to act on this application to allow the process to continue.

Commissioner Fritz asked if there were other FCC emergency alert designated stations in the area.

A member of the public commented that there were about 20 stations in the area.

Commissioner Fritz commented:

- Supports KOWS.
- What KOWS does is great.
- Approving this application because KOWS will provide emergency alerts in a time of need isn't a good enough reason because there are other avenues by which that information can be received.
- Interested in seeing information on appropriate alternative sites, particular in more urban areas.

Commissioner Jacob commented:

- Would prefer to continue this application to allow for additional information, rather than denying it tonight.
- There is a large standing in the neighborhood and community that is really concerned about this.
- Would be interested in receiving information about alternative sites within our purview.
- Wants to be a Commission that balances the public good for a larger community.
- Creating a community that we want to live in by giving up some of our autonomy is a balancing act that we're always dealing with.

Commissioner Fernandez concurred.

Chair Doyle commented that the applicant might prefer a denial, if that's the consensus of the Commission, rather than a continuation so they can file an appeal if they so choose.

Director Webster commented that they might want to ask the applicant about a continuance versus other actions.

Chair Doyle asked to hear from the applicants about a continuance versus other actions.

Mr. Levine responded:

- They spent three years looking at alternative sites, including sites in downtown Sebastopol.
- Because of the other stations in the area, the FCC would not allow them into downtown Sebastopol.

The Commission asked additional questions of the applicant.

Ms. Goldman commented that they had tried very hard to comply with the regulations and guidelines of Sebastopol.

Members of the public interjected in an attempt to reopen public comment and ask questions of the applicant.

Chair Doyle asked members of the public to hold their comments as the Public Hearing had closed.

The Commission asked additional questions of the applicant.

Commissioner Jacob commented:

- Agreed that continuing this application would only be putting off a hard decision.
- The applicant has looked at sites and has determined that this is the best one for their needs.

Chair Doyle asked if anyone wished to make a motion.

Commissioner Pinto commented:

- Acknowledged the concerns expressed by the neighbors.
- Anywhere else within our city limits is likely to have more neighbors.
- Curious about exploring alternative locations on the proposed site.

Commissioner Pinto made a motion to approve the application as submitted.

Commissioner Jacob seconded the motion.

Commissioner Douch asked Commissioner Pinto if he'd be willing to amend his motion to include the following conditions:

- The tower structure shall include anti-climb panels.
- The site shall be secured with appropriate fencing.

Commissioner Pinto agreed to amend his motion as stated by Commissioner Douch.

Commissioner Jacob seconded the amended motion.

Chair Doyle asked for additional discussion.

Commissioner Fernandez asked staff to explain the appeal process.

Director Webster explained that an appeal could be filed by anyone within 5 working days. He noted that an application form would need to be completed, and fee paid.

The Commission voted on the amended motion as follows:

Vote:	Ayes:	Chair Doyle and Commissioners Pinto, Douch and Jacob
	Noes:	Vice Chair Kelley and Commissioners Fernandez and Fritz
	Abstain:	None

The motion carried.

Chair Doyle adjourned the meeting for a brief break at 10:17 p.m.

Chair Doyle resumed the meeting at 10:30 p.m.

B. VILLAGE BUILDING CONVERGENCE 2016 PROJECT – Multiple locations – This is a submittal from a local non-profit for a variety of temporary and permanent art-related projects on public and other property in Sebastopol. Planning Commission review and comment is required for projects proposed for location in public parks.

Director Webster presented the staff report.

Chair Doyle asked if the applicant wished to make a presentation.

Sebastian Collet gave a presentation and was available for questions.

The Commission asked questions of Mr. Collet and staff.

Chair Doyle introduced City Project: 1 – Repainting Street Murals.
The Commission asked questions of Mr. Collet on that project.

Chair Doyle commented:

- Likes the fish.
- With this concept, the process is as important as the final product.
- Because it is ephemeral, it would be nice to come up with a new design, rather than repainting what had been done before.
- Repainting the previous design does not seem to be in the same spirit of the initial project.
- Expressed being surprised that something new and different wasn't be proposed.

The Commission asked additional questions of Mr. Collet.

Commissioner Pinto asked Chair Doyle if the Commission could focus their discussion on projects 6,7, and 10 as requested in the staff report.

Chair Doyle stated that he had questions on City Project: 5 – Leland Street Farms. However, he agreed to discuss projects 6,7, and 10 first.

Chair Doyle introduced City Project: 6 – Natural Log Hives.

Mr. Collet gave a brief presentation.

The Commission asked questions of Mr. Collet on the project.