

Kelly, Sherry

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From: Tanya Temkin [calico@lmi.net]
Sent: Sunday, September 14, 2003 9:27 PM
To: Berkeley Mayor's Office; Kelly, Sherry
Cc: melinda.lopez@comcast.net; fs@morethanorder.com
Subject: request clarification on hearing conduct - 1600 Shattuck

Dear Mayor Bates,

I am one of the appellants in the appeal of the use permit granted to Sprint PCS for construction of a base station at 1600 Shattuck. We are asking for some clarification about the planned conduct of the hearing on 9/16.

It's our understanding that the hearing will be opened, brief testimony will be taken, and then the hearing will be continued until October to allow further testimony and consideration by Council of, among other things, the report to be submitted by the City's RF consultant. My appellant team has no problem with this, and I have so advised our attorney, Larry Teeter.

According to a recent e-mail communication to another appellant from Manuela Albuquerque, regarding September 16:

" The staff recommendation is to allow only five minutes each of presentation from each side at this hearing and then have the matter continued so that all parties will have sufficient time to review and comment on the reports which are not ready for the September meeting. "

* Does this mean that we should plan on a total of five minutes for both appellant groups, or that five minutes will be allotted to each appellant group?

You stated in June that both appellant groups would be allotted a total of 30 minutes to present their testimony at the hearing.

* We are aware that one appellant is pressing for more time to present his case on 9/16. if his presentation exceeds five minutes, will this excess time be counted towards the 30-minute total?

* Will public comment be permitted at the hearing on issues relevant to the matter under appeal?

Thank you for your clarification. This will help us tailor our presentation as a whole to be comprehensive yet concise and to the point.

9/15/2003

Tanya Temkin
1921 Francisco St
Berkeley, CA 94709

calico@lmi.net

(510) 841-8095

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Tanya Temkin

calico@lmi.net

(510) 841-8095

Kelly, Sherry

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From: Laurie Gould [lauriegca@yahoo.com]
Sent: Monday, September 15, 2003 1:48 AM
To: Berkeley Mayor's Office; Hawley, Miriam; Kelly, Sherry; gourmetghetto@yahoo.com
Subject: I am opposed to the installation of base-station antennas at 1600 Shattuck Avenue

Dear Mayor, City Clerk and City Council Members,

I am opposed to Sprint Wireless Communications putting antennas on the rooftop of the property located at 1600 Shattuck Avenue, and associated BTS (wireless communications) equipment in the basement. I live in this neighborhood. There are health risks associated with this and I would not want to have school children, teachers, administrators and parents at Berkeley Arts Magnet, myself or neighbors, or patrons of popular businesses in the Gourmet Ghetto (including Andronico's, Longs, Safeway, Elephant Pharmacy, restaurants, etc.) to be exposed to any harmful radiation emitted from these base-station antennas.

Please do whatever is in your power to keep base-station antennas away from this Berkeley residential area. Thank you for your thoughtful consideration and support.

A Very Concerned Berkeley Resident

Do you Yahoo!?
Yahoo! SiteBuilder - Free, easy-to-use web site design software
<http://sitebuilder.yahoo.com>

Kelly, Sherry

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From: Ami Kronfeld [ami@ami-k.com]
Sent: Sunday, September 14, 2003 5:35 PM
To: Berkeley Mayor's Office
Cc: Kelly, Sherry; Maio, Linda; Breland, Margaret; Shirek, Maudelle; Spring, Dona; Hawley, Miriam; Olds, Betty; Worthington, Kriss; Wozniak, Gordon
Subject: Sprint's wireless antennas

Dear Mayor Bates,

We live on 2001 Lincoln St., Berkeley, only a single block from the proposed Spring wireless antennas, planned to be built on the roof of 1600 Shattuck.

We don't only live in north Berkeley but we spend a significant amount of time in the neighborhood: shopping, strolling, meeting friends. We consider north Berkeley to be our community.

We do not want to be exposed to high power radiation from these antennas.

This radiation is bad for our health and the health of our friends and neighbors. In addition, the antennas will be a significant eyesore. We strongly object to their location.

We urge you to tell Sprint that they should take their equipment elsewhere.

This area is for people; not for profit.

Sincerely,

Ami Kronfeld, PhD
Professor Chana Kronfeld, PhD.
2001 Lincoln St.
Berkeley, CA 94709

**ILLEGAL ACTIONS BY
SPRINT,
COVER UP BY
PLANNING DEPARTMENT,
NEGLIGENCE OF ZAB**

Appeal of Use Permit #02-1000053 (1600 Shattuck Avenue)

Appellants: Frances Strassman, Shahram Shahruz, Kaoru Reynolds,
Simone Gaddini, Patricia Cloud, Daniel Wolfe

03 SEP 12 AM 10:01

CITY OF BERKELEY
CITY CLERK DEPT

Re: Appeal of Use Permit #02-1000053 (1600 Shattuck Avenue)

Appellants: Strassman, et al.

To: Mayor Tom Bates and City Council Members

Goals of This Document

- In this document, it is shown that Sprint breached, among other sections, Section 23C.17.040.F of the Berkeley Telecommunications Ordinance, the Planning Department tried to cover up this illegal action, and the Zoning Adjustments Board (ZAB) was negligent in the Public Hearing on December 12, 2002 to examine the validity of the application filed by Sprint.

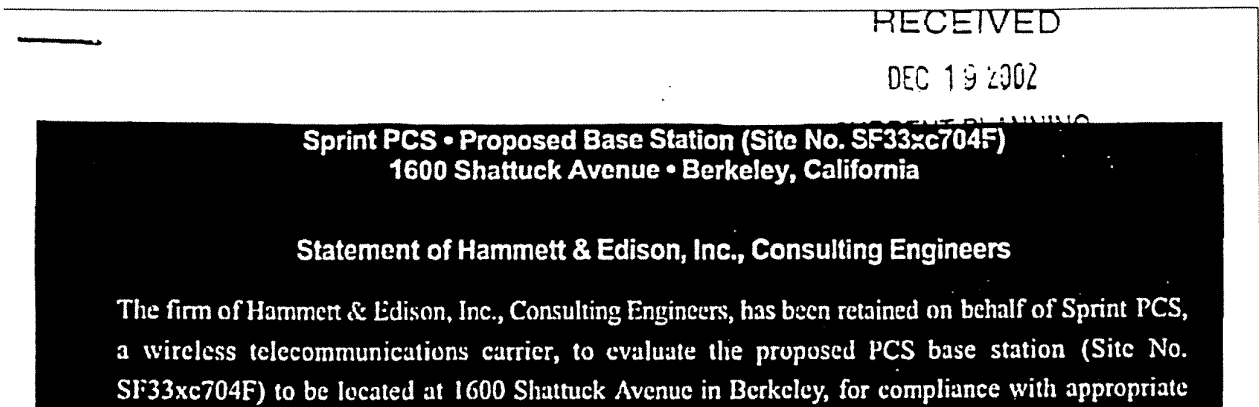
Illegal steps:

In the following, it is explained that in applying for a use permit, Sprint and the Planning Department breached laws and the ZAB was negligent.

1: According to Section 23C.17.040.F, applications for wireless telecommunication facilities shall include "Engineering calculations demonstrating that the proposed facility will comply with all applicable FCC requirements and standard."

2: When Sprint filed an application for the use permit of 1600 Shattuck in July 2002, **no engineering calculations** were provided by Sprint.

3: On December 19, 2002, A **WEEK AFTER** the ZAB Public Hearing, a five page report arrived at the Planning Department. This report has some engineering calculations and provides a value for the power density of the proposed antennas at 1600 Shattuck. The report was stamped December 19, 2002 when it arrived at the Planning Department; see below:



4: When appellants cited in their appeals this illegal action by Sprint, the Planning Department in the Action Calendar of April 1, 2003, tried to cover it up by writing:

"... the Engineer, Mr. Hammett presented information from the report verbally, to the ZAB at the December 12, 2002 meeting, but **neglected** to leave a copy with the ZAB secretary. A copy was faxed to the office the following week."

5: By this statement, the Planning Department has misrepresented facts:

a) According to the law the report should have been submitted at the time of application in July 2002; it should **not** have been presented verbally during the ZAB meeting.

b) The statement by the Planning Department is **certainly false:**

- Engineering calculations were **NOT** presented in the ZAB Public Hearing on December 12, 2002;
- **NEITHER** was the value of the power density of the antennas at 1600 Shattuck.

We have the audio tape of the ZAB Public Hearing on December 12th.

Negligence of the ZAB:

During the Public Hearing on December 12, 2002, the ZAB was negligent to examine or question the validity of the application filed by Sprint. At one point, the discussion by the ZAB members was degenerated to: **how to count hair on Dave's (one of the ZAB members) head.**



Laws Breached

The following sections of 23C.17, among other sections, are violated:

1) Section 23C.17.040.F is violated (Engineering calculations were not provided till a week after the Public Hearing.)

- Sprint evaded material provision of the permit and practiced deceit upon the City.
- The Planning Department committed material misrepresentation of facts by falsely writing in the Action Calendar of April 1, 2003 that Sprint presented engineering calculations verbally.

2) Section 23B.32.040.B is violated (The Board did not make findings required by either general or District regulations applicable to the Use Permit of antennas.)

3) Section 23C.17.100.A and Section 23C.17.100.B.1 are violated (Negligence of the ZAB or the Zoning Officer.)



**SPRINT'S EXPERT
IS NOT A
RADIO FREQUENCY
ENGINEER**

Appeal of Use Permit #02-1000053 (1600 Shattuck Avenue)

Appellants: Frances Strassman, Shahram Shahruz, Kaoru Reynolds,
Simone Gaddini, Patricia Cloud, Daniel Wolfe

03 SEP 12 AM 10:01
CITY OF BERKELEY
CITY CLERK DEPT

Re: Appeal of Use Permit #02-1000053 (1600 Shattuck Avenue)

Appellants: Strassman, et al.

To: Mayor Tom Bates and City Council Members

Goals of This Document

- In this document, it is shown that Mr. William Hammett, who was hired by Sprint to testify in the ZAB Public Hearing on December 12, 2002, is not a radio frequency engineer by training.

Mr. Hammett is not a radio frequency engineer by training.

Mr. Hammett's resume is available on the internet; see next page. He has a degree in mechanical engineering. Radio frequency is not part of mechanical engineering; it is part of electrical engineering. Quite amazingly, he has been writing engineering reports for wireless providers; see the inventory of wireless facilities in the Planning Department to find his reports for many wireless facilities. **We are doubtful about his competence.**

www.h-e.com/wfh.html



William F. Hammett, P.E.
President

Education

- Dartmouth College, AB Degree magna cum laude in Engineering Sciences, 1977
- University of Illinois, MS Degree in Mechanical Engineering, 1978

Professional Licenses and Affiliations

- Registered Professional Engineer (Mechanical), State of California, M-20676
- ...

Radio Frequency (RF) engineering is NOT part of mechanical engineering.

**BALCONY EFFECT
AROUND
1600 SHATTUCK**

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Appeal of Use Permit #02-1000053 (1600 Shattuck Avenue)

Appellants: Frances Strassman, Shahram Shahruz, Kaoru Reynolds,
Simone Gaddini, Patricia Cloud, Daniel Wolfe

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CITY OF BERKELEY
CITY CLERK DEPT
03 SEP 12 AM 10:01

Re: Appeal of Use Permit #02-1000053 (1600 Shattuck Avenue)

Appellants: Strassman, et al.

To: Mayor Tom Bates and City Council Members

Goals of This Document

- In this document, the **balcony effect** on subjects and buildings in the vicinity of short antennas, such as those proposed at 1600 Shattuck, is described.
- It is shown that due to the balcony and bouncing effects, the power density close to antennas at 1600 Shattuck exceeds the safe level set by the FCC.

What is the balcony effect?

The balcony effect is described in the following scientific paper:

1996

IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, VOL. 48, NO. 11, NOVEMBER 2000

Human Exposure to Radio Base-Station Antennas in Urban Environment

Paolo Bernardi, *Fellow, IEEE*, Marta Cavagnaro, Stefano Pisa, *Member, IEEE*, and Emanuele Piuzzi

The paper studies three situations (see next page):

Roof: Subject is at the same level of an antenna and is 8 meters away from it.

Balcony: Subject is on a balcony or in a bedroom at the same level of an antenna and is 30 meters away from it.

Street: Subject is below an antenna at the street level.

Considering these three cases, it is shown in the paper that:

1) The radiation effect on the subject in the balcony situation is the **highest**, even though the antenna is placed the farthest from the subject. This is known as the **balcony effect**.

2) The radiation effect on the subject in the balcony situation is **46 times more** than that in the street situation.

Balcony Effect:

If the building on which antennas are installed is short, such as that at 1600 Shattuck, those in the vicinity experience Balcony Effect. This effect increases the exposure by a factor of 46.

TABLE I

SPATIAL MAXIMUM ($E_{I,MAX}$), AND SPATIAL AVERAGE ($E_{I,AVE}$) OF THE INCIDENT FIELD (EIS VALUE, MAXIMUM SAR VALUES AVERAGED OVER 1 g (SAR_{1g}), OVER 10 g (SAR_{10g}), AND SAR VALUE AVERAGED OVER THE WHOLE BODY (SAR_{WB}) FOR THE THREE EXPOSURE CONDITIONS CONSIDERED

	$E_{I,MAX}$ (V/m)	$E_{I,AVE}$ (V/m)	SAR_{1g} (mW/kg)	SAR_{10g} (mW/kg)	SAR_{WB} (mW/kg)
Case I	4.2	2.8	5.3	3.0	0.12
Case II	8.1	5.5	13.2	8.5	0.46
Case III	1.3	1.1	0.26	0.17	0.01

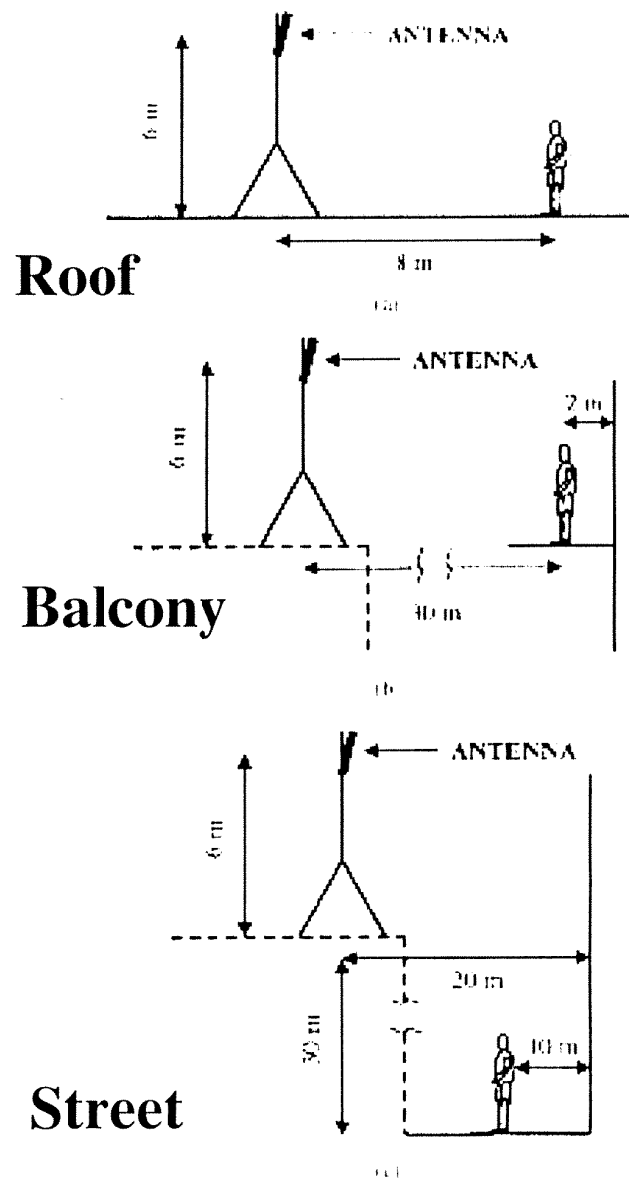
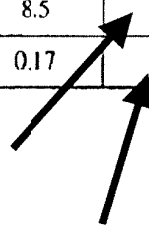


Fig. 3. Important geometry for the three cases studied. Dotted lines represent planes not considered in the simulations: (a) Case I, subject on the building roof; (b) Case II, subject on the balcony; (c) Case III, subject on the street.

The bouncing effect:

Beams radiated from antennas bounce around due to buildings, objects, obstacles, etc. Bouncing **doubles** the radiation effect. This is known as the **bouncing effect**. Sprint considers only a factor of 1.6 for the bouncing effect instead of 2. Therefore, a factor of 1.25 should be used to correct calculations presented by Sprint.

BERNARDI *et al.*: HUMAN EXPOSURE TO RADIO BASE-STATION ANTENNAS IN

and $SAR_{WB} = 0.41$ mW/kg. These results, compared with those obtained in case II, show that both the average field level and SAR values remain almost unchanged. It must be noted, however, that this result is dependent upon the dielectric characteristics of the building walls that give rise to rather low reflections (reflection coefficients not higher than 0.4). In fact, considering a reflection coefficient of 0.7, the presence of the reflecting walls results in a 40% increase in the average field levels with a corresponding doubling in the SAR_{WB} value with respect to the free-space condition [9].

The obtained results show that an accurate modeling of the real environment can be a key factor for a correct evaluation of the exposure conditions.

All things considered:

Considering the correction factors due to the balcony and bouncing effects (see next page), a more realistic value for the power density on residents and buildings around 1600 Shattuck is:

$$1.09 \text{ m W/cm}^2$$

which exceeds the safe level of 1 m W/cm^2 set by the FCC.

**All Things Considered:
A Realistic Value of the Power Density (PD)
around 1600 Shattuck**

Sprint (ground level)	0.0021 m W/cm²
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Balcony Effect **3 X 46**

Bouncing Effect **3 X 1.25**

FCC Limit	1 m W/cm²
PD around 1600 Shattuck	1.09 m W/cm²

ABOVE FCC LIMIT !

SHORT ANTENNAS AT 1600 SHATTUCK

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Appeal of Use Permit #02-1000053 (1600 Shattuck Avenue)

Appellants: Frances Strassman, Shahram Shahruz, Kaoru Reynolds,
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CITY OF BERKELEY
CITY CLERK DEPT
03 SEP 12 AM 10:01

Re: Appeal of Use Permit #02-1000053 (1600 Shattuck Avenue)

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Goals of This Document

- In this document, height requirements for base-station antennas set by the FCC are explained.
- It is shown that the height of the antennas proposed by Sprint at 1600 Shattuck is not in accordance with the FCC requirements, and hence the antennas are not categorically exempt.
- It is shown that the experts hired by Sprint (William Hammett and Jerrold Bushberg) have misrepresented information regarding the height of the antennas.

Height requirements by the FCC:

The FCC is quite clear about the height of antennas. The recommended height is between 50 - 200 feet. When antennas are short and close to the ground level specific rules apply. The rules are given in the following document published by the FCC:



Federal
Communications
Commission

Local and State
Government
Advisory
Committee

**A Local Government Official's Guide to
Transmitting Antenna RF Emission Safety:
Rules, Procedures, and Practical Guidance**



June 2, 2000

In addition, a cellular facility is categorically excluded, regardless of its power, if it is not mounted on a building and the lowest point of the antenna is at least 10 meters (about 33 feet) above ground level. A broadband PCS antenna array is categorically excluded if the total effective radiated power of all channels operated by the licensee at a site (or all channels in any one direction, in the case of sectorized antennas) is 2000 watts or less. Like cellular, another way for a broadband PCS facility to be categorically excluded is if it is not mounted on a building and the lowest point of the antenna is at least 10 meters (about 33 feet) above ground level. The power threshold for categorical exclusion is higher for broadband PCS than for cellular because broadband PCS operates at a higher frequency where exposure limits are less restrictive. For categorical exclusion thresholds for other personal wireless services, consult Table 1 of Section 1.1307(b)(1).¹⁰

For your convenience, we have developed the checklist in Appendix A that may be used to streamline the process of determining whether a proposed facility is categorically excluded. You are encouraged to adopt the use of this checklist in your jurisdiction, although such use is not mandatory.

B. What If An Applicant Or Licensee Wants To Exceed The Limits Shown In Illustration 3?

Any FCC applicant or licensee who wishes to construct or operate a facility that, by itself or in combination with other sources of emissions (*i.e.*, other transmitting antennas), may cause human exposures in excess of the guideline limits must file an Environmental Assessment (EA) with the FCC. Where more than one antenna is collocated (for example, on a single tower or rooftop or at a hilltop site), the applicant must take into consideration all of the RF power transmitted by all of the antennas when determining maximum exposure levels. Compliance at an existing site is the shared responsibility of all licensees whose transmitters produce exposure levels in excess of 5% of the applicable exposure limit. A new applicant is responsible for compliance (or submitting an EA) at a multiple-use site if the proposed transmitter would cause non-compliance and if it would produce exposure levels in excess of 5% of the applicable limit.¹¹

An applicant or licensee is not permitted to construct or operate a facility that would result in exposure in excess of the guideline limits until the FCC has reviewed the EA and either found no significant environmental impact, or pursued further environmental processing including the preparation of a formal Environmental Impact Statement. As a practical matter, however, this process is almost never invoked for RF exposure issues because applicants and licensees normally undertake corrective actions to ensure compliance with the guidelines before submitting an application to the FCC.

Unless a facility is categorically excluded (explained above), the FCC's rules require a licensee to evaluate a proposed or existing facility's compliance with the RF exposure guidelines and to

¹⁰ Table 1 of §1.1307(b)(1) is reproduced in Appendix A to this guide.

¹¹ For more information, see OET Bulletin 65, or see 47 CFR §1.1307(b)(3).

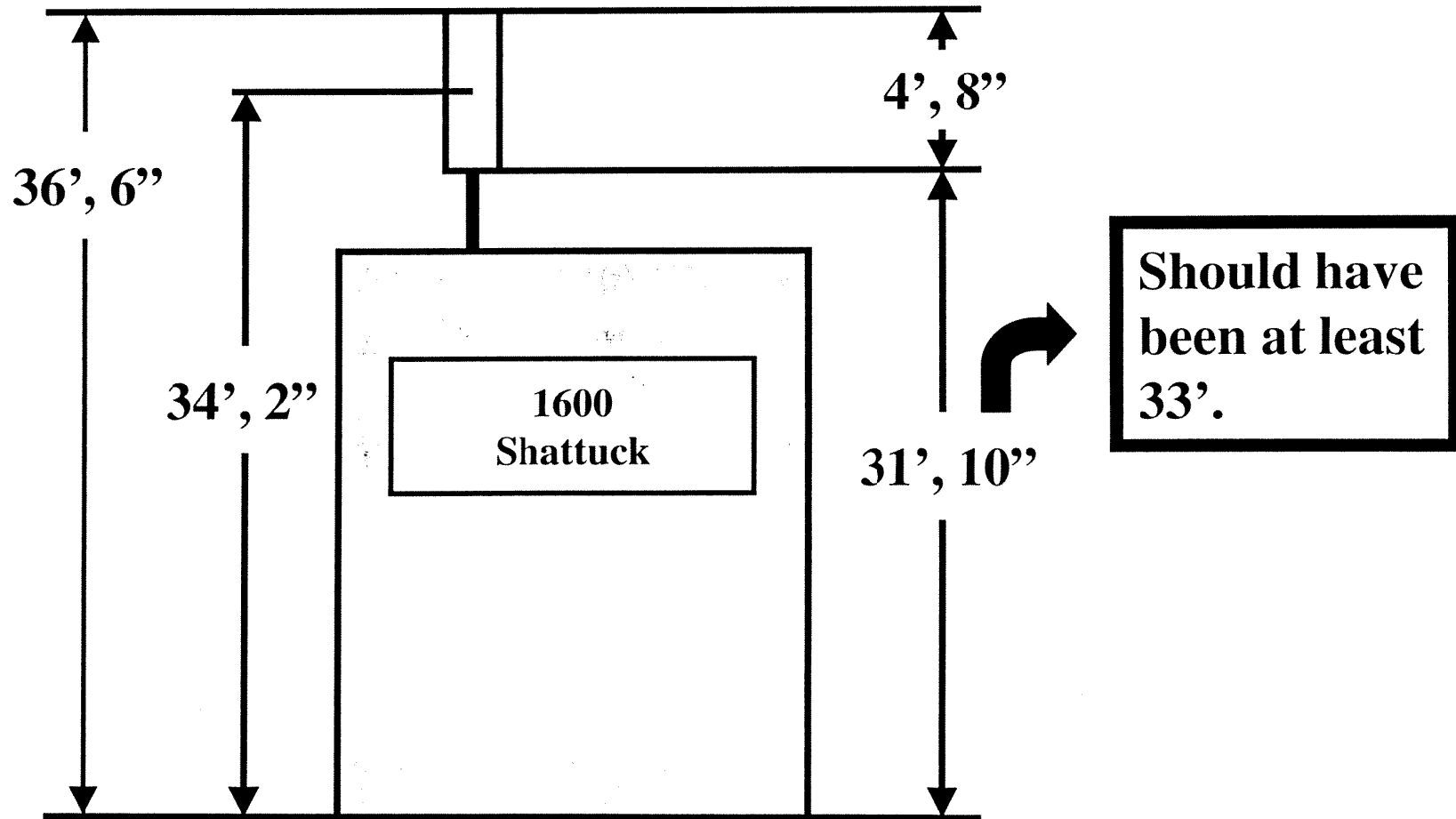
How about the antennas at 1600 Shattuck?

A schematic of an antenna at 1600 Shattuck is shown in the next page. It is clear that the lowest point of these antennas is less than 33 feet above the ground - 31 feet and 10 inches to be exact. Therefore, the antennas are not categorically excluded, contrary to what was told to us and claimed in the staff reports prepared by the Planning Department.

Testimony of the experts hired by Sprint:

William Hammett in his (late) report stamped December 19, 2002 and Jerrold Bushberg in his letter of March 5, 2003 did not mention that the lowest point of the antennas is less than 33 feet above the ground. **So much for the expert testimony!**

FCC and Height:



Kelly, Sherry

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From: Spring, Dona
Sent: Tuesday, September 16, 2003 10:25 AM
To: All City Council
Cc: Kelly, Sherry
Subject: FW: Mobile antennae

----- Original Message -----

From: "Barbara Wilkie" <wilworks@lmi.net <<mailto:wilworks@lmi.net>>>
To: "Dona Spring" <donaspring@mindspring.com <<mailto:donaspring@mindspring.com>>>
Sent: Monday, September 15, 2003 10:13 AM
Subject: Fwd: Mobiles "Make You Senile"

> Hello --
>
> This came into me from one of my lists . . . thought you may like it
> for your background info as more towers wish to spring up in Berkeley.
>
> -- barb
> =====
>
> original news article:
>
> <http://news.independent.co.uk/world/science_medical/story.jsp?story=443248>
>
> Here is more comprehensive information showing the research upon which
> this article is based. The web URL takes you to the research with
> graphs, methodology detail, and photo of a typical brain regularly
> exposed to microwave radiation from mobile phones. The photo shows
> greatly increased levels of albumin (protein)that accumulates in the
> brain in persons regularly exposed microwave radiation:
>
> <<http://www.protectingourhealth.org/news/science/learning/2003/2003-0129salfordetal.htm>>
>
> Mobiles 'make you senile'
>
> By Geoffrey Lean, Environment Editor.
>
> 14 September 2003
>
> Mobile phones and the new wireless technology could cause a "whole
> generation" of today's teenagers to go senile in the prime of their
> lives, new research suggests.
>
> The study - which warns specifically against "the intense use of mobile
> phones by youngsters" - comes as research on their health effects is

- > being scaled down, due to industry pressure. It is likely to galvanise
- > concern about the almost universal exposure to microwaves in Western
- > countries, by revealing a new way in which they may seriously damage
- > health.
- >
- > Professor Leif Salford, who headed the research at Sweden's prestigious
- > Lund University, says "the voluntary exposure of the brain to microwaves
- > from hand-held mobile phones" is "the largest human biological
- > experiment ever". And he is concerned that, as new wireless technology
- > spreads, people may "drown in a sea of microwaves".
- >
- > The study - financed by the Swedish Council for Work Life Research, and
- > published by the US government's National Institute of Environmental
- > Health Sciences - breaks new ground by looking at how low levels of
- > microwaves cause proteins to leak across the blood-brain barrier.
- >
- > Previous concerns about mobile phones have concentrated on the
- > possibility that the devices may heat the brain, or cause cancer. But
- > the heating is thought to be too minor to have an effect and hundreds of
- > cancer studies have been inconclusive.
- >
- > As a result, the US mobile phone industry has succeeded in cutting
- > research into the health effects, and the World Health Organisation is
- > unlikely to continue its studies.
- >
- > Mays Swicord, a scientific adviser to Motorola told New Scientist
- > magazine that governments and industry should "stop wasting money" by
- > looking for health damage.
- >
- > But Professor Salford and his team have spent 15 years investigating a
- > different threat. Their previous studies proved radiation could open the
- > blood-brain barrier, allowing a protein called albumin to pass into the
- > brain. Their latest work goes a step further, by showing the process is
- > linked to serious brain damage. Professor Salford said the long-term
- > effects were not proven, and that it was possible the neurons would
- > repair themselves in time. But, he said, neurons that would normally not
- > become "senile" until people reached their 60s may now do so when they
- > were in their 30s.
- >
- > He says he deliberately refrained from publicising his work to avoid
- > alarm, and acknowledges that mobile phones can save lives.
- >
- >
- >
- >
- > --
- > October 2003
- >
- > CIIN's MCS Conference
- > Oct. 3-5, 2003
- > Fairfax, VA

> <<http://users.lmi.net/wilworks/events/ciin2mcs.htm>>
>
>
> BIONEERS
> Oct. 17 -19, 2003
> San Rafael, California
> <<http://www.bioneers.org>>

Dona Spring
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DSpring@ci.berkeley.ca.us