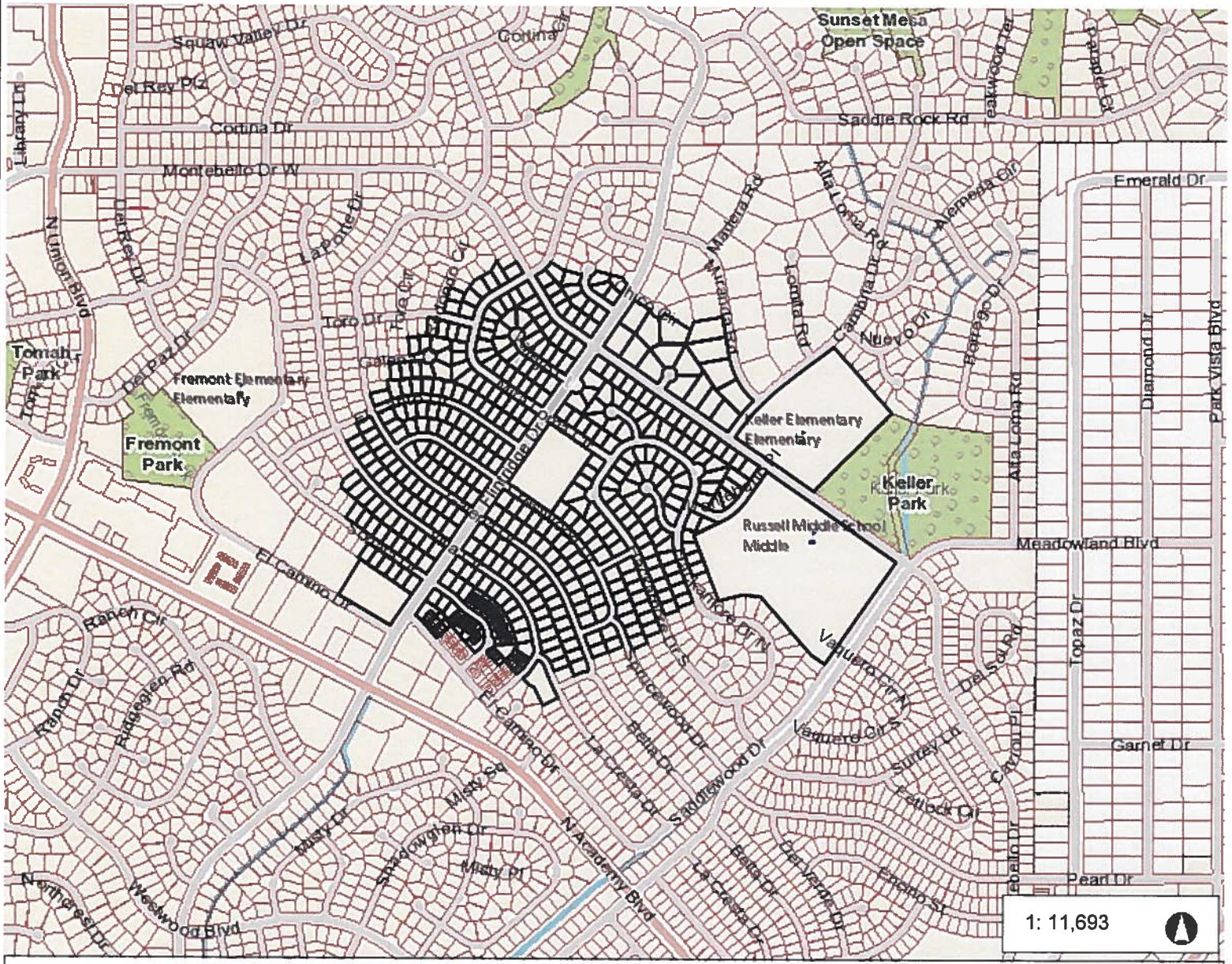
CPC CM1 17-00020
5075 Flintridge Drive – CSP OLD HOME



Legend

- Parcels
- National Forest
- Parks
- Military
- Towns
- County Boundary
- Place Labels
- Bus Stops
- Hospitals
- Schools
- Streets
  - Interstate
  - Major Roads
  - Local Roads
  - Ramps
- Trails_Parks
- Trails_Urban_Paved
- Trails_Urban_Gravel
- Trails_Urban_Natural
- Creeks
- Railroads
- Parcels
- Golf Fairways
- Streams
- Parks
- Lakes

1: 11,693

Notes

1,948.8 0 974.42 1,948.8 Feet

NAD_1983_StatePlane_Colorado_Central_FIPS_0502_Feet

FIGURE 3

Teixeira, Rachel

From: Ann <aestal@comcast.net>
Sent: Monday, February 20, 2017 7:01 PM
To: Teixeira, Rachel
Subject: Cell tower File no: CPC CM1 17-00020

We do not approve the installation of the Verizon cell tower at 5075 Flintridge Dr. This is not a positive thing for this neighborhood and we are advocating to have this project stopped once again. You may contact us at 719-528-6426 or 5020 Hackamore Dr. S. Colorado Springs, CO 80918.

Thank you,
Jerry and Ann Estal

FIGURE 3

Teixeira, Rachel

From: Bruce Gunther <brgunther@comcast.net>
Sent: Tuesday, February 28, 2017 4:29 PM
To: 'Bruce Gunther'; Teixeira, Rachel
Subject: RE: Colorado Land Misuse
Attachments: Page 1.pdf; Page 2.pdf; Page 3.pdf

Rachel,

I'm wanting to go on public record in regards to file no: CPC CM1 17-00020. I'm keeping the entire thread for that purpose. I am very much against this being built along with a lot of my neighbors as shown in the petition sheets that are attached. We do not want a variance for the zoned R-1 6000/CU height code for where this property is located. The concerns range from height, property de valuation, health, and visual aspect. There are many other properties in our general area that would be better suited for a Verizon wireless cell tower. Please confirm you received this public record by either email or telephone.

Thanks
Bruce Gunther
719-339-9918

From: Bruce Gunther [mailto:brgunther@comcast.net]
Sent: Tuesday, February 21, 2017 5:44 PM
To: 'rteixeira@springsgov.com'
Subject: Colorado Land Misuse

Rachel,

I'm a concerned neighbor of the file no: CPC CM1 17-00020. This was tried a number of years ago and was stopped. I'm writing you since your department has not returned my multiple phone calls. The building of a wireless tower at 5075 Flintridge Dr was stopped many years ago. I'm surprised that the Building Planning division has even entertained this request again. I'm sure that a 45ft building in a zoned R-1 neighborhood is not in code. The neighbors I have discussed this with have stressed the same concerns. Please contact me ASAP by the phone number below so that we can discuss this. I'm also getting a petition signed by neighbors that do not want this in our neighborhood.

Thanks
Bruce Gunther
719-339-9918

FIGURE 3

Please Sign Your Name	Please Print Address
	5010 Galena Dr.
	5010 Galena Dr.
	5010 Galena Dr
	5010 Galena Dr
Connie Coughlin	5004 Galena Dr.
David E Coughlin	5006 Galena Dr.
Patty Smathers	5011 Galena Dr.
Benita Nuttall	5007 Galena Dr
	5102 Crestwood Dr.
Leah Leyba	5102 Crestwood Dr
Diana Godfrey	5102 Crestwood Dr
Ken Godfrey	5102 Creswood Dr
	5109 Crestwood Dr
Kathleen Foster	5109 Crestwood Dr.
	3190 [illegible] Dr. [illegible]
	3240 [illegible]

FIGURE 3

Please Sign Your Name	Please Print Address
Galena N. Montoya	5027 Galena Dr Cs/Co 80918
Elias C. Montoya Jr.	5027 GALENA Dr Cs/Co 80918
Jerry Lo[illegible]	5018 Galena Dr CS/CO 80918
[illegible]	5015 Galena Dr Cs/Co 80918
[illegible]	5042 Galena Dr. Colo Spgs 80918
[illegible]	5007 GALENA DR [illegible]
[illegible]	5007 GALENA DR [illegible]
[illegible]	5015 GALENA Dr 80918
[illegible]	5034 Galena Dr. 80918
[illegible]	5034 GALENA Dr 80918
Hector Gonzalez III	5034 Galena Dr 80918
[illegible]	5024 Galena Dr 80918
[illegible]	5024 Galena Dr 80918
Howard J Hyland	5022 Galena Dr 80918

FIGURE 3

Please Sign Your Name	Please Print Address
Meganlescure	5145 Crestwood Dr 8/9/18
Staci Suter	5145 Crestwood Dr 8/9/18
[illegible]	5125 Crestwood Dr 8/9/18
[illegible]	5125 Crestwood Dr 8/9/18
Mark Love	5165 Crestwood Dr 8/9/18
[illegible]	5175 Crestwood Dr 8/9/18
Howard Marshall	5160 Crestwood Dr 8/9/18
Sharon Sumther	5160 Crestwood Drive 8/9/18

FIGURE 3

Teixeira, Rachel

From: CenturyLink Customer <bwordsmith@q.com>
Sent: Wednesday, March 01, 2017 11:14 AM
To: Teixeira, Rachel

The Johnson's at 4911 Villa Cir, are concerned about interference with TV reception and with property values at the installation of the CMRS in our neighborhood. We are senior citizens and one of us is visually impaired and depends on television as it is a lifeline for him.

Thank you,
Beverly Johnson

FIGURE 3

Teixeira, Rachel

From: Fred Correll <fabcorrell@gmail.com>
Sent: Tuesday, February 21, 2017 4:44 PM
To: Teixeira, Rachel
Subject: File No.: CPC CM1 17-00020

Ms Rachel Teixeira, Reviewing Planner

Dear Ms Teixeira

We are writing in response to a post card sent to us from your office informing us of a proposal (File No.: CPC CM1 17-00020) to build a 45-foot concealed cell tower in our neighborhood, specifically, at 5075 Flintridge Dr. After examining the plans, we are greatly concerned about the negative impact this would have visually on our neighborhood and on property values. As it would be the tallest structure in the vicinity, we believe it would be unsightly and a distraction in our otherwise cohesive neighborhood.

While we understand the science speaks to both sides of the issue, we are also concerned about potential health issues associated with such a tower. The fact that the plans place the tower extremely close to residential dwellings is a great concern.

What other sites have been considered for the cell tower, specifically, sites that are not in such close proximity to homes?

We appreciate your notification of this proposal. We are aware of many others in our neighborhood who share our concerns, and we respectfully ask that the proposal be declined.

Respectfully

Frederick C. and Bonnie L. Correll
5159 Mira Loma Cir.
Colorado Springs CO 80918

FIGURE 3

Teixeira, Rachel

From: Jan Myers <jan_myers@comcast.net>
Sent: Sunday, February 19, 2017 6:09 PM
To: Teixeira, Rachel
Subject: NO cell tower CPCCM1 17-00020

I strongly protest the erection of a 45-foot Verizon Cell tower at 5075 Flintridge at the Center for Spiritual Living. This would damage our property values and pose unknown health risks to residents. Please, do NOT allow this to be done to the residents of our neighborhood!

Thank you,

Janice Myers
5030 Hackamore Drive South, CSC 80918

FIGURE 3

Teixeira, Rachel

From: Jennifer Strombeck <peakjenn@gmail.com>
Sent: Sunday, February 19, 2017 12:28 PM
To: Teixeira, Rachel
Subject: CPC CM1-17-00020, 45 foot Cell tower at 5075 Flintridge dr, 80918

Dear Ms. Rachel Teixeria,

I am writing to voice my strong opposition to the building of a 45 foot tall Verizon cell tower on the land at 5075 Flintridge Dr. in Colorado Springs, 80918, a property that is zoned for residential use with an exemption for only religious use. A Verizon tower supported by for-profit businesses: Verizon Wireless and Retherford Enterprises, is a direct conflict of the intended use of the land.

This neighborhood, built in 1972, has a high percentage of elderly residents who need their property values to remain stable. According to the National Association of Realtors in 2014, a close-proximity to a cell phone tower, directly and substantially reduces property values. In their study, with more than 1,000 home-buyers surveyed, more than 79% said they would under no circumstances consider buying a property within a few blocks of a cell tower. This cripples an aging neighborhood. In a time when property values are rising state-wide, a direct reduction will put residents at a distinct disadvantage in comparison to other Colorado residents.

The Vista Grande neighborhood is an established neighborhood built around 1972. During the building of this neighborhood, no structures equal or exceed 45 feet tall. Therefore, despite the reassurances of the application submitted by Retherford Enterprises and Verizon Wireless, it will be impossible to blend such a large structure into the existing neighborhood. A two-story home which primarily comprises the neighborhood is approximately 20 feet tall. The tallest structure, a middle school on Montebello Dr, is not 45 feet tall.

Allowing a non-profit to lease land to a for-profit business in a residential area creates a dangerous slippery-slope that will open other areas previously closed to business. This land is intended for residential and religious purposes, allowing Verizon Wireless to build on and profit from this area is in direct conflict with the zoning intentions.

Please deny the application to build a 45 foot cell tower on the land at 5075 Flintridge Dr. The church, Center for Spiritual Living, should not be able open our neighborhood to business and cause property values to plummet.

Sincerely,

Jennifer Pope

A concerned citizen on Montebello Dr W

Colorado Springs, Colorado,

80918

FIGURE 3

Teixeira, Rachel

From: Jerry Vreeman <jerry@lionoutreach.org>
Sent: Monday, February 20, 2017 4:47 PM
To: Teixeira, Rachel; Matz, Sue
Cc: Cori Vreeman
Subject: Petition against development application file: CMC CMI 17-00020

Ms. Rachel Teixeira
Reviewing Planner
Colorado Springs, Colorado

719-385-5368

Dear Ms. Teixeira and the Land Use Review Division,

As a resident living within a few hundred yards of the proposed location of a new Verizon CMRS location on the property of the Center for Spiritual Living I am writing to oppose this construction and petition the Land Use Review Division of the City of Colorado Springs to deny this request by Rutherford Enterprises, Inc.

I am further requesting that before any final decision is made by the Land Use Review Division of the City of Colorado Springs that I, Jerry Vreeman, along with other residents in the neighborhood surrounding this proposed CMRS are given opportunity to be heard before the Land Use Review Division, the Zoning Board, and or the city council.

In lieu of a simple personal appearance before the review division or the Planning/Zoning board I/we would further recommend that an opportunity be given for a public hearing on this matter prior to any final decision. (Please note that the Land Use Review Division did provide for and notified residents of their right to attend a public hearing on a previous application for a nearly identical construction proposal several years ago. Subsequently, that proposal was denied. We request a similar opportunity on this proposal).

As an individual and resident of this neighborhood, along with other concerned residents, I am respectfully reminding you of our rights to oppose the adverse consequences which we may suffer in the event that such a CMRS is installed in close proximity to our homes and community.

We have a right to oppose sustaining a loss to the value of our properties as a result of same installation.

We have right to protect ourselves, our families, friends, and neighbors agains the dangers of Commercial Mobile Radio (cell) Service malfunction or collapse.

We have a right to protect ourselves, our families, friends, and neighbors against the potential adverse affects to the character and aesthetics of our neighborhood.

We also have the right to protect ourselves, our families, friends, and neighbors against the potential adverse health impacts associated with continued exposure to RF emissions from such CMRS installations.

In addition to our perceived rights as citizens of this neighborhood, the city of Colorado Springs, and the state of Colorado, we remind the Land Use Review Division that our right to be heard on this issue is also protected

FIGURE 3

by the 1st Amendment to the U.S. Constitution, which guarantees our constitutional right to petition government for the redress of grievances.

It is our understanding that our legal Right to Petition encompasses a federally protected right to be heard before any local Planning Board, Zoning Board, or City Council, and to make submissions to same, for the purpose of opposing such a CMRS application pending before such board or boards.

We also retain the right to legal representation in this matter.

May I respectfully request a response to this communication which includes an explanation by the Land Use Review Division of the intended steps and calendar schedule under which a final decision will be made on the application CPC CM1 17-00020.

Respectfully submitted on this 20th day of February, 2017.

Gerrit Vreeman

Jerry (Gerrit) Vreeman
5158 Mira Loma Circle
Colorado Springs, CO 80918

708-912-3555 - Cell
719-599-3434 - Home

FIGURE 3

22 February 2017

Ms. Rachel Teixeira
Reviewing Planner
Planning & Community Development Department
Land Use Review Division
City of Colorado Springs

Dear Ms. Teixeria,

This letter is in regards to the notice I received concerning the radio tower application File No. CPC CM1 17-00020, location at 5075 Flintridge Dr. I am opposed to erecting that tower for several reasons:

1. **Though not stated in the notice I received, I believe that a generator will be used to power the tower. A generator will create a constant humming noise that will be especially intolerant during the summer months when we have our windows open. The airport is well over ten miles from here, and we often hear airplanes rev up their engines in preparation for takeoff. To add a continual hum from a generator will be disrupting to our lives.**
2. **I, as well as several neighbors, have lived here over 40 years and suddenly to turn our neighborhood from R-1 to what amounts to the first step towards being zoned Commercial is not fair to our community.**
3. **In the 38 years that church building has been in operation, several churches have come and gone due to outgrowing the small facility. I have no doubt that the Center for Spiritual Living will do the same as they continue to grow and we, the neighborhood, will be left with their radio tower.**
4. **I am also concerned with the possible interference of radio, television and cell phone reception.**

In total fairness to the neighborhood and to the Center for Spiritual Learning, there should have been a hearing for the purpose of addressing the concerns of both entities.

FIGURE 3

Respectfully yours,

Judith Rowe
5047 Hackamore Drive South
Colorado Springs, Co 80918

(719) 599-7548

FIGURE 3

Teixeira, Rachel

From: Judy Weaver <oldcolofriend@yahoo.com>
Sent: Thursday, March 02, 2017 4:40 AM
To: Teixeira, Rachel
Subject: Cell tower on flint ridge

I live near by and have had verizon for many years and never had a problem and after reading article I agree with others --find another place for it. There are many other possibilities. Residential neighborhoods are not the place.

Sent from my iPhone

FIGURE 3

Teixeira, Rachel

From: Larry Wiseman <larrywiseman1234@comcast.net>
Sent: Saturday, February 18, 2017 9:51 AM
To: Teixeira, Rachel
Subject: cell tower

So it comes up again! It's a commercial tower. It does NOT belong in the middle of a neighborhood! People hate those things! It makes property values go down! We already get 4 bars on our phones! Why do we need a tower! And if you really want to build it, put it on commercial property like in McDonald's parking lot or Big Lots parking lot or at the top of Flintridge on some commercial property. Not in our backyards! Please and thank you!

FIGURE 3

Teixeira, Rachel

From: morris5875@aol.com
Sent: Thursday, February 23, 2017 11:44 AM
To: Teixeira, Rachel
Subject: Cell Tower Application on Flintridge Drive

Good Morning,

We are writing to state our opposition to the plans to put in the Verizon Cell tower in the church lot on Flintridge Drive. Even though the plan is to make it blend with church building, we feel this is too tall and is not suited for a residential area. It also seems unnecessary since there is commercial zoning close by at Flintridge and Academy that would be a better placement for the tower.
In addition to voicing our opposition, we feel at bare minimum that there should be a neighbourhood or community meeting held so that people affected by this can give their input.

Sincerely,

Richard and Carole Morris

Richard and Carole Morris (homeowners)
3360 El Canto Drive
Colorado Springs
CO 80918

FIGURE 3

Teixeira, Rachel

From: Stacy Heller <nebrheller@icloud.com>
Sent: Sunday, February 19, 2017 4:18 PM
To: Teixeira, Rachel
Subject: Verizon Cell tower

I was recently advised that there is a plan to put a 45-ft Verizon cell tower on residentially zoned land at 5075 Flintridge. This land is right behind my house. The placement of this tower would lower my property value and be a huge eye sore in our neighborhood. I absolutely oppose the Verizon cell tower being placed on this land.

Stacy Heller
5026 Hackamore Dr. S

FIGURE 3

21 February 2017

To: Ms. Rachel Teixeira
Reviewing Planner
Planning & Community Development Department
Land Use Review Division
City Of Colorado Springs

Dear Ms. Teixeria,

This letter is in regards to the reception of the Internal Review Public Notice document received on the afternoon of 15 February 2017 in regards to the cell tower application **File No. CPC CM1 17-00020** for the location at 5075 Flintridge Drive. As we only have until 1 March 2017 to respond (basically 13.5 days from reception of the notification), and as there is not going to be a meeting scheduled by the city for the neighbors to participate in like the last time a cell tower was proposed by the previous members of this church, I will apologize now for the length of my dissertation.

First let me say I have AT&T as my cell phone provider and CenturyLink as my cable TV and landline provider and I have never had any issues with connectivity in my house, outside by my house or while driving on Flintridge Drive or any streets in the area around my house. So for the cell tower location petition using the increased traffic on Flintridge Drive as one of their reasons for locating a cell tower on the 5075 Flintridge Drive location just does not add up for me.

A few years back, the then congregation of the church at 5075 Flintridge Drive, which is next door to my home, had decided to accept an offer from a company to construct a faux parking lot light cell tower around 100' tall and 4 to 8 feet in diameter to earn a little extra money for the church. We, the neighborhood around the church, were informed by the city about the project and a meeting was held by the city Planning & Community Development Department at the church for the neighbors to attend and voice their opinion. The city planner in charge was there as were the representatives of the church along with the cell tower company's spokesperson. After all opinions had been voiced and discussions took place the city took the information gleaned from the meeting and came back a few weeks later with a denial to construct the tower.

Now quite a few years later a new congregation in the same church building has decided they want to make a little extra money and have agreed to allow another cell company, Verizon, to construct a cell tower on the same property. Where the first "faux light" tower that was denied would have been a little over 330' from our home and farther away from other homes then this proposed tower, this new tower will be **only 160' from our home**. Although many government and state agencies have said and shown that there are not any adverse side effects healthwise to cell tower technology, there are still those that disagree and the debate continues on world wide. In fact new areas of study have shown some people are affected by the electromagnetic radiation given off by cell towers. Although not known to be deadly, this effect can cause much misery and discomfort anywhere from constant headaches to eating disorders to the inability to sleep just to mention a few of the symptoms.

During our survey of the neighborhood to obtain signatures for those that object to the proposed cell tower site, one of our neighbors told me he works for a company that contracts to cell companies for maintenance of cell tower equipment. He said that he was not happy about the location of the tower as the site at the church was in his opinion too close to his house. This hit me like a ton of bricks as here is someone who works on these towers every day yet feels uncomfortable with having one located over

FIGURE 3

300' from his house. In addition another neighbor who is a nurse was very concerned about the health issues and her home is located more than 350' away from the proposed site. Please keep in mind it will be located 160' from our house. Also during our survey we discovered other health issues of our neighbors. One individual has had a heart transplant, another has a pacemaker, while many of the elderly neighbors have hearing aids which includes my 89 year old mother-in-law who lives with us.

As we conducted our survey we were amazed at how far away from the site the Internal Review Public Notice cards were sent. We had originally thought the cards would be sent to those directly around the perimeter of the church property. What we discovered was that the cards had been sent out to neighbors that cannot even visually see the tower some more than 850' from the site. That raised concerns to us about the electromagnetic field emissions and other types of energy being transmitted from the tower as the possibility of why these cards were being sent many blocks away.

I battled cancer 11 years ago and battled large B cell lymphoma 3 years ago undergoing 6 chemo sessions which ended 2.5 years ago after receiving only a 30% chance of survival and I shudder at the thought that in some views cell towers emit energy that can cause cancers. The health issues of course are still up for debate in many countries of the world but after battling cancer twice I tend to lean towards those scientists who still have questions about how safe or unsafe living next to a cell tower is.

That being said, even if those that believe cell towers do not cause cancer more other health issues, at a minimum the noise generated by the supporting generators, especially being placed so close to homes in our residential zoned area will have an adverse effect on our neighborhood. The people in the church will only have a few hours a week to be exposed to the noise and other effects from the electromagnetic radiation and potential other issues while taking a hefty check every month for the right to have the tower on their property while the rest of us in the neighborhood will have to live with the noise and potential other issues 24/7. I have lived in my house for 39 ½ years and going through this once with one congregation and now having to go through it with a second group of people is getting rather frustrating. A cell tower was turned down one time by the city Planning & Community Development Department; so my question is why should it be allowed this time especially when this new tower design has moved the tower even closer to many residences than the last one.

In fact the location of this new tower is even worse than the location of the last tower which was denied. At 160' away from my home, it is 170' closer then the one denied a few years back. (the other one was, as mentioned before, 330' from my house) In addition it will be 125' from 5061 Mira Loma Circle, 125' from 5057 Mira Loma Circle, 150' from 5053 Mira Loma Circle, 200' from 5049 Mira Loma Circle, 225' from 5038 Hackamore Drive South and 230' from 5034 Hackamore Drive South. In essence with the homes along Mira Loma Circle it is being put right in our faces or laps. In addition to the 2 homes identified as being on Hackamore Circle South in the list above, there are other numerous homes on Hackamore Circle South where the back of their homes face the church parking lot and thus the tower. Many scientist recommend that towers be a minimum 1,320 feet from homes (¼ Mile).

As identified in the application you provided for viewing on-line, one has to wonder why School District 11 would not agree to have this Verizon cell tower placed on one their facilities located along Montebello Drive only about 1,600 to 1,900 feet away (depending on proposed tower location in relationship to the schools) from the current proposed site. If this school location was under consideration as identified in the documents submitted to the Planning & Community Development Department why would not the commercial area at the intersection of Academy Blvd. and Flintridge Drive not be considered good? Rather than allowing this project to now go forward in our residential neighborhood, one has to wonder why this cell tower is not being located approximately 1,800 feet to the southwest to the area of Flintridge Drive and Academy Blvd. In this location you have 3 shopping

FIGURE 3

areas along with 2 commercial office buildings and 3 bank buildings. In actuality, the shopping area of Flintridge Plaza already has an existing tower that I am sure could accommodate cell transmitters/receivers/supporting equipment. I wonder if Verizon tried to "negotiated" with Flintridge Plaza for installing the cell equipment at this location. It would make much more sense to me, especially since they considered the D-11 schools as a site which are basically the same distance away from the current proposed site as is the area around the intersection of Academy Blvd. and Flintridge Drive, if this area around the commercial area was the chosen location verses putting a new tower in our neighborhood again as close as 125' from two of the homes on Mira Loma Circle.

To compound the issue for my family, our outside deck and the corners of our master bedroom and my 89 year old mother-in-law's bedroom in the basement face in a West-Southwest direction looking directly at the proposed cell tower and it's supporting generators which will at times generate a hum. This hum or noise is an issue for us as in the past semi-trailer trucks started using the church parking lot at night to sleep between their destinations. I guess they spread the word as numerous trucks started "camping out" in the parking lot. As they all keep the trucks running all night we could hear the hum of the trucks engines through our windows and walls. I called the CSPD and they eventually ordered the trucks to move and prevented any more from using the parking lot in the future. These trucks were usually located 200' to 300' away from our house and yet we could hear them. At only 160' feet from our house I am sure we will hear the hum of the cell tower equipment not only from inside in our master bedroom and mother-in-law's bedroom, but when we sit out at night on our deck which we do regularly in summer. **Again this proposed tower will only be 160' feet away** while some of the trucks were over 300' away.

I have researched the noise issue that is associated with the generator and other equipment associated with cell towers. I also brought this up as an issue when the last time we were presented with a cell tower being proposed for the church. Following are just a few examples identified on the internet. In fact the first example is from a company that specializes in helping people negotiate leases with cell companies due to the noise generated by cell towers.

1. Found on Web Feb. 2017

November 22, 2016 by Vertical Consultants Team; Negotiating Noise Restrictions in Your Cell Site Lease

"When a communication or cellular tower company approaches you with a proposed cell tower lease, one provision you will not see the company offer is means for landowners to inspect and monitor noise pollution emanating from the cellular equipment. Luckily for landowners, the experts at Vertical Consultants are here to tip you off, and if you choose to retain one of our experts, we would be more than happy to draft and negotiate a provision that will protect you from this potential nuisance."

2. Found on Web Feb. 2017

Please review the example of a cell tower humming noise as provided in this link. This noise example is of a small Verizon pole mounted cell phone "tower" in California much smaller than the one proposed by Verizon at the church 160' feet from our home. Please type this link into your URL box to view the video:

http://www.nbclosangeles.com/news/local/Stalked-by-a-Cell-Tower-Its-Been-A-Nightmare-303492691.html

FIGURE 3

3. Found on Web Feb. 2017 @ http://www.andrew.com/Blog/The-Many-Considerations-for-Cell-Sit Commons

The Many Considerations for Cell Site Backup Power

Editor's Note: This is the sixth installment for our "Meet the RF Experts" series in which contributors to the Understanding the RF Path e-book elaborate on subjects in their areas of expertise.

"Whether you notice them or not, cell sites are everywhere. Not all sites look the same—some have large stand alone towers, others are deployed on rooftops, and **some can be disguised within street furniture**—but they share the critical requirement of an electrical infrastructure for power.

In addition to backup batteries, generators are usually another line of defense against service interruption. Unlike batteries, generators require fuel and can supply the needed power for a longer period of time. There are different types and configurations for generators so factors like space, cost and service expectations must be considered. Diesel generators contribute to air and noise pollution, even when there is no actual power outage, due to periodic maintenance runs. Operators may need to find out what kind of noise restrictions or codes apply to the area where the cell site is located. Some operators can receive fines if the generators are too loud, or stay on for a certain period of time, contributing to the air and noise pollution in the area."

This proposed cell tower is not just your average faux large diameter flag pole or light pole cell tower with a few inside transmitters/receivers and associated electrical equipment. The drawings submitted to the Planning & Community Development Department show a 15' x 15' square tower 45-feet 6-inches high with 12 transmitters/receivers installed. This is a massive structure with a massive array of transmitters/receivers. The number of transmitters/receivers is similar to the number of transmitters/receivers on each of the 2 cell towers located West of Powers Blvd. between Stetson Hills Blvd. and Dublin Blvd. (Also of note from these examples is that these are not in a family housing area) This massive structure and number of transmitters/receivers within only magnifies the electromagnetic radiation issue and other potential issues that some believe to be associated with cell towers especially when you consider that the tower will be as close as 125' from some homes in our neighborhood.

So irregardless of any health issues, the noise generated by the tower will have an adverse effect on the neighborhood not to even mention the potential decrease of the property and rental values of the homes surrounding this tower. I therefore once again, as I did years ago, request that the city, as they have done years ago for our neighborhood, turn down the request for this tower. Please do not let money override the rights of the citizens to keep our neighborhood free from commercial interests.

Respectfully
Glenn W. Santeler
Linda L. Santeler
Jean E. Michael

5115 Flintridge Drive
Colorado Springs, Colorado 80918
719.599.8354

FIGURE 3

Area Of Survey

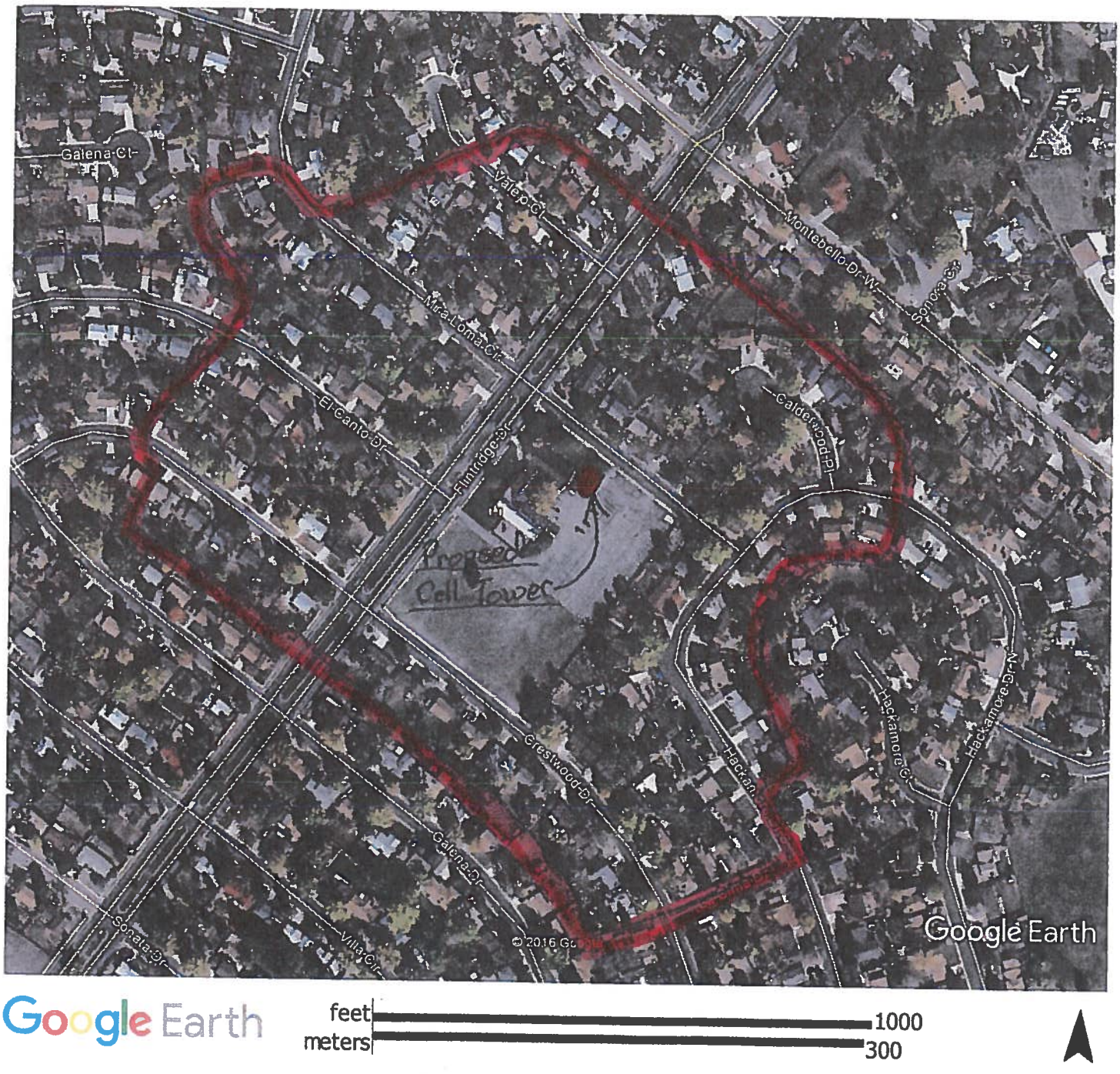


FIGURE 3

18 February 2017

We the Undersigned Residents Living Around the Center for Spiritual Living Church at 5075 Flintridge Drive Humbly Request That The Proposed Cell Tower at this Location Be Denied

The city of Colorado Springs, Colorado is currently considering approval of the installation of a 45-foot 6-inch tall cell phone tower at the Center for Spiritual Living at 5075 Flintridge Drive in a residential neighborhood of Colorado Springs. We are strongly opposed to the installation of the tower for the following reasons:

1. It could cause property values to decline, affecting homeowners, the local real estate market, and the city (due to reduced tax revenue).

2. Cell Tower support equipment has been known to produce noise pollution and the neighborhood is already burdened by noise pollution from heavy traffic on Flintridge Drive and Mira Loma Circle.

3. The 45-foot 6-inch tower is being constructed extremely close to at least 4 homes and although it is intended to resemble a bell tower the structure is so massive and tall compared to other structures on the church property, as well as those in the surrounding neighborhood, it will impact the visual neighborhood aesthetics.

4. At least these 4 properties will have a direct line of sight both indoors and outdoors of this tower, once again, as it has been located so close to the properties.

In addition, though current scientific research does not yet provide clear evidence that radio frequency (RF) radiation from cell phone towers poses a health risk, research in this field is ongoing.

The FCC standards were established in 1996 and the data used at that time are outdated. The World Health Organization has labeled RF a possible carcinogen and says further studies need to be done. In 2009 a meta-study conducted by seven scientists in five countries concluded that health effects from RF occur at exposure levels many orders of magnitude below existing public safety standards, and that children are affected more strongly than adults. For the sake of the many children who live in this neighborhood, we should err on the side of caution where potential health issues are concerned. For all of these reasons, we respectfully and adamantly request that the proposal to install this cell phone tower be denied.

FIGURE 3

Please Sign Your Name	Please Print Address
Glenn W. Santeler	5115 Flintridge Dr.
Linda Santeler	5115 Flintridge Dr.
Jean E. Michael	5115 FLINTRIDGE DR.
	5061 MIRA LOMA CIR
	5038 HACKAMORE DR S
	5034 Hackamore Dr S.
LARRY D LUCERO	5014 CRESTWOOD DR. C.S
CARRIE BAILEY	5010 CRESTWOOD DR. CO. SPRINGS
SORAIDA ORTIZ	5009 CRESTWOOD DR., COLO SPGS, CO 80918
	5022 CRESTWOOD Dr Sps. Co 80918
Diana Smith	5022 crestwood Dr Co Spg 80918
	5101 Crestwood Dr. Co Spgs 80918
	5101 mira loma cir. Co Spgs 80918
	5101 Mira Loma Cir. 80918
Thomas K Knapp	5135 FLINTRIDGE DR.
Elizabeth M Knapp	5135 Flintridge Dr. 80918 2521
Robert Hall Jr.	5145 Flintridge Drive 80918-2521
	5053 Mira Loma Circle CS 80918
Kendrick A. Rowe	5047 Hackamore Dr. S 80918
& Kenneth Rowe	" " " "
	5116 Hackamore Dr 809-8
	3507 Cottonwood Pl
	3507 Cottonwood Pl. 80918

FIGURE 3

Please Sign Your Name	Please Print Address
	Joe Forsell 3504 Calderwood Pl
Marie Forsell	3504 Calderwood Pl 80918
Virginia Steans	5037 Hackamore Dr S
	5021 Hackamore Dr. S.
	5020 Hackamore Dr. S.
	5020 Hackamore Dr. S.
	5030 Hackamore Dr. S.
	5013 Crestwood Dr.
Carol Campos	3485 Valejo ct
Javier A Campos	3485 Valejo Ct.
	5049 Mira Lara
Rosemary Calderaw	5022 Huckamore Dr S
	3503 Calderwood Pl
	5155 Flintridge
Sarah Curran	5155 Flintridge Dr
	3470 Valejo Ct.
	3470 Valejo Ct
	3475 Valejo Ct.
	3475 Valejo Ct
	3465 Valejo Dr 80918
	3465 Valejo Ct. 80918
	3480 Valejo Ctr 80918
	3480 Valejo Ctr 80918

FIGURE 3

Please Sign Your Name	Please Print Address
M. Wyli	5135 Mira Loma Cir. 80918
Rodger D. Reddish	5147 Mira Loma Cir
Gaturde D Reddish	5147 Mira Loma Cir 80918
Cathleen Parrett	5150 Mira Loma 80918
Janet Parrett	5150 Mira Loma 80918
Frederick C. Correll	5159 Mira Loma Cir. COS 80918
Bonnie L. Correll	5159 Mira Loma Cir COS 80918
S. Webster	5109 Mira Loma Cir. C/S 80918
John Webster	5109 Mira Loma Cir. C/S 80918
[illegible]	5070 [illegible]
Carole Mains	3360 El Canto Dr C/S 80918
Henry Young	3503 Calderwood PL.
[illegible]	5031 Hackamore Dr. S.
[illegible]	5110 Mira Loma Circle, C/S 80918
Kathleen Watkins	5110 Mira Loma Circle C/S 80918
LaDonne E Shodeen	5142 Mira Loma circle C/S/C 80918
Kenneth W Shodeen	5142 Mira Loma Circle C/S/C 80918
Terry Freeman	3158 Mira loma Cir, 80918
Cori Freeman	5158 Mira loma Cir 80918
Christine J. Cote	5174 Mira Loma Cir. C/S CO 80918
[illegible]	3315 El Canto Dr C/S 80918
[illegible]	3320 El Canto Dr C/S 80918
Linda Church	3320 El Canto Dr C/S 80918

FIGURE 3

Please Sign Your Name	Please Print Address
Allison Guthrie AG	3325 El Canto Dr. C/S CO 80918
[illegible]	3325 El Canto Dr. C/S CO 80918
[illegible]	3335 El Canto Dr. C/S Co 80918
[illegible]	3365 El Canto Dr C/S Co 80918
[illegible]	5130 Crestwood D 80918
Norma Smith	5130 Crestwood Dr 80918
[illegible]	5002 Crestwood Dr. 80918
Ardy M. Scott	5001 Crestwood Dr. 80918
[illegible]	11 11
Barbara Watt	4923 Crestwood Dr 80918
Randy Hoyt	5002 Dachamore S 80918
[illegible]	5002 Dachamore S 80918
[illegible]	5022 Hachamore Dr S 80918
[illegible]	5057 mira loma circle 80916
[illegible]	5057 mira loma circle 80918
Bruce D Smith	5160 Crestwood Dr 80918

FIGURE 3

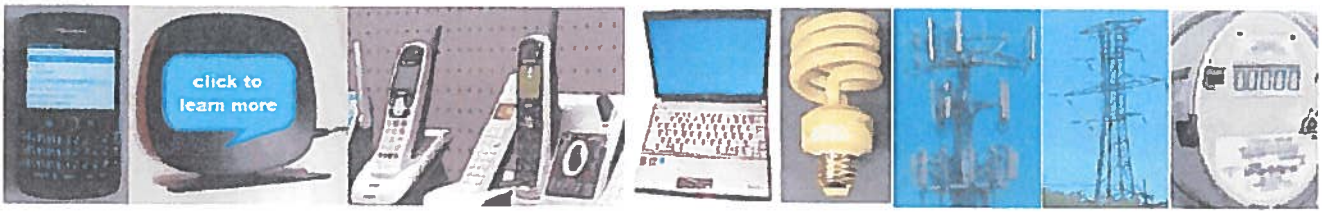
Addendum to Letter Dated 21 February 2017

We request written guaranties from Verizon, Retherford Enterprises, Inc. and Center for Spiritual Living that the cell tower proposed for 5075 Filnitridge drive, if approved by the City of Colorado Springs, will not:

1. emit noise pollution from the enclosed structure.
2. cause interference with hearing aids.
3. cause interference with roof top antenna TV reception.
4. cause interference with cable TV reception.
5. cause interference with personal desk top or tablet computer workings.
6. cause interference with competing internet connections/services.
7. cause interference with competing cell phone connections/services.
8. cause interference with land line telephone service.
9. cause interference with AM/FM radio station reception.
10. in general cause interference with standard home electronic devices.

Glenn W. Santeler	Date
Glenn W. Santeler	2/22/17
Linda L. Santeler	
Linda L. Santeler	2/22/17
Jean E. Michael	
Jean E. Michael	2/22/17

FIGURE 3



Cell Tower Dangers

See also: Detection | Precautions | Shielding | Nutrition

Summary of Mobile Phone Mast Research

The following short document, **Health and Environmental Concerns Regarding Mobile Phone Base Stations (Cell Towers)** summarizes the research on the health effects of cell towers.

Government Recognition of Cell Tower Hazards

- On April 2, 2009, the European Parliament overwhelmingly passed a resolution on "Health Concerns Associated with Electromagnetic Fields (EMFs)", 559 to 22. One of the resolutions is that the wireless telecommunications facilities should not be placed near schools, places of worship, retirement homes, and health care institutions.
- In 2009, the L.A. County Board of Supervisors voted unanimously to seek federal legislation to overturn Section 704 of the Telecommunications Act of 1996, which takes away local government rights to refuse cell towers for health reasons. Since then, several other local governments in California, Arizona, New Mexico, and Oregon have passed similar resolutions. See **CLOUT NOW**.
- In 2010, an Indian government panel reports on the dangers of cell towers.

Scientific Recognition of Cell Tower Hazards

- Henry Lai and B. Blake Levitt have compiled an overview of studies in **Environmental Reviews (2010)** showing biological effects at levels lower than our safety standards. Our current **safety standards** are obsolete and far above that which is correlated to biological effects.
- See also Michael Kundi and Hans-Peter Hutter's article in the Journal of Pathophysiology, "Mobile phone base stations.Effects on wellbeing and health."

Safety Concerns for Cell Towers

One of the first international conferences on mobile phone mast safety was held at Salzburg, Austria, in the year 2000. The conference suggested that the thermally-based ICNIRP safety limits were insufficient to protect public health, and recommended levels as low as achievable. A variety of nonthermal health effects were discussed, such as calcium ion activity in nervous tissues, hearing sensations, cancer, cardiac diseases, reproductive disorders, altered heart rate and blood pressure, sleep disorders, headaches, fatigue, memory decrease, altered lens of the eye, immune function, and so on. Many of these are related to the symptoms of **electrohypersensitivity**. Since then, the number of research studies on nonthermal radiation, and epidemiological studies showing the danger of living near mobile phone masts, especially within ~300-400 meters, has been increasing.

Example Studies Focused on Cell,Radio,TV Towers

Cell towers, also known as mobile phone base stations, or masts, are the infrastructure that makes our cell phones work. Cell towers transmit and receive wireless signals to and from cell phones. Current studies suggest both short-term and long-term health risks within 300-400 meters of a cell tower, including cancer and other symptoms, such as headaches, dizziness, fatigue, and sleeping disorders.

- Cancer studies (Cell towers/antennae)
  - Naila, Germany (Eger, 2004),
  - Netanya, Israel (Wolf and Wolf, 2004)
  - Belo Horizonte, Brazil on neoplasia mortality rate (2011)
- Increased Symptoms (Cell towers/antennae)
  - Santini, 2002
  - Santini, 2003
  - Navarro, 2003
  - Abdel-Rassoul, 2007
  - Preece, 2007
  - Bortkiewicz, 2004
  - Roosli, 2004
  - Oberfield, 2004

FIGURE 3

- Eger, Jahn, 2009
- Related radio/TV tower studies:
  - Vatican radio tower,
  - Sutro Tower, (Cherry, 2002)
  - San Francisco (Cherry, 2000),
  - Sutton Coldfield Tower, Great Britain (Dolk, 1997)
  - Australia TV Tower, (Bruce Hocking, 1996)

Identifying and Locating Cell Towers

To detect if there are any cell towers near you, check the **cellreception** (USA) and **antennasearch** (USA) websites, or the **sitefinder** (UK) website. Subsequently, a GPS lookup site can be used to pinpoint the location on a map. Since not all antennae are registered, you may want to check with a meter. Check the **Detection** page for a list of meters for RF measurements. Learn how to **BRAG™ RATE** your school, home, or office using the antennasearch.com website.

Cell towers may be installed on the tops or sides of pre-existing structures, including buildings, water towers, electricity towers, lamp-posts, etc. (center). Some have a directional beam pattern, with sidelobes, exposing certain directions more powerfully than others. For example, the cell tower shown at left has 3 sets of antennas (Left), each covering 120 degrees. Others are disguised as trees (right). A new type of antenna system, known as **Distributed Antennae System** may also show up as black boxes on utility poles.

Watch: **Eileen O'Connor and the RRT campaign against mobile phone masts.**

Further Resources

- **Health Effects from Cell Towers**
- **Environmental Reviews** article by Levitt/Lai
- **Research studies for cell towers** compiled by Powerwatch
- **Letter from the Radiation Research Trust**
- **Expert Testimony prepared by Magda Havas**

FIGURE 3

Cell Phone Towers: How Far is Safe?
by Taraka Serrano

If you or people you know live within a quarter mile of a cell phone tower, this may be of concern. Two studies, one in Germany and the other in Israel, reveal that living in proximity of a cell phone tower or antenna could put your health at significant risk.

German study: 3 times increased cancer risk

Several doctors living in Southern Germany city of Naila conducted a study to assess the risk of mobile phone radiation. Their researh examined whether population living close to two transmitter antennas installed in 1993 and 1997 in Naila had increased risk of cancer.

Data was gathered from nearly 1,000 patients who had been residing at the same address during the entire observation period of 10 years. The social differences are small, with no ethnic diversity. There is no heavy industry, and in the inner area there are neither high voltage cable nor electric trains. The average ages of the residents are similar in both the inner and outer areas.

What they found is quite telling: the proportion of newly developed cancer cases was three times higher among those who had lived during the past ten years at a distance of up to 400m (about 1300 feet) from the cellular transmitter site, compared to those living further away. They also revealed that the patients fell ill on average 8 years earlier.

Computer simulation and measurements used in the study both show that radiation in the inner area (within 400m) is 100 times higher compared to the outer area, mainly due to additional emissions coming from the secondary lobes of the transmitter.

Looking at only the first 5 years, there was no significant increased risk of getting cancer in the inner area. However, for the period 1999 to 2004, the odds ratio for getting cancer was 3.38 in the inner area compared to the outer area. Breast cancer topped the list, with an average age of 50.8 year compared with 69.9 years in the outer area, but cancers of the prostate, pancreas, bowel, skin melanoma, lung and blood cancer were all increased

Israel study: fourfold cancer risk

Another study, this one from Israel's Tel Aviv University, examined 622 people living near a cell-phone transmitter station for 3-7 years who were patients in one clinic in Netanya and compared them against 1,222 control patients from a

FIGURE 3

nearby clinic. Participants were very closely matched in environment, workplace and occupational characteristics. The people in the first group live within a half circle of 350m (1148 feet) radius from the transmitter, which came into service in July 1996.

The results were startling. Out of the 622 exposed patients, 8 cases of different kinds of cancer were diagnosed in a period of just one year (July 1997 to June 1998): 3 cases of breast cancer, one of ovarian cancer, lung cancer, Hodgkin's disease (cancer of the lymphatic system), osteoid osteoma (bone tumour) and kidney cancer. This compares with 2 per 1 222 in the matched controls of the nearby clinic. The relative risk of cancer was 4.15 for those living near the cell-phone transmitter compared with the entire population of Israel.

Women were more susceptible. As seven out of eight cancer cases were women, the relative cancer rates for females were 10.5 for those living near the transmitter station and 0.6 for the controls relative for the whole town of Netanya. One year after the close of the study, 8 new cases of cancer were diagnosed in the microwave exposed area and two in the control area.

Locate the Cell Phone Towers and Antennas Near You

Do you know how many cell phone transmitters are in your neighborhood? You'd be surprised. Visit antennasearch.com to find out where the towers and antennas are in your area and how close they are to your home or place of work. The site will also pinpoint future tower locations, additional helpful information for those considering buying a home.

For clarity, towers are tall structures where antennas are installed. A typical tower may easily hold over 10 antennas for various companies. Antennas, on the other hand, are the actual emitters of signals for various radio services including cellular, paging and others. Antennas are placed on high towers or can be installed by themselves (stand alone) on top of buildings and other structures.

Using where I live as an example, I've located 3 cell phone towers and 22 antennas within a quarter mile from our home, with the closest one at 845 feet.. And this is in a relatively quiet residential neighborhood by the ocean in the small city of Hilo in Hawaii. As you may guess, I did my research only well after we've moved in. Fortunately, we're here on just a lease and we'll be a bit wiser next time we look for a new home.

What to Do If You Live Near a Cell Phone Transmitter

Short of relocating, there are some things you can do to fight the effects of electromagnetic radiation (EMR). The Safe Wireless Initiative of the Science and Public Policy Institute in Washington, DC, outlines three levels of intervention in accordance with the public health paradigm that everyone can apply. Here are our suggestions based on these guidelines:

The primary means of intervention is through avoidance or minimizing exposure. This simply means to avoid contact with EMR as much as possible. In case of a cell phone tower close to your home, this could mean using specially formulated RF shield paint, shielding fabric, shielding glass or film for windows, etc. Although they may sound extreme, these measures are a life-saver for someone who suffers from electrosensitivity, a condition in which a person experiences physical symptoms aggravated by electromagnetic fields. (Sweden is the only country so far that recognizes electrosensitivity as a real medical condition, and their government pays for measures to reduce exposure in their homes and workplaces).

The secondary means of intervention is to minimize the effects of exposure. This includes the use of bioenergetic devices that help reduce the effects of EMR,

FIGURE 3

such as pendants, chips or other devices designed to strengthen the biofield of the individual. A biofield is the matrix of weak electromagnetic signals that the body's cells use to communicate with each other. EMR disrupts these signals, causing the cells to eventually shut down and result in build up of toxins and waste products within the cells, including free radicals known to result in cellular dysfunction and interference with DNA repair. A scientifically validated bioenergetic device restores intercellular communications and normal cellular function by strengthening the biofield against the effects of EMR.

The third means of intervention is to help reverse damage caused by exposure.This includes nutritional support such as anti-oxidant supplementation, particularly helpful in countering the effects of free radicals. Supplementing with anti-oxidants SOD, catalase, glutathione, and Coq10 are especially recommended. Microwave radiation has been shown to decrease levels of these anti-oxidants that the body normally produces to protect itself. These levels are sensitive indicators in stress, aging, infections and various other disease states.

Additional information:

1. The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer (PDF) *(German study)*
2. Increased Incidence of Cancer Near a Cell-Phone Transmitter Station (PDF) *(Israel study)*
3. Environmental Epidemiological Study of Cancer Incidence in the Municipalities of Hausmannstätten & Vasoldsberg (Austria) (PDF)

(Note: This article is shared for educational purposes only and does not constitute medical advice. If you believe that you have a health problem, see your doctor or health professional immediately.)

Taraka Serrano is a health advocate dedicated to sharing information and solutions relating to serious health issues of our time. Watch video reports on the dangers of cell phone and EMF radiation, and learn more about the right emf protection solutions for you. Visit EMf-Health.com

Word count: 1,235

Watch BBC report:
"EMF Damages Blood Cells, Test Shows"

Watch Sydney TV report:
"Brain Tumors and Cell Phones: Are They Linked?"

FIGURE 3

Cell phone towers raise new concerns about safety

Posted Nov 10, 2014 6:05 PM MST
Updated Nov 25, 2014 6:19 PM MST

By Jason Barry CONNECT

It's a growing concern in the Valley and across the country.

All those cell phone towers popping up on buildings and rooftops.

CBS 5 has found that many of those towers violate federal safety rules intended to keep people safe.

Federal studies show the powerful RF radiation that the towers send out is not harmful to anyone on the street and beyond a few feet.

But what about someone doing work, or standing right in front of an antenna?

Sherrie Anderson manages a Phoenix office building, which happens to have a few cell phone towers on the roof.

"When you have no guidelines, we're basically just throwing the dice with our health and safety," said Anderson.

Anderson told CBS 5 that the companies who installed the cell towers have never given them any safety instructions, or provided any guidelines for maintenance workers, who may be exposed to high levels of electric and magnetic power.

"If you're putting floor polish on, there's an OSHA standard," said Anderson. "If you're doing electrical work - there's an OSHA standard. We have no standards - no protocol. Basically, we're just up there blind."

Engineer Marv Wessel, with RF Solutions, has inspected thousands of cell phone antenna sites across the country.

He said that many of the antenna sites he's seen, have emissions well over the federal safety limits.

"The license holders are ultimately responsible - its their responsibility," said Wessel. "When they get a license they must ensure that the rules are followed, and if that's not happening, ultimately, they're the ones that would shoulder the blame."

But there's a problem.

Not all cell phone carriers make the necessary steps to protect the public, and insure that workers, or anyone else are not exposed to RF radiation.

Studies have shown that RF radiation can cause neurological problems and other health issues, including cancer.

Wessel showed CBS 5 another site, in a community near Camelback Mountain in Phoenix, where residents and maintenance crews can walk right by the antennas.

The only thing keeping people away was a plastic chain and some pvc pipe.

According to Wessel, the FCC doesn't have the time or manpower to inspect these sites, or respond to complaints.

Wessel even called a phone number listed on one of the cell towers, to say he'd be working close by and ask about any safety concerns.

FIGURE 3

"As long as I wasn't working on their equipment they didn't seem too concerned," said Wessel. "I was fine to go anywhere I wanted on the rooftop."

T-Mobile released this statement:

"All of us at T-Mobile take the safety of our partners, customers, the public and our employees very seriously. We have a robust compliance program that we continually update as wireless technology evolves. We check and audit sites on an ongoing basis to help ensure they remain in compliance."

Sprint released this statement:

"Sprint takes great lengths to comply with the FCC's regulations in this area. This includes an annual review process to ensure all of our sites are compliant with the Commission's rules on RF exposure limits, including signage and barriers. We've also instituted additional sites reviews with our Network Vision installations to certify the compliance of this new infrastructure."

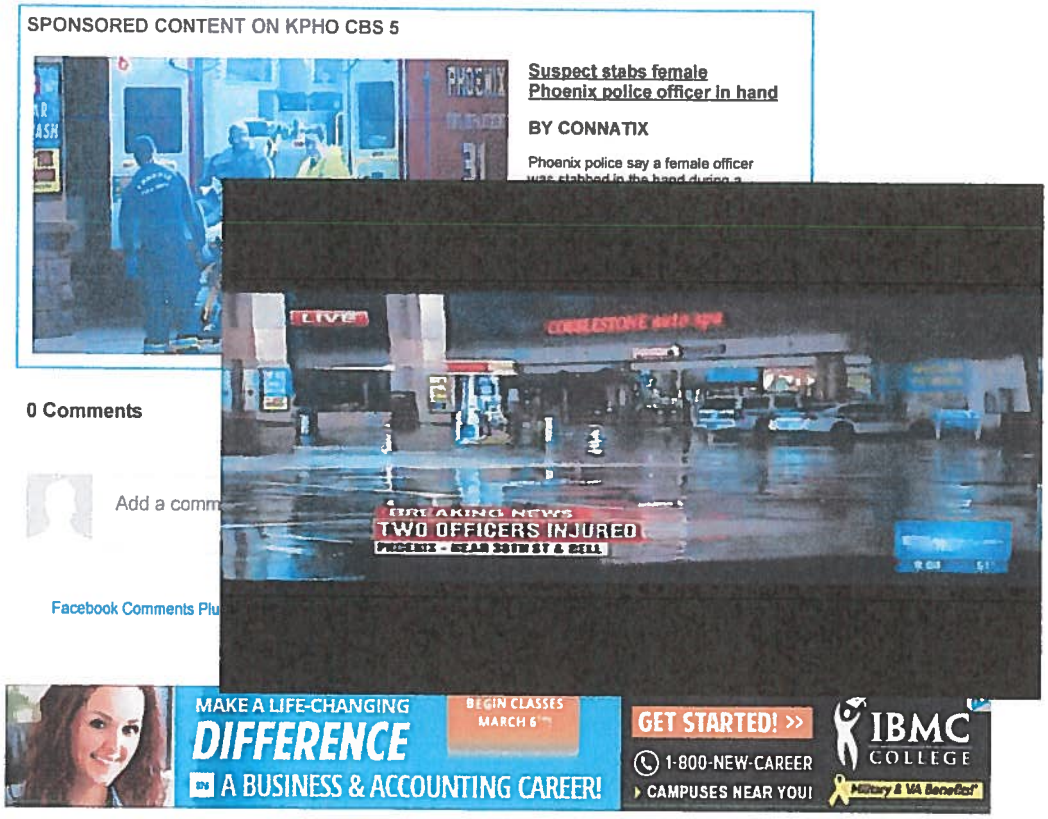


FIGURE 3

EM Watch

Electromagnetic Radiation Health and Safety

- Home
- About
- Contact
- Privacy & Disclosures
- Sitemap
- Enter Search Terms | search

- EMF Risks
  - What is EMF
  - EMF Health Effects
  - What EMF does to Your Body
  - What kinds of EMF are Harmful?
  - Who is Most at Risk?
- EMF Protection
  - Six EMF Protection Tips
  - How to Keeep Safe from Cell Phone Radiation
- EMF Sources
  - Cell Towers
  - Cell Phones
  - Computers & Networks
  - Domestic Appliances
  - House Wiring
  - Microwave Ovens
  - Power Lines
  - Smart Meters
  - Substations
  - Televisions
  - Transport – Cars and Bikes
- EMF Services
  - EMF Survey Services
- EMF Products
  - Cell Phone Radiation Protection
  - Low Frequency EMF Meters
  - Radio Frequency EMF Meters
  - EMF Books
  - Radiation Shielding Fabric
  - Radiation Shielding Paint
  - Other Radiation Shielding
  - Ionizing Radiation Meters
- EMF Research
  - EMF Research Quality and Quantity
  - EMF Values for Sample Appliances

400 Meters or 1,312 Feet away not being harmed. (See page 4)

My house: 160 Feet from Proposed Tower.

FIGURE 3

Cell Tower Health Risks

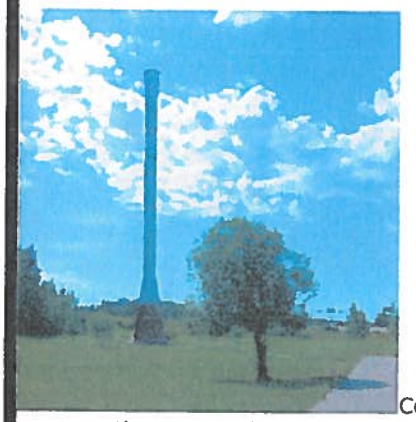
Cell Towers are the base stations which control cell (or mobile) phone communication. The term "cell site" can also be used – to include all cell phone towers, antenna masts and other base station forms.

Each cell tower serves a small area around it, known as a cell. Service providers are scrambling to improve their coverage and to service more users, so they need to keep on building more cell sites.

Increased cellphone traffic also contributes to cell tower density. When a cell becomes too busy, a frequent solution is to divide it into smaller cells, which then require more cell sites.

There are over 300,000 cell sites in the USA alone, and in the U.K. over 60,000, and these figures are more than doubling every 10 years.

Cell tower radiation from chimneys?



Cell sites may take the form of a mast or tower, but may also be disguised, in some cases so they cannot be visually discerned at all.

You might notice the camouflaged "trees", but perhaps not the cell sites on top of buildings, looking like elongated loudspeaker boxes.

You'd very likely fail to notice cell sites installed around chimneys, church steeples, even flagpoles. I have even seen a small cell site installed on the wall of a private house. No doubt the owner was collecting a useful rental, and probably had some screening from the radiation.

But his neighbours were unprotected.

Where a base station is installed on top of a building where people live or work, those people are usually quite unaware that there is a cell site close by, and of the high levels of radiation that they are subjected to every day.

Cell tower health dangers

The cellular phone industry continues to maintain that cell phone towers pose no health risk, but fewer people believe that these days. Almost all scientists in this field would disagree that cell towers are safe, except those employed by the industry, perhaps.

There is strong evidence that electromagnetic radiation from cell phone towers is damaging to human (and animal) health.

FIGURE 3

 Example: A study into the effects of a cell tower on a herd of dairy cattle was conducted by the Bavarian state government in Germany and published in 1998.

The erection of the tower caused adverse health effects resulting in a measurable drop in milk yield.

Relocating the cattle restored the milk yield. Moving them back to the original pasture recreated the problem. Dairy Cow Study.

A human study (Kempten West) in 2007 measured blood levels of seratonin and melatonin (important hormones involved in brain messaging, mood, sleep regulation and immune system function) both before, and five months after, the activation of a new cell site.

Twenty-five participants lived within 300 metres of the site. Substantial unfavourable changes occurred with respect to both hormones, in almost all participants. Kemptem West Study.

Can Cell Towers Cause Cancer?

A study performed by doctors from the German city of Naila monitored 1000 residents who had lived in an area around two cell phone towers for 10 years. During the last 5 years of the study they found that those living within 400 meters of either tower had a newly-diagnosed cancer rate three times higher than those who lived further away.

Breast cancer topped the list, but cancers of the prostate, pancreas, bowel, skin melanoma, lung and blood cancer were all increased. Naila Study

 Another study by researchers at Tel Aviv university compared 622 residents who lived within 350 meters of a cell phone tower with 1222 control patients who lived further away. They found 8 cancer cases in the group affected by the cell tower, compared with only 2 cases amongst the controls. Further info

Very few studies have specifically concentrated on cancer risk from cell phone towers. This lack of studies is in itself a cause for concern, especially since anecdotal evidence is plentiful.

For example, in a case known as "Towers of Doom", two cell masts were installed (in 1994) on a five story apartment building in London. Residents complained of many health problems in the following years. Seven of them were diagnosed with cancer.

The cancer rate of the top floor residents (closest to the tower) was 10 times the national average. Further info.

In the meantime, what are we to do? it is not reasonable to apply the precautionary principle, here?

If cell towers are causing cancer, you would expect it to occur after several years of exposure, because damage from radiation exposure accumulates over time. Cancer only occurs when all body defences and repair mechanisms have been exhausted and overwhelmed.

During those years, our bodies would be stressed by that radiation every day. This affects our health in other ways, too.

FIGURE 3

Other Cell Tower Health Effects

Individuals differ in their response to electromagnetic radiation.

For some people, short term effects from cell tower radiation exposure may include headaches, sleep disorders, poor memory, mental excitation, confusion, anxiety, depression, appetite disturbance and listlessness.

A small group of doctors from Bamberg, Germany, conducted their own study in 2005. They found increasing levels of both minor and serious health problems in patients exposed to higher radiation levels.

These health problems included tumours, diabetes, heart rhythm disturbances, inflammatory conditions, joint and limb pains, frequent infections, headaches, sleep disturbances, depression and memory problems.

Makes you wonder how much more information would be revealed by a well-designed and well-funded government study!

So don't just worry about cancer. Those doctors found that all kinds of illnesses showed a similar pattern: a higher incidence in patients with higher radiation exposure.

Legal Cell Tower Radiation Levels

Cell Tower Distance

The current legal limit for cell site radiation in the US and the UK is 1000 microwatts per square centimetre.

Other countries have set limits as low as 1 microwatt per square centimetre! Switzerland, Italy, China and others manage perfectly well with a limit of 10 microwatts per square centimetre.

Why such a huge difference? It appears that some governments are more concerned about EMF safety than others.

The truth is that no one really knows what level of cell tower radiation will prove to be safe in the long term.

But isn't that a good reason to set a low limit, not a high one?

It appears that current EMF limits in the US and UK may have been influenced more by economic and political motives than by health and safety concerns.

EM Watch has compiled its own Guidelines for Long-term EMF Exposure. Download them here.

Cell towers safe distance

It is hard to predict how much radiation you will experience in your house or workplace.

- Different cell sites emit different amounts of radiation.
- Radiation levels from a single cell site also vary, depending on usage at different times of the day.
- Radiation from a single cell tower may be different in different directions.
- Radiation is affected by the lie of the land too, and by shielding and reflections from buildings.
- And finally, the construction of your house affects its resistance to radio-frequency EMF.

It can also happen that the cell tower you are aware of in your neighbourhood is not actually the closest cell site to your house.

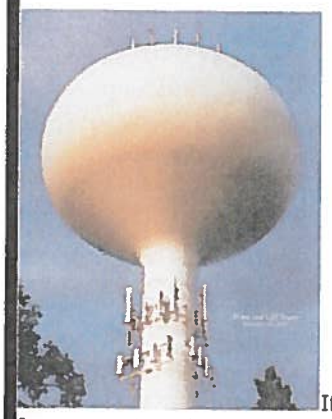
Cell sites are often disguised. And many units are much smaller than the old familiar towers (though not necessarily less potent), and installed in unexpected locations.

So start off by making a careful check of your area, to find all the cell sites. Then use a map to work out the distance from each cell site to your house.

If the closest cell site is more than 400 metres away, you are probably not being harmed by it – although high risk groups and electro-sensitive people may need to be more cautious.

FIGURE 3

Cell tower – Personal Protection



If you are still concerned, try to get hold of an RF (radio frequency) gauss meter designed for measuring electromagnetic radiation in the cell phone frequency (microwave) range.

Another alternative is to order an EMF survey of your property. (EM Watch conducts EMF surveys in South-East England.)

Be aware that in every house there are rooms (and areas within rooms) where EMF radiation is higher or lower, just as some parts of your house may be brighter or darker because of window placement.

An EMF meter, or a survey will tell you which places in your home are safe, and which are not ideal for spending lots of time in.

When you next change your job or your house, find out how far away you are going to be from the nearest cell site, and let that influence your decision. Do the same when you decide where to send your child to school.

If you are still worried about cell tower radiation – here are some things you can do about it

- Spend less time in rooms where you can see the tower from a window. Rooms on the far side of the house from the tower will usually have lower EMF levels.
- EMFs are cumulative. You can't control the radiation coming from the cell tower, but do what you can to reduce EMF from other sources.
- Get a radio-frequency EMF meter and measure the radiation levels in different parts of your house. (Measurement with a suitable meter is the only sure way to know how much radiation you are receiving at any particular spot.)
- Consider shielding to reduce cell tower EMF – it can be shielded with special window film, metallic mesh curtaining, EMF paint, and metal foil in the roof.

EMF Shielding Video

Shielding RF Radiation with Aluminum Screening

FIGURE 3

High EMF levels are but one source of stress to the body. If your options for reducing EMF are limited, you can help your body in other ways, for example by minimizing exposure to other kinds of pollution in your air, water and food.

Good nutrition, exercise, and plenty of quality sleep will help your body repair radiation damage.

For more suggestions see our page EMF Protection Tips.

In the long term, we need to find ways of providing cell phone services without exposing people to high levels of cell tower and cell phone radiation.

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You may find these articles helpful:

- Power Lines and Sub-Stations
- EMF Protection Tips
- EMF Health Effects
- Cell Phones
- Smart Meters
- What EMF Does to You
- Measure Radio-Frequency Radiation

photos by: busyPrinting & K.Wiklund, Leszek.Leszczynski, garryknight, Razor512, Ron Cogswell

Product Categories

- Cell Phone Radiation Protection
- EMF Books
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- Low Frequency EMF Meters
- Other Radiation Shielding
- Radiation Shielding Fabric
- Radiation Shielding Paint
- Radio Frequency EMF Meters
- Uncategorized

FIGURE 3