Baumb, Nelly

From: anne <ahusty@hotmail.com>
Sent: Sunday, June 20, 2021 8:02 PM
To: Council, City; Tomforcouncil@gmail.com; patburt11@gmail.com; AlisonLCormack@CityofPaloAlto.org; Filseth, Eric (external); LydiaKou@gmail.com; Greer Stone; greg@GregTanaka.org; Clerk, City; Architectural Review Board; Planning Commission
Subject: Appeal Verizon cell tower application approval

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Representative of the People,

I am writing to ask that you over-turn the decision by Planning Director Jonathan Lait to approve Verizon's cell tower application 20PLN-0018.

It seems like once again it is disappointing to see the direction the city takes when important decisions are made, with little to no regard for community interests. It is extremely concerning when the city prioritizes profit interests over people's well being.

My husband and I have seen this far too often during the 42 years that we have lived in Palo Alto, basically a pass is given to big money at the expense of the community. I include the planning commission, city attorney and the city council in a pattern of bias and undue generosity given towards the interests of money. This points directly at the distrust many Palo Alto residents have of our local government,(also, government in general) that has been time and time corrupted by moneyed interests.

Now is the right time to build a trust between citizens and their government, show some principal and do the right thing, by overturning this poor decision.

Thank you,

Anne Husty

Sent from my iPad

Baumb, Nelly

From: Margaret Heath <maggi650@gmail.com>
Sent: Sunday, June 20, 2021 8:00 PM
To: Council, City
Subject: Council meeting 6/22/21 Item 8 - Verizon Wireless At-places Memo

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Council Members,

I was dismayed to learn that the city management approved Verizon's wireless application. While balancing the quality of life for residents and the interests of the telecommunications industry may be no easy task, the decision by Director of Planning Jonathon Lait and City Manager Ed Shikada appears to be completely out of touch.

However, this may be the outcome of a pivotal meeting of the Planning and Transport Commission some years ago, and I believe a direct line can be drawn between the outcome of that meeting and what you have before you today. During that meeting I watched a very newly appointed member of the Planning and Transportation Commissionadvocate strenuously and successfully on behalf of telecommunications industry interests. Although the commissioner acknowledged that he had specialized knowledge in this area, there was no mention that his professional work might involve representing clients in an industry that stood to gain financially in the outcome of the meeting. Indeed, his expertise and advocacy undercut months of staff's hard work with both industry representatives and residents. Ultimately resulting in an outcome that significantly weakened and in some cases completely disregarded staff's proposed cell equipment design guidelines and placement codes.

I later came to understand that this commissioner's own law firm specializes in representing clients in the telecommunications industry, an industry that had a lot to gain if staff's report and recommendations to the commission could be significantly undermined and weakened. While city guidelines address personal financial gain while a member of the council or any of Palo Alto's commissions and boards is serving, are there no guidelines regarding a member's personal financial interest in representing the financial interests of an industry represented by their clients? At a minimum, why was this close professional affiliation not disclosed to the public and fellow commissioners?

Sincerely,
Margaret Heath
2140 Cornell Street
Palo Alto

Baumb, Nelly

From: Annette Fazzino <annette.fazzino@gmail.com>
Sent: Sunday, June 20, 2021 7:02 PM
To: Council, City
Cc: Tom DuBois; PatBurt11@gmail.com; alisonlcormack@cityofpaloalto.org; Filseth, Eric (external); LydiaKou@gmail.com; Greer Stone; Greg Tanaka; Clerk, City; Architectural Review Board; Planning Commission
Subject: Please overturn Planning Director Lait's approval of Verizon's cell tower

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka:

I understand that Planning Director Jonathan Lait approved Verizon's cell tower application 20PLN-00118.

This makes me cranky. It seems as though Planning Director Lait did not take appropriate care on this one. The equipment does NOT comply with the design standards that Palo Alto has established. Not only that, but everyone within 600 feet of the proposed tower was required to have been notified and a meeting held for community discussion. Those things didn't happen. It's a slippery slope when we allow something to pass through without following the rules. Especially with the negative impact that we face when things pass without the Municipal Code being followed.

I've been involved with the many Palo Alto residents who want to be careful about how cell towers are situated in Palo Alto. So many other Cities are working to get this technology right. Let's do the same. I know that I am far from alone in having grave concerns about a noisy, ugly cell tower proposed at the end of my short driveway. This particular project is not the one outside my son's window; however, we need to get ALL of these projects placed in the right areas in order to maintain residential quality of life. So, let's go through all of the proper steps on this particular application, 20PLN-00118.

Please overturn and deny the application and require that Verizon comply with our City's Municipal Code. Keep Palo Alto beautiful and peaceful.

Thank you for your consideration.

Very truly yours,

Annette Evans Fazzino
650.799.7414

Baumb, Nelly

From: Amrutha Kattamuri <vkattamuri@yahoo.com>
Sent: Saturday, June 19, 2021 12:49 PM
To: Council, City
Cc: Clerk, City; Architectural Review Board; Planning Commission; Jeanne Fleming
Subject: Request to deny Verizon's cell tower application 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing this email to request and urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

First off, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

I would therefore kindly request you to please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Amrutha Kattamuri

Baumb, Nelly

From: Meredith Einaudi <mweinaudi@gmail.com>
Sent: Saturday, June 19, 2021 12:12 AM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; AlisonLCormack@cityofpaloalto.org; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; gre@gregtanaka.org; ARM@cityofpaloalto.org
Subject: Overturn Decision to Approve Verizon's Cell Tower Application 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor Dubois,Vice Mayor Burt; and Council Members Cormack,Filseth; Kou, Stone and Tanaka,

I am writing to urge you to overturn Jonathan Lait's decision to approve Verizon's cell tower application 20PLN -00118.
Among many reasons to reject Verizon's application is that the Planning Director has approved oversize equipment that fails to comply with the design standards Palo Alto has established. In addition Our Municipal Code requires that Verizon notify all residents and property owners within 600 feet of the project and invite them to a community meeting in which the proposed project can be discussed.Verizon did not do this,

Please deny their application and insist that Verizon comply with the city's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Yours truly, Meredith Einaudi

Baumb, Nelly

From: Annette Rahn <annetterahn@gmail.com>
Sent: Friday, June 18, 2021 7:26 PM
To: Council, City
Cc: DuBois, Tom; Cormack, Alison; alisonLcormack@cityofpaloalto.org; Filseth, Eric (external); lydiakou@gmail.com; gstone@gmail.com; Clerk, City; Architectural Review Board; Planning Commission; patburt11@gmail.com
Subject: Overturn Planning Director Jonathan Lait's Decision to Approve Verizon's Cell Tower Application 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Annette Rahn

Baumb, Nelly

From: kip <krhusty@hotmail.com>
Sent: Friday, June 18, 2021 2:09 PM
To: Council, City; Tomforcouncil@gmail.com; patburt11@gmail.com; AlisonLCormack@CityofPaloAlto.org; Filseth, Eric (external); LydiaKou@gmail.com; Greer Stone; greg@GregTanaka.org; Clerk, City; Architectural Review Board; Planning Commission
Subject: Addendum to my previous email re: cell phone tower appeal

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Hello,

I forgot to add one further statement to support my request that the CIty Council reject Director Lait's short-sighted and overly generous (we could say suspicious) approval of Verizon's incomplete and flawed application, 20PLN-008. I apologize for taking up more of your time.

It has been my experience that the City Attorney, through many of it's changing faces, has looked for ways to support the interest of profit over the interests of residents (sure, they may resort to the twisted argument that the business interests are providing for the interests of residents, but in a case of safety and health, this is a dangerous and anti-democratic sophistry). I urge you to look at the legal requirements strictly (as City's attorneys often do in arguing for the interests of Verizon and others) and apply the principles that you are here to represent the interests of the residents and citizens of Palo Alto (the living, breathing persons, not the perversion that grants corporations personhood - the two are not the same in a real governance aspect). It is time for the living people to be given their full value and not short-changed through legalistic servitude to moneyed interests. The cynicism directed toward government these days owes much to such transparent maneuvering. I know as dedicated representatives of the living people of Palo Alto, you want to build a trust between citizens and their governments.

Thank you,

Kip Husty

Baumb, Nelly

From: kip <krhusty@hotmail.com>
Sent: Friday, June 18, 2021 12:12 PM
To: Council, City; Tomforcouncil@gmail.com; patburt11@gmail.com; AlisonLCormack@CityofPaloAlto.org; Filseth, Eric (external); LydiaKou@gmail.com; Greer Stone; greg@GregTanaka.org; Clerk, City; Architectural Review Board; Planning Commission
Subject: Appeal of Verizon cell tower application approval

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Representative of the People,

I am writing to ask that you over-turn the deficient and disturbing decision by Planning Director Jonathan Lait's to approve Verizon's cell tower application 20PLN-0018.

The appeal filed by United Neighbors discusses the deficiencies of the application and Director Lait's failure to uphold the legal requirements for any such application. There is a great deal of talk these days about the break-down of the 'rule of law' and that should not be only directed against disgruntled citizens who break the law, but should be first and foremost applied to the decisions by the State. Further, the rule of law must be there to protect the people first and foremost, without contortions to benefit the interests of profit making under whatever tortured rationale. It is disturbing that we have to appeal a decision by City officials and agents that once again favors multi-national corporations that are merely here for profit, not because it is their community where they live their lives.

Director Lait has side-stepped legal requirements for the interests of a corporation that hires lawyers and PR reps to further their interests in profit. This kind of leniency given to moneyed interests has a suspicious appearance. To strengthen the rule of law for the people it emanates from and for, and, additionally, to make it clear that favoritism based upon profit interests will not be tolerated in a City that represents its people first and foremost, this appeal should be granted. Not only would it meet legal requirements, it would send a message to the citizens of Palo Alto that their interests, as residents whose lives are directly affected by City decisions, are the primary concern of their government. Otherwise, cynicism creeps in as it appears that outside money takes precedence over locally lived interests.

For all the short-comings of the applications and the approval, the application should be denied. As a statement re-affirming the value of community and the people, it ought to be denied.

Thank you for your time,

Kip Husty

Baumb, Nelly

From: Alex Ivashchenko <alex@ivashchenko.name>
Sent: Friday, June 18, 2021 12:06 AM
To: Council, City
Cc: tomforcouncil@gmail.com; patburt11@gmail.com; alisonlcormack@cityofpaloalto.org; Filseth, Eric (external); lydiakou@gmail.com; gstone22@gmail.com; greg@gregtanaka.org; Clerk, City; Architectural Review Board
Subject: Please overturn Lait's decision to approve Verizon's cell tower application 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

-- A.I.

Baumb, Nelly

From: Art Liberman <art_liberman@yahoo.com>
Sent: Thursday, June 17, 2021 9:59 PM
To: Council, City
Subject: Overturn Cell Tower administrative approval

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Planning Director Jonathan Lait erred when he approved Verizon's cell tower application 20PLN-00118. Palo Alto codes require Verizon to notify residents within 600' of the project and hold a community meeting. Verizon failed to do so, yet Mr. Lait approved the project. Verizon proposes to use equipment that does not comply with Palo Alto's design standards, yet Mr, Lait approved the project.

Please overturn Mr. Lait's approval of this project and reject Verizon's application. Also, provide clarifying guidance to Mr. Lait, so that in the future he is aware that he can only approve projects that, at a minimum, comply with Palo Alto's Municipal Code.

Thank you,

Arthur Liberman
751 Chimalus Drive
Palo Alto

Baumb, Nelly

From: Leonard Schwarz <lschwarz@right-thing.net>
Sent: Thursday, June 17, 2021 5:57 PM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; AlisonLCormack@cityofpaloalto.org; Filseth, Eric (external); Kou, Lydia; 'Greg Tanaka'; Clerk, City; Architectural Review Board; Planning Commission
Subject: Verizon Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Council Members,

I strongly urge you to overturn Planning Director Lait's decision to approve Verizon's cell tower application 20PLN-00118 allowing cell towers at 850 Webster Street, 1221 Middlefield Road and 853 Middlefield Road.

In filing their application, Verizon simply ignored the requirement in Palo Alto's Municipal Code that residents living within 600 feet of any proposed site are to be notified of a meeting at which the applicant is to explain the project and answer residents' questions. One example: Channing House is within 600 feet of one of these sites, yet none of its residents were notified.

Moreover, Planning Director Lait has approved a design that is disallowed by our City's Code.

Please do not turn your back on the residents and allow a project to go forward that has been and remains in violation of the Palo Alto's Municipal Code. Why our City's Planning Director has decided to ignore the Code is a question for another day. But now is the moment for City Council to insist that our Municipal Code is not to be so casually disregarded.

Thank you,

Leonard Schwarz
Webster St., Palo Alto

Baumb, Nelly

From: Jeffrey S. Glenn <jsglenn@stanford.edu>
Sent: Thursday, June 17, 2021 4:49 PM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; AlisonLCormack@cityofpaloalto.org; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; greg@gregtanaka.org; Clerk, City; Architectural Review Board; Planning Commission
Subject: Appealing New Cell Towers

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Sincerely,
Jeffrey

Jeffrey S. Glenn, M.D., Ph.D.

Professor of Medicine and Microbiology & Immunology

Division of Gastroenterology and Hepatology

Director, Center for Hepatitis and Liver Tissue Engineering

Stanford University School of Medicine

CCSR Building, Rm. 3115A

269 Campus Drive

Stanford, CA 94305-5171

U.S.A.

email:jeffrey.glenn@stanford.edu

tel (office): (650)725-3373

tel (lab): (650)498-7419

fax: (650)723-3032

pager: (650)723-8222; ID# 23080

Baumb, Nelly

From: Jeanne Fleming <jfleming@metricus.net>
Sent: Thursday, June 17, 2021 4:00 PM
To: Clerk, City
Cc: chow_tina@yahoo.com; 'Jerry Fan'; annette.fazzino@gmail.com; jnimkar@gmail.com; Council, City
Subject: FW: 6/22 appeal of Verizon cell tower approval

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear City Clerk,

I fear that you may not have received the email below that I sent you earlier in the week.

As it says, I would appreciate it if you would tell me what the format will be of the 6/22/21 appeal hearing before City Council. For example, how much time will be allotted to each party and in what order will the parties speak?

I would also appreciate it if you would: 1) tell me to whom I should send exhibits for Tuesday's hearing (i.e., so that they can be shown to Council and the public); and 2) send me a Zoom link to provide to residents who would like to attend the hearing.

Again, thank you for your help. Since the hearing is only five days away, we are very much in need of this information.

Sincerely,

Jeanne Fleming

Jeanne Fleming, PhD
JFleming@Metricus.net
650-325-5151

-----Original Message-----
From: Jeanne Fleming <jjf@right-thing.net>
Sent: Tuesday, June 15, 2021 10:43 AM
To: city.clerk@cityofpaloalto.org
Cc: chow_tina@yahoo.com; Jerry Fan <jerry.fan@gmail.com>; Annette Fazzino <annette.fazzino@gmail.com>; Jyo Nimkar <jnimkar@gmail.com>
Subject: 6/22 appeal of Verizon cell tower approval

Dear City Clerk,

I would appreciate it if you would tell me what the format will be of the 6/22/21 appeal hearing before City Council. For example, how much time will be allotted to each party and in what order will the parties speak?

Thank you for your help.

Sincerely,

Jeanne Fleming

JFleming@Metricus.net
650-325-5151

Sent from my iPad

Baumb, Nelly

From: James VanHorne <james_vanhorne@stanford.edu>
Sent: Thursday, June 17, 2021 3:55 PM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; AlisonLCormack@cityofpaloalto.org; Filseth, Eric (external); Kou, Lydia; Greg Tanaka; Clerk, City; Architectural Review Board; Planning Commission
Subject: Verizon Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

I have lived in Palo Alto for over 50 years, and have become increasingly concerned about the heavy cell tower equipment to be installed on our telephone poles. I have written to you about this concern in the past.

In that regard, I urge you to reject and overturn Jonathan Lait's decision to approve Verizon cell tower application 20PLN-00118. This strikes me as a reversal of some of previous words he has said about paying attention to the opinions of citizens and to the ARB. Rather autocratic it strikes me.

Lait has now approved oversize equipment that does not comply with design standards established by Palo Alto. Residents and property owners within 600 feet of the projects approved, three as I understand it, have not been notified by Verizon. You cannot expect Verizon to do anything other than pressure city officials to yield to their agenda -- that is what they have implied to their stockholders.

Please deny their application and insist they comply with Palo Alto's Municipal Code. We as residents deserve better. Thank you for your consideration.

Sincerely, James C. Van Horne, 2000 Webster St., Palo Alto, CA 94301.

Baumb, Nelly

From: Francesca Kautz <dfkautz@pacbell.net>
Sent: Thursday, June 17, 2021 3:27 PM
To: Council, City
Cc: AlisonLCormack@cityofpaloalto.org; Architectural Review Board; Clerk, City; Filseth, Eric (external); greg@gregtanaka.org; GStone22@gmail.com; LydiaKou@gmail.com; PatBurt11@gmail.com; Planning Commission; tomforcouncil@gmail.com
Subject: Please deny Verizon's cell tower application 20PLN-00118.

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Francesca Kautz

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 2:49 PM
To: Council, City
Cc: AlisonLCormack@CityofPaloAlto.org
Subject: Jonathan Lait & Verizone Cell Towers Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 2:31 PM
To: Council, City
Cc: Planning Commission
Subject: Jonathan Lait & Verizone Cell Towers Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 2:26 PM
To: Council, City
Cc: Architectural Review Board
Subject: Jonathan Lait & Verizone Cell Towers Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 2:16 PM
To: Council, City
Cc: AlisonLCormack@CityofPaloAlto.org
Subject: Jonathan Lait & Verizone Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 2:12 PM
To: Council, City
Cc: Council Member Tanaka Office
Subject: Jonathan Lait & Verizone Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 2:04 PM
To: Council, City
Cc: patburt11@gmail.com
Subject: Jonathan Lait & Verizone Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 1:58 PM
To: Council, City
Cc: gstone22@gmail.com
Subject: Jonathan Lait & Verizone Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 1:56 PM
To: Council, City
Cc: greg@gregtanaka.org
Subject: Jonathan Lait & Verizone Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 1:55 PM
To: Council, City
Cc: tomforcouncil@gmail.com
Subject: Jonathan Lait & Verizone Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 1:55 PM
To: Council, City
Cc: Filseth, Eric (external)
Subject: Jonathan Lait & Verizone Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Barbara Kelly <bmkelly@hotmail.com>
Sent: Thursday, June 17, 2021 1:55 PM
To: Council, City
Cc: lydiakou@gmail.com
Subject: Jonathan Lait & Verizone Cell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Barbara Kelly, resident of Palo Alto

Baumb, Nelly

From: Paul Machado <plmachado@gmail.com>
Sent: Thursday, June 17, 2021 12:01 PM
To: Council, City; DuBois, Tom; Burt, Patrick; Tanaka, Greg; Kou, Lydia; Filseth, Eric (Internal); AlisonLCormack@cityofpaloalto.org; Stone, Greer
Subject: Verizon app 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Please deny this cell tower application as Verizon failed to comply with design and notification requirements. It is believed the applicant should be required to satisfy all requirements in the application process.

Thank you

Paul Machado

Baumb, Nelly

From: Alice Holmes <AHolmes@renault-handley.com>
Sent: Thursday, June 17, 2021 11:52 AM
To: Council, City
Cc: tomforcouncil@gmail.com; patburt11@gmail.com; alisonlcormack@cityofpaloalto.org; Filseth, Eric (external); lydiakou@gmail.com; gstone22@gmail.com; 'greg@gregtanaka.org'; Clerk, City; Architectural Review Board; Planning Commission
Subject: New Cell Towers

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

As a thirty five year resident of Palo Alto, I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Mr. Lait has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so. Why?

I have written concerning this matter in the past. I am very concerned that our city employees uphold the design standards and the Municipal Code. Why are you allowing Mr. Lait to override these two very important areas? Why is the City Manager allowing his employees to go around the rules? I continue to express concern about the power and control of the City Manager, who is not elected, and the interaction with City Council members. Please hold the Planning Director and the City Manager accountable to follow the design standards and insist that the Municipal Code is followed.

Please vote to deny their application and insist that Verizon comply with our City's Municipal Code.

As a resident of Palo Alto, I am counting on you to protect the quality of life in our community.

With appreciation for your service to our community,

Alice Holmes
Resident of Palo Alto since 1986

Baumb, Nelly

From: Nancy <ngkrop@gmail.com>
Sent: Thursday, June 17, 2021 11:07 AM
To: Council, City
Cc: PatBurt11@gmail.com; Tomforcouncil@gmail.com; AlisonLCormack@cityofpaloalto.org; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; greg@gregtanaka.org; Architectural Review Board; Planning Commission
Subject: Overturn Approval of Verizon cell tower application 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Palo Alto City Council members,

Please overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

First, due to Verizon's failure to comply with our City's Municipal Code, the application must be denied.

- The Planning Director approved oversized equipment that fails to comply with Palo Alto design standards;

- The Palo Alto Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. Verizon failed to do so.

Second - just a reminder - when considering ANY proposed cell tower, please comply with the PAUSD school board resolution recommending 1500 foot setbacks of cell towers from PAUSD schools. Several PAUSD PTAs also passed resolutions supporting these cell tower setbacks from our schools.

Thank you for making the time to read my email.

Nancy Krop
Barron Park resident

Baumb, Nelly

From: Ann Protter <ann.protter@gmail.com>
Sent: Thursday, June 17, 2021 10:59 AM
To: Council, City
Cc: Clerk, City; tomforcouncil@gmail.com; patburt11@gmail.com; Cormack, Alison; Filseth, Eric (external); lydiakou@gmail.com; gstone22@gmail.com; Greg Tanaka; Architectural Review Board
Subject: Verizon's Cell tower 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

Please overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

I understand that neither the design or the application process met the Palo Alto design standards. The equipment is oversized and there should have been a community meeting with the affected neighbors.

What is the point of community involvement and design standards if Mr Lait just approves projects that he likes?

Please deny the Verizon application and insist that Verizon comply with our City's Municipal Code.

We residents count on you, our City Council, to protect us from Verizon and Mr Lait's impudent decisions.

Sincerely,

Ann Protter

Baumb, Nelly

From: robell <robell999@gmail.com>
Sent: Thursday, June 17, 2021 10:43 AM
To: burt@cityofpaloalto.org; DuBois, Tom; Filseth, Eric (Internal); Kou, Lydia; gstone22@gmail.com; Stone, Greer; Greg Tanaka; Tanaka, Greg; Council, City
Cc: Jeanne Fleming
Subject: Verizon's Proposed Installation

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Palo Alto Council Members,

I write to you in support of the appeal issued by United Neighbors regarding Verizon's proposed installation of a cellular node to be located at 850 Webster Street. This address is Channing House where I live together with about 240 other senior residents.

Verizon did not notify us of this plan. We received a card on May 27, 2021 from City Hall informing us of this proposal. We live under a macro cell tower that Hammett Engineering assures us is harmless. Not all who live here are convinced that is the case as there are conflicting views among well-respected scientists. There is also an AT&T tower near our Health Center. However, adding this additional source of emissions is truly worrisome.

I hope you will oppose this installation so close to so many seniors who live near these emissions 24/7. We would desire the same setbacks as schools. Thank you for considering this matter.

Thank you,
Mary Robell

Baumb, Nelly

From: Magic <magic@ecomagic.org>
Sent: Thursday, June 17, 2021 10:27 AM
To: Council, City; Tom DuBois; PatBurt11@gmail.com; AlisonLCormack@cityofpaloalto.org; Filseth, Eric (external); Lydia Kou; Greer Stone; Greg Tanaka; Clerk, City; Architectural Review Board; Planning Commission
Subject: Appeal of approval of Verizon cell tower application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Councilmembers,

Please overturn Planning Director Jonathan Lait's approval of Verizon's cell tower application 20PLN-00118. Lait has allowed equipment that violates Palo Alto's design standards and has approved the application despite Verizon's failure to provide legally required notice to residents.

Please deny Verizon's application and warn them that you will continue to deny this and subsequent applications if they continue to violate the law.

Thank you for considering these views.

David Schrom

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THANK YOU!

www.ecomagic.org -------- (650) 323-7333-------- Magic, Box 15894, Stanford, CA 94309
****

Baumb, Nelly

From: Ardan Michael Blum <ardan.michael.blum@gmail.com>
Sent: Thursday, June 17, 2021 9:50 AM
To: Tomforcouncil@gmail.com; PatBurt11@gmail.com; AlisonLCormack@cityofpaloalto.org; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; greg@gregtanaka.org; Clerk, City; Architectural Review Board; Planning Commission; Council, City
Subject: Got one of these towers to be set up (possibly) 600 feet from your house and you remain silent? No! I do not think so!

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Ardan Michael Blum

/—/

ADDRESS:

Ardan Michael Blum
A. Blum Localization Services
345 Forest Avenue, Suite 204
94301, Palo Alto, California, USA.

PHONE/ PGP DETAILS:
Office & Signal: +1 (650) 427-9358
Mobile: +1 (650) 531-1103 NEW
Home: [not accepting text messages] +1 (650) 847-1810
PGP Key: Request

SOCIALLY & WORK ONLINE:
Twitter: @ArdanBlum | @Palo_Alto_Seo | @PaloAltoTourist
Professional Website: search-engine-optimization-company.com
Personal Blog: https://iterate.live

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/—/ /—/

Baumb, Nelly

From: Jyotsna Nimkar <jnimkar@gmail.com>
Sent: Wednesday, June 16, 2021 7:50 PM
To: Council, City
Cc: Clerk, City
Subject: Verizon cell tower application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear city council,

I would like to appeal the Planning Director's decision to approve Verizon's application 20PLN-00118 to install cell towers at 1221 Middlefield Road (Node 061), 850 Webster Street (Node 204) and 853 Middlefield Road (Node 205).

I want to voice a strong protest against Verizon for not complying with basic protocol such as sending out notices to all residents within 600 feet, not filing required documents, and for going with a new design that the City Ordinance clearly doesn't allow.

Appreciate your support in representing the residents of Palo Alto, especially those living in the neighborhoods of the proposed cell towers.

thanks
Jyo Nimkar
Palo Alto

Baumb, Nelly

From: Hamilton Hitchings <hitchingsh@yahoo.com>
Sent: Monday, June 21, 2021 11:21 AM
To: Council, City
Subject: Please Deny Verizon's cell tower application 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear City Council,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

The Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Given the noise and unknown health effects, I do not believe we should be permitting cell towers adjacent to residential properties and instead they should have a minimum set back (e.g. 100 feet). It should also be pointed out that telcos often put in equipment that exceeds their permitted strength and these cell towers can be in very close proximity to folks sleeping upstairs, which is not recommended.

Thank you for your consideration.

Hamilton Hitchings

Baumb, Nelly

From: Rita Vrhel <ritavrhel@sbcglobal.net>
Sent: Monday, June 21, 2021 11:35 AM
To: Council, City
Subject: Requesting overturn approval of new cell towers

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear City Council..please vote tomorrow to overturn Mr. Lait's approval of Verizon's application to install 3 new cell towers at 850 Webster, 1221 Middlefield Rd and 853 Middlefield Rd. Application # 20PLN-00118.

No one person who is not elected or held accountable to city residents, should be given the power to make such an important decision.

Mr. Lait has a history of not understanding issues with cell towers in residential areas or near schools.

The points set forth by United Neighbors are valid.

Please vote to overturn Mr. Lait's approval and demand that Verizon comply with the regulation existing in Palo Alto for cell towers.

Thank you.

Rita C. Vrhel
Phone: 650-325-2298

Baumb, Nelly

From: Samuel W Brain PhD <samb@stanford.edu>
Sent: Monday, June 21, 2021 11:42 AM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; Cormack, Alison; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; greg@GregTanaka.org; Clerk, City; Architectural Review Board
Subject: Overturn approval of Verizon's cell tower application 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka:

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Samuel W. Brain, Ph.D.
--
Samuel W. Brain, Ph.D., 3737 La Donna Ave, Palo Alto, CA 94306.

Baumb, Nelly

From: Renu Virdi <rkvirdi@gmail.com>
Sent: Monday, June 21, 2021 1:45 PM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; Cormack, Alison; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; greg@gregtanaka.org; Clerk, City; Architectural Review Board; Planning Commission
Subject: Appeal to overturn approval on cell tower application 20PLN-00118.

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone, and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

The Planning Director has approved oversized equipment that fails to comply with Palo Alto's design standards. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Renu Virdi

Baumb, Nelly

From: Ashish Bhan <abhan111@gmail.com>
Sent: Monday, June 21, 2021 2:16 PM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; Cormack, Alison; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; greg@gregtanaka.org; Clerk, City; Architectural Review Board
Subject: Cell Phone Towers in Palo Alto

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Ashish Bhan

Baumb, Nelly

From: Rebecca Sanders <rebsanders@gmail.com>
Sent: Monday, June 21, 2021 2:24 PM
To: Council, City
Subject: Re: Cell Towers for Discussion Tuesday, June 22 - Item #8

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois and Council Members:

I thought we already established our standards for Cell Towers in Palo Alto. So why did our planning director approve these three new towers that don't meet our standards?

Once again if a vested interest is rebuffed by one pathway, they simply try for another opening in the castle, this time through our planning director. Even more time is wasted in reviewing the same material over and over again. The telecommunications industry is stamping their feet to get what they want, but what is that to us? Why do they get another chance to get what they want?

Please reverse the planning director's decision and let's try to see if we can't motivate city staff to follow the will of Council and to serve the residents, whose interests appear to be overlooked and discounted whenever they interfere with business and considerations of the private sector.

People over there at United Neighbors and their friends have worked hard to educate council, residents and staff on how this topic affects residential quality of life, health and well-being. It's not fair or right that with one signature, a city staff member can undo all the advocacy of both the council and residents.

Thank you.

Becky Sanders
Ventura

Baumb, Nelly

From: William Beck <drewbeck9@gmail.com>
Sent: Monday, June 21, 2021 2:09 PM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; Cormack, Alison; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; Greg Tanaka; Clerk, City; Architectural Review Board
Subject: Please Do Not Allow Verizon Cell Tower Application 20PLN-00118 To Proceed

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

The street I live on has not been personally affected by the installation of cell towers but I still ask that you please deny their application and insist that Verizon comply with our City's Municipal Code. Design standards and notification requirements are there for good reasons. The residents of Palo Alto are counting on you to protect the processes that are in place and the quality of life in our community.

Thank you for your consideration,

William Beck

Resident, Palo Alto

Baumb, Nelly

From: Anne Lum <annelum@gmail.com>
Sent: Monday, June 21, 2021 2:34 PM
To: Council, City
Subject: Tomforcouncil@gmail.com; PatBurt11@gmail.com; Alison.Cormack@CityofPaloAlto.org; EFilseth@gmail.com; LydiaKou@gmail.com; GStone22@gmail.com; greg@GregTanaka.org; City.Clerk@cityofpaloAlto.org; ARB@cityofpaloalto.org; Planning.Commission@CityofPaloAlto.org

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Anne Lum

781 Barron, Homeowner and Resident

Baumb, Nelly

From: Kang, Danielle
Sent: Monday, June 21, 2021 10:51 AM
To: Council, City
Subject: FW: Appeal of Verizon Permit

Good morning City Council,

On behalf of Jeff Levinsky, I am forwarding the below email for your review.
Please let me know if there is anything else I can do to assist.

Thank you,
Dani

Danielle Kang
Administrative Associate III
Office of the City Clerk
250 Hamilton Avenue Palo Alto, CA 94301
P: 650.329.2159 | E: Danielle.Kang@CityofPaloAlto.org

---------- Forwarded message ---------
From: **Jeff Levinsky** <jeff@levinsky.org>
Date: Mon, Jun 21, 2021 at 10:49 AM
Subject: Re: Appeal of Verizon Permit

Test

----- Original Message -----
From: Jeff Levinsky
To: City Council
Cc: Kang, Danielle
Sent: Monday, June 21, 2021 10:48 AM
Subject: Appeal of Verizon Permit

Dear City Councilmembers:

I'd like to call your attention to the June 17 memo from Jonathan Lait regarding your upcoming appeal hearing on June 22 for the Verizon wireless project.

On page two, the letter acknowledges the appellants are correct in their very first claim that Verizon failed to adequately notify nearby residents of a community meeting regarding their application. In staff's own words, Verizon "failed to provide proper notice in accordance with the municipal code." The letter then goes on to suggest that the Council could deny the appeal anyway on this point by ruling that the notice of the appeal hearing itself constitutes some kind of substitute.

I urge you to not follow that recommendation. What is the point of your creating laws requiring applicants to notify the community if staff suggest you help applicants then ignore those laws? A key benefit of community meetings is to provide an opportunity for residents to learn at an early stage about a proposal and then work with others in the community to gather facts, submit questions, contact experts, engage with city officials as appropriate, and provide input

at subsequent hearings and opportunities. To ignore all that process, as staff suggests to you as an option, defies the whole concept of public engagement and transparency. And it means the laws of the City of Palo Alto can just be ignored.

Furthermore, Verizon has about 121 million customers in the United States and a market capitalization of about $231 billion. It's hard to believe that they need your forbearance to meet a requirement to notify residents in a particular part of the city, given that commercial databases provide every mailing address at negligible cost and the technology to determine distances of one address to another is commonplace. Staff's letter to you never mentions how easy it would have been for Verizon to comply with the law.

I recommend you uphold the appeal based on this aspect alone, have staff restart the public process our laws require, and remind city management that the public doesn't pay them to find ways to avoid compliance with the laws.

Thank you,

Jeff Levinsky

Baumb, Nelly

From: forest light <forest129@yahoo.com>
Sent: Monday, June 21, 2021 10:47 AM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; Cormack, Alison; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; greg@gregtanaka.org; Clerk, City; Architectural Review Board
Subject: June 22 Special Meeting, Action item 8, 3 Wireless Communication Facilities- Verizon Cluster 4

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Please OVERTURN Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established.
Our Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed.
But Verizon did not do so.

This comes no real surprise to our neighborhood where we have on past occasions we been forced to deal with various communications companies tiresome, arrogant, high-handed attitudes and unilateral projects.

Please deny Verizon's application and insist that Verizon comply with our City's Municipal Code and help us protect the quality of life in our community.

Thank you,

Michael Maurier
Fairmede Ave

MACKENZIE & ALBRITTON LLP
155 SANSOME STREET, SUITE 800
SAN FRANCISCO, CALIFORNIA 94104

TELEPHONE 415 / 288-4000
FACSIMILE 415 / 288-4010

June 21, 2021

VIA EMAIL

Mayor Tom Dubois
Vice Mayor Patrick Burt
Council Members Alison Cormack,
Eric Filseth, Lydia Kou,
Greer Stone and Greg Tanaka
City Council
City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301

Re: Verizon Wireless Response to Appeal, File No. 20PLN-00118
Three Approved Small Cells in the Right-of-Way
1221 Middlefield Road (Node 061), 850 Webster Street (Node 204) and
853 Middlefield Road (Node 205)
Council Agenda Item 8, June 22, 2021

Dear Mayor Dubois, Vice Mayor Burt and Council Members:

We write on behalf of Verizon Wireless to ask you to uphold the approval of three small cells on streetlight poles in the right-of-way (the "Approved Facilities"), and deny the appeal by Jeanne Fleming ("Appellant"). Over the last year, Verizon Wireless worked closely with Planning Division staff to ensure that the Approved Facilities satisfy all City requirements for wireless facilities. The approval by the Director of Planning and Development Services confirms that the Approved Facilities comply with the Palo Alto Municipal Code (the "Code") and the Council's *Objective Standards for Wireless Communication Facilities in the Public Rights-of-Way on Streetlight Poles* (the "Objective Standards"). Verizon Wireless's small cell design will pose little visual impact on City infrastructure and the local streetscape.

Appellant's objections to the Approved Facilities raise no conflict with the Code or Objective Standards, and provide no substantial evidence to warrant denial as required by the federal Telecommunications Act. Further, denial would constitute an unlawful prohibition of service, according to the Telecommunications Act. The Approved Facilities will provide new Verizon Wireless 5G Ultra-Wideband coverage in Palo Alto, enhancing service for residents, visitors, workers and emergency service personnel in the

University South area. We urge you to reject the appeal and approve the Approved Facilities.

I. The Approved Facilities

The Approved Facilities have been thoughtfully designed to minimize any visual impact in compliance with the Objective Standards. For all three nodes, Verizon Wireless will replace an existing City-owned streetlight pole with a pole less than 5.5 feet taller. For Nodes 061 and 204, the new poles will be the stylized "downtown" design with a globe light fixture and decorative base, and for Node 205, the pole and light will closely match the existing streetlight. At the top of each pole, above the luminaire arm, Verizon Wireless will flush-mount two or three directional antennas. Each antenna will be placed within a partial shroud 29.5 inches tall and 10.2 inches wide. With rounded edges, these partial shrouds improve appearance while allowing signal to propagate unobstructed from the front of the antenna. The poles and antennas will be painted green. No other wireless equipment will be placed on the pole. Utility connections will be routed underground.

Photosimulations of the Approved Facilities are attached as Exhibit A. Radio frequency exposure reports prepared by Hammett & Edison, Inc., Consulting Engineers, attached as Exhibit B, confirm that the Approved Facilities will operate well below Federal Communications Commission ("FCC") exposure limits.

II. The Approved Facilities Satisfy All Requirements for Approval.

As confirmed by the Director's approval, the Approved Facilities satisfy all requirements for a Tier 2 wireless communications facility permit. Code § 18.42.110(g)(2). This includes compliance with the Objective Standards and the criteria for the City to grant exceptions as necessary to avoid conflict with federal or state law. Code § 18.42.110(k)(1).

Each small cell qualifies for an "equipment adjustment" for antennas on streetlight poles. This is because the antennas cannot be fully shrouded, as that impedes propagation of high-band 5G frequencies that Verizon Wireless has licensed from the FCC. The antennas meet the adjustment dimension thresholds, as each is 0.85 cubic feet (including its individual partial shroud), and all three total less than 2.6 cubic feet. Objective Standards, p. 6. Because radios are integrated into the antennas, no other wireless equipment is required on the pole.

Per the Objective Standards, the streetlight poles must be replaced when adding antennas. Objective Standards, p. 7. The Director approved exceptions for minor differences in pole width, height and appearance as necessary to increase structural capacity or to accommodate the pole components available from the manufacturer, Valmont. For example, the proposed pole diameters exceed the City's usual specifications, which are too narrow for the overall structural load, so an exception is

required. These exceptions avoid technically infeasible City requirements that would contradict FCC regulations requiring cities to evaluate small cells under reasonable standards. *See Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment,* Declaratory Ruling and Third Report and Order, 33 FCC Rcd. 9088, ¶¶ 86-87 (September 27, 2018) (the *"*Infrastructure Order*"*).[1]

The Objective Standards generally permit right-of-way facilities in non-residential zones. However, prohibiting small cells along residential zone rights-of-way would contradict federal and state law, as explained in Verizon Wireless's *Exception Request* attached as Exhibit C. Therefore, the Director granted an exception allowing the facilities in residential zones. The Approved Facilities comply with the direction to locate over 20 feet from occupied buildings and intersections, and to avoid placement along the central 50% of the adjacent parcel's front lot line (the "residential zone of exclusion"), and so do not require exceptions from these standards. Each facility is located over 300 feet from public schools, which is an absolute requirement. Objective Standards, pp. 3, 4, 8.

In sum, the Approved Facilities comply with all City requirements for approval.

III. Verizon Wireless is Authorized to Place the Approved Facilities in the Public Right-of-Way Pursuant to State Law

State law entitles telephone corporations such as Verizon Wireless to install telephone equipment, such as the Approved Facilities, "along any public road and highway," subject only to reasonable local regulations to avoid interference with the public use of the right-of-way. Cal. Pub. Util. Code § 7901. The California Supreme Court has confirmed that telephone corporations maintain the right to erect telephone equipment in the public right-of-way subject to local regulation based on aesthetic considerations. *T-Mobile West LLC v. City and County of San Francisco* (2019) 6 Cal.5th 1107.

IV. Appellant Presents No Substantial Evidence To Warrant Denial.

Under the federal Telecommunications Act, a local government's denial of a wireless facility application must be based on "substantial evidence." *See* 47 U.S.C. § 332(c)(7)(B)(iii). As interpreted under controlling federal court decisions, this means that denial must be based on requirements set forth in local regulations and supported by evidence in the record. *See Metro PCS, Inc. v. City and County of San Francisco,* 400 F.3d 715, 725 (9th Cir. 2005) (denial of application must be "authorized by applicable local regulations and supported by a reasonable amount of evidence"). Generalized aesthetic objections do not amount to substantial evidence upon which a local

[1] Last year, the Ninth Circuit Court of Appeal upheld the FCC's requirement for "reasonable" small cell standards. *See City of Portland v. United States*, 969 F.3d 1020 (9th Cir. 2020), petition for cert. pending, No. 20-1354 (filed March 22, 2021).

government could deny a wireless facility permit. *See City of Rancho Palos Verdes v. Abrams* (2002) 101 Cal.App.4th 367, 381.

Appellant raised 19 objections in their appeal statement, none of which rise to the level of substantial evidence that would support denial. The Director provided the City's response to each of Appellant's claims in a supplemental memorandum to the Council (the "Director's Memo"). Below, we provide Verizon Wireless's response to Appellant's various arguments.

1. Community meeting notice. Appellant charges that there was not proper notice of the community meeting. While the Director's Memo determined that individual apartments at 850 Webster Street may have been overlooked, the Director also noted that the City hand-delivered notice of the approval to those residents, which described the Approved Facilities and the opportunity to appeal to the City Council. Any lack of opportunity to participate in the June 2020 community meeting is cured by the subsequent notice of approval and right to appeal provided by the City.

Pursuant to Government Code Section 65010(b), procedural errors in noticing do not affect the validity of permits "unless the court finds that the error was prejudicial and that the party complaining or appealing suffered substantial injury from that error and that a different result would have been probable if the error had not occurred." Furthermore, "[t]here shall be no presumption that error is prejudicial or that injury was done if the error is shown." *Ibid*.; *see also Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal.App.4th 899.

2. Notice content. Appellant complains that the community meeting notice was misleading, but that is merely a subjective assessment. Sent at an early stage in the application process, the notice accurately described the date and time of the June 25, 2020 community meeting, which was an online "open house" due to the California Stay Home Order. The notice simply described the project as "adding small wireless facilities to existing metal streetlight poles," and more information was provided during the meeting. The community meeting notice is attached as Exhibit D.

3. Application completeness. Appellant wrongly claims that the application is incomplete, but Verizon Wireless has in fact submitted all information required by the City's *Application Submittal Requirements Checklist* for Tier 2 facilities in the right-of-way. This includes coverage information provided in the *Statement of Verizon Wireless RF Design Engineer Brian Ung,* attached as Exhibit E. Verizon Wireless also provided a detailed spreadsheet comparing the number of exceptions required for each proposed facility and its multiple alternatives, even though such diligent review of alternatives is not required. The Planning Division issued several notices informing Verizon Wireless of missing information, and Verizon Wireless responded with information and explanations. Ultimately the Planning Division deemed the application complete in an email dated May 7, 2021.

4. Shrouding. The Objective Standards provide flexibility on shrouding requirements, and Appellant is mistaken that all Verizon Wireless antennas must be covered in a single integrated shroud. As noted, full shrouding would cover the face of the antennas and impede the 5G signal, so the antennas qualify for an "equipment adjustment" under the Objective Standards, and no exception is required. The equipment adjustment obviates the need for a single integrated shroud. Instead, each antenna is enclosed within a partial shroud.

5. ARB review. While Appellant believes that the Approved Facilities should have been reviewed by the Architectural Review Board, that is at the Director's sole discretion, and not a firm requirement. Code § 18.42.110(g)(1).

6. Independent consultant evaluation. This is optional at the City's discretion, not a requirement. Code § 18.42.110(k)(4), Objective Standards, p. 3, n. 1. Contrary to Appellant's claim, the Director need not justify whether to hire a consultant. In fact, the City contracted with CTC Technology & Energy for technical consultation on factors such as compliance with the FCC's radio frequency exposure guidelines. Verizon Wireless reimbursed the City $11,753.44 for the cost, which included a 25% contract administrative charge, on February 19, 2021.

7. Tree screening (Node 205). A tree to the northeast of this node will provide screening, and Verizon Wireless did in fact explain why there cannot be a second tree within 35 feet southwest. Our January 29, 2021 letter to Associate Planner Garret Sauls described the obstructions southwest along the sidewalk that are shown on architectural drawings. These include above- and below-ground utility equipment as well as a driveway, all of which render a new tree to be infeasible there. The Director agreed that there are no viable locations for a tree to the southwest.

8. Deciduous tree screening. Appellant overstates the screening standard, which does not require evergreen trees or full "concealment," but rather "interruption of direct views." Objective Standards, p. 7. Where feasible, deciduous tree species that are typical along Palo Alto streets satisfy this requirement.

9. RF exposure compliance. Appellant questions the safety of the Approved Facilities with respect to radio frequency exposure compliance. The Hammett & Edison reports attached as Exhibit B confirm that each small cell will fall well below the FCC's exposure guidelines, including exposure at nearby buildings, and the CTC Technology & Energy report confirms compliance. The City cannot consider the environmental effects of radio frequency emissions because the Approved Facilities will comply with FCC exposure guidelines. 47 U.S.C. § 332(c)(7)(B)(iv).

10. 20-foot structure setback (Node 061). While the Objective Standards require a 20-foot setback from occupied structures, Appellant is simply wrong that Node 061 is within 20 feet of the residence at 1221 Middlefield Road. The architectural drawings (Sheet A-

1) confirm that the streetlight pole is 34 feet 3 inches from that residence, well over the setback.

11. Equipment orientation (Node 061). Appellant seeks justification for the exception allowing one antenna to be oriented toward private property. The Director's approval explained that surrounding trees will allow the facility to "blend in with the surrounding environment," and that the antenna will not directly impact pedestrian sight lines. The Director also confirmed that "there were no opportunities where this condition would not apply that required a lesser number of exceptions." Findings for Approval of Node 061, § III(4). This is consistent with the required exception finding that a facility comply with the Objective Standards to the greatest extent feasible. Code § 18.42.110(k)(1)(A).

12. Views from street and residences. Appellant charges that the Director's approval does not address views from the street and residences. However, such vague determinations about view impacts are not required by the Objective Standards, which consist of specific, quantifiable criteria to address visibility. The only mention of "view" is the landscaping requirement, which is satisfied by tree screening. As noted, a state court ruled that vague aesthetic objections are not substantial evidence for denial of a wireless facility.

13. Fiber backhaul. Verizon Wireless's application need not show fiber backhaul, as Appellant alleges. Verizon Wireless will not install the fiber backhaul lines that connect its small cells in Palo Alto, but will be a customer of a fiber company that provides connections for various users along a fiber route. Fiber companies are regulated differently, and generally are registered with the California Public Utilities Commission as wireline telephone companies, whereas Verizon Wireless is a cellular carrier. Further, fiber backhaul networks are beyond the scope of a "small wireless facility" as defined by the FCC. 47 C.F.R. § 1.6002(l). Verizon Wireless's permits encompass each small cell up to its point-of-connection with the fiber backhaul network, but not beyond. Fiber providers will secure their own permits under applicable regulations.

14. Exception for wider pole (Nodes 061 & 204). As confirmed by the Director's approval, slightly wider replacement poles are required for sufficient structural capacity to support the addition of antennas. *See, e.g.,* Findings for Approval of Node 061, § III(3). For each node, a report by a California-registered engineer with All States Engineering & Surveying confirms that the wider light pole and foundation have adequate capacity to support the luminaire arm and antennas. Requiring a narrower pole diameter with insufficient capacity would be technically infeasible and unreasonable in contradiction of FCC regulations, so an exception is warranted.

15. Antenna volume limit. As noted, the Objective Standards allow an equipment adjustment for antennas with a cumulative volume less than 2.6 cubic feet. Appellant acknowledges that the antennas are less at 2.55 cubic feet, but believes that the volume calculation must include mounting brackets, pole extensions and a single integrated

shroud. That is incorrect. According to the Objective Standards, the individual volume limit of 0.85 cubic feet applies only to "equipment that cannot propagate an adequate signal" (which is the antennas). The cumulative volume limit of 2.6 cubic feet applies only to the antennas and "any shrouding." Objective Standards, p. 6. Mounting hardware does not propagate signal, and is not shrouding, and so should not be included in the volume calculation. As explained above, the Approved Facilities require only a partial shroud for each antenna, not a full integrated shroud for all, and the partial shrouds are included in the 2.55 cubic foot total.

16. Certificate of insurance. Appellant insinuates that the certificate of insurance must include liability for injury from radio frequencies that do not comply with FCC exposure guidelines. As discussed above, the Hammett & Edison and CTC Technology & Energy reports both confirm that the Approved Facilities fall well under the FCC's exposure limits. The Director's Memo notes that insurance requirements are mandated by Verizon Wireless's Master License Agreement with the City.

17. No abandoned equipment. Verizon Wireless has no abandoned facilities in Palo Alto, as all of its facilities are needed to serve the area, and none need to be decommissioned. Appellant's charge is baseless.

18. Tier category. The Approved Facilities involve collocation of small cell wireless facilities, which is classified as a Tier 2 permit under the Code, as confirmed by the Director's Memo. Appellant is incorrect that they would be considered Tier 3 facilities.

19. Proof that denial would deprive Verizon Wireless of its rights under federal and state law. Verizon Wireless provided this information in order to secure approval of exceptions. Appellant overlooks Verizon Wireless's *Exception Request* addressing federal and state law (Exhibit C), its documentation of a significant gap (the RF engineer's statement attached as Exhibit E), and the alternatives information on the record.

V. Denial Would Constitute an Unlawful Prohibition of Service.

The Telecommunication Act provides that local government regulation of wireless facilities "shall not prohibit or have the effect of prohibiting" the provision of personal wireless service. 47 U.S.C. § 332(c)(7)(B)(i)(II). Under long-established Ninth Circuit case law, a local government's denial of a permit for a wireless facility violates the "effective prohibition" clause of the act if a wireless provider can show (1) that it has a "significant gap" in service, and (2) that a facility is the "least intrusive means," in relation to the land use values embodied in local regulations, to address the gap. *See T-Mobile USA, Inc. v. City of Anacortes,* 572 F.3d 987 (9th Cir. 2009).

If a provider proves both elements, the local government *must* approve the facility, even if there is substantial evidence to deny the permit under local regulations (which is not the case here). This is because federal law preempts local regulations when

denial of the permit would effectively prohibit the provision of personal wireless services. *Id.,* 572 F.3d at 999. To avoid such preemption, the local government must show that another alternative is available, technologically feasible, and less intrusive than the proposed facility. *Id.,* 572 F.3d at 998-999. Federal law does not require that a proposed facility be the "only" alternative, but rather that no feasible alternative is less intrusive than a proposed facility. *See Metro PCS, Inc. v. San Francisco,* 400 F.3d at 734-35.

In its 2018 Infrastructure Order, the FCC determined that this two-part test is too narrow. Specifically, the FCC confirmed that a wireless carrier need not show an insurmountable barrier, or even a significant gap, to prove a prohibition of service. Infrastructure Order, ¶¶ 35, 38. Instead, "a state or local legal requirement constitutes an effective prohibition if it 'materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.'" *Id.*, ¶ 35. Thus, state or local regulations are preempted if they materially inhibit "densifying a wireless network, introducing new services, or otherwise improving service capabilities." *Id.,* ¶ 37.

In this case, denial would not survive judicial review under either standard. First, denial would violate the two-part test for a prohibition of service claim. As described above, the *Statement of Verizon Wireless Radio Frequency Design Engineer Brian Ung* provides evidence of a significant gap in Verizon Wireless 5G Ultra-Wideband service in the Downtown and University South areas of Palo Alto. The alternatives information on the record confirms that the Approved Facilities are the least intrusive feasible option in the right-of-way to serve targeted areas of the gap.

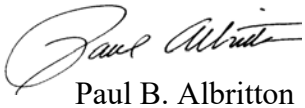
Second, because Verizon Wireless has satisfied the two-part test to prove a prohibition of service, it has necessarily met the more flexible standard set forth in the FCC's Infrastructure Order. Whether or not it demonstrates a significant gap in service, the evidence proves at a minimum that the Approved Facilities will provide new Verizon Wireless 5G Ultra-Wideband service in the University South area. Thus, denial of the application would prevent Verizon Wireless from introducing new service and improving its service overall, and therefore it would materially limit or inhibit its ability to compete in a fair and balanced legal and regulatory environment. In other words, denial would effectively prohibit service in violation of the Telecommunications Act. *See* 47 U.S.C. §§ 253(a), 332(c)(7)(B)(i)(II); Infrastructure Order, ¶¶ 35, 37.

Conclusion

Verizon Wireless has worked diligently to identify the ideal location and design for its new small cell facilities in Palo Alto. The Approved Facilities will pose minimal visual impact on existing utility infrastructure along the right-of-way, and they are consistent with all City standards for approval. They will bring new Verizon Wireless 5G Ultra-Wideband service to the University South area, benefitting residents, visitors,

workers and emergency responders. We encourage you to deny the appeal, and to approve the Approved Facilities.

Very truly yours,



Paul B. Albritton

cc: Aylin Bilir, Esq.
Jonathan Lait
Garrett Saults

Schedule of Exhibits

Exhibit A: Photosimulations
Exhibit B: Radio Frequency Exposure Compliance Reports
Exhibit C: Verizon Wireless's Exception Request
Exhibit D: Notice of Community Meeting, June 25, 2020
Exhibit E: Statement of Verizon Wireless Radio Frequency Design Engineer Brian Ung

Exhibit A

verizon

SF Palo Alto 061

Adjacent to 1221 Middlefield Road
Palo Alto, CA

3/15/21

Looking Northeast from Middlefield Road

View #1

Applied Imagination 510 914-0500

verizon

SF Palo Alto 061

Adjacent to 1221 Middlefield Road
Palo Alto, CA

3/15/21

Looking East from Middlefield Road

View #2

Applied Imagination 510 914-0500

verizon

CA SJ Palo Alto 204

850 Webster Street
Palo Alto, CA

3/15/21

Looking South from Webster Street

View #2

Applied Imagination 510 914-0500

verizon

CA SJ Palo Alto 204

850 Webster Street
Palo Alto, CA

3/15/21

Looking Northeast from Webster Street

View #1

Applied Imagination 510 914-0500

verizon

CA SJ Palo Alto 205

853 Middlefield Road
Palo Alto, CA

Looking North from Middlefield Road

View #1

3/15/21

Applied Imagination 510 914-0500

verizon

CA SJ Palo Alto 205

853 Middlefield Road
Palo Alto, CA

3/15/21

Looking Southwest from Middlefield Road

View #2

Applied Imagination 510 914-0500

Verizon Wireless • Proposed Small Cell (No. 425208 "SF Palo Alto 061")
1221 Middlefield Road • Palo Alto, California

Exhibit B

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate its small cell (No. 425208 "SF Palo Alto 061") proposed to be sited in Palo Alto, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install three small antennas on the municipal light pole sited in the public right-of-way near 1221 Middlefield Road in Palo Alto. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

Wireless Service Band	Transmit Frequency	"Uncontrolled" Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm^2	5.0 mW/cm^2
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
CBRS (Citizens Broadband Radio)	3,550 MHz	1.0	5.0
BRS (Broadband Radio)	2,490	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
600 MHz	617	0.41	2.05
[most restrictive frequency range]	30–300	0.20	1.0

General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The radios are typically mounted on the support pole or placed in a cabinet at ground level, and they are

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connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). This methodology is an industry standard for evaluating RF exposure conditions and has been demonstrated through numerous field tests to be a conservative prediction of exposure levels.

Site and Facility Description

Based upon information provided by Verizon, including drawings by All States Engineering & Surveying, dated August 31, 2020, it is proposed to install three Ericsson Model 6701, 2-foot tall, directional panel antennas with integrated radios on top of a new light pole to replace the existing pole sited in the public right-of-way in front of the residence at 1221 Middlefield Road in Palo Alto. The antennas would employ no downtilt, would be mounted at an effective height of about 26½ feet above ground, and would be oriented toward 0°T, 120°T, and 240°T. The maximum effective radiated power proposed in any direction is 193 watts in the 28 GHz band. There are reported no other wireless telecommunications base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.0059 mW/cm^2, which is 0.59% of the applicable public exposure limit. The maximum calculated level at the second-story elevation of any nearby building[*] is 1.9% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

[*] Including the nearest residence, located at 1221 Middlefield Road, at least 30 feet away based on the drawings.

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Recommended Mitigation Measures

Due to their mounting locations and height, the antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training be provided to all workers who have access within 8 feet outward from the antennas. No access within 2 feet directly in front of the antennas should be allowed while the antennas are in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs[†] be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by Verizon Wireless near 1221 Middlefield Road in Palo Alto, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating small cells. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-21306, which expires on September 30, 2021. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

Neil J. Olij, P.E.
707/996-5200

September 29, 2020

[†] Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidelines from the landlord, local zoning or health authority, or appropriate professionals may be required.

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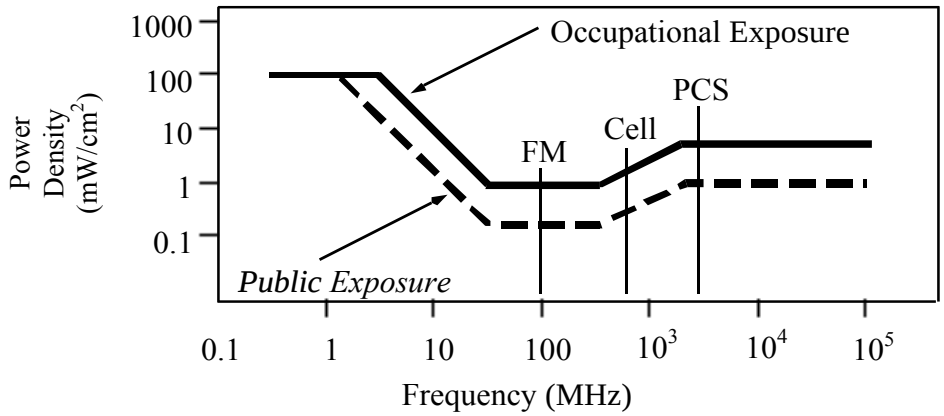
FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm^2)	
0.3 – 1.34	614	*614*	1.63	*1.63*	100	*100*
1.34 – 3.0	614	*823.8/ f*	1.63	*2.19/ f*	100	*180/ f^2*
3.0 – 30	1842/ f	*823.8/ f*	4.89/ f	*2.19/ f*	900/ f^2	*180/ f^2*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	$3.54\sqrt{f}$	*$1.59\sqrt{f}$*	$\sqrt{f}/106$	*$\sqrt{f}/238$*	f/300	*f/1500*
1,500 – 100,000	137	*61.4*	0.364	*0.163*	5.0	*1.0*



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has incorporated those formulas in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm^2,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm^2,

where θ_{BW} = half-power beamwidth of antenna, in degrees,
P_{net} = net power input to antenna, in watts,
D = distance from antenna, in meters,
h = aperture height of antenna, in meters, and
η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm^2,

where ERP = total ERP (all polarizations), in kilowatts,
RFF = three-dimensional relative field factor toward point of calculation, and
D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula is used in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program also allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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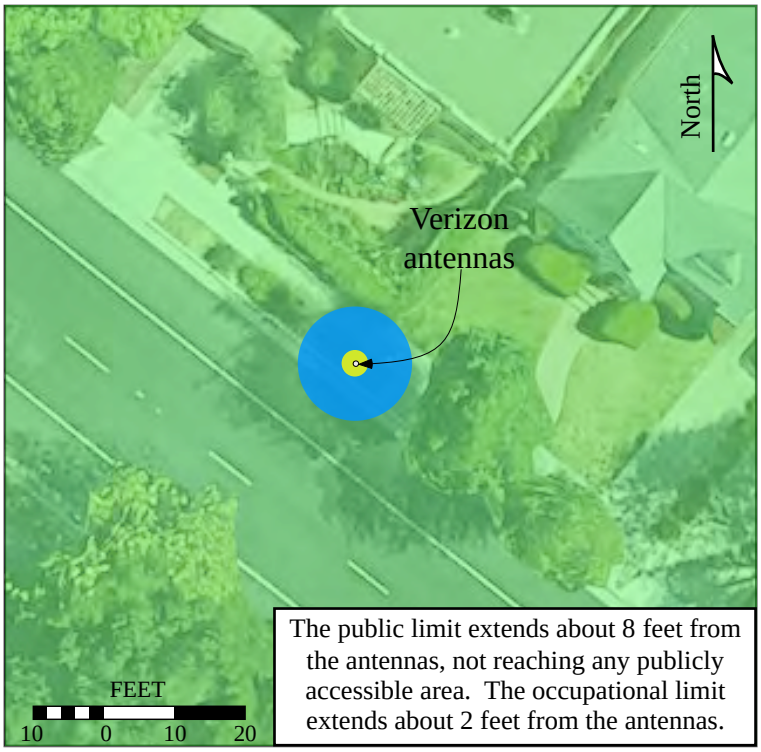
Verizon Wireless • Proposed Small Cell (No. 425208 "SF Palo Alto 061")
1221 Middlefield Road • Palo Alto, California

Calculated RF Exposure Levels

at Elevation of Antennas (25 – 28 feet above ground)



Legend:

- less than FCC Public Limit
- greater than FCC Public Limit less than FCC Occupational Limit
- greater than FCC Occupational Limit

Notes:

Calculations performed according to OET Bulletin No. 65, August 1997.

Base image from Google Maps.

at Ground, at 10 Feet Above Ground, and at Nearby Buildings

sign on pole below antennas

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Verizon Wireless • Proposed Small Cell (No. 566800 "SF Palo Alto 204")
850 Webster Street • Palo Alto, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate its small cell (No. 566800 "SF Palo Alto 204") proposed to be sited in Palo Alto, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install two small antennas on the municipal light pole sited in the public right-of-way near 850 Webster Street in Palo Alto. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

Wireless Service Band	Transmit Frequency	"Uncontrolled" Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm^2	5.0 mW/cm^2
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
CBRS (Citizens Broadband Radio)	3,550 MHz	1.0	5.0
BRS (Broadband Radio)	2,490	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
600 MHz	617	0.41	2.05
[most restrictive frequency range]	30–300	0.20	1.0

Power line frequencies (60 Hz) are well below the applicable range of these standards, and there is considered to be no compounding effect from simultaneous exposure to power line and radio frequency fields.

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General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The radios are typically mounted on the support pole or placed in a cabinet at ground level, and they are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). This methodology is an industry standard for evaluating RF exposure conditions and has been demonstrated through numerous field tests to be a conservative prediction of exposure levels.

Site and Facility Description

Based upon information provided by Verizon, including drawings by All States Engineering & Surveying, dated September 10, 2020, it is proposed to install two Ericsson Model 6701, 2-foot tall, directional panel antennas with integrated radios on top of a new light pole to replace the existing pole sited in the public right-of-way on the southeast side of Homer Avenue about 100 feet southwest of Webster Street, adjacent to the tall residential building at 850 Webster Street in Palo Alto. The antennas would employ no downtilt, would be mounted at an effective height of about 23 feet above ground, and would be oriented toward 0°T and 240°T. The maximum effective radiated power proposed in any direction is 193 watts in the 28 GHz band. There are reported no other wireless telecommunications base stations at the site or nearby.

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Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.0085 mW/cm^2, which is 0.85% of the applicable public exposure limit. The maximum calculated level at any nearby building* is 1.1% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

Recommended Mitigation Measures

Due to their mounting locations and height, the antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training be provided to all workers who have access within 8 feet outward from the antennas. No access within 2 feet directly in front of the antennas should be allowed while the antennas are in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs† be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by Verizon Wireless near 850 Webster Street in Palo Alto, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating small cells. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

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* Including the second- and third-floor balconies of the adjacent residential building, located at least 40 feet away based on the drawings.

† Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidelines from the landlord, local zoning or health authority, or appropriate professionals may be required.

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Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-21306, which expires on September 30, 2021. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

Neil J. Olij, P.E.
707/996-5200

September 29, 2020

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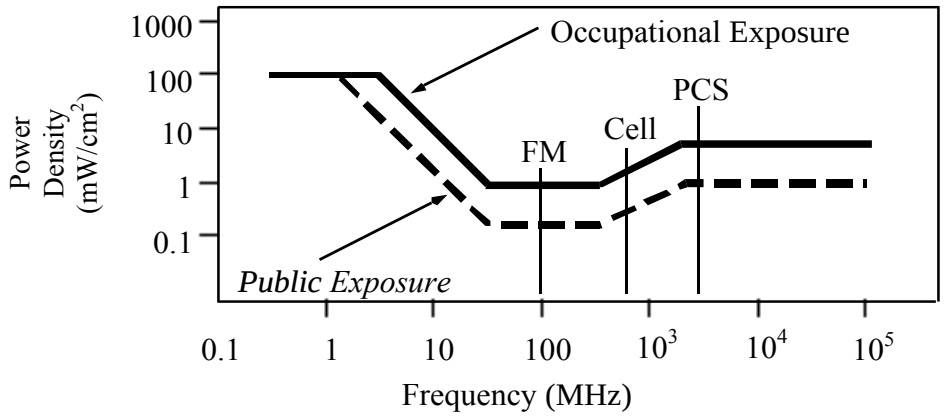
FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm^2)	
0.3 – 1.34	614	*614*	1.63	*1.63*	100	*100*
1.34 – 3.0	614	*823.8/ f*	1.63	*2.19/ f*	100	*180/ f^2*
3.0 – 30	1842/ f	*823.8/ f*	4.89/ f	*2.19/ f*	900/ f^2	*180/ f^2*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	$3.54\sqrt{f}$	*$1.59\sqrt{f}$*	$\sqrt{f}/106$	*$\sqrt{f}/238$*	f/300	*f/1500*
1,500 – 100,000	137	*61.4*	0.364	*0.163*	5.0	*1.0*



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has incorporated those formulas in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm^2,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm^2,

where θ_{BW} = half-power beamwidth of antenna, in degrees,
P_{net} = net power input to antenna, in watts,
D = distance from antenna, in meters,
h = aperture height of antenna, in meters, and
η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm^2,

where ERP = total ERP (all polarizations), in kilowatts,
RFF = three-dimensional relative field factor toward point of calculation, and
D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula is used in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program also allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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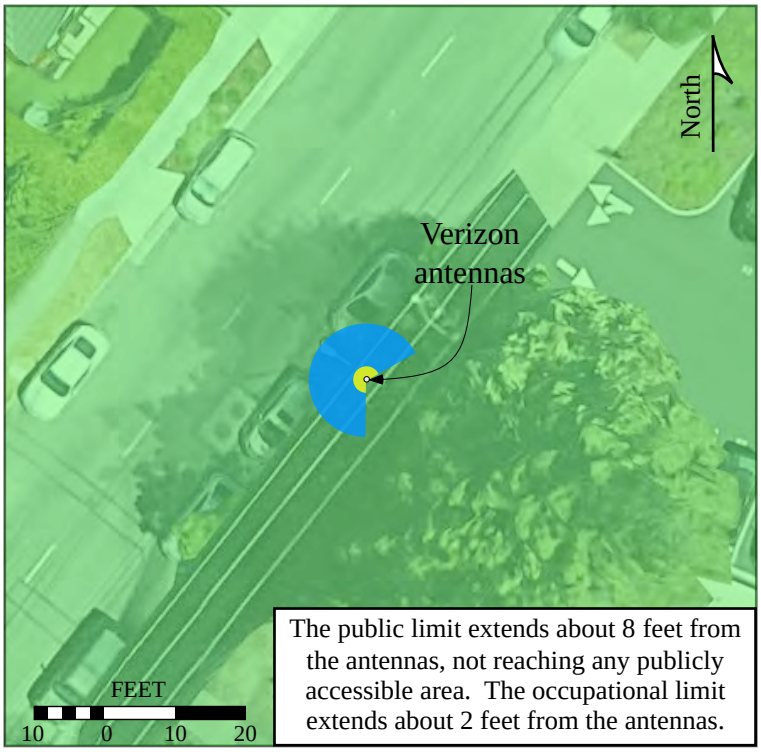
Verizon Wireless • Proposed Small Cell (No. 566800 "SF Palo Alto 204")
850 Webster Street • Palo Alto, California

Calculated RF Exposure Levels

at Elevation of Antennas (21½ – 24½ feet above ground)



Legend:

- less than FCC Public Limit
- greater than FCC Public Limit less than FCC Occupational Limit
- greater than FCC Occupational Limit

Notes:

Calculations performed according to OET Bulletin No. 65, August 1997.

Base image from Google Maps.

at Ground, at 10 feet Above Ground, and at Nearby Buildings

sign on pole below antennas

Power line frequencies (60 Hz) are well below the applicable range of the radio frequency exposure standards, and there is considered to be no compounding effect from simultaneous exposure to power line and RF fields.

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Verizon Wireless • Proposed Small Cell (No. 566801 "SF Palo Alto 205")
853 Middlefield Road • Palo Alto, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate its small cell (No. 566801 "SF Palo Alto 205") proposed to be sited in Palo Alto, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install three small antennas on the municipal light pole sited in the public right-of-way near 853 Middlefield Road in Palo Alto. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

Wireless Service Band	Transmit Frequency	"Uncontrolled" Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm^2	5.0 mW/cm^2
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Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
CBRS (Citizens Broadband Radio)	3,550 MHz	1.0	5.0
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Power line frequencies (60 Hz) are well below the applicable range of these standards, and there is considered to be no compounding effect from simultaneous exposure to power line and radio frequency fields.

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General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The radios are typically mounted on the support pole or placed in a cabinet at ground level, and they are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). This methodology is an industry standard for evaluating RF exposure conditions and has been demonstrated through numerous field tests to be a conservative prediction of exposure levels.

Site and Facility Description

Based upon information provided by Verizon, including drawings by All States Engineering & Surveying, dated September 1, 2020, it is proposed to install three Ericsson Model 6701, 2-foot tall, directional panel antennas with integrated radios on top of a new light pole to replace the existing pole sited in the public right-of-way in front of the single-story office building at 853 Middlefield Road in Palo Alto. The antennas would employ no downtilt, would be mounted at an effective height of about 23 feet above ground, and would be oriented toward 60°T, 180°T, and 300°T. The maximum effective radiated power proposed in any direction is 193 watts in the 28 GHz band. There are reported no other wireless telecommunications base stations at the site or nearby.

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Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.0086 mW/cm^2, which is 0.86% of the applicable public exposure limit. The maximum calculated level at the second-story elevation of any nearby building* is 1.2% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

Recommended Mitigation Measures

Due to their mounting locations and height, the antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training be provided to all workers who have access within 8 feet outward from the antennas. No access within 2 feet directly in front of the antennas should be allowed while the antennas are in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs† be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by Verizon Wireless near 853 Middlefield Road in Palo Alto, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating small cells. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

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* Including the nearest residence, located at 737 Channing Avenue, at least 55 feet away based on the drawings.

† Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidelines from the landlord, local zoning or health authority, or appropriate professionals may be required.

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Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-21306, which expires on September 30, 2021. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

Neil J. Olij, P.E.
707/996-5200

September 29, 2020

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FCC Radio Frequency Protection Guide

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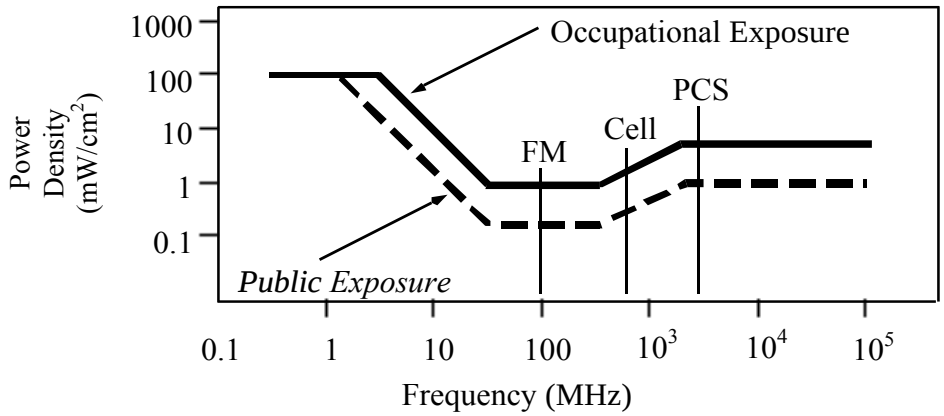

Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has incorporated those formulas in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm^2,

where θ_{BW} = half-power beamwidth of antenna, in degrees,
P_{net} = net power input to antenna, in watts,
D = distance from antenna, in meters,
h = aperture height of antenna, in meters, and
η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm^2,

where ERP = total ERP (all polarizations), in kilowatts,
RFF = three-dimensional relative field factor toward point of calculation, and
D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula is used in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program also allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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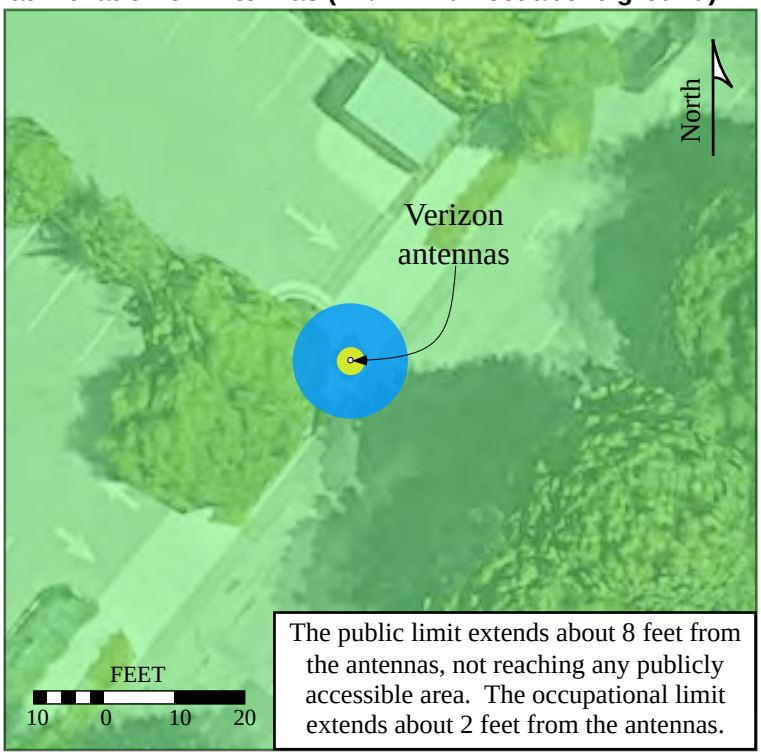
Verizon Wireless • Proposed Small Cell (No. 566801 "SF Palo Alto 205")
853 Middlefield Road • Palo Alto, California

Calculated RF Exposure Levels

at Elevation of Antennas (21½ – 24½ feet above ground)



Legend:

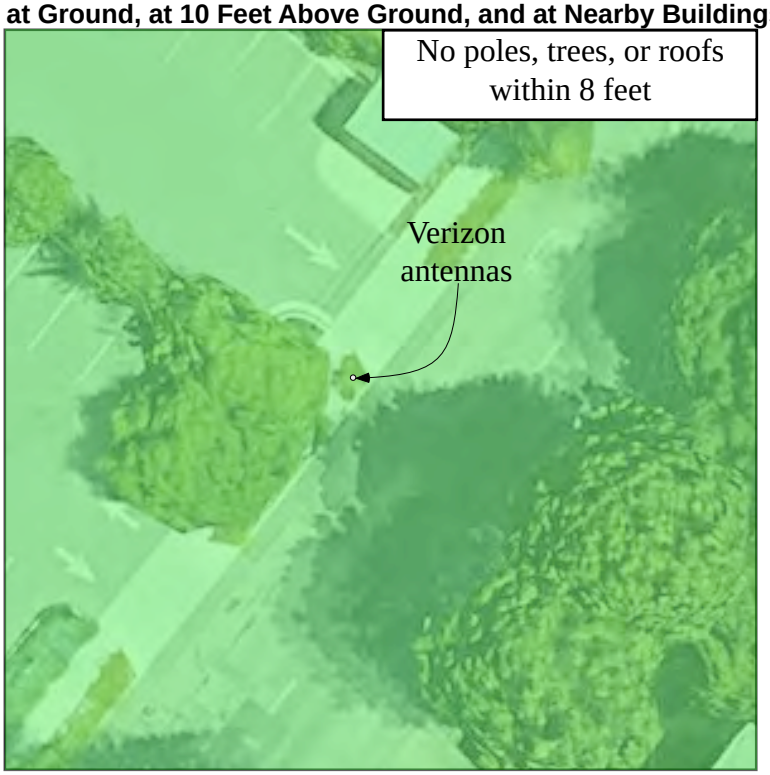
- less than FCC Public Limit
- greater than FCC Public Limit less than FCC Occupational Limit
- greater than FCC Occupational Limit

Notes:

Calculations performed according to OET Bulletin No. 65, August 1997.

Base image from Google Maps.

at Ground, at 10 Feet Above Ground, and at Nearby Buildings



sign on pole below antennas

Power line frequencies (60 Hz) are well below the applicable range of the radio frequency exposure standards, and there is considered to be no compounding effect from simultaneous exposure to power line and RF fields.

©2020

Exhibit C

Verizon Wireless Small Cell Application – Exception Request

The proposed small cells referenced in the accompanying Verizon Wireless application submitted to the City of Palo Alto require one or more exceptions to the City's *Objective Standards for Wireless Communication Facilities in the Public Rights of Way on Streetlight Poles and Wood Utility Poles.* Palo Alto Municipal Code Section 18.42.110(k)(1) requires applicants for exceptions to show that:

A. The proposed WCF complies with the requirements of this Section 18.42.110 and any other requirements adopted by the City Council to the greatest extent feasible; and either
B. As applied to a proposed WCF, the provision(s) from which exception is sought would deprive the applicant of rights guaranteed by federal law, state law, or both; or
C. Denial of the application as proposed would violate federal law, state law, or both.

This proposed small cells satisfy Item A as they meet the objective standards with respect to design. Notably, the 5G integrated radio/antennas cannot be shrouded because that impedes signal propagation, and they qualify for an equipment adjustment because each is less than 0.85 cubic feet, and all three total less than the 2.6 cubic feet allowed.

The proposed small cells satisfy Items B and C because federal and state law compel approval. The federal Telecommunications Act provides that local government regulation of wireless facilities shall not "prohibit or have the effect of prohibiting" the provision of personal wireless service. 47 U.S.C. §§ 253(a), 332(c)(7)(B)(i)(II).

Under Ninth Circuit case law, a local government violates Section 332(c)(7)(B)(i)(II) if a wireless provider can show two things: (1) that it has a "significant gap" in service; and (2) that the proposed facility is the "least intrusive means," in relation to the land use values embodied in local regulations, to address the gap. *See T-Mobile USA, Inc. v. City of Anacortes*, 572 F.3d 987 (9th Cir. 2009). The accompanying *Statement of Verizon Wireless Radio Frequency Design Engineer Brian Ung* provides evidence of a significant gap in Verizon Wireless 5G service in Palo Alto. The accompanying alternatives site analysis provides evidence that alternatives to each proposed small cell require as many or more exceptions, or otherwise are infeasible. Federal law does not require that a proposed wireless facility be the "only" alternative, but rather that no feasible alternative is less intrusive. *See Metro PCS, Inc. v. City and County of San Francisco,* 400 F.3d 715, 400 F.3d 715, 734-35 (9th Cir. 2005).

In its September 2018 order addressing appropriate small cell approval criteria, the Federal Communications Commission determined that the Ninth Circuit's two-part test is too narrow, and that a wireless carrier need not show an insurmountable barrier, or even a significant gap, to prove a prohibition of service under the Telecommunications Act. *See Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment,* Declaratory Ruling and Third Report and Order, FCC 18-133 (September 27, 2018) ¶¶ 35, 37-40. Instead, "a state or local legal requirement constitutes an effective prohibition if it 'materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.'" *Id.*, ¶ 35. Thus, local regulations of small

cells are preempted if they materially inhibit "densifying a wireless network, introducing new services, or otherwise improving service capabilities." *Id.*, ¶ 37.

These are Verizon Wireless's objectives for 5G small cells in Palo Alto. As the need for enhanced services increases, denial would defeat these objectives, leaving the area without 5G service, compromising network access and advanced capabilities for customers as described in the engineer's statement. The engineer's statement also explains that the high-band frequencies to be used 5G service have limited propagation characteristics, and require more small cell facilities closer together to provide reliable on-street service for Verizon Wireless customers. A denial of a small cell based on prohibitive standards, such as location restrictions, would materially inhibit Verizon Wireless's ability to improve service on its network and therefore effectively prohibit service in violation of the Telecommunications Act. To avoid such unlawful prohibition, the City must grant the exceptions.

As to state law, California Public Utilities Code Section 7901 grants telephone corporations such as Verizon Wireless a statewide right to place their equipment along any public road or highway, provided that it does not incommode the public use. While the City may exercise limited aesthetic discretion, the proposed small cell design complies with the City's objective aesthetic standards, and as a result, does not incommode the public's use of public roads or highways. However, the location restrictions would deprive Verizon Wireless of its right to use any public road or highway, and exceptions are warranted to avoid violating state law.

For all of the above reasons, the proposed small cells under this application qualify for an exception under Palo Alto Municipal Code Sections 18.42.110(k)(1)(A), (B) and (C).

Exhibit D

verizon

VERIZON WIRELESS
VIRTUAL OPEN HOUSE

Verizon Wireless is improving wireless service in Palo Alto!

We will be adding small wireless facilities to existing metal streetlight poles.

Want to learn more?
We would like to hear your feedback.

Please join us for a virtual open house showcasing Verizon Wireless' proposed network and design.

Date: Thursday, June 25th, 2020
Time: 5pm-7pm
Zoom Meeting ID: https://zoom.us/j/93497004577

To RSVP or for more questions, please write or call to Jeremy Stroup:
jstroup@vinculums.com
(925) 532-5304

Exhibit E

2785 Mitchell Drive
Walnut Creek, CA 94598

June 12, 2020

To: City of Palo Alto

From: Brian Ung, Radio Frequency Design Engineer
Verizon Wireless Network Engineering Department

Subject: Statement in Support of Verizon Wireless's Proposed Small Cells, Downtown and University South Areas

Executive Summary

There is a significant gap in Verizon Wireless's fifth-generation Ultra Wideband (5G) service within the Downtown and University South areas of Palo Alto. 5G is a new technology that Verizon Wireless is deploying nationwide, but has yet to deploy in Palo Alto. The absence of 5G service means that Verizon Wireless customers cannot use 5G-dependent applications or take full advantage of 5G-capable smartphones and other devices.

Further, accelerated growth in voice and data use by Verizon Wireless customers has increased the demand on the existing 4G LTE network. 4G operates on limited bandwidth scattered across low- and mid-band frequency spectrum, which poses data management burdens that compromise network performance. In the high-band spectrum to be used for 5G, Verizon Wireless has abundant bandwidth in broad, contiguous blocks that are easier to manage, resulting in improved network performance. For Verizon Wireless customers, high-band 5G service means greater network capacity, reliability and data speeds that improve voice and data communications.

The absence of Verizon Wireless 5G service within the Downtown and University South areas of Palo Alto constitutes the "significant gap" Verizon Wireless seeks to serve (the "Significant Gap"). As the initial step in bringing 5G service to Palo Alto, Verizon Wireless has proposed seven 5G small cell facilities in the public right-of-way (the "Proposed Small Cells").

5G Technology

5G is a new, cutting-edge global communication technology standard that unifies many service applications. It is essential to Verizon Wireless's vision for smart cities and a more connected world. There are many user cases that will benefit from 5G, such as autonomous vehicles, which require near-real-time communication and instant information to minimize traffic congestion and avoid fatal accidents. 5G is also crucial to improved voice services and voice-

dependent applications, including distance learning and virtual meetings, as well as advanced machine-to-machine communications and public safety response.

Several factors contribute to 5G's potential: wide bandwidth, greater data speeds and low latency.

In the high-band (over 6 GHz) frequencies to be used for 5G service in the Bay Area, Verizon Wireless has licensed over 700 MHz of bandwidth in the 28 GHz band alone, in two large contiguous blocks. Such large blocks of contiguous-frequency bandwidth are optimal, due to fewer requirements for management and coordination of resources, which place heavy burdens on computing and scheduling power.

While high-band spectrum is complex and expensive to operate, with limited propagation characteristics requiring facilities closer together to provide reliable service, high-band 5G service has many benefits for the network and customers alike. The wide bandwidth greatly increases network capacity, with significant improvement in data speed. The improved network performance of high-band 5G also results in lower latency (or delay). The reduction in latency is 3 to 4 times that of current 4G network.

By comparison, Verizon Wireless's 4G network in the area operates on only 55 MHz of bandwidth, distributed in blocks of 10 or 15 MHz across low-band (below 1 GHz) and mid-band (1 GHz to 6 GHz) spectrum. Verizon Wireless uses a technique called "carrier aggregation" to maximize the limited 4G resources through efficient use of spectrum. However, carrier aggregation requires substantial coordination and places great demand on network infrastructure, leading to more latency during the data scheduling process and inefficient use of resources.

The combination of 5G's wide bandwidth, greater data speeds and low latency exponentially increase the network capacity, reliability and performance for Verizon Wireless customers using 5G service. This will greatly improve voice and data communications for Verizon Wireless customers.

The virtually real-time performance of 5G service will enable entirely new uses of wireless technology that are not possible with 4G service. While future applications of 5G technology are difficult to predict with certainty, they are likely to include data-intensive applications, such as high-resolution digital imagery, remote telemedicine, and machine-to-machine applications, in addition to autonomous vehicles. With very low latency enabling communication near real-time, 5G is essential for mission-critical applications, including advanced ambulance response and communication of vital information to physicians.

Coverage Gap

There is no existing Verizon Wireless 5G service coverage in the Downtown and University South areas of Palo Alto. With a complete absence of 5G coverage, there is no service available for 5G-capable devices, including new models of smartphones.

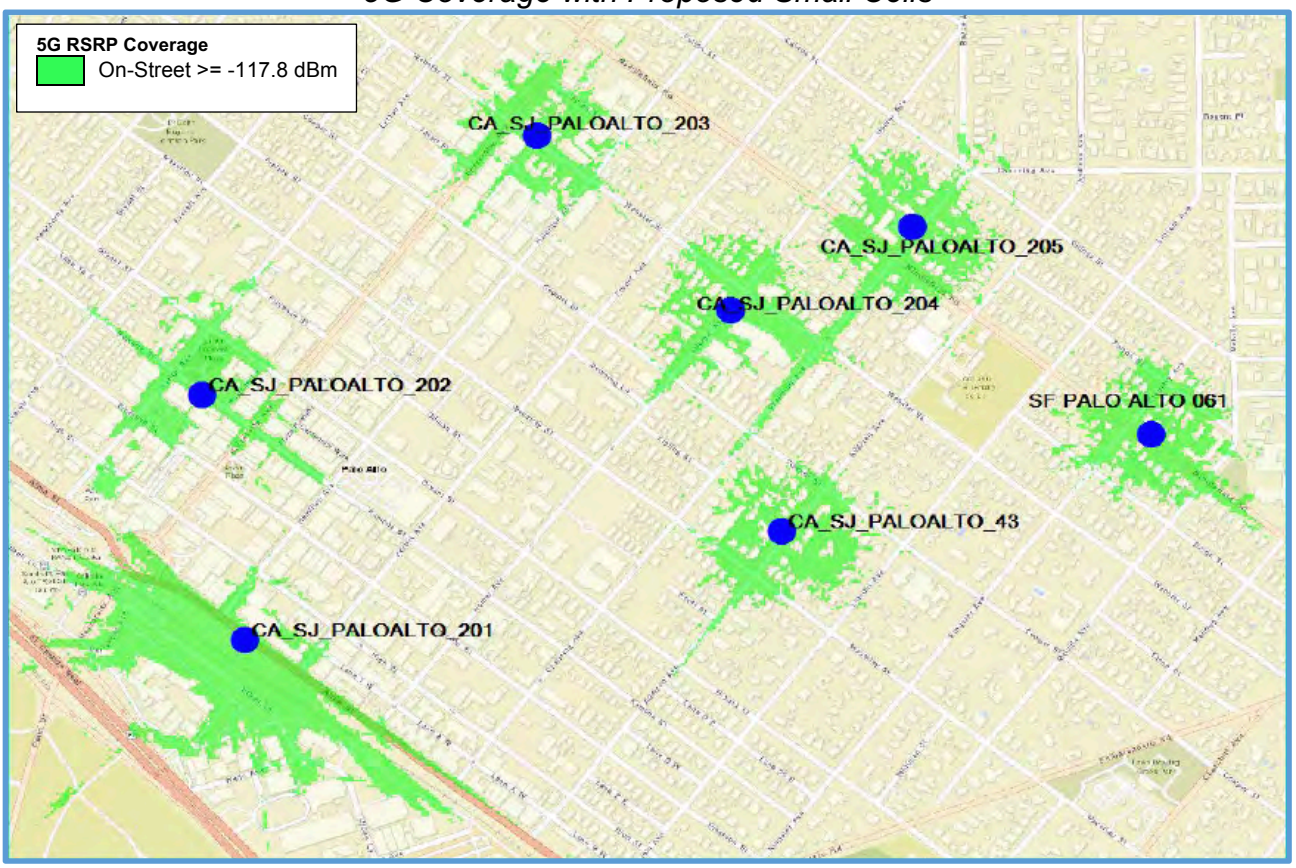
The following map demonstrates the total absence of 5G service in the Significant Gap. The second map shows the new 5G service coverage to be provided by the Proposed Small Cells. In total, the Proposed Small Cells will provide reliable 5G service coverage in areas along 2.3 miles of streets in critical portions of the Downtown and University South areas. This will benefit residents, workers and visitors with on-street 5G service. Further, it will add network capacity to relieve demand on the existing 4G network.

Coverage plot maps like those below show the anticipated level of signal, and therefore the projected coverage provided by a site at a given location. Referenced signal receive power (RSRP) is a measurement of signal level in decibels (dBm), which decreases due to distance and other factors. The areas in green reflect coverage that meets or exceeds the threshold to provide consistent and reliable 5G on-street coverage.

See Coverage Maps on Following Page

Current 5G Coverage

5G Coverage with Proposed Small Cells



Conclusion

As the existing 4G network matures, and increased demand and new applications require greater network capacity, reliability and data speeds, the network must be enhanced with new 5G technology. The high-band frequencies to be used for Verizon Wireless's 5G service require facilities closer to customers, and currently there are no 5G facilities serving Palo Alto. This results in the Significant Gap in Verizon Wireless 5G coverage in the Downtown and University South areas. Verizon Wireless must deploy the Proposed Small Cells to provide new, reliable 5G service to the Significant Gap.

Please feel free to contact me with any questions or comments regarding Verizon Wireless's proposed facilities.

Respectfully submitted,

Brian Ung
RF Design Engineer
Network Engineering Department
Verizon Wireless

I have 30 years of experience in the wireless industry. I have been in my current role for more than 10 years, and prior to that I was a Principal System Performance Engineer. My responsibilities include designing and maintaining a wireless network to ensure reliable service, and addressing coverage and capacity needs to meet customer expectations. I also help shape the industry and bring technology evolution to everyday lives. I acquired a Bachelor of Science in Electronic Engineering from DeVry Institute of Technology, City of Industry, California, and a Master of Science in Telecommunications Management from Golden Gate University, San Francisco, California.

Baumb, Nelly

From: Clerk, City
Sent: Monday, June 21, 2021 10:33 PM
To: neva yarkin
Cc: Council, City
Subject: RE: from neva yarkin

Hi Neva,

It is not under my authority or purview to overturn Director Lait's decision. It is however Council's ability to do so. I am forwarding to them so they see your email.

Thanks and stay healthy.

BETH MINOR
City Clerk
(650)329-2379 | Beth.Minor@cityofpaloalto.org
www.cityofpaloalto.org

From: neva yarkin <nevayarkin@gmail.com>
Sent: Monday, June 21, 2021 9:24 PM
To: Clerk, City <city.clerk@cityofpaloalto.org>
Subject: from neva yarkin

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

June 21, 2021

Dear City Clerk,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

The Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Neva Yarkin

nevayarkin@gmail.com

Baumb, Nelly

From: Rebecca Patton <rebeccap1234@yahoo.com>
Sent: Tuesday, June 22, 2021 8:40 AM
To: Council, City
Cc: greg@GregTanaka.org; Filseth, Eric (external); Clerk, City; Architectural Review Board; Planning Commission; LydiaKou@gmail.com; tomforcouncil@gmail.com; GStone22@gmail.com; Cormack, Alison; PatBurt11@gmail.com
Subject: Verizon's cell tower application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Council members Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

I have learned that the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. Verizon neglected to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Rebecca Patton and Tom Goodrich

Forest Ave

Baumb, Nelly

From: Tina Chow <chow_tina@yahoo.com>
Sent: Tuesday, June 22, 2021 12:19 PM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; Cormack, Alison; Filseth, Eric (external); Lydia Kou; GStone22@gmail.com; greg@gregtanaka.org; Clerk, City; Architectural Review Board; planning.commision@cityofpaloalto.org
Subject: Please stand up for Palo Alto's wireless standards

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear City Council,

I am writing to ask you to carefully consider each of the arguments that will presented tonight in our appeal of the decision to approve Verizon's cell tower application 20PLN-00118.

Each of the arguments separately represents a serious concern about the cell tower approval process in Palo Alto. Put together, the arguments provide a strong case for overturning the current approval decision. This situation also points to the need for Palo Alto to stand strong regarding local municipal control and to continue to speak up about legislation regarding local authority for cell tower decisions.

Palo Alto's wireless ordinance requires resident participation in the decision process. In the Staff Report it says that "staff concurs with the appellant that the applicant failed to provide proper notice in accordance with the municipal code." In addition, the multiple-shroud design Verizon will use for these cell towers doesn't even conform with the approved designs in the objective wireless standards that Council approved in Dec. 2019.

We shouldn't be letting Verizon cut corners here under any circumstances. City Staff should not be helping them out, for example, to make up for their failure to notify. And letting residents know of a decision after it's been made, with no opportunity to attend a community meeting, and then expecting them to pay hefty fees to appeal the decision, is just not the way to do it.

Staff might argue that the final outcome won't change - that Verizon would just resubmit an application for the same thing - but they would face a delay of several months and they would have to do it right, including resident input and complying with all of Palo Alto's standards - learning the important lesson that they can't just ignore the city's ordinance or its residents.

If Council lets Verizon's sloppy application and this decision stand, it will be showing Verizon that Palo Alto is more lenient with big corporations who want to put up their profit-making and potentially hazardous equipment, than it is with residents who want to put up solar panels on their homes (see article from Palo Alto Online).

Please insist that Verizon comply with our city's wireless ordinance, and then please act quickly to strengthen this ordinance further (as Council directed way back in April 2019).

Thank you,
Tina Chow
Barron Park, Palo Alto resident
Professor of Civil and Environmental Engineering, UC Berkeley

Baumb, Nelly

From: Jerry Fan <jerry.fan@gmail.com>
Sent: Monday, June 21, 2021 6:40 PM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; Cormack, Alison; Filseth, Eric (external); LydiaKou@gmail.com; Greer Stone; Greg Tanaka; Clerk, City; Architectural Review Board; Planning Commission
Subject: Overturn Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

Just for starters, the Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Moreover, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community.

Thank you for your consideration.

Yours truly,

Jerry Fan

Baumb, Nelly

From: Carol Brouillet <cbrouillet@igc.org>
Sent: Monday, June 21, 2021 6:02 PM
To: Council, City
Cc: Tomforcouncil@gmail.com; PatBurt11@gmail.com; Cormack, Alison; Filseth, Eric (external); LydiaKou@gmail.com; GStone22@gmail.com; greg@GregTanaka.org; Clerk, City; Architectural Review Board; Planning Commission
Subject: Please Overturn Verizon's Sell Tower Application

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Mayor DuBois, Vice-Mayor Burt, and Councilmembers Cormack, Filseth, Kou, Stone and Tanaka,

I am writing to urge you to overturn Planning Director Jonathan Lait's decision to approve Verizon's cell tower application 20PLN-00118.

The Planning Director has approved oversized equipment that fails to comply with the design standards Palo Alto has established. Not only that, our city's Municipal Code required Verizon to notify "all residents and property owners within 600 feet of the project site" of a community meeting at which the proposed project would be discussed. But Verizon simply failed to do so. Their disregard for basic law is a red flag.

Please deny their application and insist that Verizon comply with our City's Municipal Code. The residents of Palo Alto are counting on you to protect the quality of life in our community. Innumerable scientists are also deeply concerned about the health effects on humans and all life by radio frequency waves. Please read https://www.5gspaceappeal.org/the-appeal to see that this is a global issue and you are on the frontlines of protecting citizens from an onslaught where we have very few tools to defend ourselves. We need your support and action.

Thank you for your consideration.

Carol Brouillet
4060 Verdosa Drive
Palo Alto

Baumb, Nelly

From: Paul Albritton <pa@mallp.com>
Sent: Monday, June 21, 2021 12:02 PM
To: Council, City; Clerk, City; DuBois, Tom; Burt, Patrick; Cormack, Alison; Filseth, Eric (Internal); Kou, Lydia; Stone, Greer; Kou, Lydia
Cc: Gerhardt, Jodie; French, Amy; Bilir, Aylin; Lait, Jonathan; Sauls, Garrett
Subject: Verizon Wireless Response to Appeal, 20PLN-00118, Approved Small Cells in the Right-of-Way - Council Agenda Item 8, June 22, 2021 [Palo Alto]
Attachments: Verizon Wireless Letter 06.21.21.pdf

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear Council Members, attached please find our letter prepared on behalf of Verizon Wireless responding to the appeal of three small cells in the right-of-way approved by the Director of Planning and Development Services. This item will be heard on your June 22 agenda.

We urge you to reject the appeal, and to approve Verizon Wireless's proposed small cells.

Thank you,

Paul
--
Paul Albritton
Mackenzie & Albritton LLP
155 Sansome Street, Suite 800
San Francisco, California 94104
(415) 288-4000
pa@mallp.com

MACKENZIE & ALBRITTON LLP
155 SANSOME STREET, SUITE 800
SAN FRANCISCO, CALIFORNIA 94104

TELEPHONE 415 / 288-4000
FACSIMILE 415 / 288-4010

June 21, 2021

VIA EMAIL

Mayor Tom Dubois
Vice Mayor Patrick Burt
Council Members Alison Cormack,
Eric Filseth, Lydia Kou,
Greer Stone and Greg Tanaka
City Council
City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301

Re: Verizon Wireless Response to Appeal, File No. 20PLN-00118
Three Approved Small Cells in the Right-of-Way
1221 Middlefield Road (Node 061), 850 Webster Street (Node 204) and
853 Middlefield Road (Node 205)
Council Agenda Item 8, June 22, 2021

Dear Mayor Dubois, Vice Mayor Burt and Council Members:

We write on behalf of Verizon Wireless to ask you to uphold the approval of three small cells on streetlight poles in the right-of-way (the "Approved Facilities"), and deny the appeal by Jeanne Fleming ("Appellant"). Over the last year, Verizon Wireless worked closely with Planning Division staff to ensure that the Approved Facilities satisfy all City requirements for wireless facilities. The approval by the Director of Planning and Development Services confirms that the Approved Facilities comply with the Palo Alto Municipal Code (the "Code") and the Council's *Objective Standards for Wireless Communication Facilities in the Public Rights-of-Way on Streetlight Poles* (the "Objective Standards"). Verizon Wireless's small cell design will pose little visual impact on City infrastructure and the local streetscape.

Appellant's objections to the Approved Facilities raise no conflict with the Code or Objective Standards, and provide no substantial evidence to warrant denial as required by the federal Telecommunications Act. Further, denial would constitute an unlawful prohibition of service, according to the Telecommunications Act. The Approved Facilities will provide new Verizon Wireless 5G Ultra-Wideband coverage in Palo Alto, enhancing service for residents, visitors, workers and emergency service personnel in the

University South area. We urge you to reject the appeal and approve the Approved Facilities.

I. The Approved Facilities

The Approved Facilities have been thoughtfully designed to minimize any visual impact in compliance with the Objective Standards. For all three nodes, Verizon Wireless will replace an existing City-owned streetlight pole with a pole less than 5.5 feet taller. For Nodes 061 and 204, the new poles will be the stylized "downtown" design with a globe light fixture and decorative base, and for Node 205, the pole and light will closely match the existing streetlight. At the top of each pole, above the luminaire arm, Verizon Wireless will flush-mount two or three directional antennas. Each antenna will be placed within a partial shroud 29.5 inches tall and 10.2 inches wide. With rounded edges, these partial shrouds improve appearance while allowing signal to propagate unobstructed from the front of the antenna. The poles and antennas will be painted green. No other wireless equipment will be placed on the pole. Utility connections will be routed underground.

Photosimulations of the Approved Facilities are attached as Exhibit A. Radio frequency exposure reports prepared by Hammett & Edison, Inc., Consulting Engineers, attached as Exhibit B, confirm that the Approved Facilities will operate well below Federal Communications Commission ("FCC") exposure limits.

II. The Approved Facilities Satisfy All Requirements for Approval.

As confirmed by the Director's approval, the Approved Facilities satisfy all requirements for a Tier 2 wireless communications facility permit. Code § 18.42.110(g)(2). This includes compliance with the Objective Standards and the criteria for the City to grant exceptions as necessary to avoid conflict with federal or state law. Code § 18.42.110(k)(1).

Each small cell qualifies for an "equipment adjustment" for antennas on streetlight poles. This is because the antennas cannot be fully shrouded, as that impedes propagation of high-band 5G frequencies that Verizon Wireless has licensed from the FCC. The antennas meet the adjustment dimension thresholds, as each is 0.85 cubic feet (including its individual partial shroud), and all three total less than 2.6 cubic feet. Objective Standards, p. 6. Because radios are integrated into the antennas, no other wireless equipment is required on the pole.

Per the Objective Standards, the streetlight poles must be replaced when adding antennas. Objective Standards, p. 7. The Director approved exceptions for minor differences in pole width, height and appearance as necessary to increase structural capacity or to accommodate the pole components available from the manufacturer, Valmont. For example, the proposed pole diameters exceed the City's usual specifications, which are too narrow for the overall structural load, so an exception is

required. These exceptions avoid technically infeasible City requirements that would contradict FCC regulations requiring cities to evaluate small cells under reasonable standards. *See Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment,* Declaratory Ruling and Third Report and Order, 33 FCC Rcd. 9088, ¶¶ 86-87 (September 27, 2018) (the *"*Infrastructure Order*"*).[1]

The Objective Standards generally permit right-of-way facilities in non-residential zones. However, prohibiting small cells along residential zone rights-of-way would contradict federal and state law, as explained in Verizon Wireless's *Exception Request* attached as Exhibit C. Therefore, the Director granted an exception allowing the facilities in residential zones. The Approved Facilities comply with the direction to locate over 20 feet from occupied buildings and intersections, and to avoid placement along the central 50% of the adjacent parcel's front lot line (the "residential zone of exclusion"), and so do not require exceptions from these standards. Each facility is located over 300 feet from public schools, which is an absolute requirement. Objective Standards, pp. 3, 4, 8.

In sum, the Approved Facilities comply with all City requirements for approval.

III. Verizon Wireless is Authorized to Place the Approved Facilities in the Public Right-of-Way Pursuant to State Law

State law entitles telephone corporations such as Verizon Wireless to install telephone equipment, such as the Approved Facilities, "along any public road and highway," subject only to reasonable local regulations to avoid interference with the public use of the right-of-way. Cal. Pub. Util. Code § 7901. The California Supreme Court has confirmed that telephone corporations maintain the right to erect telephone equipment in the public right-of-way subject to local regulation based on aesthetic considerations. *T-Mobile West LLC v. City and County of San Francisco* (2019) 6 Cal.5th 1107.

IV. Appellant Presents No Substantial Evidence To Warrant Denial.

Under the federal Telecommunications Act, a local government's denial of a wireless facility application must be based on "substantial evidence." *See* 47 U.S.C. § 332(c)(7)(B)(iii). As interpreted under controlling federal court decisions, this means that denial must be based on requirements set forth in local regulations and supported by evidence in the record. *See Metro PCS, Inc. v. City and County of San Francisco,* 400 F.3d 715, 725 (9th Cir. 2005) (denial of application must be "authorized by applicable local regulations and supported by a reasonable amount of evidence"). Generalized aesthetic objections do not amount to substantial evidence upon which a local

[1] Last year, the Ninth Circuit Court of Appeal upheld the FCC's requirement for "reasonable" small cell standards. *See City of Portland v. United States*, 969 F.3d 1020 (9th Cir. 2020), petition for cert. pending, No. 20-1354 (filed March 22, 2021).

government could deny a wireless facility permit. *See City of Rancho Palos Verdes v. Abrams* (2002) 101 Cal.App.4th 367, 381.

Appellant raised 19 objections in their appeal statement, none of which rise to the level of substantial evidence that would support denial. The Director provided the City's response to each of Appellant's claims in a supplemental memorandum to the Council (the "Director's Memo"). Below, we provide Verizon Wireless's response to Appellant's various arguments.

1. Community meeting notice. Appellant charges that there was not proper notice of the community meeting. While the Director's Memo determined that individual apartments at 850 Webster Street may have been overlooked, the Director also noted that the City hand-delivered notice of the approval to those residents, which described the Approved Facilities and the opportunity to appeal to the City Council. Any lack of opportunity to participate in the June 2020 community meeting is cured by the subsequent notice of approval and right to appeal provided by the City.

Pursuant to Government Code Section 65010(b), procedural errors in noticing do not affect the validity of permits "unless the court finds that the error was prejudicial and that the party complaining or appealing suffered substantial injury from that error and that a different result would have been probable if the error had not occurred." Furthermore, "[t]here shall be no presumption that error is prejudicial or that injury was done if the error is shown." *Ibid*.; *see also Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal.App.4th 899.

2. Notice content. Appellant complains that the community meeting notice was misleading, but that is merely a subjective assessment. Sent at an early stage in the application process, the notice accurately described the date and time of the June 25, 2020 community meeting, which was an online "open house" due to the California Stay Home Order. The notice simply described the project as "adding small wireless facilities to existing metal streetlight poles," and more information was provided during the meeting. The community meeting notice is attached as Exhibit D.

3. Application completeness. Appellant wrongly claims that the application is incomplete, but Verizon Wireless has in fact submitted all information required by the City's *Application Submittal Requirements Checklist* for Tier 2 facilities in the right-of-way. This includes coverage information provided in the *Statement of Verizon Wireless RF Design Engineer Brian Ung,* attached as Exhibit E. Verizon Wireless also provided a detailed spreadsheet comparing the number of exceptions required for each proposed facility and its multiple alternatives, even though such diligent review of alternatives is not required. The Planning Division issued several notices informing Verizon Wireless of missing information, and Verizon Wireless responded with information and explanations. Ultimately the Planning Division deemed the application complete in an email dated May 7, 2021.

4. Shrouding. The Objective Standards provide flexibility on shrouding requirements, and Appellant is mistaken that all Verizon Wireless antennas must be covered in a single integrated shroud. As noted, full shrouding would cover the face of the antennas and impede the 5G signal, so the antennas qualify for an "equipment adjustment" under the Objective Standards, and no exception is required. The equipment adjustment obviates the need for a single integrated shroud. Instead, each antenna is enclosed within a partial shroud.

5. ARB review. While Appellant believes that the Approved Facilities should have been reviewed by the Architectural Review Board, that is at the Director's sole discretion, and not a firm requirement. Code § 18.42.110(g)(1).

6. Independent consultant evaluation. This is optional at the City's discretion, not a requirement. Code § 18.42.110(k)(4), Objective Standards, p. 3, n. 1. Contrary to Appellant's claim, the Director need not justify whether to hire a consultant. In fact, the City contracted with CTC Technology & Energy for technical consultation on factors such as compliance with the FCC's radio frequency exposure guidelines. Verizon Wireless reimbursed the City $11,753.44 for the cost, which included a 25% contract administrative charge, on February 19, 2021.

7. Tree screening (Node 205). A tree to the northeast of this node will provide screening, and Verizon Wireless did in fact explain why there cannot be a second tree within 35 feet southwest. Our January 29, 2021 letter to Associate Planner Garret Sauls described the obstructions southwest along the sidewalk that are shown on architectural drawings. These include above- and below-ground utility equipment as well as a driveway, all of which render a new tree to be infeasible there. The Director agreed that there are no viable locations for a tree to the southwest.

8. Deciduous tree screening. Appellant overstates the screening standard, which does not require evergreen trees or full "concealment," but rather "interruption of direct views." Objective Standards, p. 7. Where feasible, deciduous tree species that are typical along Palo Alto streets satisfy this requirement.

9. RF exposure compliance. Appellant questions the safety of the Approved Facilities with respect to radio frequency exposure compliance. The Hammett & Edison reports attached as Exhibit B confirm that each small cell will fall well below the FCC's exposure guidelines, including exposure at nearby buildings, and the CTC Technology & Energy report confirms compliance. The City cannot consider the environmental effects of radio frequency emissions because the Approved Facilities will comply with FCC exposure guidelines. 47 U.S.C. § 332(c)(7)(B)(iv).

10. 20-foot structure setback (Node 061). While the Objective Standards require a 20-foot setback from occupied structures, Appellant is simply wrong that Node 061 is within 20 feet of the residence at 1221 Middlefield Road. The architectural drawings (Sheet A-

1) confirm that the streetlight pole is 34 feet 3 inches from that residence, well over the setback.

11. Equipment orientation (Node 061). Appellant seeks justification for the exception allowing one antenna to be oriented toward private property. The Director's approval explained that surrounding trees will allow the facility to "blend in with the surrounding environment," and that the antenna will not directly impact pedestrian sight lines. The Director also confirmed that "there were no opportunities where this condition would not apply that required a lesser number of exceptions." Findings for Approval of Node 061, § III(4). This is consistent with the required exception finding that a facility comply with the Objective Standards to the greatest extent feasible. Code § 18.42.110(k)(1)(A).

12. Views from street and residences. Appellant charges that the Director's approval does not address views from the street and residences. However, such vague determinations about view impacts are not required by the Objective Standards, which consist of specific, quantifiable criteria to address visibility. The only mention of "view" is the landscaping requirement, which is satisfied by tree screening. As noted, a state court ruled that vague aesthetic objections are not substantial evidence for denial of a wireless facility.

13. Fiber backhaul. Verizon Wireless's application need not show fiber backhaul, as Appellant alleges. Verizon Wireless will not install the fiber backhaul lines that connect its small cells in Palo Alto, but will be a customer of a fiber company that provides connections for various users along a fiber route. Fiber companies are regulated differently, and generally are registered with the California Public Utilities Commission as wireline telephone companies, whereas Verizon Wireless is a cellular carrier. Further, fiber backhaul networks are beyond the scope of a "small wireless facility" as defined by the FCC. 47 C.F.R. § 1.6002(l). Verizon Wireless's permits encompass each small cell up to its point-of-connection with the fiber backhaul network, but not beyond. Fiber providers will secure their own permits under applicable regulations.

14. Exception for wider pole (Nodes 061 & 204). As confirmed by the Director's approval, slightly wider replacement poles are required for sufficient structural capacity to support the addition of antennas. *See, e.g.,* Findings for Approval of Node 061, § III(3). For each node, a report by a California-registered engineer with All States Engineering & Surveying confirms that the wider light pole and foundation have adequate capacity to support the luminaire arm and antennas. Requiring a narrower pole diameter with insufficient capacity would be technically infeasible and unreasonable in contradiction of FCC regulations, so an exception is warranted.

15. Antenna volume limit. As noted, the Objective Standards allow an equipment adjustment for antennas with a cumulative volume less than 2.6 cubic feet. Appellant acknowledges that the antennas are less at 2.55 cubic feet, but believes that the volume calculation must include mounting brackets, pole extensions and a single integrated

shroud. That is incorrect. According to the Objective Standards, the individual volume limit of 0.85 cubic feet applies only to "equipment that cannot propagate an adequate signal" (which is the antennas). The cumulative volume limit of 2.6 cubic feet applies only to the antennas and "any shrouding." Objective Standards, p. 6. Mounting hardware does not propagate signal, and is not shrouding, and so should not be included in the volume calculation. As explained above, the Approved Facilities require only a partial shroud for each antenna, not a full integrated shroud for all, and the partial shrouds are included in the 2.55 cubic foot total.

16. Certificate of insurance. Appellant insinuates that the certificate of insurance must include liability for injury from radio frequencies that do not comply with FCC exposure guidelines. As discussed above, the Hammett & Edison and CTC Technology & Energy reports both confirm that the Approved Facilities fall well under the FCC's exposure limits. The Director's Memo notes that insurance requirements are mandated by Verizon Wireless's Master License Agreement with the City.

17. No abandoned equipment. Verizon Wireless has no abandoned facilities in Palo Alto, as all of its facilities are needed to serve the area, and none need to be decommissioned. Appellant's charge is baseless.

18. Tier category. The Approved Facilities involve collocation of small cell wireless facilities, which is classified as a Tier 2 permit under the Code, as confirmed by the Director's Memo. Appellant is incorrect that they would be considered Tier 3 facilities.

19. Proof that denial would deprive Verizon Wireless of its rights under federal and state law. Verizon Wireless provided this information in order to secure approval of exceptions. Appellant overlooks Verizon Wireless's *Exception Request* addressing federal and state law (Exhibit C), its documentation of a significant gap (the RF engineer's statement attached as Exhibit E), and the alternatives information on the record.

V. Denial Would Constitute an Unlawful Prohibition of Service.

The Telecommunication Act provides that local government regulation of wireless facilities "shall not prohibit or have the effect of prohibiting" the provision of personal wireless service. 47 U.S.C. § 332(c)(7)(B)(i)(II). Under long-established Ninth Circuit case law, a local government's denial of a permit for a wireless facility violates the "effective prohibition" clause of the act if a wireless provider can show (1) that it has a "significant gap" in service, and (2) that a facility is the "least intrusive means," in relation to the land use values embodied in local regulations, to address the gap. *See T-Mobile USA, Inc. v. City of Anacortes,* 572 F.3d 987 (9th Cir. 2009).

If a provider proves both elements, the local government *must* approve the facility, even if there is substantial evidence to deny the permit under local regulations (which is not the case here). This is because federal law preempts local regulations when

denial of the permit would effectively prohibit the provision of personal wireless services. *Id.,* 572 F.3d at 999. To avoid such preemption, the local government must show that another alternative is available, technologically feasible, and less intrusive than the proposed facility. *Id.,* 572 F.3d at 998-999. Federal law does not require that a proposed facility be the "only" alternative, but rather that no feasible alternative is less intrusive than a proposed facility. *See Metro PCS, Inc. v. San Francisco,* 400 F.3d at 734-35.

In its 2018 Infrastructure Order, the FCC determined that this two-part test is too narrow. Specifically, the FCC confirmed that a wireless carrier need not show an insurmountable barrier, or even a significant gap, to prove a prohibition of service. Infrastructure Order, ¶¶ 35, 38. Instead, "a state or local legal requirement constitutes an effective prohibition if it 'materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.'" *Id.*, ¶ 35. Thus, state or local regulations are preempted if they materially inhibit "densifying a wireless network, introducing new services, or otherwise improving service capabilities." *Id.,* ¶ 37.

In this case, denial would not survive judicial review under either standard. First, denial would violate the two-part test for a prohibition of service claim. As described above, the *Statement of Verizon Wireless Radio Frequency Design Engineer Brian Ung* provides evidence of a significant gap in Verizon Wireless 5G Ultra-Wideband service in the Downtown and University South areas of Palo Alto. The alternatives information on the record confirms that the Approved Facilities are the least intrusive feasible option in the right-of-way to serve targeted areas of the gap.

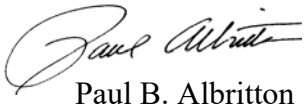
Second, because Verizon Wireless has satisfied the two-part test to prove a prohibition of service, it has necessarily met the more flexible standard set forth in the FCC's Infrastructure Order. Whether or not it demonstrates a significant gap in service, the evidence proves at a minimum that the Approved Facilities will provide new Verizon Wireless 5G Ultra-Wideband service in the University South area. Thus, denial of the application would prevent Verizon Wireless from introducing new service and improving its service overall, and therefore it would materially limit or inhibit its ability to compete in a fair and balanced legal and regulatory environment. In other words, denial would effectively prohibit service in violation of the Telecommunications Act. *See* 47 U.S.C. §§ 253(a), 332(c)(7)(B)(i)(II); Infrastructure Order, ¶¶ 35, 37.

Conclusion

Verizon Wireless has worked diligently to identify the ideal location and design for its new small cell facilities in Palo Alto. The Approved Facilities will pose minimal visual impact on existing utility infrastructure along the right-of-way, and they are consistent with all City standards for approval. They will bring new Verizon Wireless 5G Ultra-Wideband service to the University South area, benefitting residents, visitors,

workers and emergency responders. We encourage you to deny the appeal, and to approve the Approved Facilities.

Very truly yours,



Paul B. Albritton

cc: Aylin Bilir, Esq.
Jonathan Lait
Garrett Saults

Schedule of Exhibits

Exhibit A: Photosimulations
Exhibit B: Radio Frequency Exposure Compliance Reports
Exhibit C: Verizon Wireless's Exception Request
Exhibit D: Notice of Community Meeting, June 25, 2020
Exhibit E: Statement of Verizon Wireless Radio Frequency Design Engineer Brian Ung

Exhibit A

verizon

SF Palo Alto 061

Adjacent to 1221 Middlefield Road
Palo Alto, CA

3/15/21

Looking Northeast from Middlefield Road

View #1

Applied Imagination 510 914-0500

verizon

SF Palo Alto 061

Adjacent to 1221 Middlefield Road
Palo Alto, CA

3/15/21

Looking East from Middlefield Road

View #2

Applied Imagination 510 914-0500

verizon

CA SJ Palo Alto 204

850 Webster Street
Palo Alto, CA

3/15/21

Looking South from Webster Street

View #2

Applied Imagination 510 914-0500

verizon

CA SJ Palo Alto 204

850 Webster Street
Palo Alto, CA

3/15/21

Looking Northeast from Webster Street

View #1

Applied Imagination 510 914-0500

verizon

CA SJ Palo Alto 205

853 Middlefield Road
Palo Alto, CA

Looking North from Middlefield Road

View #1

3/15/21

Applied Imagination 510 914-0500

verizon

CA SJ Palo Alto 205

853 Middlefield Road
Palo Alto, CA

3/15/21

Looking Southwest from Middlefield Road

View #2

Applied Imagination 510 914-0500

Verizon Wireless • Proposed Small Cell (No. 425208 "SF Palo Alto 061")
1221 Middlefield Road • Palo Alto, California

Exhibit B

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate its small cell (No. 425208 "SF Palo Alto 061") proposed to be sited in Palo Alto, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install three small antennas on the municipal light pole sited in the public right-of-way near 1221 Middlefield Road in Palo Alto. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

Wireless Service Band	Transmit Frequency	"Uncontrolled" Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm^2	5.0 mW/cm^2
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
CBRS (Citizens Broadband Radio)	3,550 MHz	1.0	5.0
BRS (Broadband Radio)	2,490	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
600 MHz	617	0.41	2.05
[most restrictive frequency range]	30–300	0.20	1.0

General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The radios are typically mounted on the support pole or placed in a cabinet at ground level, and they are

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connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). This methodology is an industry standard for evaluating RF exposure conditions and has been demonstrated through numerous field tests to be a conservative prediction of exposure levels.

Site and Facility Description

Based upon information provided by Verizon, including drawings by All States Engineering & Surveying, dated August 31, 2020, it is proposed to install three Ericsson Model 6701, 2-foot tall, directional panel antennas with integrated radios on top of a new light pole to replace the existing pole sited in the public right-of-way in front of the residence at 1221 Middlefield Road in Palo Alto. The antennas would employ no downtilt, would be mounted at an effective height of about 26½ feet above ground, and would be oriented toward 0°T, 120°T, and 240°T. The maximum effective radiated power proposed in any direction is 193 watts in the 28 GHz band. There are reported no other wireless telecommunications base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.0059 mW/cm^2, which is 0.59% of the applicable public exposure limit. The maximum calculated level at the second-story elevation of any nearby building[*] is 1.9% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

[*] Including the nearest residence, located at 1221 Middlefield Road, at least 30 feet away based on the drawings.

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Recommended Mitigation Measures

Due to their mounting locations and height, the antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training be provided to all workers who have access within 8 feet outward from the antennas. No access within 2 feet directly in front of the antennas should be allowed while the antennas are in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs[†] be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by Verizon Wireless near 1221 Middlefield Road in Palo Alto, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating small cells. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-21306, which expires on September 30, 2021. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

Neil J. Olij, P.E.
707/996-5200

September 29, 2020

[†] Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidelines from the landlord, local zoning or health authority, or appropriate professionals may be required.

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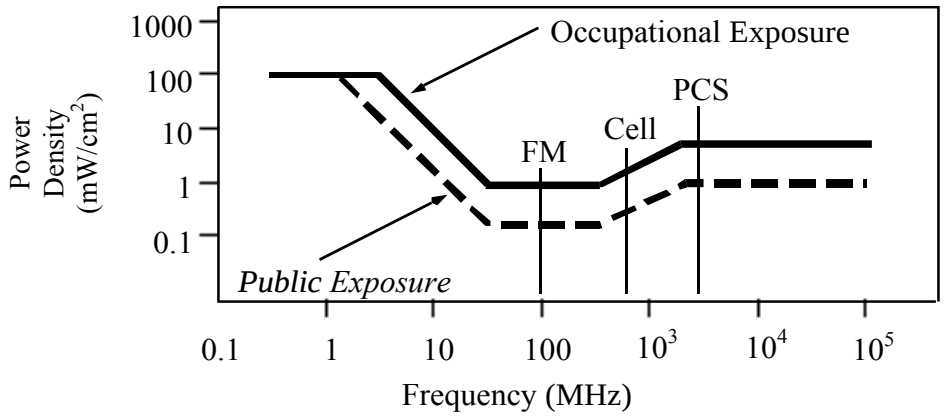
FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm^2)	
0.3 – 1.34	614	*614*	1.63	*1.63*	100	*100*
1.34 – 3.0	614	*823.8/ f*	1.63	*2.19/ f*	100	*180/ f^2*
3.0 – 30	1842/ f	*823.8/ f*	4.89/ f	*2.19/ f*	900/ f^2	*180/ f^2*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	$3.54\sqrt{f}$	*$1.59\sqrt{f}$*	$\sqrt{f}/106$	*$\sqrt{f}/238$*	f/300	*f/1500*
1,500 – 100,000	137	*61.4*	0.364	*0.163*	5.0	*1.0*



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has incorporated those formulas in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm^2,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm^2,

where θ_{BW} = half-power beamwidth of antenna, in degrees,
P_{net} = net power input to antenna, in watts,
D = distance from antenna, in meters,
h = aperture height of antenna, in meters, and
η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm^2,

where ERP = total ERP (all polarizations), in kilowatts,
RFF = three-dimensional relative field factor toward point of calculation, and
D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula is used in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program also allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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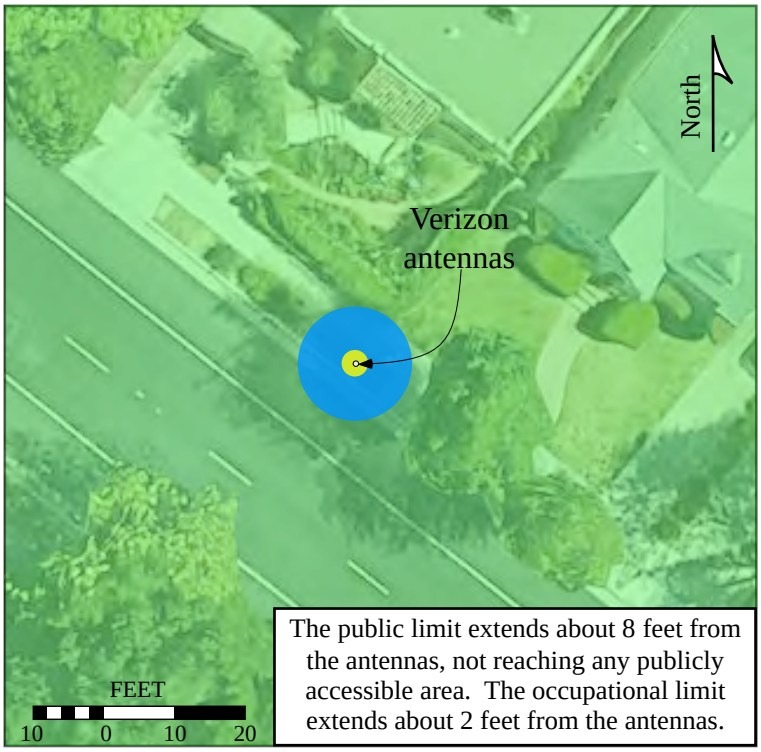
Verizon Wireless • Proposed Small Cell (No. 425208 "SF Palo Alto 061")
1221 Middlefield Road • Palo Alto, California

Calculated RF Exposure Levels

at Elevation of Antennas (25 – 28 feet above ground)



Legend:

- less than FCC Public Limit
- greater than FCC Public Limit less than FCC Occupational Limit
- greater than FCC Occupational Limit

Notes:

Calculations performed according to OET Bulletin No. 65, August 1997.

Base image from Google Maps.

at Ground, at 10 Feet Above Ground, and at Nearby Buildings

sign on pole below antennas

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Verizon Wireless • Proposed Small Cell (No. 566800 "SF Palo Alto 204")
850 Webster Street • Palo Alto, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate its small cell (No. 566800 "SF Palo Alto 204") proposed to be sited in Palo Alto, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install two small antennas on the municipal light pole sited in the public right-of-way near 850 Webster Street in Palo Alto. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

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AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
600 MHz	617	0.41	2.05
[most restrictive frequency range]	30–300	0.20	1.0

Power line frequencies (60 Hz) are well below the applicable range of these standards, and there is considered to be no compounding effect from simultaneous exposure to power line and radio frequency fields.

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General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The radios are typically mounted on the support pole or placed in a cabinet at ground level, and they are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). This methodology is an industry standard for evaluating RF exposure conditions and has been demonstrated through numerous field tests to be a conservative prediction of exposure levels.

Site and Facility Description

Based upon information provided by Verizon, including drawings by All States Engineering & Surveying, dated September 10, 2020, it is proposed to install two Ericsson Model 6701, 2-foot tall, directional panel antennas with integrated radios on top of a new light pole to replace the existing pole sited in the public right-of-way on the southeast side of Homer Avenue about 100 feet southwest of Webster Street, adjacent to the tall residential building at 850 Webster Street in Palo Alto. The antennas would employ no downtilt, would be mounted at an effective height of about 23 feet above ground, and would be oriented toward 0°T and 240°T. The maximum effective radiated power proposed in any direction is 193 watts in the 28 GHz band. There are reported no other wireless telecommunications base stations at the site or nearby.

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Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.0085 mW/cm^2, which is 0.85% of the applicable public exposure limit. The maximum calculated level at any nearby building* is 1.1% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

Recommended Mitigation Measures

Due to their mounting locations and height, the antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training be provided to all workers who have access within 8 feet outward from the antennas. No access within 2 feet directly in front of the antennas should be allowed while the antennas are in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs† be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by Verizon Wireless near 850 Webster Street in Palo Alto, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating small cells. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

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* Including the second- and third-floor balconies of the adjacent residential building, located at least 40 feet away based on the drawings.

† Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidelines from the landlord, local zoning or health authority, or appropriate professionals may be required.

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Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-21306, which expires on September 30, 2021. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

Neil J. Olij, P.E.
707/996-5200

September 29, 2020

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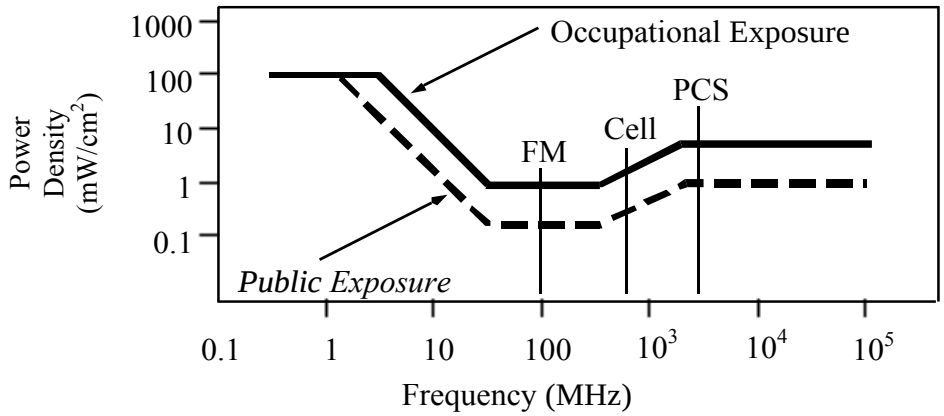
FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm^2)	
0.3 – 1.34	614	*614*	1.63	*1.63*	100	*100*
1.34 – 3.0	614	*823.8/ f*	1.63	*2.19/ f*	100	*180/ f^2*
3.0 – 30	1842/ f	*823.8/ f*	4.89/ f	*2.19/ f*	900/ f^2	*180/ f^2*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	$3.54\sqrt{f}$	*$1.59\sqrt{f}$*	$\sqrt{f}/106$	*$\sqrt{f}/238$*	f/300	*f/1500*
1,500 – 100,000	137	*61.4*	0.364	*0.163*	5.0	*1.0*



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has incorporated those formulas in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm^2,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm^2,

where θ_{BW} = half-power beamwidth of antenna, in degrees,
P_{net} = net power input to antenna, in watts,
D = distance from antenna, in meters,
h = aperture height of antenna, in meters, and
η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm^2,

where ERP = total ERP (all polarizations), in kilowatts,
RFF = three-dimensional relative field factor toward point of calculation, and
D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula is used in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program also allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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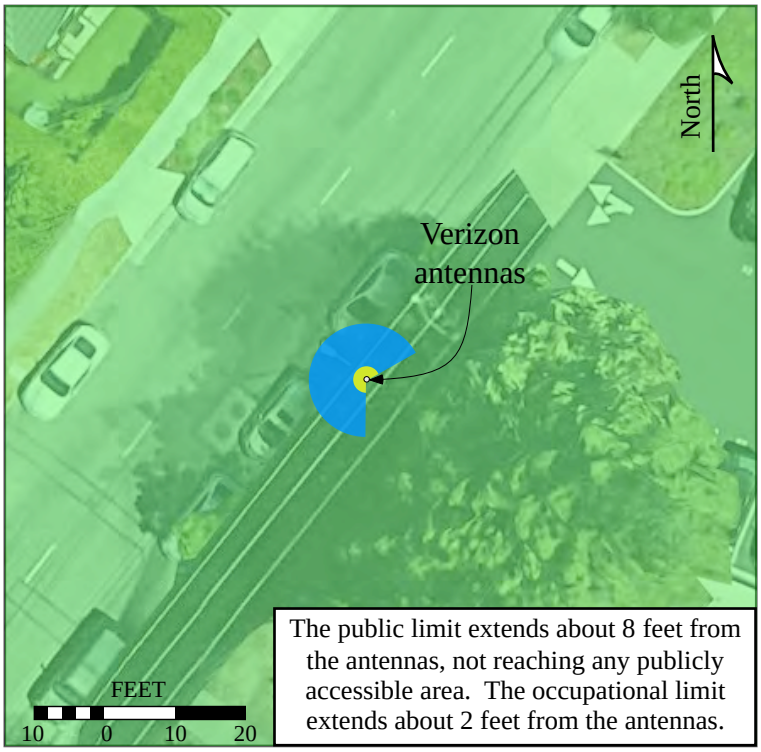
Verizon Wireless • Proposed Small Cell (No. 566800 "SF Palo Alto 204")
850 Webster Street • Palo Alto, California

Calculated RF Exposure Levels

at Elevation of Antennas (21½ – 24½ feet above ground)



Legend:

- less than FCC Public Limit
- greater than FCC Public Limit less than FCC Occupational Limit
- greater than FCC Occupational Limit

Notes:

Calculations performed according to OET Bulletin No. 65, August 1997.

Base image from Google Maps.

at Ground, at 10 feet Above Ground, and at Nearby Buildings

sign on pole below antennas

Power line frequencies (60 Hz) are well below the applicable range of the radio frequency exposure standards, and there is considered to be no compounding effect from simultaneous exposure to power line and RF fields.

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Verizon Wireless • Proposed Small Cell (No. 566801 "SF Palo Alto 205")
853 Middlefield Road • Palo Alto, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate its small cell (No. 566801 "SF Palo Alto 205") proposed to be sited in Palo Alto, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install three small antennas on the municipal light pole sited in the public right-of-way near 853 Middlefield Road in Palo Alto. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

Wireless Service Band	Transmit Frequency	"Uncontrolled" Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm^2	5.0 mW/cm^2
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
CBRS (Citizens Broadband Radio)	3,550 MHz	1.0	5.0
BRS (Broadband Radio)	2,490	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
600 MHz	617	0.41	2.05
[most restrictive frequency range]	30–300	0.20	1.0

Power line frequencies (60 Hz) are well below the applicable range of these standards, and there is considered to be no compounding effect from simultaneous exposure to power line and radio frequency fields.

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General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The radios are typically mounted on the support pole or placed in a cabinet at ground level, and they are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). This methodology is an industry standard for evaluating RF exposure conditions and has been demonstrated through numerous field tests to be a conservative prediction of exposure levels.

Site and Facility Description

Based upon information provided by Verizon, including drawings by All States Engineering & Surveying, dated September 1, 2020, it is proposed to install three Ericsson Model 6701, 2-foot tall, directional panel antennas with integrated radios on top of a new light pole to replace the existing pole sited in the public right-of-way in front of the single-story office building at 853 Middlefield Road in Palo Alto. The antennas would employ no downtilt, would be mounted at an effective height of about 23 feet above ground, and would be oriented toward 60°T, 180°T, and 300°T. The maximum effective radiated power proposed in any direction is 193 watts in the 28 GHz band. There are reported no other wireless telecommunications base stations at the site or nearby.

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Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.0086 mW/cm^2, which is 0.86% of the applicable public exposure limit. The maximum calculated level at the second-story elevation of any nearby building* is 1.2% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

Recommended Mitigation Measures

Due to their mounting locations and height, the antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training be provided to all workers who have access within 8 feet outward from the antennas. No access within 2 feet directly in front of the antennas should be allowed while the antennas are in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs† be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by Verizon Wireless near 853 Middlefield Road in Palo Alto, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating small cells. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

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* Including the nearest residence, located at 737 Channing Avenue, at least 55 feet away based on the drawings.

† Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidelines from the landlord, local zoning or health authority, or appropriate professionals may be required.

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Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-21306, which expires on September 30, 2021. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

Neil J. Olij, P.E.
707/996-5200

September 29, 2020

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FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

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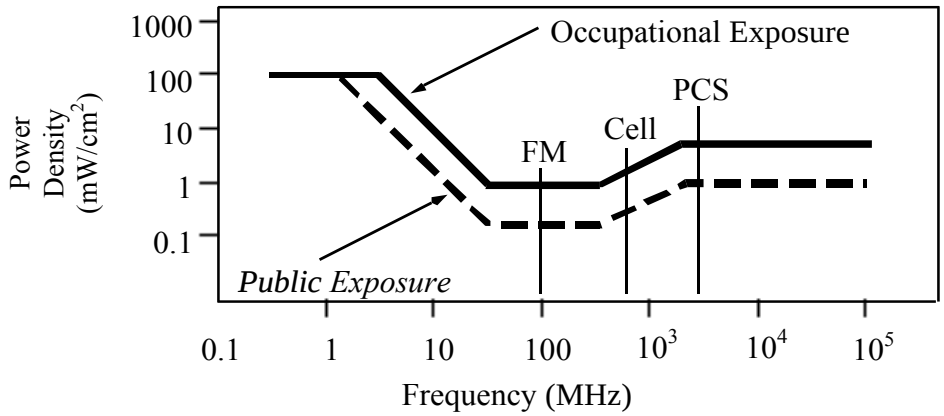
3.0 – 30	1842/ f	*823.8/ f*	4.89/ f	*2.19/ f*	900/ f^2	*180/ f^2*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	$3.54\sqrt{f}$	*$1.59\sqrt{f}$*	$\sqrt{f}/106$	*$\sqrt{f}/238$*	f/300	*f/1500*
1,500 – 100,000	137	*61.4*	0.364	*0.163*	5.0	*1.0*



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has incorporated those formulas in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

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and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm^2,

where θ_{BW} = half-power beamwidth of antenna, in degrees,
P_{net} = net power input to antenna, in watts,
D = distance from antenna, in meters,
h = aperture height of antenna, in meters, and
η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm^2,

where ERP = total ERP (all polarizations), in kilowatts,
RFF = three-dimensional relative field factor toward point of calculation, and
D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula is used in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program also allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.

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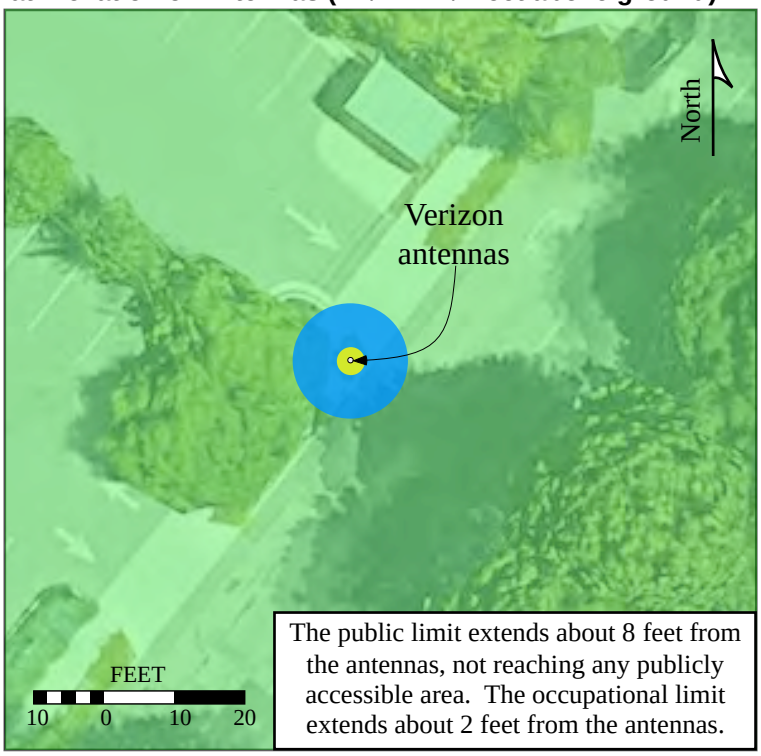
Verizon Wireless • Proposed Small Cell (No. 566801 "SF Palo Alto 205")
853 Middlefield Road • Palo Alto, California

Calculated RF Exposure Levels

at Elevation of Antennas (21½ – 24½ feet above ground)



Legend:

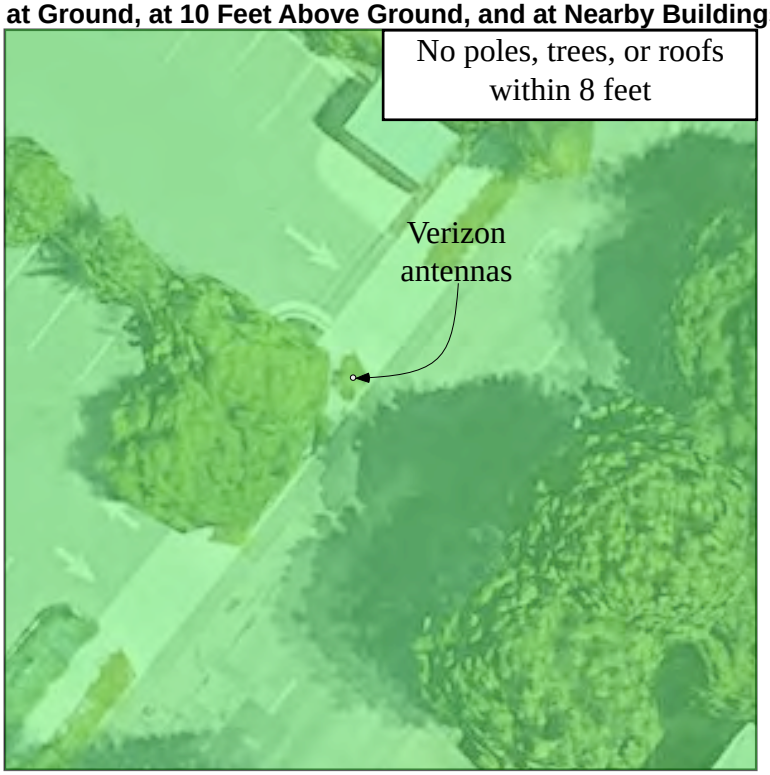
- less than FCC Public Limit
- greater than FCC Public Limit less than FCC Occupational Limit
- greater than FCC Occupational Limit

Notes:

Calculations performed according to OET Bulletin No. 65, August 1997.

Base image from Google Maps.

at Ground, at 10 Feet Above Ground, and at Nearby Buildings



sign on pole below antennas

Power line frequencies (60 Hz) are well below the applicable range of the radio frequency exposure standards, and there is considered to be no compounding effect from simultaneous exposure to power line and RF fields.

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Exhibit C

Verizon Wireless Small Cell Application – Exception Request

The proposed small cells referenced in the accompanying Verizon Wireless application submitted to the City of Palo Alto require one or more exceptions to the City's *Objective Standards for Wireless Communication Facilities in the Public Rights of Way on Streetlight Poles and Wood Utility Poles.* Palo Alto Municipal Code Section 18.42.110(k)(1) requires applicants for exceptions to show that:

A. The proposed WCF complies with the requirements of this Section 18.42.110 and any other requirements adopted by the City Council to the greatest extent feasible; and either
B. As applied to a proposed WCF, the provision(s) from which exception is sought would deprive the applicant of rights guaranteed by federal law, state law, or both; or
C. Denial of the application as proposed would violate federal law, state law, or both.

This proposed small cells satisfy Item A as they meet the objective standards with respect to design. Notably, the 5G integrated radio/antennas cannot be shrouded because that impedes signal propagation, and they qualify for an equipment adjustment because each is less than 0.85 cubic feet, and all three total less than the 2.6 cubic feet allowed.

The proposed small cells satisfy Items B and C because federal and state law compel approval. The federal Telecommunications Act provides that local government regulation of wireless facilities shall not "prohibit or have the effect of prohibiting" the provision of personal wireless service. 47 U.S.C. §§ 253(a), 332(c)(7)(B)(i)(II).

Under Ninth Circuit case law, a local government violates Section 332(c)(7)(B)(i)(II) if a wireless provider can show two things: (1) that it has a "significant gap" in service; and (2) that the proposed facility is the "least intrusive means," in relation to the land use values embodied in local regulations, to address the gap. *See T-Mobile USA, Inc. v. City of Anacortes*, 572 F.3d 987 (9th Cir. 2009). The accompanying *Statement of Verizon Wireless Radio Frequency Design Engineer Brian Ung* provides evidence of a significant gap in Verizon Wireless 5G service in Palo Alto. The accompanying alternatives site analysis provides evidence that alternatives to each proposed small cell require as many or more exceptions, or otherwise are infeasible. Federal law does not require that a proposed wireless facility be the "only" alternative, but rather that no feasible alternative is less intrusive. *See Metro PCS, Inc. v. City and County of San Francisco,* 400 F.3d 715, 400 F.3d 715, 734-35 (9th Cir. 2005).

In its September 2018 order addressing appropriate small cell approval criteria, the Federal Communications Commission determined that the Ninth Circuit's two-part test is too narrow, and that a wireless carrier need not show an insurmountable barrier, or even a significant gap, to prove a prohibition of service under the Telecommunications Act. *See Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment,* Declaratory Ruling and Third Report and Order, FCC 18-133 (September 27, 2018) ¶¶ 35, 37-40. Instead, "a state or local legal requirement constitutes an effective prohibition if it 'materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.'" *Id.*, ¶ 35. Thus, local regulations of small

cells are preempted if they materially inhibit "densifying a wireless network, introducing new services, or otherwise improving service capabilities." *Id.*, ¶ 37.

These are Verizon Wireless's objectives for 5G small cells in Palo Alto. As the need for enhanced services increases, denial would defeat these objectives, leaving the area without 5G service, compromising network access and advanced capabilities for customers as described in the engineer's statement. The engineer's statement also explains that the high-band frequencies to be used 5G service have limited propagation characteristics, and require more small cell facilities closer together to provide reliable on-street service for Verizon Wireless customers. A denial of a small cell based on prohibitive standards, such as location restrictions, would materially inhibit Verizon Wireless's ability to improve service on its network and therefore effectively prohibit service in violation of the Telecommunications Act. To avoid such unlawful prohibition, the City must grant the exceptions.

As to state law, California Public Utilities Code Section 7901 grants telephone corporations such as Verizon Wireless a statewide right to place their equipment along any public road or highway, provided that it does not incommode the public use. While the City may exercise limited aesthetic discretion, the proposed small cell design complies with the City's objective aesthetic standards, and as a result, does not incommode the public's use of public roads or highways. However, the location restrictions would deprive Verizon Wireless of its right to use any public road or highway, and exceptions are warranted to avoid violating state law.

For all of the above reasons, the proposed small cells under this application qualify for an exception under Palo Alto Municipal Code Sections 18.42.110(k)(1)(A), (B) and (C).

Exhibit D

verizon

VERIZON WIRELESS
VIRTUAL OPEN HOUSE

Verizon Wireless is improving wireless service in Palo Alto!

We will be adding small wireless facilities to existing metal streetlight poles.

Want to learn more?
We would like to hear your feedback.

Please join us for a virtual open house showcasing Verizon Wireless' proposed network and design.

Date: Thursday, June 25th, 2020
Time: 5pm-7pm
Zoom Meeting ID: https://zoom.us/j/93497004577

To RSVP or for more questions, please write or call to Jeremy Stroup:
jstroup@vinculums.com
(925) 532-5304

Exhibit E

2785 Mitchell Drive
Walnut Creek, CA 94598

June 12, 2020

To: City of Palo Alto

From: Brian Ung, Radio Frequency Design Engineer
Verizon Wireless Network Engineering Department

Subject: Statement in Support of Verizon Wireless's Proposed Small Cells, Downtown and University South Areas

Executive Summary

There is a significant gap in Verizon Wireless's fifth-generation Ultra Wideband (5G) service within the Downtown and University South areas of Palo Alto. 5G is a new technology that Verizon Wireless is deploying nationwide, but has yet to deploy in Palo Alto. The absence of 5G service means that Verizon Wireless customers cannot use 5G-dependent applications or take full advantage of 5G-capable smartphones and other devices.

Further, accelerated growth in voice and data use by Verizon Wireless customers has increased the demand on the existing 4G LTE network. 4G operates on limited bandwidth scattered across low- and mid-band frequency spectrum, which poses data management burdens that compromise network performance. In the high-band spectrum to be used for 5G, Verizon Wireless has abundant bandwidth in broad, contiguous blocks that are easier to manage, resulting in improved network performance. For Verizon Wireless customers, high-band 5G service means greater network capacity, reliability and data speeds that improve voice and data communications.

The absence of Verizon Wireless 5G service within the Downtown and University South areas of Palo Alto constitutes the "significant gap" Verizon Wireless seeks to serve (the "Significant Gap"). As the initial step in bringing 5G service to Palo Alto, Verizon Wireless has proposed seven 5G small cell facilities in the public right-of-way (the "Proposed Small Cells").

5G Technology

5G is a new, cutting-edge global communication technology standard that unifies many service applications. It is essential to Verizon Wireless's vision for smart cities and a more connected world. There are many user cases that will benefit from 5G, such as autonomous vehicles, which require near-real-time communication and instant information to minimize traffic congestion and avoid fatal accidents. 5G is also crucial to improved voice services and voice-

dependent applications, including distance learning and virtual meetings, as well as advanced machine-to-machine communications and public safety response.

Several factors contribute to 5G's potential: wide bandwidth, greater data speeds and low latency.

In the high-band (over 6 GHz) frequencies to be used for 5G service in the Bay Area, Verizon Wireless has licensed over 700 MHz of bandwidth in the 28 GHz band alone, in two large contiguous blocks. Such large blocks of contiguous-frequency bandwidth are optimal, due to fewer requirements for management and coordination of resources, which place heavy burdens on computing and scheduling power.

While high-band spectrum is complex and expensive to operate, with limited propagation characteristics requiring facilities closer together to provide reliable service, high-band 5G service has many benefits for the network and customers alike. The wide bandwidth greatly increases network capacity, with significant improvement in data speed. The improved network performance of high-band 5G also results in lower latency (or delay). The reduction in latency is 3 to 4 times that of current 4G network.

By comparison, Verizon Wireless's 4G network in the area operates on only 55 MHz of bandwidth, distributed in blocks of 10 or 15 MHz across low-band (below 1 GHz) and mid-band (1 GHz to 6 GHz) spectrum. Verizon Wireless uses a technique called "carrier aggregation" to maximize the limited 4G resources through efficient use of spectrum. However, carrier aggregation requires substantial coordination and places great demand on network infrastructure, leading to more latency during the data scheduling process and inefficient use of resources.

The combination of 5G's wide bandwidth, greater data speeds and low latency exponentially increase the network capacity, reliability and performance for Verizon Wireless customers using 5G service. This will greatly improve voice and data communications for Verizon Wireless customers.

The virtually real-time performance of 5G service will enable entirely new uses of wireless technology that are not possible with 4G service. While future applications of 5G technology are difficult to predict with certainty, they are likely to include data-intensive applications, such as high-resolution digital imagery, remote telemedicine, and machine-to-machine applications, in addition to autonomous vehicles. With very low latency enabling communication near real-time, 5G is essential for mission-critical applications, including advanced ambulance response and communication of vital information to physicians.

Coverage Gap

There is no existing Verizon Wireless 5G service coverage in the Downtown and University South areas of Palo Alto. With a complete absence of 5G coverage, there is no service available for 5G-capable devices, including new models of smartphones.

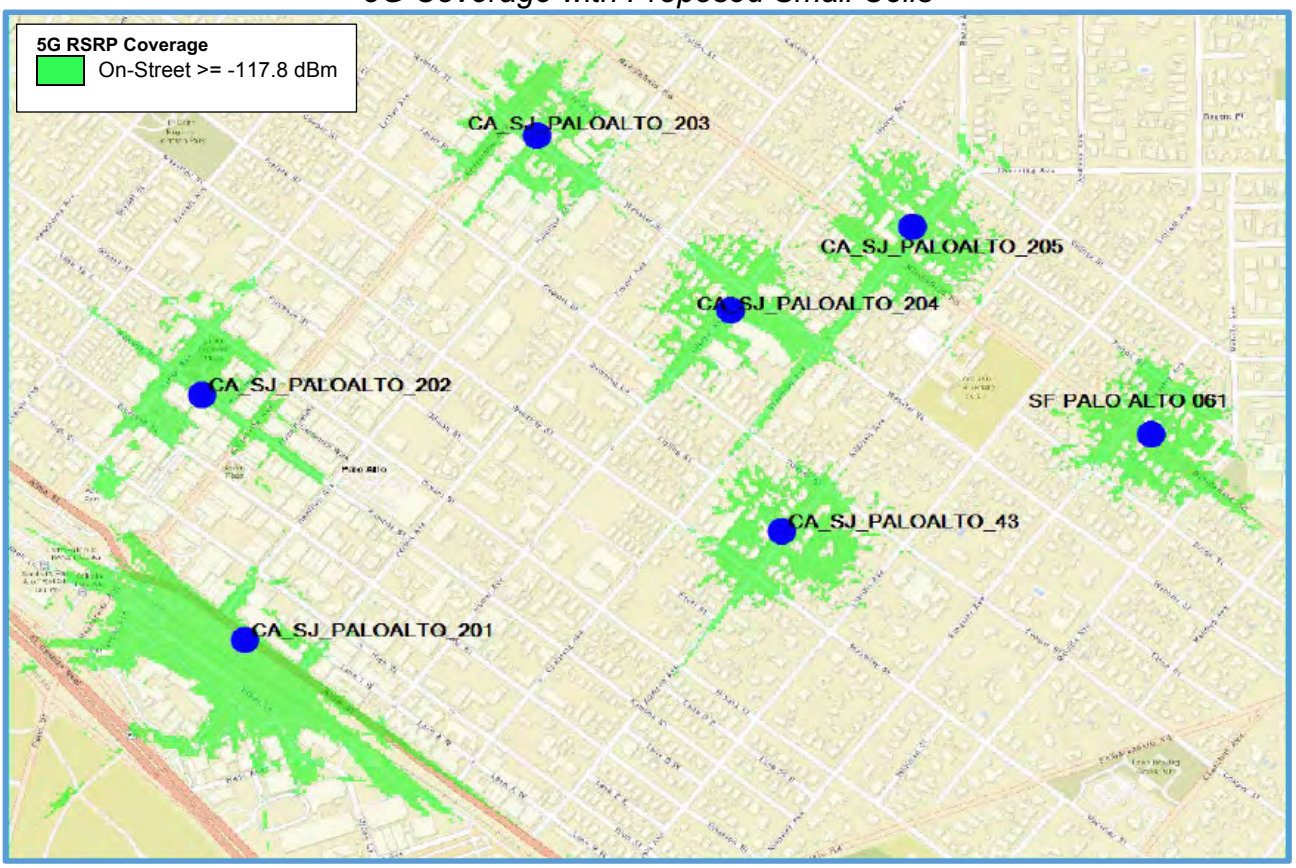
The following map demonstrates the total absence of 5G service in the Significant Gap. The second map shows the new 5G service coverage to be provided by the Proposed Small Cells. In total, the Proposed Small Cells will provide reliable 5G service coverage in areas along 2.3 miles of streets in critical portions of the Downtown and University South areas. This will benefit residents, workers and visitors with on-street 5G service. Further, it will add network capacity to relieve demand on the existing 4G network.

Coverage plot maps like those below show the anticipated level of signal, and therefore the projected coverage provided by a site at a given location. Referenced signal receive power (RSRP) is a measurement of signal level in decibels (dBm), which decreases due to distance and other factors. The areas in green reflect coverage that meets or exceeds the threshold to provide consistent and reliable 5G on-street coverage.

See Coverage Maps on Following Page

Current 5G Coverage

5G Coverage with Proposed Small Cells



Conclusion

As the existing 4G network matures, and increased demand and new applications require greater network capacity, reliability and data speeds, the network must be enhanced with new 5G technology. The high-band frequencies to be used for Verizon Wireless's 5G service require facilities closer to customers, and currently there are no 5G facilities serving Palo Alto. This results in the Significant Gap in Verizon Wireless 5G coverage in the Downtown and University South areas. Verizon Wireless must deploy the Proposed Small Cells to provide new, reliable 5G service to the Significant Gap.

Please feel free to contact me with any questions or comments regarding Verizon Wireless's proposed facilities.

Respectfully submitted,

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I have 30 years of experience in the wireless industry. I have been in my current role for more than 10 years, and prior to that I was a Principal System Performance Engineer. My responsibilities include designing and maintaining a wireless network to ensure reliable service, and addressing coverage and capacity needs to meet customer expectations. I also help shape the industry and bring technology evolution to everyday lives. I acquired a Bachelor of Science in Electronic Engineering from DeVry Institute of Technology, City of Industry, California, and a Master of Science in Telecommunications Management from Golden Gate University, San Francisco, California.