



City of Palo Alto

City Council Staff Report

(ID # 8977)

Report Type: Action Items

Meeting Date: 5/21/2018

Summary Title: Appeal of Approval Verizon Wireless Small Cell Antenna (Cluster I)

Title: PUBLIC HEARING / QUASI-JUDICIAL: The City Council Will Consider Appeals of the Planning and Community Environment Director's Decision to Approve Eleven (11) Tier 3 Wireless Communication Facility Permits to Establish Small Cell Wireless Communication Antennas and Equipment on Utility Poles in the Public Right of Way Near the Following Addresses: Node #129: CPAU Pole# 3121 (near 2490 Louis Road APN 127-30-062), Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046), Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067), Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-24-020), Node #134: CPAU Pole #2964 (near 3409 Kenneth Dr APN 127-09-028), Node #135: CPAU Pole # 3610 (near 795 Stone Ln APN 127-47-001), Node #137: CPAU Pole #3351 (near 3090 Ross Rd APN 127-52-031), Node #138: CPAU Pole #2479 (near 836 Colorado Av APN 127-27-063), Node #143: CPAU Pole #3867 (near 419 El Verano Av APN 132-15-017), Node #144: CPAU Pole #1506 (near 201 Loma Verde Av APN 132-48-015), Node #145: CPAU Pole #3288 (near 737 Loma Verde Av APN 127-64-039) Environmental Assessment: Exempt pursuant to CEQA Class 3, Guidelines Section 15303.

From: City Manager

Lead Department: Planning and Community Environment

Recommendation

Staff recommends that the City Council conduct a public hearing and take one of two actions:

- 1) Deny the appeals and uphold the Director of Planning and Community Environment's decisions to approve the eleven (11) Tier 3 Wireless Communication Facility Permits consistent with a recommendation by the Architectural Review Board and based upon the findings and conditions of approval described in the Record of Land Use Action

(Attachment A); or,

- 2) Grant the appeals in part, approving the Tier 3 Wireless Communication Facility Permits and requiring radio equipment for one or more nodes to be placed in underground vaults where sufficient space exists in the sidewalk right of way, subject to updated conditions of approval in Attachment B; and, direct staff to update project-related findings and conditions as appropriate.

Note: The City received seven separate appeals of the 11 wireless permits approved by the Director. To facilitate consideration of these appeals, they are all being considered in one, consolidated public hearing.

Executive Summary

Wireless communication providers are expanding their networks through small cell technology throughout the region. To date, Palo Alto has six (6) active formal Tier 3 Wireless Communication Facility Permit applications and one active (1) Preliminary Architectural Review application requesting approximately 54 new nodes under consideration in residential and commercial areas. The formal applications are from Vinculums and Crown Castle, both on behalf of Verizon and AT&T is requesting Preliminary Architectural Review.¹ The first batch of small cell nodes, referenced as Vinculums/Verizon Cluster 1, was recently approved by the Director following a recommendation by the Architectural Review Board (ARB) and was subsequently appealed by concerned residents. While appellants have varying reasons for opposition to the project, those that support the network expansion object to pole-mounted radio equipment and request the Council require underground vaulting.

Undergrounding radio equipment is not supported by the applicant due to concerns about damage to their equipment in flood zones, employee safety when servicing equipment, lack of sufficient space in certain locations, and their inability to meet the City's noise threshold from noise that would be generated by the ventilation fans and sump pumps necessary when equipment is placed underground. Verizon has represented to staff that it is exploring whether there are engineering solutions available that would bring underground vaults into compliance with the City's noise thresholds.

Federal regulations have preempted significant review elements from local governments, but the City retains authority over issues such as aesthetics, screening, and noise, and has developed specific criteria with which to evaluate these applications. Importantly, these applications are subject to federal application processing timelines and decisions on the applications are needed at the hearing, unless the applicant agrees to a time extension.

¹ These numbers include preliminary applications submitted for early input from the Architectural Review Board as well as formal applications seeking City approval.

During the ARB review and prior to the Director's determination, various City departments identified constraints on vaulting radio equipment, including location in the flood zone, and the presence of rolled curb sidewalks. Based in part on these constraints, staff and the ARB recommended approval of the pole-mounted equipment as proposed by the applicant. Several ARB members expressed a preference for vaulted equipment, however, and further expressed dismay that many constraints precluding vaulting appeared to arise from City policies. Since the ARB hearing and the Director's decision, staff has determined that – from the City's perspective – placing equipment underground could be acceptable within flood zones and on rolled curb sidewalks, provided the designs comply with City standards and the vaulted equipment can meet the City's noise threshold. The applicant is currently updating its vaulting analysis to reflect this updated information. This analysis may show that there are site-specific constraints such as other underground equipment or tree roots that could preclude undergrounding at specific locations.² Additionally, even if vaulting is physically feasible and determined to be an aesthetically superior solution, the applicant has asserted that it would not comply with the City's noise threshold; thus, the applicant would need to engineer a solution or the City would need to reconsider the applications after additional environmental review of noise impacts had been prepared.

It is anticipated that the City Council's action on this appeal will inform staff's review of future applications related to the small cell deployment throughout the City.

Background

The subject appeals relate to applications filed by Vinculums on behalf of Verizon Wireless to install eleven (11) small cell nodes located within the Mid-Town, South of Mid-Town, St. Claire Gardens, and Palo Verde neighborhoods. This application grouping has been referenced as Vinculums/Verizon Cluster 1.

In total, Vinculums/Verizon proposes to install ninety-three (93) nodes in various neighborhoods and commercial areas within the City. The additional node locations will be identified and clustered together into a series of applications; Clusters 2 and 3 representing an additional twenty-two (22) nodes, have already been filed. In addition to Verizon Wireless, other carriers are seeking City approval to install nodes in the public right of way. Crown Castle has three additional Tier 3 Wireless Communication Facility Permit applications on file to install sixteen (16) nodes downtown and in other neighborhoods. These other Clusters and applications are not the subject of the appeal hearing; however, the Council's action on the

² The applicant's updated analysis of undergrounding was not available at the time this staff report was prepared. Staff has requested that the applicant provide the analysis to the City Council and the public at least 72 hours in advance of the hearing. When the City receives the material, it will be posted on the Council agenda website for this meeting.

subject nodes will inform staff's review of other pending and future applications.

Each node in the subject application would operate independently from one another and requires its own 'Tier 3' Wireless Communication Facility permit, as defined under the City of Palo Alto Municipal Code (PAMC). Seven (7) of the originally proposed eighteen (18) small cell wireless nodes in Cluster 1 were removed by the applicant from consideration by the Director due to ongoing vaulting feasibility studies or other applicant-driven technical reasons. It is anticipated that the applicant may move forward with applications for these nodes in the future. The eleven (11) small cell nodes that are subject to the appeal are listed as follows:

- Node #129: CPAU Pole# 3121 (near 2490 Louis Road APN 127-30-062)
- Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046)
- Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067)
- Node #133E: CPAU Pole #2856 (near 949 Loma Verde Avenue APN 127-24-020)
- Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028)
- Node #135: CPAU Pole # 3610 (near 795 Stone Lane APN 127-47-001)
- Node #137: CPAU Pole #3351 (near 3090 Ross Road APN 127-52-031)
- Node #138: CPAU Pole #2479 (near 836 Colorado Avenue APN 127-27-063)
- Node #143: CPAU Pole #3867 (near 419 El Verano Avenue APN 132-15-017)
- Node #144: CPAU Pole #1506 (near 201 Loma Verde Avenue APN 132-48-015) and
- Node #145: CPAU Pole #3288 (near 737 Loma Verde Avenue APN 127-64-039).

The antennas and associated pole mounted equipment for each of the eleven (11) nodes are proposed to attach to either existing wood utility poles or require replacement wood utility poles,³ as discussed in the Project Description (Attachment C). A non-live, temporary mock-up of the Director-approved design can be found on Pole #7423 (1350 Newell Road, across the street from the Palo Alto Art Center). This current project design does not include underground vaulting of any equipment for the reasons provided in Verizon's February 5, 2018 Vault Feasibility Reports (Attachment D).⁴ The project plans and renderings of the proposed facilities are included in Attachment E.

Palo Alto Municipal Code (PAMC) Section 18.42.110

Tier 3 Wireless Communication Facility (WCF) Permit applications are processed in accordance with Palo Alto Municipal Code (PAMC) section 18.42.110, which sets forth application requirements, standard conditions of approval and required findings. Tier 3 WCF permit applications are subject to the WCF development standards, the Architectural Review findings in PAMC Section 18.76.020, and the Conditional Use Permit findings in PAMC Section

³ Node #129 and Node #133E propose replacement of the existing wood utility poles.

⁴ These reports rely in part on constraints communicated by City departments, many of which the City has re-evaluated and clarified after the ARB meeting, as noted above.

18.76.010. Applications are reviewed and acted upon by the Director, and subject to appeal to the City Council.

Federal Telecommunications Act of 1996: Significant Coverage Gap and Least Intrusive Means

The Telecommunications Act of 1996 recognizes the traditional zoning authority of local governments, while also precluding local governments from prohibiting, or having the effect of prohibiting the provision of wireless services. Courts have interpreted this to mean that a local government may not deny an application that proposes to (1) close a significant gap in services using (2) the least intrusive means available. This balances the national interest in deploying wireless services with the local interest in planned and orderly development. In the Ninth Circuit, the least intrusive means refers to the technically feasible and potentially available alternative design and location that most closely conforms to the local values a permit denial would otherwise serve. In other words, while local governments may enforce local values, they have limited authority to deny an application where alternative means of closing a significant gap in service are technically infeasible or otherwise unavailable. Alongside the City of Palo Alto Comprehensive Plan and associated plans and policies, the Palo Alto Municipal Code (“PAMC”) Section 18.42.110, architectural review findings in Section 18.76.020(d), and the conditional use permit findings in Section 18.76.010(c) express the local values that guide consideration of a WCF application. Local governments are not to regulate the specific equipment proposed by an applicant, but are to evaluate if and how that equipment complies with local values.

Prohibition of Unreasonable Discrimination

The Telecommunications Act also precludes a local agency’s wireless facility siting decisions from having the effect of prohibiting the provision of wireless service or unreasonably discriminating among wireless service providers. Further, under state law, a utility is required to provide any telecommunications carrier with nondiscriminatory access to its utility poles.

The FCC Shot Clock and Tolling Agreements

WCF permit applications have a unique application process involving a “shot clock” timeline, whereby a decision on each node must take place within a “reasonable” timeframe. This timeframe is presumed to be 150 days for Tier 3 projects, though the applicant and City may agree to extend or “toll” the timeframe in which the City must act. The City and applicant have agreed to a number of time extensions since the application was filed; the current shot clock deadline for Cluster 1 is May 21, 2018.

Preemption re: Radio Frequency (RF) Emissions

The FCC established comprehensive rules for human exposure to RF emissions (the “FCC Guidelines”). Under the Telecommunications Act of 1996, federal regulations preempt state and local governments from regulating RF emissions generated by wireless communications facilities; state and local governments cannot regulate wireless facilities based on environmental effects from RF emissions to the extent that the emissions comply with the FCC

Guidelines. Although localities cannot establish their own standards for RF exposure, local officials may require wireless applicants to demonstrate compliance with the FCC Guidelines. To this end, the City hired an Independent Consultant, Telecom Law Firm PC (“TLFPC”) to evaluate the planned radio frequency emissions for each of the 11 nodes. The evaluation was based on:

- antenna specifications,
- sector directionality,
- frequency, bands,
- pole heights,
- distances to adjacent 1-story and 2-story residences and
- additional factors outlined in the TLFPC’s memos for each node.

TLFPC also peer-reviewed Verizon’s radio frequency safety engineering reports for each site produced by the applicant’s consultant, Hammett & Edison, Inc., Consulting Engineers. The TLFPC memos outline the height and distance of the control zone around each antenna and TLFPC evaluated that each node was found to comply with the FCC Guidelines. A post-installation analysis will also occur for each node as provided for in Condition of Approval #24 RADIO FREQUENCY EMISSION.

Master License Agreement (MLA)

Each small cell node is required to comply at all times with the terms and conditions in a City Council approved Master License Agreement (MLA). The relevant MLA for Vinculums/Verizon Cluster 1 was executed on June 27, 2016 and is entitled Master License Agreement for Use of City-Controlled Space on Utility Poles and Streetlight Poles and in Conduits (“MLA”) between the City of Palo Alto and GTE Mobilnet of California Limited Partnership, DBA Verizon Wireless (Contract No. C16165156). The City Manager’s Report to Council for the MLA can be found at the following weblink: <http://cityofpaloalto.org/civicax/filebank/documents/52893>, which includes agreement terms, obligations, prohibitions, and expiration parameters.

Public Hearings and Director’s Decisions

The Architectural Review Board and members of the public discussed Vinculums/Verizon Cluster 1 at three meetings. The Board had mixed views on the application, but the majority favored undergrounding radio equipment in vaults. In response, the applicant prepared a vault feasibility analysis that concluded nodes located in the flood zone area and in some other locations outside of the flood zone, could not be undergrounded due to water intrusion or other reasons. As mentioned above, the Verizon’s February 5, 2018 Vault Feasibility Reports are included in Attachment D. At the time of the ARB’s recommendation and Director’s determination, staff accepted the results of these reports based on expressed siting constraints and objectives of various City departments. As discussed in this report, staff now believes the vaulting analysis is incomplete and vaulting may be feasible at more sites, however, there may

be other reasons for rejecting vaulting at some locations. This perspective is discussed in greater detail below.

The ARB recommended approval of the project that is included in this packet and as approved by the Director, which includes pole-mounted mechanical equipment using the box shroud design (see drawings, Attachment E). Staff reports and meeting minutes are linked below:

May 18, 2017: Preliminary Architectural Review (17PLN-00033)

- Report: <http://www.cityofpaloalto.org/civicax/filebank/documents/57840>
- Video: <http://midpenmedia.org/architectural-review-board-62/>
- Minutes: <https://www.cityofpaloalto.org/civicax/filebank/documents/58269>

December 7, 2017: First Formal Review (17PLN-00169)

- Report: <https://www.cityofpaloalto.org/civicax/filebank/documents/62427>
- Video: <http://midpenmedia.org/architectural-review-board-73-2/>
- Minutes: <https://www.cityofpaloalto.org/civicax/filebank/documents/63794>

March 15, 2018: Second Formal Review (17PLN-00169)

- Report: <https://www.cityofpaloalto.org/civicax/filebank/documents/63883>
- Video: <http://midpenmedia.org/architectural-review-board-74-2/>
- Minutes: <https://www.cityofpaloalto.org/civicax/filebank/documents/64584>

Director's Decisions

Corresponding with the recommendations of the Architectural Review Board from March 15, 2018, the Director of Planning and Community Environment (Director) approved the eleven (11) small cell nodes with detailed conditions of approval on March 26, 2018 (Attachment F). These Director's approvals were granted pursuant to the Palo Alto Municipal Code (PAMC) Sections 18.42.110 (c)(3), 18.42.110 (h)(1), 18.42.110 (h)(2), 18.42.110 (i), and 18.42.110 (j). These decisions were based on the review of all information contained within the project file, all public comments received prior to the decision, and the review of the proposal in comparison to applicable Comprehensive Plan goals and policies, as well as zoning and other municipal code requirements.

Appeal Process

PAMC Section 18.77.075 indicates that an appealed Director's Decision is placed on the Council Consent Calendar within 45 days of the filing of an appeal. The City normally employs a two-step appeal process, in which the City Council is first asked to uphold the Planning Director's decision on its consent calendar, and a public hearing is only scheduled upon request of the City Council. If scheduled for consent, the Council may decide to pull an item off Consent if at least three Councilmembers concur (PAMC 18.77.070(f)). Given the significant public interest in

these applications, staff elected to forgo the aforementioned consent calendar process and noticed the seven appeals for a public hearing. At the hearing, the City Council will be asked to receive public testimony (including testimony from the applicant and the appellants) and to uphold, modify or reverse the Director's decisions on the WCF nodes.

Discussion

The Director's determination in Attachment F evaluates the project to the applicable WCF standard requirements for Tier 3 WCFs and presents the Director's findings for approval.

Support for pole-mounted equipment was granted based on constraints that were identified by the City and applicant, industry practices that discourage vaulting for improved employee safety and more efficient equipment maintenance, and environmental conditions within vaults that are not always conducive to electronics. The proposed nodes were also designed with a mechanical cover that would be painted to match the color of the wood utility pole and placed on the pole in a manner that draws the least amount of attention to motorists, cyclists and pedestrians. In some instances, additional landscaping is required to better screen the equipment, but clearly the mechanical screening is visible, as are the antennas. Fundamentally, the proposed WCF represent a communication utility and were approved for placement on existing or replaced utility poles.

Issues Raised on Appeal

Seven (7) appeals were filed seeking to overturn or modify the Director's approval (Attachment G). Some appellants focused on a node in proximity to their residence, others appealed all nodes in the Cluster. A summary of the appeal statements received is provided below:

1. Appeal 18-AP-2, submitted by Herc Kwan, specifically focuses on Node #129: CPAU Pole# 3121 (near 2490 Louis Road). In summary, the appellant urges City Council to overturn the Director's Decision on Node #129. Specifically, the appellant requested for all of the equipment, except for the antenna, to be located underground in flush to grade vaults without protruding elements and to ensure that any installed equipment complied with the City's noise requirements. The appellant questions the methodology and reasoning for Verizon not pursuing vaulting of equipment in the February 5, 2018 Vault Feasibility Report for Node #129, citing that the node location is not in a flood zone. The appellant also raised concerns about aesthetics and lack of screening, noise, future expansion, loss of property values, if there is a significant gap in coverage relative to the proximity to a macro wireless site, fire hazard and other safety topics, and implementation of the City's policy of undergrounding of utilities.

2. Appeal 18-AP-3, submitted by Francesca Lane Kautz, specifically focuses on Node #143: CPAU Pole #3867 (near 419 El Verano Avenue). In summary, the appellant urges City Council to overturn the Director's Decision on Node #143. Specifically, the appellant requests for all of the

equipment, including the antenna, to be located underground and cites the City's high voltage service vaulting under sidewalks. As alternatives to undergrounding small cell nodes, the appellant requests location of nodes on or near utility substations, on City-owned structures, and/or commercial or industrial buildings. The appellant questions the visual simulation, citing that the equipment would not be hidden by landscaping and that the antenna would be above the tree canopy. The appellant also raised concerns regarding implementation of the City's policy of undergrounding of utilities, as well as liability, health and safety if the wood utility poles with the equipment fall under earthquake or fire scenarios. The appellant encourages design innovation and use of a superior, less intrusive project design.

3. Appeal 18-AP-4, submitted by Christopher Linn, specifically focuses on Node #130: CPAU Pole #2461 (near 2802 Louis Road). In summary, the appellant urges City Council to overturn the Director's Decision on Node #130. Specifically, the appellant requested for all of the equipment, except for the antenna, to be located underground in flush to grade vaults without protruding elements and to ensure that any installed equipment complied with the City's noise requirements. The appellant questions the methodology and reasoning for Verizon not pursuing vaulting of equipment in the February 5, 2018 Vault Feasibility Report for Node #130, which cites sewer lines and the flood zone as reasons for not vaulting. The appellant urges the selection of node locations that allow for vaulting. The appellant also raised concerns about aesthetics and lack of screening, the proximity to a macro wireless site⁵, and unequitable loss of property values in comparison with other areas with underground utilities.

4. Appeal 18-AP-5, submitted by Jeanne Fleming on behalf of United Neighbors, appeals all eleven (11) nodes. In summary, the appellant urges City Council to overturn the Director's Decision on all nodes. Specifically, the appellant requested for all of the equipment, except for the antenna, to be located underground. The appellant questions the methodology and reasoning for Verizon not pursuing vaulting of equipment, especially when other utility vaulting has already occurred in the neighborhoods in Cluster 1. The appellant cites examples of how other cities and carriers have installed antennas and associated equipment fully underground. The appellant urges consideration of fully water-proof radios as one example of removing a vaulting impediment due to potential water damage. The appellant urges consideration of vaulting in flush to grade vaults without protruding elements, and cites examples of Verizon vaulting installations in other cities, as well as City of Palo Alto utility vaults in sidewalks. The appellant cites the City of Palo Alto's recent letter in regard to SB649 that was in support of

⁵ On January 22, 2018, the City Council considered a license agreement with GTE Mobilnet of California Limited Partnership dba Verizon Wireless for placement of a new macro site on an existing PG&E tower located on City-Owned property at 1082 Colorado Avenue, near Colorado Avenue and Simpkins Court. The license allows for Verizon to file an application, but the Planning Department has not received an application on this site for Verizon to date. Please refer to CMR 8590 for further information at <https://www.cityofpaloalto.org/civicax/filebank/documents/62815>.

maintaining local government's ability to implement local ordinances regarding aesthetics, noise, and other topics as they pertain to wireless applications. The appellant indicates support of ramping up for 5G, but that cost savings to Verizon should not be included as a design consideration.

5. Appeal 18-AP-6, submitted by RK Parthasarathy, specifically focuses on Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive). In summary, the appellant urges City Council to overturn the Director's Decision on Node #134 in two ways. First, the appellant requests elimination of Node #134, citing proximity to a macro wireless site.⁶ Second, if not eliminated, the appellant requested for all of the equipment for Node #134, except for the antenna, to be located underground in flush to grade vaults without protruding elements and to ensure that any installed equipment complied with the City's noise requirements. The appellant indicated that there appeared to be enough space for vaulting. The appellant raised concerns about design compliance with aesthetic-related ordinances and a lack of screening. The appellant also raised concerns regarding physical and fire hazards and risk posed by the equipment if the pole fell in the street or on their home under fire or disaster scenarios. The appellant also raised concerns about property value and already experiencing site constraints due to existing power lines/easements.

6. Appeal 18-AP-7, submitted by Russell Targ and Patricia Targ, appeals all eleven (11) nodes. In summary, the appellants raise numerous points and concerns and urge City Council to reverse any allowance of the use of utility poles for the small cell node installations. The appellants object, claim, and appeal action and proposed action under which the City of Palo Alto allows the use of public sidewalks for installation of power supplies for 4G and/or 5G towers and/or the installation of communication devices on public utility poles or publicly owned easements or rights of way. Additionally, the appellants raised concerns about not receiving notice of the proposed node(s)/deprived of due process and that the small cell nodes would create dangerous public property. The appellants cite risk from batteries and other equipment to explosion, object to the provision of power supply, object to transference of liability from telecommunications industry to tax payers, cite nondisclosure of material facts, unlawful taking, loss of property value, and ADA violations for those that are electromagnetically sensitive. The appeal is supplemented with two public comments submitted by Harry Lehmann in the form of two letters. The first letter, authored by Harry Lehmann and dated July 19, 2017, discusses radiation injury liability shifts to the State from telecommunication companies if SB 649 were passed. The second letter, authored by Beatrice Golomb of UC San Diego and dated August 18, 2017, discusses opposition to SB 649 due to health problems and injury associated with electromagnetic radiation.

⁶ Per above, the Planning Department has not received an application from Verizon for the 1082 Colorado Avenue location to date.

7. Appeal 18-AP-8, submitted by Amrutha Kattamuri and Susan Downs, appeals all eleven (11) nodes. In summary, the appellant urges City Council to overturn the Director’s Decision and deny all nodes. Additionally, the appellants also ask that “privately-owned Close Proximity Microwave Radiation-emitting Antennas (CPMRA) and ancillary equipment” not be allowed in or within 1,500 feet of residential zones, ask for an amendment to the Palo Alto Municipal Code to allow installations only in commercial and industrial zones and to establish an effective 1,500 setback from various land uses and zones, and to only allow installations if there is a significant gap in coverage proven by substantial evidence in the public record. The appellants raise numerous points and concerns, including cumulative CEQA impacts associated with anticipated small cell node installations throughout Palo Alto residential neighborhoods, no significant gap in Verizon coverage, the need to find other least intrusive means, the duty of the City of Palo Alto to regulate the operations of towers, financial damages/reduced property values, proximity of nodes to homes, disability rights and prevention of access barriers, health concerns, a conflict of interest of technical subconsultant Hammett & Edison, transfer of injury liability to the City of Palo Alto and taxpayers, and unreasonable failure of City staff to respond to public inquiries.

Responses to Issues Raised on Appeal

Below are staff responses to the appeal statements. The applicant has also provided a letter documenting its response to the appeals, which is included with this report as Attachment H.

Aesthetics and Above Ground Design

Alongside the City of Palo Alto Comprehensive Plan and associated plans and policies, the Palo Alto Municipal Code (“PAMC”) Section 18.42.110, the architectural review findings in Section 18.76.020(d), and the conditional use permit findings in Section 18.76.010(c) express the local values that form the analytical baseline for considering approval of a WCF. All provide guidance on aesthetics, especially in regard to streetscape design, orderly and cohesive utility design, tree protection, a project relating to its context, reducing the size of a WCF , and other matters.

The design of the antenna bayonet shroud, the design of the shrouding for the pole mounted equipment, pole replacement, colors/materials, and landscaping are all topics for Council consideration. Identifying alternative node locations is also an option.

The ARB reviewed four different radio screening alternatives and, while preferring undergrounding, identified a pole-mounted design that meet the code requirements and achieved the objectives of concealing, to the extent feasible, the radio equipment. Five different antenna screening alternatives were considered, including pole replacement, and the ARB identified a preferred design aesthetic. These recommendations were memorialized in the Director’s determination.

Many, but not all, of the appellants accept the antenna placement atop the wood utility poles

and proposed “bayonet shroud” antenna screening. The pole-mounted radio equipment is a clear area of disagreement, however, and many in the community have expressed a strong interest in the radio equipment being placed underground. While some appellants have objected that pole-mounted equipment will interfere with the City’s long-term plans to underground all utilities, this issue is anticipated in Section 7.2 of the parties’ MLA, which requires to the wireless carrier to relocate its equipment at the request of the City.

Underground Vaulting of Equipment

The applicant prepared a vault feasibility analysis that City staff reviewed prior to the ARB hearing and the Director’s decision. In this analysis, the applicant found that some of the nodes included in the original application might meet criteria to permit vaulting and the applicant removed those nodes from the Cluster 1 application for further study of whether vaults could be designed in compliance with the City’s noise thresholds. The remaining nodes that represent Cluster 1 were rejected for vaulting by the applicant based on various factors, including, the node’s location in the flood zone, proximity to other City utilities, impacts to tree roots, sidewalk-related constraints, or other factors.

Since the ARB’s review and Director’s determination, staff has further analyzed the constraints on undergrounding communicated to the applicant by City staff. Prior guidance to the applicant required flood proof vaults in the flood zone. Another constraint related to the rolled curb in some locations of the City and a desire to not interfere with that design aesthetic. Given the community’s strong interest in undergrounding, staff has since re-evaluated these constraints. Based on this review, staff believes that rolled sidewalk curbs are not a constraint. The City maintains a construction detail that provides for a transition from a flat curb face to a rolled curb (and vice versa). For vaults throughout the City, including the flood zone, the City restricts access under the street right of way to preserve space for future City infrastructure, but the City does allow vaults under the sidewalk. Moreover, these vaults do not need to be flood proof.⁷ The applicant has been advised of this position and staff expects to receive an updated vaulting analysis following the release of this report. Beyond these two issues, the City may have other interests in restricting vaulting in some locations due to protecting tree roots or preserving space for further root growth in support of the City’s urban forest.

The City has several vaults underground supporting its utility infrastructure. Much of this infrastructure is not sensitive to water intrusion. However, since 1996, as discussed in CMR 182:96 on the City’s Padmount Equipment Policy (Utility Rule and Regulation #1-3 (b)(3) & (4)),

⁷ City staff have clarified that the AE10.5 designation applicable to some of the proposed node sites relates to tidal floods, which, in the absence of a barrier such as a levee, have a 1% chance of occurrence in any given year. The current FEMA designations did not account for existing flood protection barriers, because these barriers did not meet FEMA standards; nonetheless, they do provide effective protection. As a result, staff believe that a flood event has a very low chance of occurrence, and the minute risk of such an event should not render undergrounding of equipment infeasible in the AE10.5 flood zone.

the City has had a policy to locate electrical equipment above ground level and place the cables and conduits below ground level. The reason for this is similar to the applicant's interest and includes employee safety, ease of maintenance, and longer performance from the equipment. From time to time, the City will underground under certain conditions.

The applicant reports their equipment could not withstand the temperature and condensation that would result from an underground vault without required sump pumps and ventilation fans. The applicant is also opposed to locating vaults in the flood zone area because its equipment cannot be submerged in water in the event of a 100-year flood.

Even if vaulting were pursued for these nodes, the applicant has not been able to demonstrate compliance with an established noise threshold the City's uses to assess impacts of a project on the environment in accordance with the California Environmental Quality Act (CEQA). As currently designed with the pole-mounted equipment, the nodes generate no noise. The project as approved by the Director supports the CEQA findings of the project being exempt from CEQA review. However, if vaulting is required and the applicant is unable to meet the noise threshold of significance, the City would be required to prepare an environmental impact report and possibly a statement of overriding consideration to allow the placement of the WCF.

To implement an underground vaulting requirement, where the Council determines that vaulting is feasible, staff has identified a list of new conditions that could be imposed on the project in Attachment B. Verizon has asserted in its response to the appeal statements a variety of legal objections to vaulting generally (Attachment H). Staff will separately advise the Council on the legal risks associated with these objections in a confidential memorandum. The Council may also consider, subject to constraints of federal law, whether to deny any node locations that cannot feasibly be vaulted or explore certain conditions where pole-mounted equipment may be appropriate. Council's direction on this application will inform how City staff addresses other similar requests to expand small cell wireless networks throughout the City.

Other Issues

Comments regarding the health safety effects of electromagnetic radiation from this equipment are beyond the scope of Council consideration to the extent the wireless provider meets federal standards, which has been confirmed by both the applicant's and the City's consultants. In addition, the City will require a post-installation evaluation to confirm compliance. Also, while understandable that individual property owners may object to citing a node near their home, no evidence has been submitted that objectively concludes these facilities negatively impact property values. Other concerns regarding exploding batteries, fire hazards, or utility poles falling in earthquakes or fires, do not rise to a level of elevated risk for area residents. The structural integrity of each existing utility pole has been reviewed by the City's utility engineers and where a pole is found to not be structurally sound, a replacement pole is required. With respect to claims that the applicant has not adequately established

significant gaps in coverage, as discussed above, the existence of a gap in coverage may support an argument by the applicant that the City cannot deny an application under Federal law. The absence of a gap in coverage is not, however, a basis for denying the subject applications. At least one appellant expresses concern about a conflict of interest with an expert firm used to evaluate compliance with FCC standards, lack of public notice about the project and lack City responsiveness. However, the administrative record clearly refutes these claims. Finally, allegations relating to takings claims and liability transference do not stand up to scrutiny and ignores the previously approved MLA between the City and the wireless provider.

Experiences of Other Jurisdictions

Staff has researched and contacted other jurisdictions regarding their experiences with small cell wireless projects in the right of way. This information is provided in Attachment I, which may be supplemented with additional information received after the publication of this report.

Public Notification, Outreach & Comments

The Palo Alto Municipal Code requires notice of this public hearing be published in a local paper and mailed to owners and occupants of property within 600 feet of the subject property at least ten days in advance. Notice of a public hearing for this project was published in the *Palo Alto Weekly* on May 11, 2018, which is 10 days in advance of the Council meeting. Postcard mailing occurred on May 7, 2018 which is 14 days in advance of the meeting.

Public Comments

Staff received a significant number of public comments and inquiries by telephone and email. In addition to the points, concerns, and topics raised by appellants, staff notes that many additional members of the public have spoken in favor of and in opposition to one or more of the eleven (11) nodes, either through their public testimony at the previous Architectural Review Board meetings or through direct public correspondence. Public correspondence can be found at the following weblink: <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=4106>.

Policy Implications

The proposed project, whether approved with pole-mounted or vaulted equipment, is consistent with the City's comprehensive plan, except that vaulted equipment may require additional review under the Comprehensive Plan EIR. Project review to the required findings will determine project approval based on local criteria appropriate conditions to impose on the project.

The Council's action on this project will inform staff's review of other applications currently under view and future application filings. The Council is advised to understand the risks related to application processing timelines and litigation that is occurring in other jurisdictions related

in part to equipment undergrounding and project denial.

Resource Impact

The costs of project review by all staff and consultants are recovered under a cost-recovery agreement with Verizon and Vinculums. Pursuant to the City's MLA, Verizon would pay the City a License fee for mounting communication equipment on utility poles of \$270.00/pole/year (Utility Rate Schedule E-16: Unmetered Electric Service). In accordance with the MLA, Condition of Approval #41 requires Verizon to post a performance bond, letter of credit or other security instrument, to ensure that nodes are maintained as shown on the project plans and are properly maintained.

Environmental Review

The eleven (11) nodes were analyzed in accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the environmental regulations of the City. The eleven (11) nodes, as designed, are exempt from environmental review in accordance with Section 15303, Class 3 of the CEQA Guidelines (New Construction or Conversion of Small Structures) in that the projects propose to install small cell wireless communication equipment in small structures that can be attached to utility poles. The exceptions to the use of this Categorical Exemption are not applicable for the following reasons: the attachment of telecommunications equipment to utility poles is commonplace, including in residential neighborhoods; where appropriate, the equipment would be camouflaged, concealed, or screened through integrated design with the utility poles and the existing environment surrounding each location; other small cell and DAS facilities, both existing and proposed, are not in the same locations as the eleven (11) nodes, and therefore cumulative impacts will not be significant.

The aforementioned Categorical Exemption is applicable to nodes implementing the current project design, but it should be noted that any further project design changes may need to be reevaluated under CEQA. This may be relevant if undergrounding radio equipment is required as the applicant has indicated an inability to meet the City's noise threshold. If the applicant is unable to comply, it is possible an environmental impact report may be required, which may include a need for a statement of overriding considerations.

Attachments:

Attachment A: Draft Record of Land Use Action (DOCX)

Attachment B: Draft Conditions of Approval Requiring Vaulting of Equipment (DOCX)

Attachment C: Applicant Project Description (received February 26, 2018) (PDF)

Attachment D: Vinculums Vault Feasibility Reports (dated February 5, 2018) (PDF)

Attachment E: Project Plans (dated February 26, 2018) (DOCX)

Attachment F: Director's Approval Letter (dated March 26, 2018) (PDF)

Attachment G: Appeals (dated April 9, 2018) (PDF)

Attachment H: Applicant Response to Appeals (dated May 2, 2018) (PDF)
Attachment I: Case Studies from Other Jurisdictions (DOCX)
Attachment J: Vinculums Vault Specifications (dated February 5, 2018) (PDF)
Attachment K: Example Vault Installation Photo (dated 2017) (PDF)

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ACTION NO. _____: RECORD OF THE COUNCIL OF THE CITY OF PALO
ALTO LAND USE ACTION VINCULUMS-VERIZON CLUSTER 1 WIRELESS
COMMUNICATION FACILITY [FILE 17PLN-00169]

On May __, 2018, the Council upheld the Director of Planning and Community Environment's March 26, 2018 decision to approve the Tier 3 Wireless Communication Facility Permit Applications (File 17PLN-00169) making the following findings, determination and declarations:

SECTION 1. Background. The City Council of the City of Palo Alto ("City Council") finds, determines, and declares as follows:

A. On May 23, 2017, Vinculums filed for Tier 3 Wireless Communication Facility Permit Applications for the use of eighteen (18) wood utility poles located within the public right of way in the City of Palo Alto; as of March 15, 2018, the number of locations under consideration was reduced to eleven (11), as follows:

- Node #129: CPAU Pole# 3121 (near 2490 Louis Road APN 127-30-062)
- Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046)
- Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067)
- Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-24-020)
- Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028)
- Node #135: CPAU Pole # 3610 (near 795 Stone Ln APN 127-47-001)
- Node #137: CPAU Pole #3351 (near 3090 Ross Rd APN 127-52-031)
- Node #138: CPAU Pole #2479 (near 836 Colorado Av APN 127-27-063)
- Node #143: CPAU Pole #3867 (near 419 El Verano Av APN 132-15-017)
- Node #144: CPAU Pole #1506 (near 201 Loma Verde Av APN 132-48-015) and
- Node #145: CPAU Pole #3288 (near 737 Loma Verde Av APN 127-64-039).

B. Director of Planning and Community Environment (Director) approved the Tier 3 Wireless Communication Facility Permit Applications following review by the Architectural Review Board on March 15, 2018. Notices of the Director's decision were mailed notifying neighbors of the decision on March 26, 2018. The action is contained in the CMR #8977.

C. Within the prescribed timeframe, seven (7) appeals of the Director's Decisions were filed by Palo Alto residents:

- 18-AP-2, Herc Kwan, Node #129: CPAU Pole# 3121 (near 2490 Louis Road)
- 18-AP-3, Francesca Lane Kautz, Node #143: CPAU Pole #3867 (near 419 El Verano Avenue)
- 18-AP-4, Christopher Linn, Node #130: CPAU Pole #2461 (near 2802 Louis Road)
- 18-AP-5, Jeanne Fleming on behalf of United Neighbors, all eleven (11) nodes
- 18-AP-6, RK Parthasarathy, Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive)
- 18-AP-7, Russell Targ and Patricia Targ, all eleven (11) nodes
- 18-AP-8, Amrutha Kattamuri and Susan Downs, all eleven (11) nodes

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SECTION 2. Environmental Review.

The eleven (11) nodes, as designed, are exempt from environmental review in accordance with Section 15303, Class 3 of the CEQA Guidelines (New Construction or Conversion of Small Structures) in that the projects propose to install small cell wireless communication equipment in small structures that can be attached to utility poles. The exceptions to the use of this Categorical Exemption are not applicable for the following reasons: the attachment of telecommunications equipment to utility poles is commonplace, including in residential neighborhoods; where appropriate, the equipment would be camouflaged, concealed, or screened through integrated design with the utility poles and the existing environment surrounding each location; other small cell and DAS facilities, both existing and proposed, are not in the same locations as the eleven (11) nodes, and therefore cumulative impacts will not be significant.

SECTION 3. Approval Findings.

These City Council approvals are granted based upon adherence to the process required by Palo Alto Municipal Code (PAMC) Section 18.42.110(c)(3) and Section 18.42.110(h). In accordance with PAMC 18.42.110(h)(2) and as outlined below, the project complies with PAMC 18.42.110(i) Development Standards, complies with PAMC 18.42.110(j) Conditions of Approval, and the Architectural Review Findings in PAMC Section 18.76.020(d) and Conditional Use Permit Findings in PAMC Section 18.76.010(c) can be made for the project.

Tier 3 WCF Permit Development Standards PAMC 18.42.110(i)

Each of the 11 approved nodes complies with the Development Standards in **PAMC Section 18.42.110(i)(1) through (11)** because:

- (1) *Shall utilize the smallest footprint possible.* The proposed Wireless Communication Facilities (WCF) employs a design that balances aesthetic considerations and reduces, to the extent feasible, the small cell's footprint on the utility pole.
- (2) *Shall be designed to minimize the overall height, mass, and size of the cabinet and enclosure structure.* The project applicant presented four design options for pole mounted mechanical equipment. The overall size and dimensions varied, but the approved design was selected for its concealment and integration with pole design, in addition to overall reduction in mass and size. The antennas require a bayonet extension or pole replacement, but the height of the antennas extends to the minimum height necessary for effective transmission.
- (3) *Shall be screened from public view.* The proposed mechanical equipment, bayonet extensions and antennas are screened from public view with metal shrouds that will be painted to match existing or proposed utility poles. Sites with sparse street trees are conditioned to have additional trees planted to further screen the WCF from view.
- (4) *Shall be architecturally compatible with the existing site.* The small cell nodes will be located on wood utility poles. The proposed shroud and concealment approach is consistent and compatible with other equipment screening on utility poles.

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- (5) *Shall be placed at a location that would not require the removal of any required landscaping or would reduce the quantity of landscaping to a level of noncompliance with the Zoning Code.* No significant landscaping or parkway planting will be disturbed or lost. Additionally, amenity trees are identified in the project plans for the following nodes to improve screening: Node 130 (2 trees), Node 131 (1 tree), Node 133-E (1 tree), Node 143 (1 tree), Node 144 (2 trees), and Node 145 (1 tree).
- (6) *An antenna, base station, or tower shall be designed to minimize its visibility from off-site locations and shall be of a "camouflaged" or "stealth" design, including concealment, screening, and other techniques to hide or blend the antenna, base station, or tower into the surrounding area.* Proposed mechanical equipment and antennas will be concealed with shrouds colored to the extent feasible to match existing or proposed utility poles. The placement and orientation of each node's mechanical equipment has been evaluated to minimize visual impacts and, to the extent feasible, blend in with the surrounding area.
- (7) *A building-mounted antenna, base station, or tower shall be architecturally compatible with the existing building on which the antenna, base station, or tower is attached.* This provision does not apply to the subject project.
- (8) *For any Tier 2 or Tier 3 WCF proposed to be attached on an historic structure/site, as designated by Chapter 16.49, historic review shall also be required.* This provision does not apply to the subject project. No WCR is proposed to be located on a historic structure or site.
- (9) *Except as otherwise permitted by the Spectrum Act, a building-mounted WCF may extend fifteen (15) feet beyond the permitted height of the building in the zone district.* The proposed facility is not building mounted and, therefore, this provision does not apply to the subject application.
- (10) *Except as otherwise permitted by the Spectrum Act, a tower or other stand-alone Tier 3 WCF Project shall not exceed sixty-five (65) feet in height.* None of the proposed WCF's extend beyond 65 feet in height. Most antennas are located at or around 55 feet in height.
- (11) *A tower or other stand-alone Tier 3 WCF may encroach into the interior/street side and rear setback.* This provision does not apply to the subject project. The proposed small cell nodes are all located on public property, which is not subject to setback requirements.

Tier 3 WCF Permit Conditions of Approval PAMC 18.42.110(j)

Each of the 11 approved nodes complies with **PAMC Section 18.42.110(j)** because the referenced Wireless Communication Facility standard conditions of approval are incorporated into the specific conditions of approval for this project 17PLN-00169.

Architectural Review Findings PAMC Section 18.76.020(d)

All of the architectural review findings in **PAMC Section 18.76.020(d)** can be made because:

- (1) *The design is consistent with applicable provisions of the Palo Alto Comprehensive Plan, Zoning Code, coordinated area plans (including compatibility requirements), and any relevant design guides.* As conditioned, the proposed project complies with applicable local regulations for WCF's, specifically the development requirements of PAMC 18.42.110 (i). There are no applicable design guidelines or coordinated area plan that is relevant to this project. There are several policies in the city's comprehensive plan that relate to preserving the character and enjoyment residential neighborhoods and wireless communication facilities are not precluded from locating in residential districts. The city's zoning code provides a process to permit WCF's that blend with their existing surroundings and do not negatively impact the environment, historic properties, or public safety. None of the proposed small cell nodes are located on a historic resource and, as conditioned, each has been designed to blend in with the surrounding neighborhood to the extent feasible. The proposed facilities are located on utility poles that typically have equipment boxes, transformers, cable runs and other features to support a variety of utility service providers. The comprehensive plan includes Program L9.11.2, which provides that the city identifies city-owned properties where combinations of wireless facilities can be co-located, assuming appropriate lease agreements are in place. The subject antennas are subject to an approved Master License Agreement approved by the City Council in June 2016. Based on the foregoing and information contained in the administrative record, the proposed project complies with this finding.
- (2) *The project has a unified and coherent design, that:*
 - A. *Creates an internal sense of order and desirable environment for occupants, visitors, and the general community.* The project includes the establishment of mechanical equipment, antennas and associated cabling. As conditioned, the small cell nodes are designed to balance the aesthetic interests to minimize the visibility of the WCF in the smallest footprint reasonable. The sites are located on utility poles distributed throughout portions of the city and are not intended to be occupied or visited structures.
 - B. *Preserves, respects and integrates existing natural features that contribute positively to the site and the historic character including historic resources of the area when relevant.* The proposed small cell nodes are attached to existing or planned replacement utility poles. There WCFs are not located on historic resources and are not located in any area recognized by the city for its historic character.
 - C. *Is consistent with context based design criteria of the applicable zone district.* There is context based design criteria for RM zone district where some of the nodes are located, however, these standards typically relate to building mass, façade treatment, entries, open space, site planning, parking and related matters that are not related to the subject small cell nodes. As conditioned, the proposed WCFs, however, are designed to blend into the environmental to the extent possible with integrated screening techniques and matching exterior surfaces to the color of existing or planned utility poles.

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- D. *Provides harmonious transitions in scale, mass and character to adjacent land uses and land use designations.* As conditioned, the proposed WCFs are designed to blend in with the existing environment, are located on existing or replacement utility poles and will be painted to match the structures they will be located upon. The proposed equipment is not an atypical use of the utility poles which provides a variety of communication utility services and would not impact the scale, mass or character of adjacent land uses.
 - E. *Enhances living conditions on the site (if it includes residential uses) and in adjacent residential areas.* The proposed project does not include residential uses and placement of WCFs on utility poles does not disrupt living conditions in adjacent residential areas. Some residents may benefit from improved wireless coverage.
- (3) *The design is of high aesthetic quality, using high quality, integrated materials and appropriate construction techniques, and incorporating textures, colors, and other details that are compatible with and enhance the surrounding.* The proposed project includes the placement of mechanical equipment, cabling, antennas and screening material. The components necessarily by design and function must be integrated and employ appropriate construction techniques. The proposed materials and colors have been reviewed and, as conditioned, determined appropriate for the utility use planned for with the proposed WCFs. The propose material and colors were selected to blend in with the surrounding environment.
- (4) *The design is functional, allowing for ease and safety of pedestrian and bicycle traffic and providing for elements that support the building's necessary operations (e.g. convenient vehicle access to property and utilities, appropriate arrangement and amount of open space and integrated signage, if applicable, etc.).* As conditioned, the proposed project has been designed in compliance with local, state and federal safety standards, construction techniques and clearances required to allow for the ease and safety of pedestrian and bicycle traffic. The design is functional for its intended use and includes components necessary for its operation and screening.
- (5) *The landscape design complements and enhances the building design and its surroundings, is appropriate to the site's functions, and utilizes to the extent practical, regional indigenous drought resistant plant material capable of providing desirable habitat that can be appropriately maintained.* As a condition of approval, the project requires screen trees at certain small cell node locations. While subject to review and approval from the City's Urban Forestry division, the variety of trees proposed include *Forest Pansy, Blue Atlas Cedar, Dodonea Viscosa, Crape Myrtle, Shamel Ash, Drake Elm, Live Oaks (Quercus Wislizenii); and Hackberry.* These trees are consistent and appropriate to the local conditions and support the desired habitat in these areas.
- (6) *The project incorporates design principles that achieve sustainability in areas related to energy efficiency, water conservation, building materials, landscaping, and site planning.* The proposed project draws energy from the city's utility service, requires no water, employs appropriate landscaping where required to enhance screening and is designed with material appropriate to the proposed utility use.

Conditional Use Permit Findings PAMC Section 18.76.010(c)

All of the conditional use permit findings in **PAMC Section 18.76.010(c)** can be made because:

- (1) *The project will not be detrimental or injurious to property or improvements in the vicinity, and will not be detrimental to the public health, safety, general welfare, or convenience.* As conditioned, the project involves the construction of 11 small cell nodes to provide wireless service in certain coverage areas of the city. The federal government has preempted local jurisdictions from denying projects based on electromagnetic radiation generated by these WCFs. However, local governments can impose conditions to verify compliance with federal thresholds, which has been incorporated into this approval. The mechanical equipment and antennas are located on existing or planned to be replaced, utility poles. These structures provide a range of communication services to Palo Alto residents. The proposed WCF is consistent with this service objective and is placed in a manner that is designed to blend in with the environment to the extent feasible. The utility poles have been evaluated and determined to be able to support the increased weight and for those poles not suitable, replacement poles are planned. The equipment is placed at an appropriate height and will not interfere with motorists, pedestrians or cyclists. No noise will be emitted from any of the proposed equipment. Based on the foregoing and other information contained in the administrative record, it is found that the proposed project will not be detrimental or injurious to property or improvements in the vicinity or to public health, safety, general welfare or convenience.
- (2) *The project is located and conducted in a manner in accord with the Palo Alto Comprehensive Plan and the purposes of this title (Zoning).* Wireless Communication Facilities are permitted uses in the residential district. The city's zoning code provides a process to permit WCF's that blend with their existing surroundings and do not negatively impact the environment, historic properties, or public safety. None of the proposed small cell nodes are located on a historic resource and, as conditioned, each has been designed to blend in with the surrounding neighborhood to the extent feasible. The proposed facilities are located on utility poles that typically have equipment boxes, transformers, cable runs and other features to support a variety of utility service providers. The comprehensive plan includes Program L9.11.2, which provides that the city identifies city-owned properties where combinations of wireless facilities can be co-located, assuming appropriate lease agreements are in place. The subject antennas are subject to an approved Master License Agreement approved by the City Council in June 2016. Based on the foregoing and information contained in the administrative record, the proposed project is consistent with the city's comprehensive plan.

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SECTION 4. Conditions of Approval

Planning Division

1. **COMPLIANCE WITH APPROVED PLANS.** The nodes shall be built in compliance with the approved plans and associated application materials on file with the Planning Division for 17PLN-00169, except as modified by these conditions of approval. Any additional azimuths, antennas or equipment shown on the project plans beyond that mentioned in the application materials are not approved. The aforementioned plans and materials include:
 - Color Sample Board, received June 27, 2017.
 - Project Description, received February 26, 2018.
 - Project Plans, titled "PALO ALTO SMALL CELL CLUSTER 1," received February 26, 2018.
 - Statement of Hammett & Edison, Inc., Consulting Engineers, titled "Verizon Wireless • Proposed Small Cell Base Stations - Noise Levels at Eleven Pole Locations (Cluster 1) • Palo Alto, California," dated February 22, 2018 as received February 26, 2018.
 - Statement of Hammett & Edison, Inc., Consulting Engineers, titled and dated as follows:
 - a. Verizon Wireless • Proposed Small Cell (No. 133-E), 949 Loma Verde Avenue • Palo Alto, California, dated February 22, 2018 as received February 26, 2018
 - b. Verizon Wireless • Proposed Small Cell (No. 129) 2490 Louis Road • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - c. Verizon Wireless • Proposed Small Cell (No. 130) 2802 Louis Road • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - d. Verizon Wireless • Proposed Small Cell (No. 131) 891 Elbridge Way • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - e. Verizon Wireless • Proposed Small Cell (No. 134) 3409 Kenneth Drive • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - f. Verizon Wireless • Proposed Small Cell (No. 135) 795 Stone Lane • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - g. Verizon Wireless • Proposed Small Cell (No. 137) 3090 Ross Road • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - h. Verizon Wireless • Proposed Small Cell (No. 138) 836 Colorado Avenue • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - i. Verizon Wireless • Proposed Small Cell (No. 143) 419 El Verano Avenue • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - j. Verizon Wireless • Proposed Small Cell (No. 144) 201 Loma Verde Avenue • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - k. Verizon Wireless • Proposed Small Cell (No. 145) 737 Loma Verde Avenue • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
2. **ANTENNAS.** The antenna model numbers, tilts, and azimuths shall remain consistent between the permit plan set and the Statement of Hammett & Edison, Inc., Consulting Engineers, dated as received February 26, 2018 (Node 133-E) and December 21, 2017 (all other Nodes).
3. **NODES EXCLUDED.** This approval does not include Nodes 127, 139, 146, 136, 140, 141, and 147, as the applicant elected to not pursue these nodes at this time and these nodes were removed by the applicant from the Project Plans, dated received February 26, 2018.

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4. BATTERY BACK-UP UNITS EXCLUDED. This approval does not contain battery back-up units and associated heat exchangers, as this equipment was removed by the applicant from the Project Plans, dated received February 26, 2018. The proposed design is considered concealment/camouflage for purposes of the Spectrum Act, and battery backups shall not be installed at any node without application for the appropriate WCF permit, consistent with PAMC Section 18.42.110(c).
5. APPROVAL OF NODE ALTERNATE. This approval does not include Node 133, as Alternate Node 133-E is approved as an alternate.
6. USE OF EXISTING POLES OR POLE REPLACEMENTS. Pole replacement is required if existing poles do not meet structural and loading requirements. All pole replacements are approved – Node 129 and Node 133-E. All existing poles to remain shall be returned to plumb.
7. PAINT COLOR FOR CONDUIT AND EQUIPMENT. Each node shall be painted to match most closely the color of the adjacent pole as shown on the Color Sample Board, dated received June 27, 2017. If a pole is replaced, the conduit and equipment shall be painted “Railroad Ties.”
8. ANTENNA CANISTER/BAYONET SHROUD OR POLE REPLACEMENT/CAP MOUNT. Each node shall utilize the “Taper Shroud” shown as on Sheet CT-2 of the plan set, unless the node is listed for pole replacement and the associated cap mount format. No sky shall be seen through the mounting and attachment equipment for the antennas.
9. VAULTING OF EQUIPMENT. This approval does not include any vaulting of equipment listed to be pole mounted, as vaulting was found to be infeasible at the approved locations.
10. POLE-MOUNTED EQUIPMENT SHROUD. Each node shall utilize the “Box Shroud” as shown on Sheet CT-4 for any pole mounted equipment.
11. POLE-MOUNTED EQUIPMENT STANDOFF DISTANCE. The standoff distance for the pole mounted equipment shall not exceed five (5) inches.
12. POLE-MOUNTED EQUIPMENT ORIENTATION. All nodes shall maintain required climbing space. Pole mounted-equipment shall not face directly toward adjacent private property or extend over sidewalks. The Director of Planning and Community Environment may approve minor modifications to equipment orientation in order to address any resource, technical, or utilities engineering-related site constraints based upon field conditions.
13. AMENITY TREES FOR ADDITIONAL SCREENING. New amenity trees proposed on private property are not a part of this approval. All nodes shall incorporate new amenity trees in the right of way where possible in order to provide for additional screening of pole mounted equipment and conduit. All new amenity trees shall be listed in the “New Tree Table” on Node Sheets A-1. Amenity trees are identified for the following nodes: Node 130 (2 trees), Node 131 (1 tree), Node 133-E (1 tree), Node 143 (1 tree), Node 144 (2 trees), and Node 145 (1 tree).
14. EXPLANATORY AND OTHER SAFETY SIGNAGE. The recommended explanatory signage described in the Statement of Hammett & Edison, Inc., Consulting Engineers, dated as received February 26, 2018 (Node 133-E) and December 21, 2017 (all other Nodes), shall be incorporated into the

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permit plan set. Signage shall comply with any relevant requirements of California Public Utilities Commission General Order No. 95. All radio frequency signage shall comply with FCC Office of Engineering and Technology Bulletin No. 65 or ANSI C95.2 for color, symbol, and content conventions. All such signage shall at all times provide a working local or toll-free telephone number to its network operations center, and such telephone number shall be able to reach a live person who can exert transmitter power-down control over this Site as required by the FCC.

15. **PERMITTING.** This approval letter, including the associated conditions of approval, shall be printed on the plan sets submitted for encroachment and street work permit review. Encroachment permit and streetwork permit plan sets shall include accurate locations of driveways, curb lines, utilities, and other existing conditions.
16. **DEVELOPMENT STANDARDS.** The project establishes the site specific camouflage, concealment and stealth elements for each approved new node, and for that node only.
17. **PERMITTING BY OTHERS.** This approval does not include approval or permitting by the Santa Clara Valley Water District and/or other entities that may have additional permitting authority separate from the City of Palo Alto.
18. **PLANNING FINAL INSPECTION.** A Planning Division Final inspection will be required to determine substantial compliance with the approved plans prior to the scheduling of a permit final inspection by the Public Works and/or Building Departments. Any revisions during the construction process must be approved by Planning, including but not limited to; landscaping, equipment, and hard surface locations. Contact the Planning Department to schedule this inspection.
19. **NODE MAINTENANCE.** All aspects of the small cell node shall be well maintained at all times and replaced, if necessary, to the satisfaction of the Director of Planning.
20. **MODIFICATIONS TO APPROVED PLANS.** The Director of Planning and Community Environment may approve minor modifications to the approved project plans relevant to initial installation, such as replacement of wood utility poles, if determined to be necessary to address any minor resource, technical, or utilities engineering-related site constraints based upon field conditions. Any further modifications, additions and intensification of use (i.e. additional antennas, equipment substitutions, adjustments in location or height) may require review and approval as specified in the Palo Alto Municipal Code prior to construction. Please see PAMC Section 18.42.110(c) for more information.
21. **NOISE ORDINANCE AND NOISE POLICIES.** The project shall comply with all noise standards specified in Municipal Code Chapter 9.10.050 and the noise-related policies in Chapter 4 (Natural Environment) of the Palo Alto Comprehensive Plan.
22. **REMOVAL OF ABANDONED EQUIPMENT.** Any components of the Wireless Communication Facility (WCF) that cease to be in use for more than ninety (90) days shall be removed by the applicant, Wireless Communications Service provider, or property owner within ninety (90) days of the cessation of use of that WCF. No new permits shall be approved until the abandoned WCF or applicable components are removed.

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23. **AS-BUILT PLANS.** An as-built set of plans and photographs depicting the entire WCF as modified, including all Transmission Equipment and all utilities, shall be submitted to the Planning Division within ninety (90) days after the completion of construction.
24. **RADIO FREQUENCY EMISSION.** The applicant shall hire a radio engineer licensed by the State of California to measure the actual radio frequency emission of the WCF and determine if it meets Federal Communications Commission standards. A report, certified by the engineer, of all calculations, required measurements, and the engineer's findings with respect to compliance with the FCC's radio frequency emission standards shall be submitted to the Planning Division within one year of commencement of operation. The report shall have a methodology section outlining instrumentation, measurement direction, heights and distances, and other protocols outlined in FCC Bulletin OET 65. The report shall include a list and identify any nearby RF sources, nearby reflecting surfaces or conductive objects that could produce regions of field intensification, antenna gain and vertical and horizontal radiation patterns, type of modulation of the site, polarization and emissions orientation(s) of the antenna(s), a log of all equipment used, and a map and list of all locations measured indicating the maximum power observed and the percentage of the FCC Uncontrolled/General Population guidelines at the measurement location. At the applicant's expense, the City may elect to have a City-staff observer during the measurements, may elect to receive raw test measurements by location provided in electronic format to the observer, and may elect to have the report independently peer reviewed prior to report acceptance. Applicant may be required to submit these reports periodically for the life of the project, as determined by the Director of Planning and Community Environment.
25. **INDEMNIFICATION.** To the extent permitted by law, the applicant shall indemnify and hold harmless the City, its City Council, its officers, employees and agents (the "indemnified parties") from and against any claim, action, or proceeding brought by a third party against the indemnified parties and the applicant to attack, set aside or void, any permit or approval authorized hereby for the Project, including (without limitation) reimbursing the City for its actual attorneys' fees and costs incurred in defense of the litigation. The City may, in its sole discretion and at Applicant's expense, elect to defend any such action with attorneys of its own choice.
26. **COMPLIANCE WITH APPLICABLE LAWS.** The applicant shall comply with all applicable provisions of the Code, any permit issued under this Code, and all other applicable federal, state and local laws (including without limitation all building code, electrical code and other public safety requirements). Any failure by the City to enforce compliance with any applicable laws shall not relieve any applicant of its obligations under this code, any permit issued under this code, or all other applicable laws and regulations.
27. **PERMIT EXPIRATION.** The project approval shall be valid for a period of two years from the original date of approval. In the event an encroachment and/or street work permit(s), if applicable, is not secured for the project within the time limit specified above, the approval shall expire and be of no further force or effect. A written request for a one-year extension shall be submitted prior to the expiration date in order to be considered by the Director of Planning and Community Environment.

NOT YET APPROVED

28. REVOCATION. The Director of Planning and Community Environment may revoke any WCF permit if the permit holder fails to comply with any conditions of the permit. The Director's decision to revoke a permit shall be appealable pursuant to the process for architectural review set forth in Section 18.77.070 and the process for conditional use permits set forth in Section 18.77.060.

Fire Department

29. FIRE CODE. This project shall comply with the 2016 CFC and local Fire Code ordinance/requirements.
30. ELECTRICAL DISCONNECT. The project shall label the main electrical disconnect.
31. HAZARDOUS MATERIALS REGISTRATION FORM. A Hazardous Materials Registration Form is required to be submitted and approved prior to bringing any hazardous materials on site. Forms also available at <http://www.unidocs.org>
32. SIGNS. The project shall provide warning signs at locations where workers and general public may be exposed to RF exposure above the federal Maximum Permissible Level.
33. CONTACT INFORMATION. Each site shall have at least one sign per owner/service provider that indicates the company's name, site # and 24 hour emergency number.

Transportation Division

34. TRAFFIC CONTROL PLANS: Include site-specific traffic control plans which conform to the latest version of the California Manual on Uniform Traffic Control Devices (CAMUTCD) with plans submitted for a Street Work Permit or Encroachment Permit. Temporary traffic control plans will be reviewed as part of the Street Work and/or Encroachment Permit. Approval of the planning entitlement does not constitute approval of any temporary traffic control plans.
35. VERTICAL AND HORIZONTAL CLEARANCES: At least 1.5-feet horizontal clearance shall be provided between any new or relocated equipment and the adjacent face of curb or edge of traveled way for any public roadway, driveway, or alley, unless 16-feet vertical clearance is provided between equipment and the top of adjacent travel way. In no circumstance shall less than 10-feet vertical clearance be provided between adjacent sidewalk, path, or walkway grade.

Public Works-Urban Forestry Department

36. NEW AMENITY TREE PLANTING AND WATERING. The applicant shall coordinate with the Urban Forestry Department to finalize all amenity tree species, locations, and box sizes prior to permit in order for all trees to be accurately noted on the plans for permit. The applicant shall make a one-time only standard contribution to the Urban Forestry Fund in the amount of \$650 per tree for Urban Forestry to plant and then water the respective tree during the tree establishment period.

NOT YET APPROVED

37. PROJECT ARBORIST. The property owner shall retain a certified arborist to ensure the project conforms to all Planning and Urban Forestry conditions related to landscaping/trees, as shown in the approved plan set.
38. TREE DAMAGE. Tree Damage, Injury Mitigation and Inspections apply to Contractor. Reporting, injury mitigation measures and arborist inspection schedule (1-5) apply pursuant to TTM, Section 2.20-2.30. Contractor shall be responsible for the repair or replacement of any publicly owned or protected trees that are damaged during the course of construction, pursuant to Title 8 of the Palo Alto Municipal Code, and city Tree Technical Manual, Section 2.25.
39. GENERAL. The following general tree preservation measures apply to all trees to be retained: No storage of material, topsoil, vehicles or equipment shall be permitted within the tree enclosure area. The ground under and around the tree canopy area shall not be altered. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

Utilities-Water, Gas, Wastewater Department

40. SERVICE REQUIREMENTS. The applicant shall comply with all the Water, Gas, and Wastewater Department requirements noted during plan review.

Utilities-Electrical Department

41. MASTER LICENSE AGREEMENT. Each small cell node will comply at all times with the terms and conditions in the Master License Agreement for Use of City-Controlled Space on Utility Poles and Streetlight Poles and in Conduits ("MLA") between the City of Palo Alto and GTE Mobilnet of California Limited Partnership, DBA Verizon Wireless, executed on June 27, 2016 (Contract No. C16165156). A security instrument, such as a Performance Bond or Letter of Credit, shall be provided in accordance with Section 14.0 of the Master License Agreement prior to encroachment or street work permit issuance.
42. LOADING CALCULATIONS. All sites shall include pole loading calculations.
43. ATTACHMENTS. All attachments for equipment must be in the 12, 3, 6, or 9 o'clock positions as shown on the approved plans.
44. SERVICE REQUIREMENTS. The applicant shall comply with all the Electric Utility Engineering Department service requirements noted during plan review.
45. PRIOR TO WORK. Contractors and developers shall obtain permit from the Department of Public Works before digging in the street right-of-way. This includes sidewalks, driveways and planter strips.
46. IDENTIFICATION OF UTILITIES. The applicant shall be responsible for identification and location of all utilities, both public and private, within the work area. At least 48 hours prior to starting any excavation, the customer must call Underground Service Alert (USA) at 1-800-227-2600 to have existing underground utilities located and marked. The areas to be checked for underground facility marking shall be delineated with white paint. All USA markings shall be removed by the customer or contractor when construction is complete.

NOT YET APPROVED

47. UTILITY DISCONNECTION. The applicant shall submit a request to disconnect all existing utility services and/or meters including a signed affidavit of vacancy, on the form provided by the Building Inspection Division. Utilities will be disconnected or removed within 10 working days after receipt of request. The demolition permit will be issued after all utility services and/or meters have been disconnected and removed.

Public Works-Engineering Department

48. PERMIT REVIEW. Public Works shall determine the number of encroachment permits and associated street work permits, if any, that can be processed in a batch. The applicant will be required to apply for all necessary permits including: Street Work and Encroachment Permit applications. All required applications shall be in the submittal package for Public Works. Any necessary traffic control plans will also be submitted in the permit application packet. These necessary permit applications and requirements are available from Public Works on our website: <http://www.cityofpaloalto.org/gov/depts/pwd/default.asp>. All traffic control plans associated with each proposal location shall be reviewed by Transportation Division under Planning & Community Environment. Public Works will route all traffic control plans for Transportation review when associated Street Work and Encroachment permits are submitted.
49. TRENCH WORK AND FIBER OPTIC CONDUIT. All trench work and placement of fiber optic conduit shall adhere to City of Palo Alto Public Works specifications. Refer to City of Palo Alto Public Works Conduit Location Detail Telecommunications Drawing No. 402. This detail will provide specifics for placement of conduit in both residential and commercial areas. Any deviation from City Standards and Regulations must be approved by Public Works and all other applicable Departments.
50. EASEMENTS. All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
51. FLOOD ZONE. Notes shall be included on the Site Plan and/or Grading and Drainage Plan that includes the FIRM panel number, flood zone designation, BFE elevation and the North American Vertical Datum (NAVD). You may access project specific information on Public Works Storm water website. See Flood zone Lookup under the attached link:
<http://www.cityofpaloalto.org/gov/depts/pwd/stormwater/floodzones.asp>

NOT YET APPROVED

52. PLAN SET NOTES. The following notes shall be added to the plan set for permits:

- a. Include the sidewalk width for each location on site plans.
- b. Add a note to the plans that says, "The contractor using the city sidewalk, alley or parking lot to work on an adjacent private building must do so in a manner that is safe for pedestrians and vehicles. The contractor must cone or tape-off the work area while still leaving adequate room for pedestrians and vehicles to safely pass. If the contractor's work area leaves insufficient sidewalk or alley space for safe pedestrian and vehicle passage, the contractor must apply to Public Works for an encroachment permit to close the sidewalk or alley."
- c. Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same."
- d. Provide the following note on the Site Plan and adjacent to the work within the Public road right-of-way. "Any construction within the city's public road right-of-way shall have an approved Permit for Construction in the Public Street prior to commencement of this work."
- e. The following note shall be included on the Site Plan: "Contractor shall not stage, store, or stockpile any material or equipment within the public road right-of-way." Construction phasing shall be coordinate to keep materials and equipment onsite.
- f. The following note shall be included on the Site Plan: "The contractor shall be required to submit a logistics plan to the Public Works Department prior to commencing work that addresses all impacts to the City's right-of-way, including, but not limited to: pedestrian control, traffic control, truck routes, material deliveries, contractor's parking, concrete pours, crane lifts, work hours, noise control, dust control, storm water pollution prevention, contractor's contact, noticing of affected surrounding properties , and schedule of work. The requirement to submit a logistics plan will be dependent on the number of applications Public Works Engineering receives within close proximity to help mitigate and control the impact to the public-right-of-way. If necessary, Public Works may require a Logistics Plan during construction."
- g. The following note shall be included on the Site Plan: "The contractor using the city sidewalk to work on an adjacent private building must do so in a manner that is safe for pedestrians using the sidewalk. Pedestrian protection must be provided per the 2007 California Building Code Chapter 33 requirements. If the height of construction is 8 feet or less, the contractor must place construction railings sufficient to direct pedestrians around construction areas. If the height of construction is more than 8 feet, the contractor must obtain an encroachment permit from Public Works at the Development Center in order to provide a barrier and covered walkway or to close the sidewalk."

NOT YET APPROVED

53. CURB CONDITION. Each location shall identify curb type on plans. Indicate whether or not a site has a rolled curb or a standard curb/gutter. In the instance of the rolled curb, all equipment shall be removed from the transition slope area of the rolled curb. The equipment shall be on one plane.
54. UTILITIES. Note that all above ground utilities, such as transformer, backflow preventer, gas meters, etc., shall be located within the project site but accessible from the street. Any new or relocated utilities will correspond with approved locations from City Utilities Department.
55. STORM WATER POLLUTION PREVENTION. The permit plans shall include the City's full-sized "Pollution Prevention - It's Part of the Plan." The sheet is available here: <http://www.cityofpaloalto.org/civicax/filebank/documents/2732>
56. WORK IN THE RIGHT-OF-WAY. The plans shall clearly indicate any work that is proposed in the public right-of-way, such as trenching, sidewalk replacement, driveway approach, utility laterals or crane. The plans must include notes that the work must be done per City standards and that the contractor performing this work must first obtain a Street Work Permit from Public Works at the Development Center. If a new driveway is in a different location than the existing driveway, then the sidewalk associated with the new driveway must be replaced with a thickened (6" thick instead of the standard 4" thick) section. Additionally, curb cuts and driveway approaches for abandoned driveways must be replaced with new curb, gutter and planter strip.
57. SIDEWALK, CURB & GUTTER. In the event existing sidewalks, curbs, gutters, driveway approaches, or street areas in the public right-of-way are disturbed as part of this project, the applicant shall repair or replace those sidewalks, curbs, gutters, driveway approaches, or street areas as directed by and to the satisfaction of the City Engineer. Contact Public Works' inspector at 650-496-6929 to arrange a site visit so that the inspector can discuss the extent of replacement work along the public road. The site plan submitted with the building permit plan set must show the extent of the replacement work. The plan must note that any work in the right-of-way must be done per Public Works' standards by a licensed contractor who must first obtain a Street Work Permit from Public Works at the Development Center.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

City Clerk

Mayor

NOT YET APPROVED

APPROVED AS TO FORM:

Deputy City Attorney

APPROVED:

City Manager

Director of Planning and Community
Environment

Director of Administrative Services

Attachment B

Draft Conditions of Approval Requiring Vaulting of Equipment **(Vinculums/Verizon Cluster 1 – 17PLN-00169)**

MODIFY CONDITION OF APPROVAL #9:

9. VAULTING OF EQUIPMENT. This approval requires vaulting of equipment, except the antenna, power disconnect, and conduit, at all locations determined by City Council to be feasible as the least intrusive means for deployment of small cell nodes.

- a) The one or more vaults per node proposed for installation shall be of the smallest possible size(s) necessary to accommodate the small cell node equipment and accessory infrastructure.
- b) Vault locations shall not impede access to adjacent private property and shall be within the right of way, as verified by a survey.
- c) Vault locations shall be consistent with City policy that requires privately-owned underground infrastructure to be installed backwards from the curb line or otherwise reserves under the travel lanes in the right of way for City use. Any exceptions to this placement policy shall be approved by the Director of Public Works and Director of Utilities.
- d) Vault locations shall be confirmed by the project arborist that they do not damage adjacent trees on private property. Vault locations shall be placed in a location that maintains the integrity of the root growing space for adjacent trees on private property and street trees. The Urban Forestry Master Plan requires no net loss in tree canopy. Existing street trees shall be shown on the site plan and no street trees shall be removed due to vault siting or construction, unless approved by the City's Urban Forester and replaced in accordance with the City's Tree Technical Manual. Existing landscaping shall be shown on the site plan or a landscaping plan and shall be replaced if lost during construction.
- e) Vaults and associated over-excavation and backfill shall attend to Public Works, Wastewater, Gas, Water, Electrical and Urban Forestry requirements for clearance from underground utilities, structural and geotechnical requirements, and tree protection.
- f) Vault covers, access lids, and vents shall be flush with existing grade, as approved by the Director of Public Works. There shall be no above-ground protrusions from the vault(s) or venting into the right of way.
- g) Vault covers, access lids, and vents shall be of a weather resistant material and ADA compliant, including in regard to providing a slip resistant surface.
- h) Vault covers, access lids, and vents shall be earth tone or within the same color and texture family as the adjacent sidewalk to as closely resemble City standard vaulting as possible.
- i) If necessary, nodes adjacent to rolled curbs shall transition to a standard curb in a manner consistent with City of Palo Alto Standard Detail 138 Type A to Type B Curb & Gutter Transition.
- j) A noise report shall be submitted for verification that all vaulted equipment will comply with the noise standards specified in Municipal Code Chapter 9.10.050 and the noise-related policies in Chapter 4 (Natural Environment) of the Comprehensive Plan. The noise-related policies in the Comprehensive Plan also work together to prevent exceedance of any of the following noise-related CEQA thresholds, which would be considered a potentially significant CEQA impact:
 - a. The potential to cause the average 24-hour noise level (Ldn) to increase by 5.0 decibels (dB) or more in an existing residential area, even if the Ldn would remain below 60 dB.
 - b. The potential to cause the Ldn to increase by 3 Db or more in an existing residential area, thereby causing the Ldn in the area to exceed 60 dB.

- c. The potential to cause and increase of 3 dB or more in an existing residential area where the Ldn currently exceeds 60 dB.
- k) Vault information shall be provided on the site plan, sections, elevations, and details sheets submitted for encroachment permits and street work permits. The plans shall include all drainage to curb information, vault specifications, dimensions and depths of the vaults and excavation, venting/cooling and pumping/discharge specifications, as well as supplemental detail drawings for all equipment that will be placed in the vault.

ADD NEW CONDITION OF APPROVAL #__:

__. In the event the applicant is unable to place equipment underground at a node in compliance with the City's noise thresholds, the applicant may elect to remove the node from the application and seek new approval after conducting additional environmental review.

DELETE CONDITIONS OF APPROVAL #10, #11, #12, AND #13 FOR NODES THAT ARE NOT DENIED AND NOT REQUIRED TO HAVE UNDERGROUND VAULTS FOR RADIO EQUIPMENT.

~~10. POLE-MOUNTED EQUIPMENT SHROUD. Each node shall utilize the "Box Shroud" as shown on Sheet CT-4 for any pole mounted equipment.~~

~~11. POLE-MOUNTED EQUIPMENT STANDOFF DISTANCE. The standoff distance for the pole-mounted equipment shall not exceed five (5) inches.~~

~~12. POLE-MOUNTED EQUIPMENT ORIENTATION. All nodes shall maintain required climbing space. Pole mounted equipment shall not face directly toward adjacent private property or extend over sidewalks. The Director of Planning and Community Environment may approve minor modifications to equipment orientation in order to address any resource, technical, or utilities engineering related site constraints based upon field conditions.~~

~~13. AMENITY TREES FOR ADDITIONAL SCREENING. New amenity trees proposed on private property are not a part of this approval. All nodes shall incorporate new amenity trees in the right of way where possible in order to provide for additional screening of pole-mounted equipment and conduit. All new amenity trees shall be listed in the "New Tree Table" on Node Sheets A-1. Amenity trees are identified for the following nodes: Node 130 (2 trees), Node 131 (1 tree), Node 133-E (1 tree), Node 143 (1 tree), Node 144 (2 trees), and Node 145 (1 tree).~~

Verizon Wireless – Project Description
Cluster 1
February 26, 2018

Verizon Wireless is seeking approval for the design of proposed small cell attachments to wood poles owned and operated by the City of Palo Alto Utilities (“CPAU”) under the Master License Agreement (“MLA”) entered between the two parties in June 2016. This application for Architectural Review encompasses the first “cluster” or grouping of small cells located in the public Right-of-Way (“ROW”) and contains eleven (11) proposed nodes on wood utility poles in the Mid-town, South of Mid-Town, St. Claire Gardens and Palo Verde neighborhoods.

Current Design for Consideration

Verizon Wireless’ currently proposed design is the direct result of feedback from the December 7, 2017 Architectural Review Board hearing where Verizon was asked to install equipment underground to the greatest extent feasible. Verizon has evaluated all fifteen (15) original locations from this cluster and is requesting to move forward on eleven (11) poles where vaulting has been determined to be infeasible. Details of the assessment process are provided below in the “Vaulting” section.

All pole mounted equipment including antennas and shrouding will be painted to match the pole. We have worked closely with Urban Forestry to propose amenity trees, which will provide additional screening where none currently exists. Each small cell is served by both fiber and electrical power; in most cases, this is accomplished via an aerial drop on the pole.

Pole Top Design

The currently proposed design for these eleven (11) poles consists of one (1) narrow four-foot cylindrical antenna, with a one-foot cable concealment cage underneath. For existing utility poles, the antenna will be elevated on a seven-foot pole top “bayonet” extension. For replacement utility poles, the antenna will be placed directly on top of the pole using a one-foot mount. At the December 7, 2017 hearing, consensus from the ARB was for a more streamlined appearance between the pole and the antenna. Various shrouding options have been presented at the front of the plan set.

Verizon has received approval to modify the “mock” small cell, located adjacent to 1350 Newell Rd. with the addition of the Tapered Bayonet radio shroud. At this time, Verizon Wireless now seeks direction from the ARB on a final preferred design for the pole top configuration.

Radio Design

On the side of the pole, Verizon Wireless will mount three (3) required radios (“RRUs”), an AC conversion panel, a small fiber demarcation unit and diplexers. From among the four (4) options presented at the December 7, 2017 hearing, the Architectural Review Board preferred a streamlined “Box Shroud” which would conceal the three vertically-stacked radios, associated ancillary equipment and cabling within a single shroud of uniform width and depth. Since the December 7 ARB hearing, a new, smaller model of RRU has become available for network use, which further reduces the volume of the pole mounted equipment and associated shroud. Additionally, the bracket standoff from the pole has been reduced from the originally proposed maximum of 12 inches, to no more than the 4-inch required minimum separation (“belt gap”) from the pole. The various shrouding options to conceal the

pole mounted equipment have been presented at the front of the plan set, in both drawing and photo sim form.

Verizon also will be modifying the “mock” small cell, with the addition of the “Box Shroud”. At this time, Verizon Wireless now seeks direction from the ARB on a final preferred shroud design for the pole mounted equipment.

Vaulting

At the Architectural Review Board on December 7, 2017, staff was directed to have Verizon Wireless propose underground equipment to the greatest extent feasible. To assess feasibility, Verizon scrubbed the technically viable search area of thirty feet (30') from each primary pole. Once that distance is exceeded, the network no longer operates as designed. Additionally, all viable alternate poles for each node were reviewed. To determine feasibility of placing the equipment in an underground vault at each pole, the scope and conditions listed below were used:

Scope

1) Size of vault and associated excavation

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter

2) Search distance from pole of 30' radius.

Conditions

The following conditions restrict the placement of a vault:

1. Proposed vault location interferes with existing underground utilities as identified by field conditions or from maps provided by the City of Palo Alto.
2. Vault or its associated excavation would encroach on private property.
3. Proposed vault is located within a Flood Plain.
4. Proposed vault location is unable to comply with state, federal or city safety standards.

5. Preservation of trees: Excavation cannot occur within a minimum distance of 10' of an established street tree. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends *a minimum distance* of the dripline, per Section 1.36 of the Palo Alto Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ, including foundation digging, utility trenching, paving, or any other excavation. Privately owned trees are also considered for protection.
6. Noise generated from vault is unable to comply with City of Palo Alto Comprehensive Plan noise standards.

It was only after thoroughly evaluating each node that Verizon determined vaulting is infeasible on 11 proposed locations. Separate vaulting reports have been submitted for review.

Landscaping

Verizon Wireless has worked closely with our project arborist, Urban Forestry and Planning to propose trees in the public Right-of-Way, where deemed appropriate that will help to screen the proposed equipment from various surrounding views. The proposed trees have been added to the Site Plan (page A-1 of each node) and a New Tree Table placed beside the Existing Tree Table for ease of reference. Careful consultation with Urban Forestry resulted in the species selection and size.

Color

As currently conceived, wood pole designs would require all pole mounted equipment, including conduits to encase the fiber and power, to be painted brown to blend closely with the color of the existing pole. Upon review of existing small cells in Palo Alto, and the proposed utility poles for this cluster, it seemed appropriate to select various shades of brown to more closely match the existing poles. In recognition that brown is not just brown, paint samples (Kelly Moore: Railroad Ties KMA67, Log Cabin KMA76 and Clay Bath KM4595) are included in *Exhibit F – Proposed Paint Samples*. These are a digital approximation of the color and actual samples have been provided with our application.

Design Evolution of Project

Over the last year and a half, Verizon Wireless has been working with the City to refine the design for its small cells. As detailed below, the most critical design changes to reduce overall volume and footprint of equipment, as well as eliminate any noise producing elements. Again, in its current proposal, a new and smaller radio has become available for network use, which reduces overall volume of any pole mounted equipment:

- Original Design: Configuration 1 (original design with backup battery): approx. 68 cu. ft.
- Revised Mock Sun Shroud Design (no battery, only pole mounted): approx. 14.3 cu. ft.
- **Currently Proposed Box Shroud (with new, smaller radio): approx. 16.0 cu. ft.**

Beginning in the Fall of 2016, Verizon attended two Development Review Committee meetings to discuss the preliminary design for small cells. Subsequently, the mock site constructed to the Palo Alto Art Center was built to obtain feedback from staff and members of the public. Application for Preliminary Review was filed in Jan. 2017 for Cluster 1, after which Verizon Wireless attended additional DRC meetings. Staff feedback from these meetings has also been critical in evolving the design. For

example, a thoughtful discussion during one DRC resulted in a close collaboration with the Project Arborist, Urban Forestry and Planning to propose new amenity trees where none currently exist.

The project was heard for Preliminary Review by the ARB on May 18, 2017. Feedback generally centered on shrouding the cabling between the radios to create a more streamlined appearance in the equipment and the “Sun Shield” design was constructed in September of 2017. The currently proposed “Box Shroud” is a further iteration of that design, requested at the December 7, 2017 formal ARB hearing.

Design feedback from the public remains a top priority for Verizon in its endeavors to site small cells. To begin early with Cluster 1, Verizon Wireless sent notices to owners and occupants within over six hundred-fifty (650') for a March 30, 2017 community meeting, held at the Palo Alto Art Center. In addition, a personalized package was sent to each residence directly adjacent to a node, even if across the street (usually 3-6 packages per node). Community feedback was obtained both at the meeting and through direct contact where residents reached out.

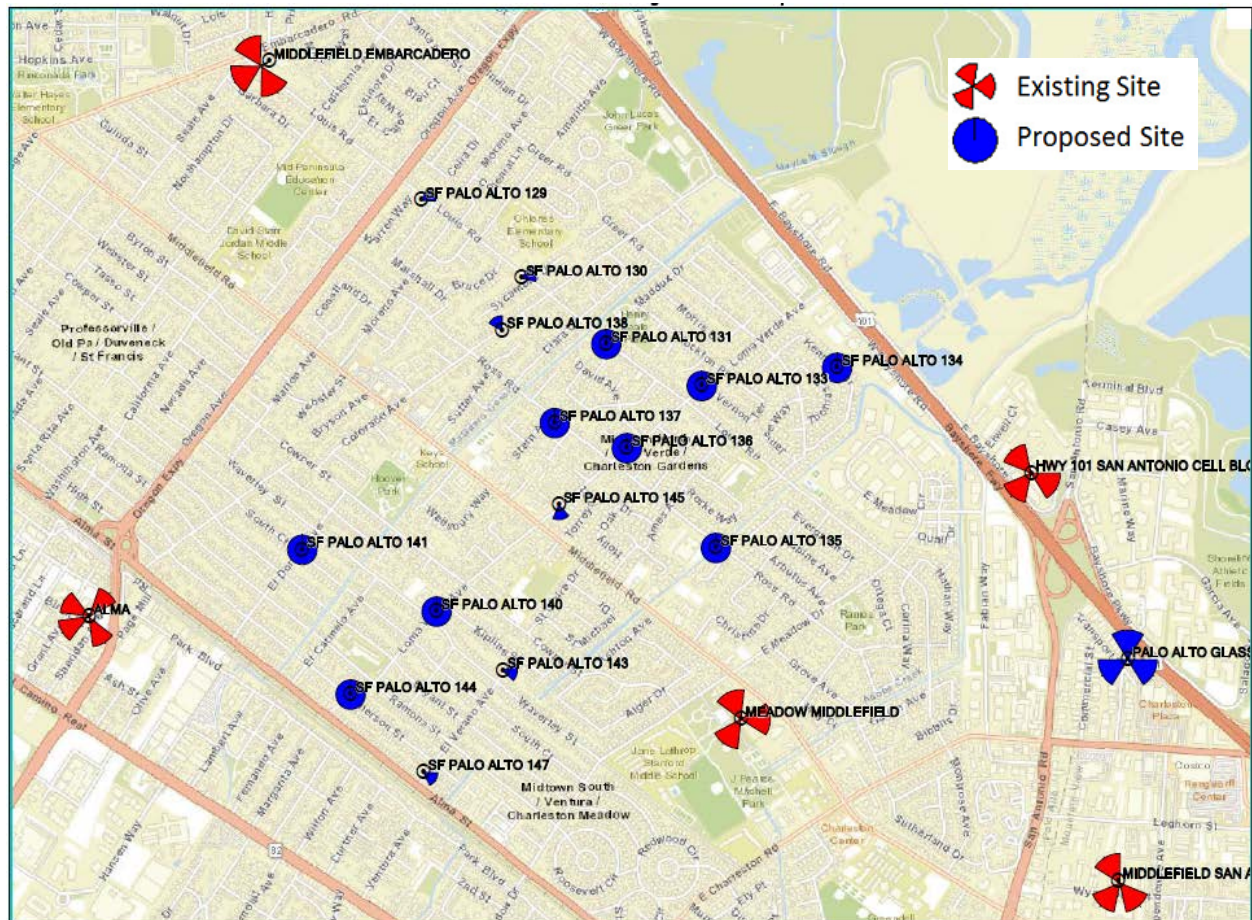
The most major concern expressed by residents related to noise-producing equipment of any kind. There were also a smaller percentage of residents who felt very strongly that the tradeoff for some noise was worth the security of emergency battery backup during a disaster resulting in major power loss. Verizon ultimately made the decision to remove the emergency batteries to eliminate the noise. *The project, as proposed, has no noise producing components.*

Exhibit A – Coverage Maps

Coverage Map – Cluster 1: Labels

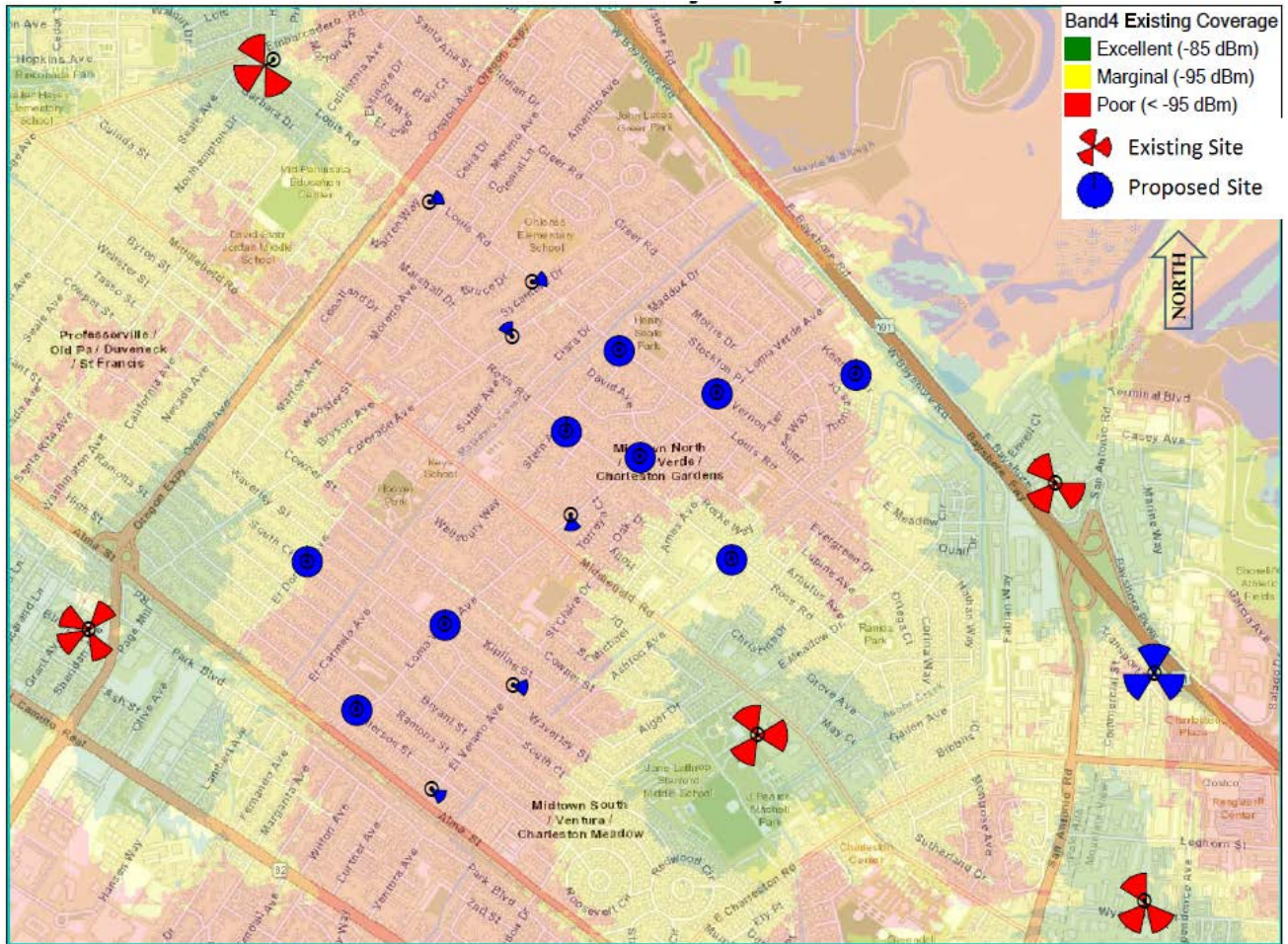
The map below depicts the nodes from Cluster 1, and the existing macro sites. For clarity, coverage is depicted on subsequent maps. Blue circles represent a proposed node that would transmit signal in all directions. “Pie-shaped” proposed sites represent small cell nodes with fewer than three (3) sectors, i.e. the antenna has a directional signal pattern that is not in all directions.

Map of Labels: Streets, Node Numbers, Existing Macro Sites with Names



Coverage Map – Cluster 1: Existing Coverage

Only existing coverage provided by “macro” sites is shown (Cluster 1 small cells turned off). For clarity, site names and numbers are shown on the previous map. Blue circles represent a proposed node that would transmit signal in all directions. “Pie-shaped” proposed sites represent small cell nodes with fewer than three (3) sectors, i.e. the antenna has a directional signal pattern that is not in all directions. As demonstrated by the map, coverage is marginal or poor in many locations.



Existing coverage area – proposed small cells in Cluster 1 turned **OFF.**

The map below depicts the additional coverage provided from the proposed nodes in Cluster 1 (small cells turned on). Existing coverage provided by “macro” sites is also shown. For clarity, site names and numbers are shown on the first map page. Blue circles represent a proposed node that would transmit signal in all directions. “Pie-shaped” proposed sites represent small cell nodes with fewer than three (3) sectors, i.e. the antenna has a directional signal pattern that is not in all directions. As demonstrated by the map, coverage is significantly improved in many locations with the addition of small cells.



Exhibit B – Small Cell Selection Process

Pole Selection

Based on the need to provide network coverage and capacity, Verizon Wireless Radio Frequency engineers identify target locations or “nodes” throughout the city to improve and optimize network performance. Because small cells provide service over a small area, approximately six hundred (600) to twelve hundred (1200) feet, there is less flexibility in how far they can be moved from a defined engineering target. As a result, there are a limited number of existing structures, i.e. existing wood utility poles or streetlights that will meet the required engineering objective for any given small cell node.

Each proposed node is visited by a team to identify existing city-owned structures available for attachment within the target engineering area. During this fielding walk, guidelines are applied by City of Palo Alto Utilities Engineering, as well as Verizon Wireless Engineering, Real Estate and Construction to determine the most suitable pole, subsequently identified as the “primary” location. Much of the design for the pole-mounted equipment has been dictated by regulatory agencies, such as the California Public Utilities Commission (CPUC). The criteria used to select a pole have been compiled into the **Small Cell Siting Guidelines** below. The Alternative Site Analysis for each small cell area are contained in *Exhibit C—Node Level Alternate Pole Analysis*, which provides an inventory of available poles and their viability.

Collocation with Other Small Cells

As mentioned above, the first step when a location is identified by Engineering, is to visit the area and assess suitable structures for attachment. In some cases, there may be an existing WCF or small cell located on a utility pole in the area. While it may appear to make sense to collocate on the same pole as an existing WCF, this is not feasible for many reasons. First, Right-of-Way poles are small and can only support limited equipment. Placing additional equipment on a pole will very likely exceed the structural limits of the pole and block required climbing space. Additionally, interference can present a problem in locating different carriers’ equipment on the same structure. Some carrier antennas and frequencies used need significant separation to avoid interference and most ROW poles don’t have enough space to allow for this separation. We are also striving to provide the most seamless aesthetic design possible. Having multiple carriers on a pole means more antennas and more equipment boxes on the pole. For these reasons, Verizon Wireless has not proposed collocation on an existing WCF.

Additional Considerations

Beyond the Engineering Criteria, pole selection is based on a thoughtful consideration of the surrounding environment, optimizing for existing favorable site features such as landscaping and tree foliage and wherever possible, reducing the impact on views from streets as well as adjacent residences. Poles located in private residential easements (e.g. backyards) and close proximity to second story windows were avoided whenever possible.

As these Alternative Site Analyses demonstrate, many seemingly suitable poles must be eliminated for engineering or other reasons. In fact, as these examples demonstrate, there is quite often only one suitable pole for a small cell within a designated coverage area.

Small Cell Siting Guidelines

The standards contained below in the Small Cell Siting Guidelines working document have been developed by compiling the criteria and constraints of various regulating agencies. In siting small cells, Verizon Wireless is required to adhere to the standards of the California Public Utilities Commission (General Order 95 Requirements, Rule 94); the engineering and real estate requirements of property owner City of Palo Alto Utilities (CPAU); Development Standards for wireless communication facility (WCF) locations from PAMC §18.42.110(i); and the Architectural Review Findings of PAMC §18.76.020. Criteria have been further adjusted as city staff from Planning, Urban Forestry, CPAU, and the Art Department have all made time to attend site walks with Verizon Wireless real estate, engineering and construction teams in their fielding efforts. Additionally, previous small cell and DAS installations in the City of Palo Alto were analyzed to consider previous findings and recommendations by staff, the public and reviewing bodies.

Engineering Criteria

Nature of Small Cells--small cells differ from traditional “macro” cells in that their miniature quality dictates that they can only move a very small distance (measured in feet) and still serve their intended purpose.

Verizon Wireless engineering proposed locations are fielded using the criteria below to select a utility pole or streetlight from existing city infrastructure:

City of Palo Alto Utility (Pole Owner) Pole Attachment Mandates

- All Attachments must meet California Public Utilities General Order 95
 - Clear climbing space – minimum of 90-degree quadrant
 - Clearances between power conduction and/or other attachments (min. 6')
 - Required distances for separation between pole and equipment (min. 4")
 - Required distances for separation between equipment
 - Minimum height of attachment
- City of Palo Alto Utilities (CPAU) prioritizes the provision of service to its customers. The siting of attachments on poles is secondary and therefore:
 - No attachments allowed on poles with primary power risers
 - No attachments allowed on poles with transformers or other special equipment
 - Primary Line and Buck (primary power lines attaching to the pole at 90 degrees or in perpendicular fashion) situations have a modified climbing space requirement, requiring more pole real estate than otherwise required under CA Public Utility Code
 - Various other situations where the provision of electrical service would be compromised by attachment

City of Palo Alto Utility Preferences (in order of importance)

1. Guy stubs - Poles that do not have any electrical or communications; they simply provide a structural tie point for a guy wire for a neighboring pole

2. Poles with overhead secondary power conductors only – Secondary power (typically) being the second from the top level of power on the pole and which provides residential power (120/240 Volts AC)
3. Primary dead-end poles – A pole at the end of a line of poles which no poles further down the line
4. Primary poles with no transformers downstream on the poles to end of line of poles
5. Primary poles with no electric utility equipment on the poles on either side of the proposed pole

Development Criteria

Development Standards from PAMC §18.42.110(i)

- Shall utilize the smallest footprint possible
- Shall be designed to minimize the overall height, mass, and size of the cabinet and enclosure structure
- Be screened from public view
- Be architecturally compatible with the existing site
- Be placed at a location that would not require the removal of any required landscaping or would reduce the quantity of landscaping to a level of noncompliance with the Zoning Code
- An Antenna, Base Station, or Tower shall be designed to minimize its visibility from off-site locations and shall be of a "camouflaged" or "stealth" design, including concealment, screening, and other techniques to hide or blend the Antenna, Base Station, or Tower into the surrounding area

Planning and Residential Considerations

- Poles preferred in the public Right-of-Way are selected. Poles on Public Utility Easements are not generally selected for attachment
- Prioritize poles which have tree foliage close to help camouflage the pole mounted equipment
- Prioritize poles that are located near evergreen trees, rather than deciduous trees
- Select a location for ground based emergency battery equipment that meets standards identified in Tree Technical Manual
- Face the pole mounted equipment away from direct views of the adjacent home, toward the street when no foliage is present to hide the equipment
- Consolidate equipment to reduce the visual clutter; move the ground mounted equipment onto the pole when there is not enough Right-of-Way or deemed too obtrusive to the residents
- In general, prefer locations mid-block instead of at more visible corners/intersections
- Determine the most advantageous location that is least disruptive to views from both pedestrian and the adjacent residences

Exhibit C – Node Level Alternate Pole Analysis

Below is an analysis of each node in Cluster 1 and the poles available for attachment. Poles within the search area are designated as either viable alternates or eliminated for the various reasons outlined in the *Alternative Site Analysis* for each node below.

SF PALO ALTO 129 Alternative Site Analysis

Per the analysis below, the currently proposed pole is the only one viable for attachment to provide service for this node.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
129-A	Metal Street Light	251	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, utility engineering constraints would not allow an attachment. CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
129-B	Wood Utility Pole	3129	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. CPUC GO95 rules require clear climbing space. There is not enough climbing space on this pole to safely allow a VZW attachment. Additionally, the pole is located near a more visible corner along Louis Rd and therefore would be more visible than the primary pole.
129-C	Wood Utility Pole	3207	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. High voltage lines located on pole.
129-D	Wood Utility Pole	3120	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted. Additionally, not selected as primary because high visibility corners are not preferred per the planning siting guidelines.
129-E	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole and does not provide the same level of service; 2) high visibility corners are not preferred per the planning siting guidelines.
129-F	Wood Utility Pole	3208	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. High voltage lines located on pole.
129-G	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole and does not provide the same level of service.

SF PALO ALTO 130 Alternative Site Analysis

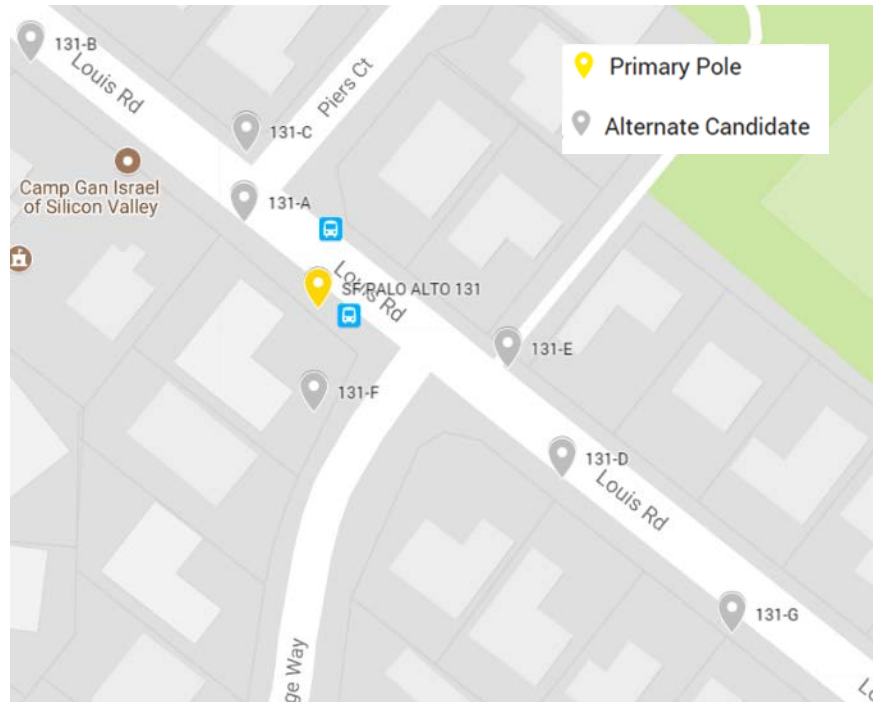
Per the analysis below, the currently proposed pole is the only one viable for attachment to provide service for this node.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
130-A	Wood Utility Pole	2462	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted. Additionally, high visibility corners are not preferred per the planning siting guidelines.
130-B	Metal Street Light	281	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
130-C	Wood Utility Pole	2460	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Line and buck situation on pole - wireless equipment not permitted.
130-D	Wood Utility Pole	4016	Not Viable	Planning	Poles located on private property (residential easement) are only selected as a last resort, given potential disturbance to adjacent resident.
130-E	Wood Utility Pole	2430	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. High voltage lines located on pole.
130-F	Wood Utility Pole	2463	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Line and buck situation on pole - wireless equipment not permitted.

SF PALO ALTO 131 Alternative Site Analysis

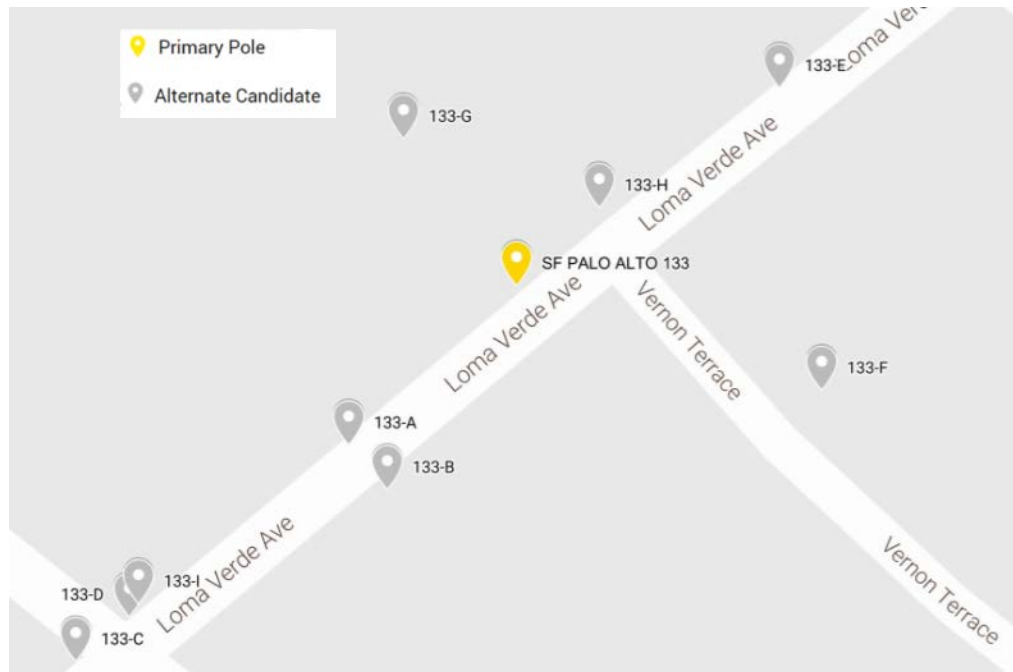
Per the alternative site analysis below, the currently proposed pole is one of two viable for small cell attachment to provide service for this node. While the primary pole is located on a corner, it was selected because it is far more naturally screened than the first alternate, which is in a highly visible location just within the landscape area between two residences. The existing large trees are at the far side of the yards adjacent to the alternate and no planter strip exists where amenity trees could be added. This is a great example of the kind of prioritization involved in choosing between two technically viable poles. In this case, the corner location provides service via a less obtrusive pole.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
131-A	Wood Utility Pole	3316	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary power riser located on pole.
131-B	Wood Utility Pole	3317	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary power riser located on pole.
131-C	Metal Street Light	N/A	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole and does not provide the same level of service; 2) high visibility corners are not preferred per the planning siting guidelines.
131-D	Wood Utility Pole	3314	Viable	Viable Alternate	Pole is viable alternate, but was not selected as primary as it is more visible from all directions than the corner location selected. It is first alternate candidate.
131-E	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
131-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
131-G	Wood Utility Pole	3313	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Line and buck situation on pole - wireless equipment not permitted.

SF PALO ALTO 133 Alternative Site Analysis

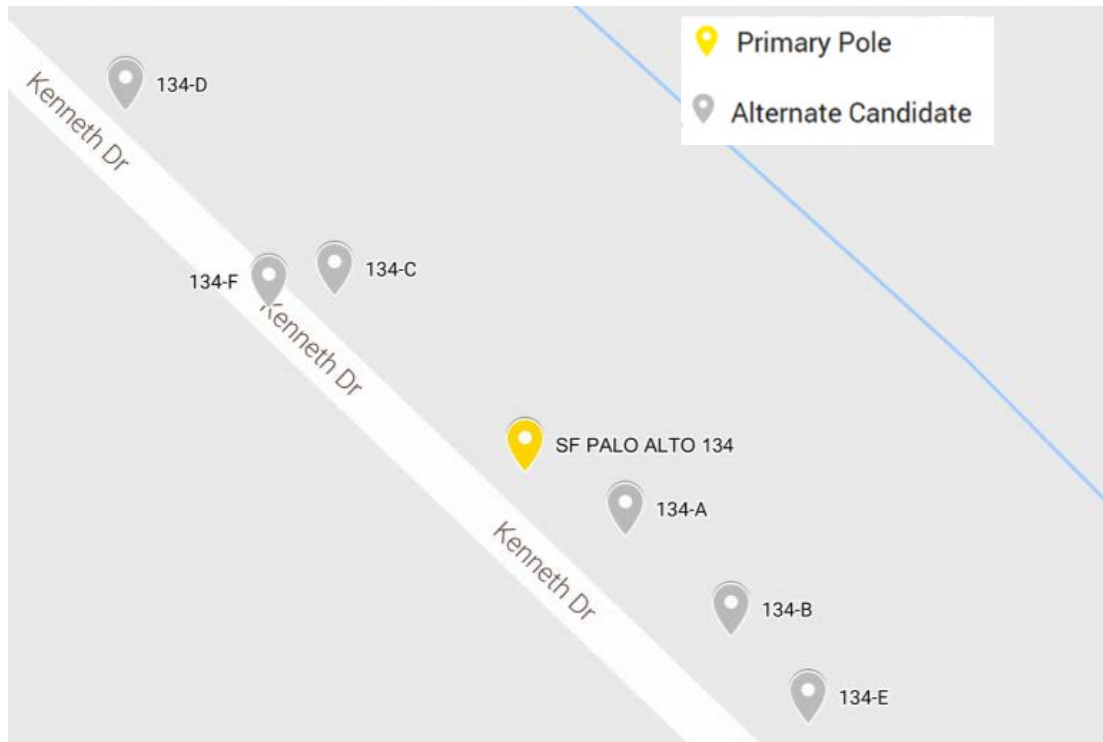
Two poles were viable in this service area. Both poles have similar settings along Loma Verde Ave, located between two residences, rather than directly in front of one. The selected primary pole better meets the engineering objective and appeared to be less visible when traversing Loma Verde Ave, but at the request of Planning & Community Environment, the viable alternate pole has also been included for review.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
133-A	Wood Utility Pole	2858	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Line and buck situation on pole - wireless equipment not permitted.
133-B	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, utility engineering constraints would not allow an attachment. CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
133-C	Wood Utility Pole	3304	Not Viable	CPAU Engineering	A power line crossover takes place at this corner and does not allow enough space for attachment. Additionally, high visibility corners are not preferred per the planning siting guidelines
133-D	Wood Utility Pole	2859	Not Viable	CPAU Engineering	A power line crossover takes place at this corner and does not allow enough space for attachment. Additionally, high visibility corners are not preferred per the planning siting guidelines
133-E	Wood Utility Pole	2856	Viable	Viable Alternate	Pole is viable. It is first alternate candidate.
133-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
133-G	Wood Utility Pole	Unknown	Not Viable	Planning	Poles located on private property (residential easement) are only selected as a last resort, given potential disturbance to adjacent resident.
133-H	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
133-I	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.

SF PALO ALTO 134 Alternative Site Analysis

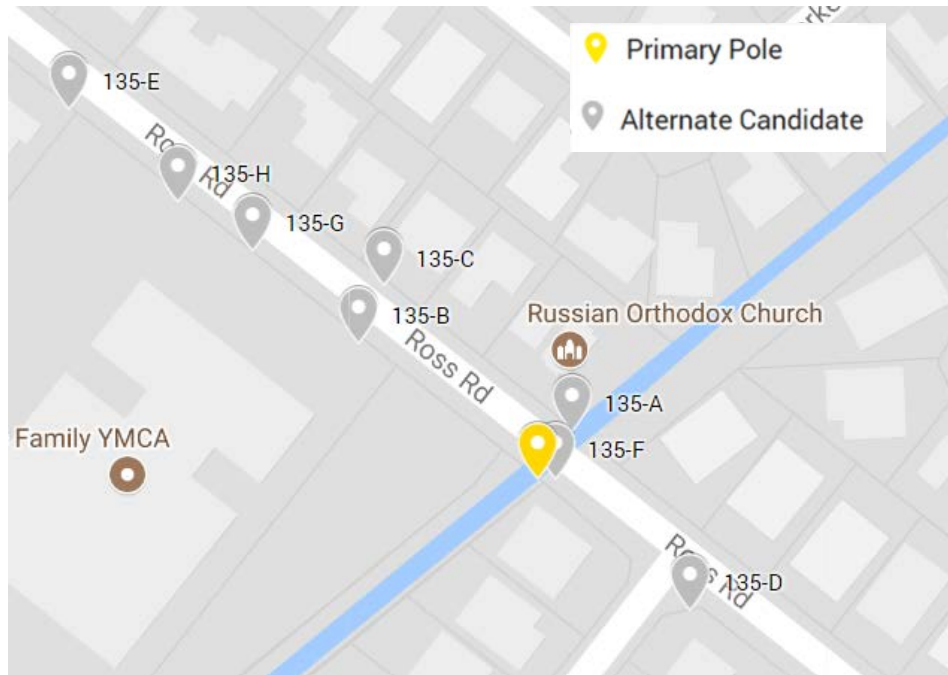
Two poles were viable in this service area. Both poles have similar settings along Kenneth Dr. The selected primary pole better meets the engineering objective and is located less intrusively between two residences, rather than directly in front of one.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
134-A	Metal Street Light	345	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, utility engineering constraints would not allow an attachment. CPUC GO95 rules require clearance from secondary power. There is not enough clearance on this pole to allow a VZW attachment.
134-B	Wood Utility Pole	2965	Not Viable	VZW RF Engineering	Pole is too short and so could not meet engineering objective for this area.
134-C	Wood Utility Pole	2963	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer on pole - wireless equipment not permitted.
134-D	Wood Utility Pole	2962	Viable	Viable Alternate	Pole is viable alternate, but was not selected as primary. It is first alternate candidate.
134-E	Wood Utility Pole	2966	Not Viable	VZW RF Engineering	Pole is leaning, too short and surrounded by tree clutter and therefore could not meet the engineering objective for this area.
134-F	Metal Street Light	341	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.

SF PALO ALTO 135 Alternative Site Analysis

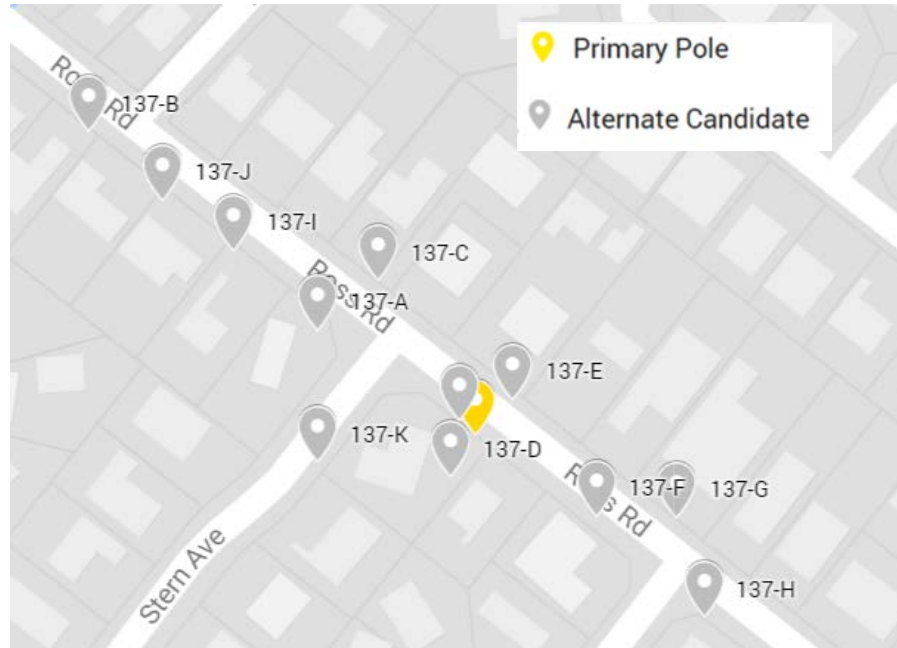
Three existing pole locations were viable to meet the engineering objectives for this node. Two are located along the water district canal, mid-block and so are more preferred. The taller of the poles was selected as it does not require replacement.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
135-A	Wood Utility Pole	3611	Viable	VZW RF Engineering	Pole location is viable, but the existing structure does not provide enough height to meet the required engineering objective. It is the first alternate candidate and would require replacement with a taller pole to provide the required level of service.
135-B	Wood Utility Pole	3371	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary power riser located on pole.
135-C	Metal Street Light	342	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
135-D	Wood Utility Pole	3609	Viable	Planning/Visibility Concerns	The pole is technically viable, but was not preferred as it is located on a high visibility corner. It is the second alternate candidate.
135-E	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
135-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, utility engineering constraints would not allow an attachment. CPUC GO95 rules require clearance from secondary power. There is not enough clearance on this pole to allow a VZW attachment.
135-G	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
135-H	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, GO95 requires distance from communication lines, therefore attachment is not feasible.

SF PALO ALTO 137 Alternative Site Analysis

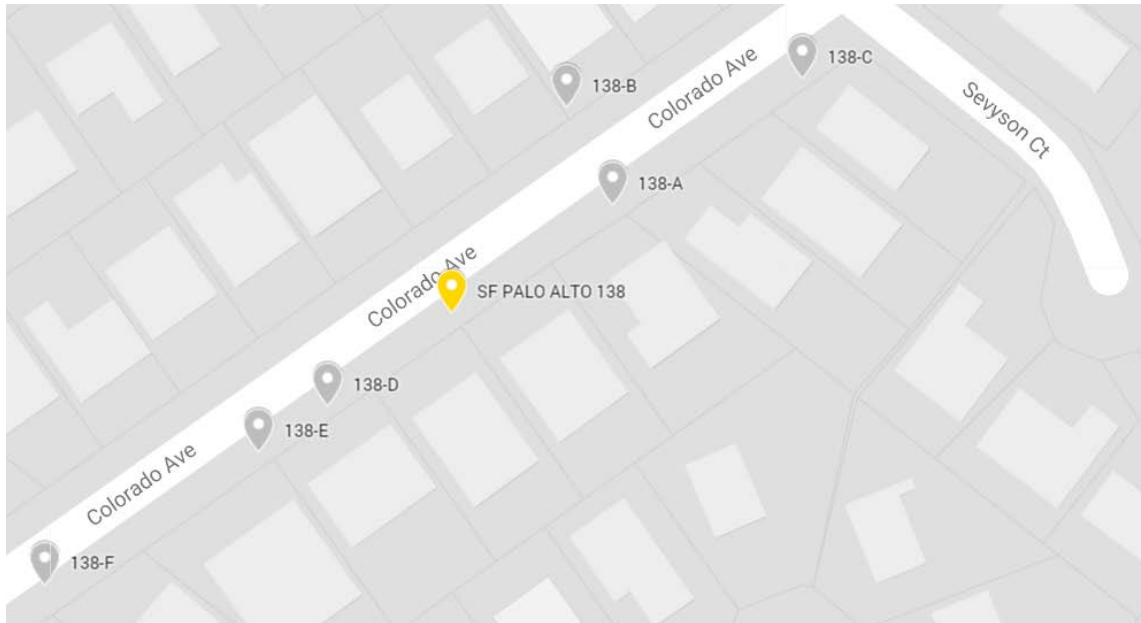
Two poles were viable to meet the engineering objective at this location. The proposed primary was selected for its location between two residences with firmly established trees for screening on either side. The first alternate candidate is viable and meets the engineering objectives, but is located on a highly visible corner and so was not selected as primary.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
137-A	Wood Utility Pole	3349	Viable	Planning	Pole is viable from an engineering perspective, but its highly visible location at an intersection, with only moderate screening, makes it the first alternate candidate.
137-B	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow attachment. Line and buck situation on pole - wireless equipment not permitted. Additionally, pole is too far north to meet required engineering objectives.
137-C	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, the pole is surrounded by tree clutter and could not meet the engineering objective for this area.
137-D	Wood Utility Pole	Unknown	Not Viable	Planning	Poles located outside of the Public ROW, within a public utility easement, are only selected as a last resort, given potential disturbance to the resident. Could not get pole number as it is located in backyard.
137-E	Wood Utility Pole	3352	Not Viable	VZW RF Engineering	Pole is too short and so could not meet engineering objective for this area. It would require replacement with a taller pole.
137-F	Wood Utility Pole	3353	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
137-G	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
137-H	Wood Utility Pole	3554	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. CPUC GO95 rules require clear climbing space. There is not enough climbing space on this pole to safely allow a VZW attachment. Additionally, the pole is somewhat too far so the south to meet the required engineering objective and is highly visible.
137-I	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
137-J	Metal Street Light	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. CPUC GO95 rules require a minimum distance from communication lines, which could not be met on this pole. Additionally, not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. The pole is also surrounded by tree clutter and could not meet the required engineering objectives.
137-K	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, the pole is surrounded by tree clutter and could not meet the required engineering objectives. GO95 requires a minimum distance from communication lines, which could not be met on this pole.
137-L	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, the pole is surrounded by tree clutter and could not meet the required engineering objectives. GO95 requires a minimum distance from communication lines, which could not be met on this pole.

SF PALO ALTO 138 Alternative Site Analysis

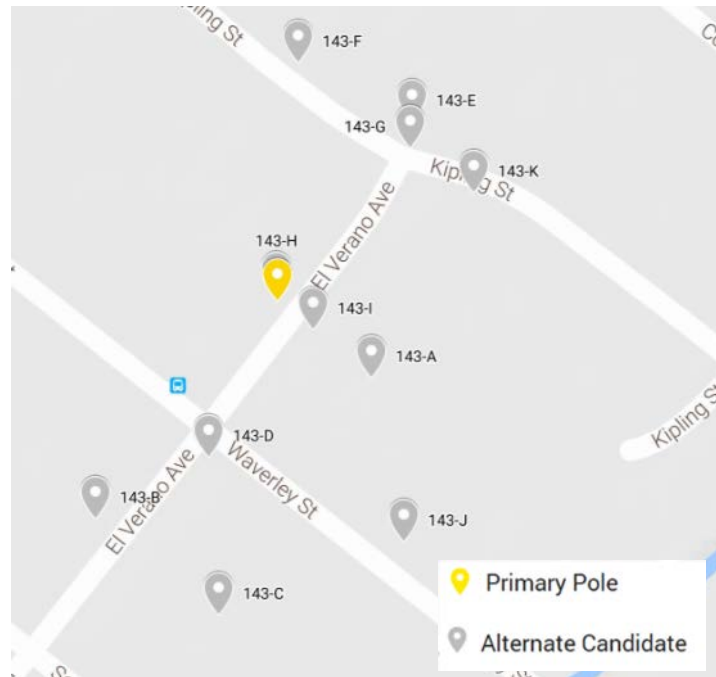
Two poles were viable to meet the engineering objective for this area. The pole selected as primary is located between two residences and within a tree to take advantage of natural screening. The first alternate is also viable, but was not selected as primary, because it lacks natural screening.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
138-A	Wood Utility Pole	2478	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole. Additionally, a primary riser is located on the pole. Neither allows attachment.
138-B	Metal Street Light	85	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment. There is also too much tree clutter surrounding this pole, so it would not meet the engineering objective for this area.
138-C	Wood Utility Pole	2477	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary riser located on pole. Additionally, pole is slightly to far east to meet the intended engineering objectives.
138-D	Metal Street Light	83	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
138-E	Wood Utility Pole	2480	Viable	Viable Alternate	Pole is viable alternate, but was not selected as primary as it has less natural screening.
138-F	Wood Utility Pole	2481	Not Viable	VZW RF Engineering	Pole is viable from a structural perspective, but is too close the west to meet the required engineering objective.

SF PALO ALTO 143 Alternative Site Analysis

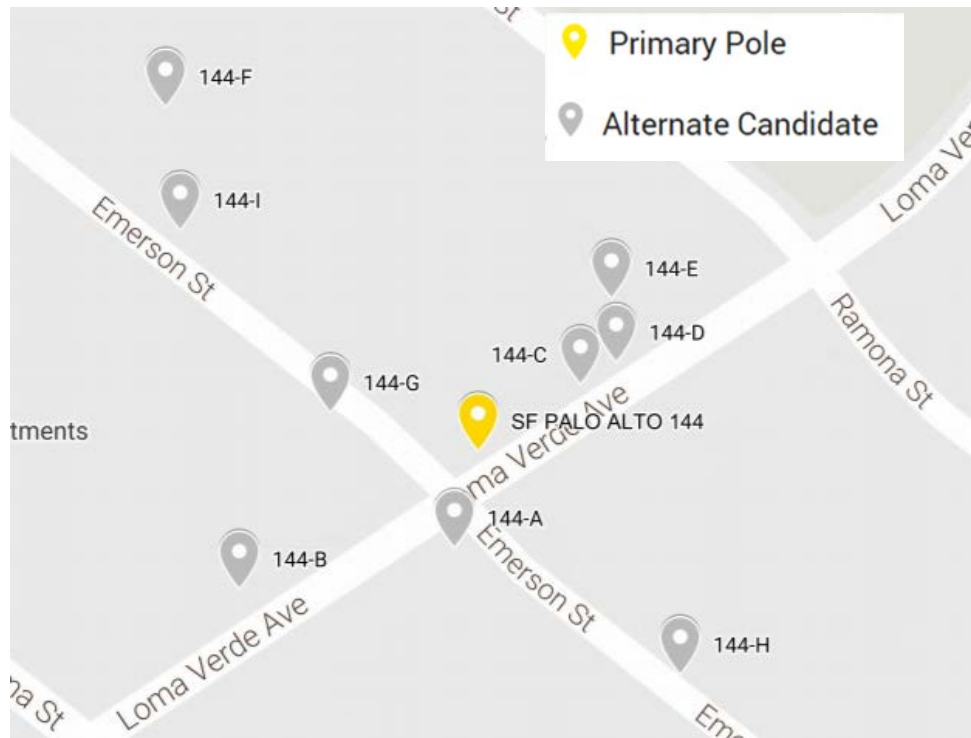
Only one pole was available to meet the required engineering objective and was selected as the primary.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
143-A	Wood Utility Pole	3866	Not Viable	Planning	Poles located on private property (residential easement), as opposed to the Public ROW, are only selected as a last resort, given potential disturbance to adjacent resident. Could not get pole number as it is located in yard.
143-B	Wood Utility Pole	3889	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
143-C	Wood Utility Pole	Unknown	Not Viable	Planning	Poles located on private property (residential easement), as opposed to the Public ROW, are only selected as a last resort, given potential disturbance to adjacent resident. Could not get pole number as it is located in backyard.
143-D	Metal Street Light	18	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because 1) antenna location on streetlight is lower than on wood pole; 2) high visibility corners are not preferred per the planning siting guidelines.
143-E	Wood Utility Pole	3995	Not Viable	VZW RF Engineering	Pole is too short give the surrounding tree clutter and so could not meet engineering objective for this area.
143-F	Wood Utility Pole	3996	Not Viable	VZW RF Engineering	Pole location is viable, but was not selected as primary, as it is short and likely would require replacement to meet the required engineering objective. The pole partially resides in the driveway of the adjacent resident and would not be selected for attachment.
143-G	Metal Street Light	323	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
143-H	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
143-I	Wood Utility Pole	Unknown	Not Viable	Planning	Pole appears to be located on private property (residential easement), rather than Public ROW, and would only selected as a last resort, given potential disturbance to adjacent resident. It is located within the yard of the resident.
143-J	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
143-K	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.

SF PALO ALTO 144 Alternative Site Analysis

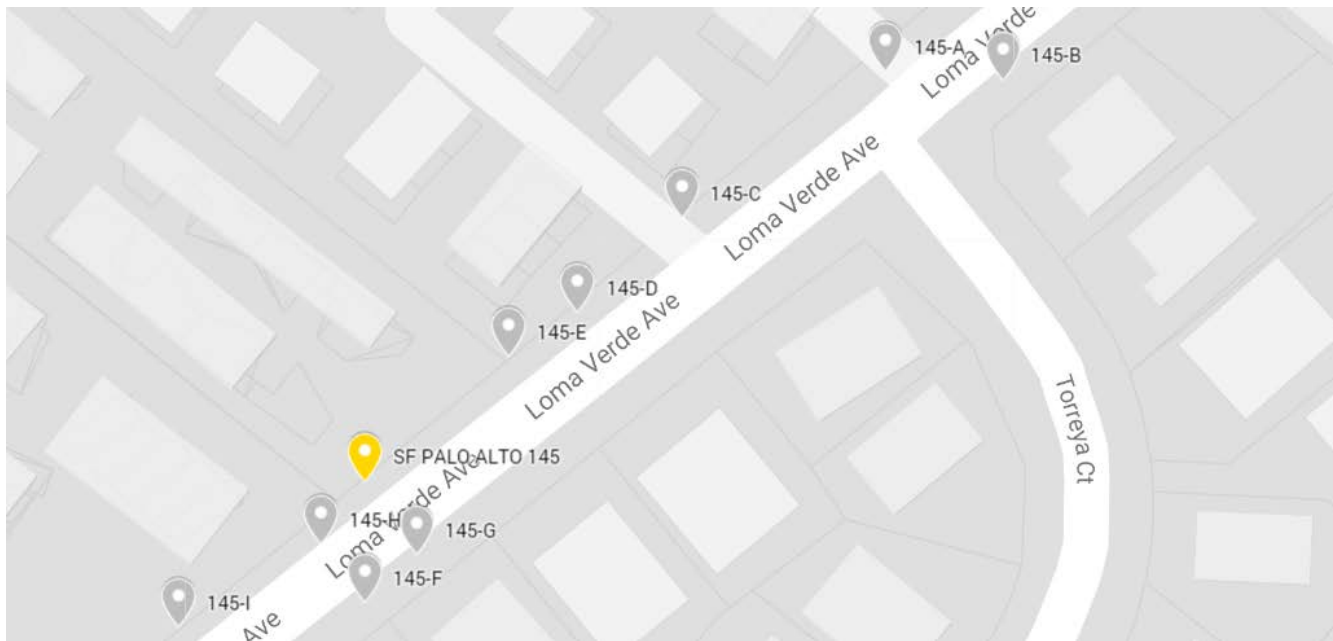
Only one pole was viable for attachment within the targeted coverage area.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
144-A	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole; 2) high visibility corners are not preferred per the planning siting guidelines.
144-B	Wood Utility Pole	1521	Not Viable	CPAU Engineering	Existing AT&T utilities conflict with attachment.
144-C	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
144-D	Wood Utility Pole	1507	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on the pole.
144-E	Wood Utility Pole	1508	Not Viable	Planning	Poles located on private property (residential easement), rather than in the Public ROW, are only selected as a last resort, given potential disturbance to adjacent resident.
144-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
144-G	Metal Street Light	304	Not Viable	VZW RF Engineering	Significant tree clutter surround light and would not meet engineering objectives.
144-H	Metal Street Light	311	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
144-I	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.

SF PALO ALTO 145 Alternative Site Analysis

Two poles were viable to meet the engineering objective for this node. The primary was selected because it better meets the engineering target.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
145-A	Wood Utility Pole	3292	Viable	Viable Alternate	Pole is viable alternate, but was not selected as primary. It is first alternate candidate. The pole was recently replaced and the old transfer pole still exists.
145-B	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, there is too much tree clutter surrounding this pole, so it would not meet the engineering objective for this area.
145-C	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on the pole.
145-D	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
145-E	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Existing AT&T utilities conflict with attachment.
145-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
145-G	Wood Utility Pole	3290	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary riser located on pole.
145-H	Wood Utility Pole	3289	Not Viable	CPAU Engineering	Pole is for communications only and not electrical transmission. Additionally, it is too short to meet the required engineering objectives.
145-I	Wood Utility Pole	3285	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary riser located on pole.

Exhibit D – List of Cluster 1 Nodes

Cluster 1 contains eleven (11) proposed small cell nodes.

Node #	Address of Adjacent APN	Proposed Antenna Shroud	Proposed Radio Shroud	Color - Pole Mounted Equipment Kelly Moore	CPAU Pole #	Adjacent APN	Public ROW Zoning Class	Source for Power & Fiber	Height of Existing	Height of Proposed (including Antenna)	Pole Replace Required (YES/NO)
SF PALO ALTO 129	2490 LOUIS RD	Taper Bayonet	Box Shroud	Railroad Ties	3121	12730062	R-1	Aerial Drop	43'-1"	55'-2"	YES
SF PALO ALTO 130	2802 LOUIS RD	Taper Bayonet	Box Shroud	Railroad Ties	2461	12728046	R-1	Aerial Drop	43'-0"	55'-1"	NO
SF PALO ALTO 131	891 ELBRIDGE WY	Taper Bayonet	Box Shroud	Railroad Ties	3315	12726067	R-1	Aerial Drop	43'-10"	55'-11"	NO
SF PALO ALTO 133	925 LOMA VERDE AVE	Taper Bayonet	Box Shroud	Railroad Ties	2857	12724023	R-1	Aerial Drop	44'-2"	56'-7"	YES
SF PALO ALTO 133-E (Alternate)	929 LOMA VERDE AVE	Taper Bayonet	Box Shroud	Railroad Ties	2856	12724020	R-1	Aerial Drop	44'-2"	56'-7"	YES
SF PALO ALTO 134	3409 KENNETH DR	Taper Bayonet	Box Shroud	Clay Bath	2964	12709028	R-1 (7000)	Aerial Drop	39'-1"	51'-4"	NO
SF PALO ALTO 135	795 STONE LN	Taper Bayonet	Box Shroud	Railroad Ties	3610	12747001	R-1 (8000)	Aerial Drop	42'-10"	54'-11"	NO
SF PALO ALTO 137	3090 ROSS RD	Taper Bayonet	Box Shroud	Railroad Ties	3351	12752031	R-1	Aerial Drop	43'-8"	55'-9"	NO
SF PALO ALTO 138	836 COLORADO AVE	Taper Bayonet	Box Shroud	Log Cabin	2479	12727063	R-1	Aerial Drop	43'-2"	55'-3"	NO
SF PALO ALTO 143	419 EL VERANO AVE	Taper Bayonet	Box Shroud	Log Cabin	3867	13215017	R-1	U/G Vault N36	38'-3"	50'-4"	NO
SF PALO ALTO 144	201 LOMA VERDE AVE	Taper Bayonet	Box Shroud	Log Cabin	1506	13248015	RM-30	Aerial Drop	42'-10"	53'-11"	NO
SF PALO ALTO 145	737 LOMA VERDE AVE	Taper Bayonet	Box Shroud	Log Cabin	3288	12764039	RM-15	Aerial Drop	43'-3"	55'-4"	NO

Exhibit E – Map of Cluster 1 Configurations

Cluster 1 contains eleven (11) proposed small cell nodes in the Midtown, Palo Verde and St. Claire Gardens neighborhoods.

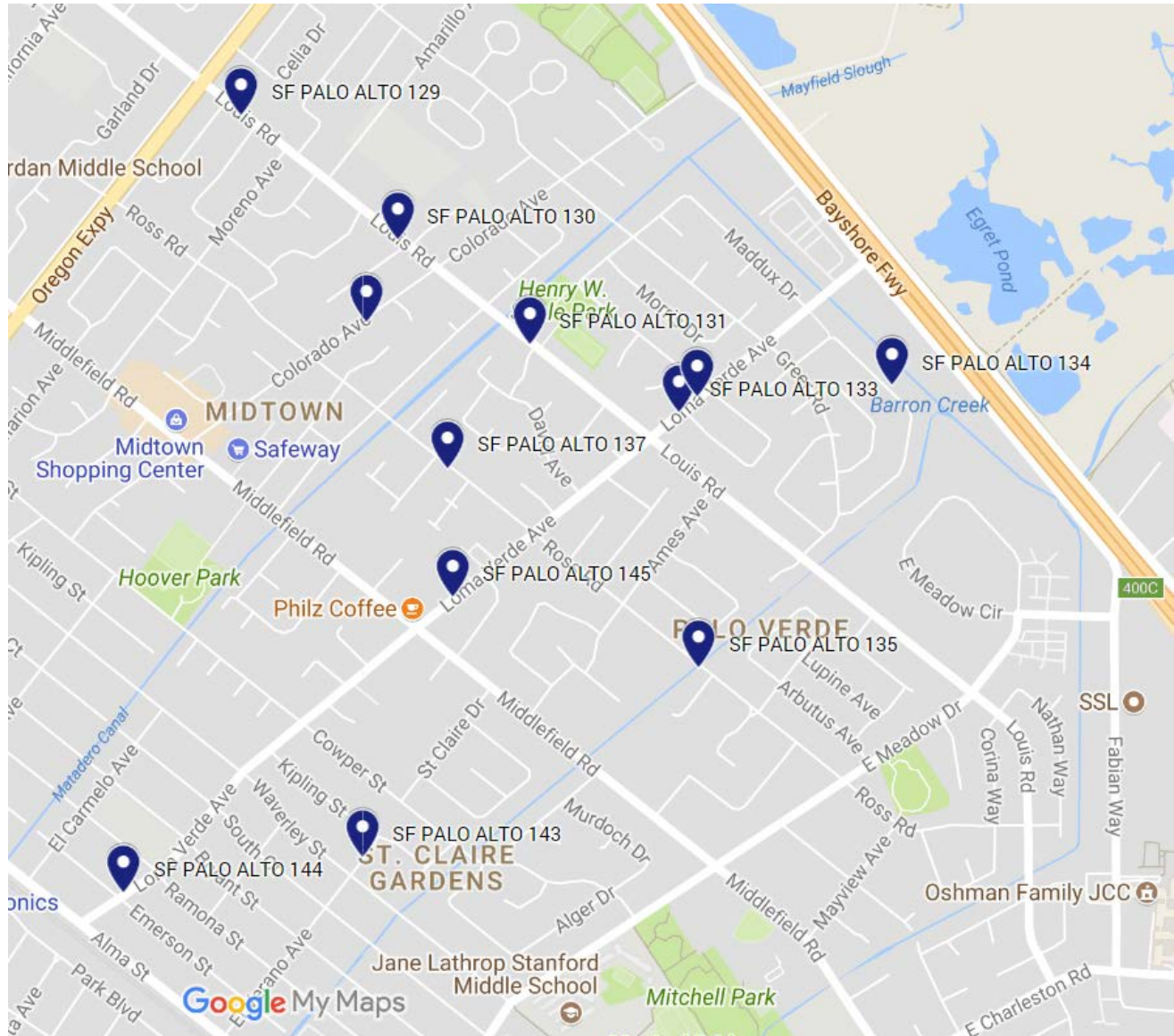
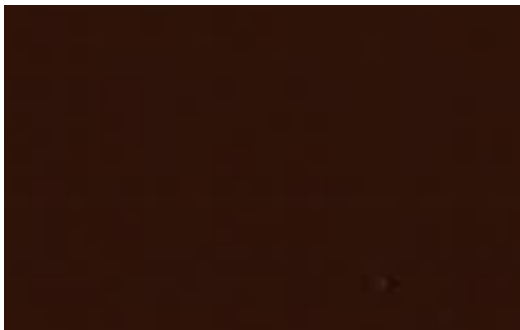


Exhibit F – Proposed Paint Samples

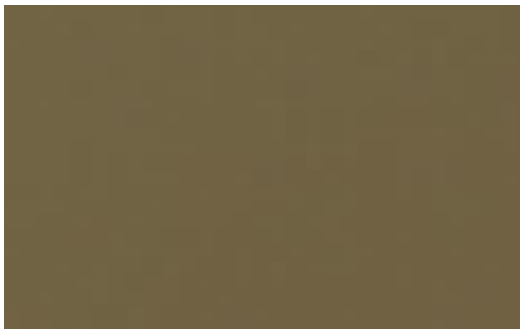
All pole mounted equipment will be painted to nearest shade of brown to the existing pole (all Kelly Moore durable metal paint).



Railroad Ties (KMA67)



Log Cabin (KMA76)



Clay Bath (KM4595)

Exhibit G – Model Small Cell Location

Verizon Wireless has constructed a non-operational “mock” site for public and staff viewing, which is updated with the most recent proposed shrouds. The central location adjacent to 1350 Newell, across from the Palo Alto Art Center was selected in conjunction with CPAU, because that particular pole has no overhead transmission. Additionally, Verizon Wireless has selected the auditorium at the Palo Alto Art Center as a location to host community meetings.



Exhibit H – Statement Regarding Spectrum Act

Palo Alto Municipal Code Section 18.42.110(d)(8) provides: “For Tier 3 WCF Permits, the plans shall include a scaled depiction of the maximum permitted increase in the physical dimensions of the proposed project that would be permitted by the Spectrum Act, using the proposed project as a baseline.”

Verizon Wireless cannot submit a scaled depiction of the maximum permitted increase in the physical dimensions of the proposed small cell facilities on Palo Alto utility poles under the Spectrum Act for the following reasons:

1. Spectrum Act “Substantial Change” Criteria Are Indeterminate

Spectrum Act “substantial change” criteria theoretically allow the expansion of a wireless facility in the Right-of-Way by ten feet in height and six feet in width. However, any such expansion cannot defeat existing “concealment elements” of the facility (see 47 C.F.R. §1.40001). Verizon Wireless small cells are designed with vertically integrated and oriented radio equipment as well as a vertical cylindrical antenna that matches the shape and size of the utility pole to which it is mounted. It is not clear what increase in size, if any, could be accomplished without defeating the concealment elements of the Verizon Wireless design.

2. Modifications To The Verizon Wireless Small Cell Allowed Under The Spectrum Act Must Comply With Health And Safety Requirements (CPUC G.O. 95)

The Spectrum Act accommodates regulations for health and safety, such as the requirements of G.O. 95, that are generally observed by the City. G.O. 95 places strict limitations on the placement of attachments on utility poles. Specifically, continuous climbing space must be maintained in one quadrant of the pole from top to bottom. A six-foot separation is required between antennas and transmission lines. Equipment must be more than seven feet from the ground, and pole capacity must be restricted to accommodate the structural limitations of each pole. These limitations severely restrict the modifications that can be made to the Verizon Wireless small cell and would likely prevent modifications of the scale allowed under the Spectrum Act. Any modification that requires the replacement of the utility pole, for structural reasons or lack of space, is disqualified as an eligible facility request under the Spectrum Act. In nearly all cases, Palo Alto utility poles are near capacity and cannot accommodate modifications of the dimensions allowed under the Spectrum Act.

3. Verizon Wireless Has No Plans To Modify Its Small Cell Design And Any “Spectrum Act” Modification Would Be Speculative

Verizon Wireless cannot predict the customer demand or technological changes that would lead to a modification of the proposed small cell design. Similarly, Verizon Wireless cannot predict what another utility or wireless provider may propose to add or attach to a utility pole. In the same way, the City cannot be obligated to pre-approve hypothetical designs as “eligible facility requests” under the Spectrum Act that may or may not defeat existing concealment or violate health and safety laws.

4. Hypothetical Maximum Build-Out Under The Spectrum Act Is Irrelevant To Required Approval Findings For Verizon Wireless Small Cells

While theoretically interesting, the potential future expansion of a project is not the subject of any of the 16 Architectural Review findings nor the two conditional use findings required for approval of the Verizon Wireless small cell design under the Palo Alto Municipal Code. Projects must be evaluated as proposed and not on future hypothetical modification. There are no reasonably foreseeable modifications to the proposed Verizon Wireless small cell design that can be reviewed by the City at this time. Simply put, speculation cannot form the basis for any findings. Similarly, speculative future modifications do not constitute the substantial evidence required to deny approval of a wireless facility under federal law.

For all of the reasons stated above, Verizon Wireless will not revise plans to show a scaled depiction of the maximum permitted increase in the physical dimensions of its small cell project.

SF Palo Alto 129

2490 Louis Rd

Executive Summary– Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 129 is located in the Public Right of Way, adjacent 2490 Louis Rd. The proposed small cell is located within the Flood Zone, as identified by FEMA, and underground vaulting of equipment is infeasible. There is one viable alternate pole for this proposed node, also located the Flood Zone. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4: Parcel Report – Primary Pole
Page 5: Surveyor Report – Primary Pole
Page 6: Vault Feasibility in Flood Zone – Primary Pole
Page 7: Summary of Alternate Poles
Page 8: Palo Alto Groundwater Map (Flood Zone Designation)
Page 9: Zoom View – Pole Locations on Flood Zone Map
Page 10: City of Palo Alto Requirements for Flood Zones

Vaulting Feasibility Report

Site Name: SF PALO ALTO 129

Site Pole Located: Public Right of Way, Adjacent to 2490 Louis Rd

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

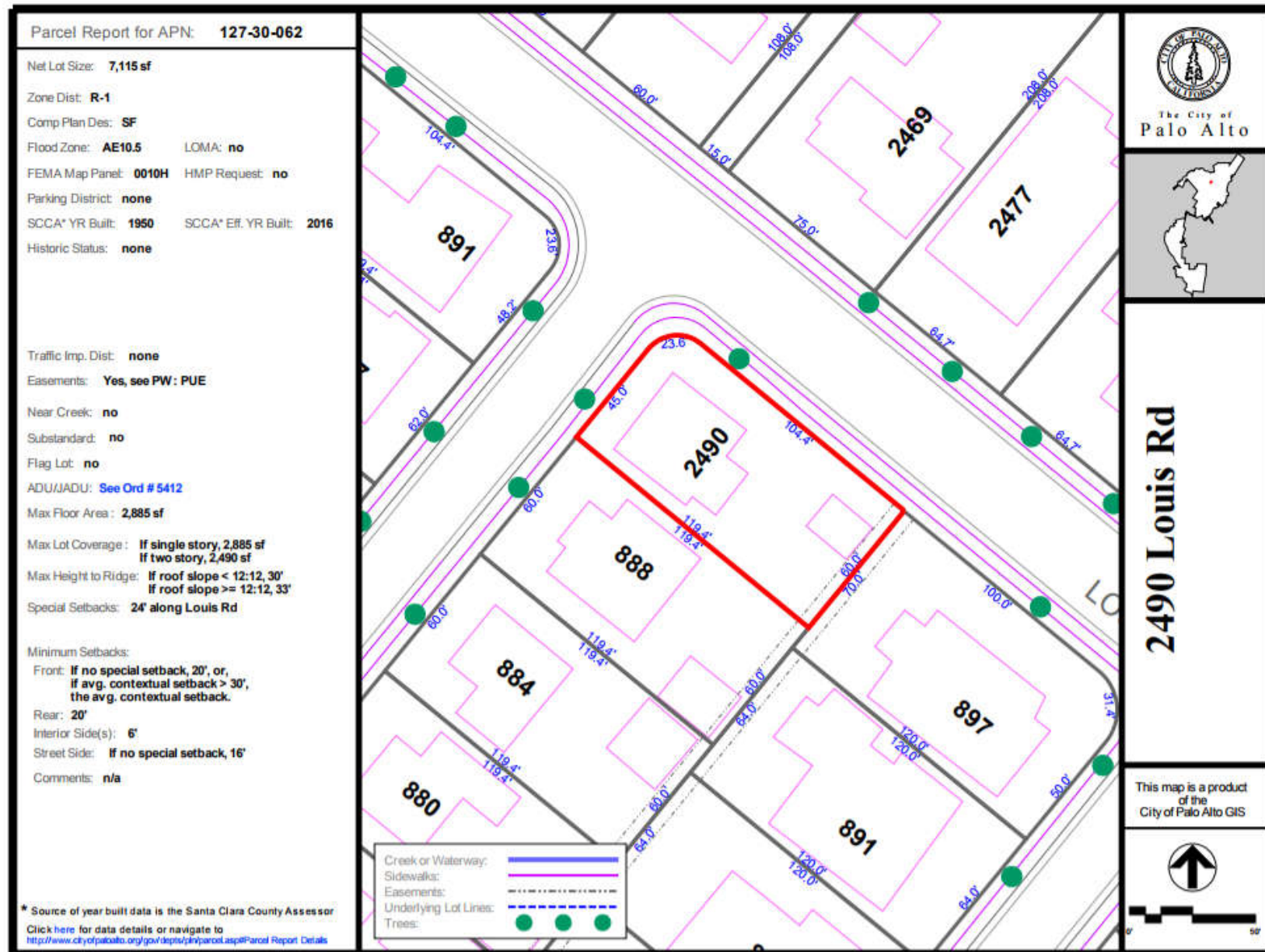
Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter


30-Foot Vault Search Area Along Louis Rd:



The Flood Zone designation of AE 10.5 is listed on the Palo Alto Parcel Report for the adjacent APN, 127-30-062:



The elevation in AMSL (above mean sea level) of the base of the pole has been certified to be 10.77' AMSL by a State of California Professional Land Surveyor in a 1-A Accuracy Certification. This can be found on page T-2 of the plan sets. The AMSL at the pole base can also be found on page T-1 of the plan set under "Site Information".



23675 Birtcher Dr.
Lake Forest, CA 92630
Office: (949) 273-0996
Fax: (949) 606-7222

1-A ACCURACY CERTIFICATION

Pole Number : 3121 Date of Survey: 1/6/2017

Applicant : Verizon Wireless - 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598
Project Name : SF PALO ALTO 129
Adjacent Address : 2490 LOUIS RD, PALO ALTO, 94303-3607
Adjacent APN / County: 12730062

Survey Equipment / Procedure: Leica TS15 Imaging Total Station and Leica VIVA NetRover Survey data obtained/determined by G.P.S. observations.

Project Description : Install "Small Cell" equipment and antenna on existing joint wooden utility pole for Verizon Wireless network connectivity.

Surveyed Point : Geodetic points are taken at grade at the center of proposed antenna array.

All Geodetic Coordinates are based on NAD 83 and all Elevations are based on NAVD 88.

California State Plane Coordinate Zone: ZONE 3



Geographic Coordinates (NAD 83): **Elevation (NAVD 88):**
Latitude : N 37° 26' 23.42" Existing Grade Elevation at surveyed point : 10.77' AMSL
Longitude : W 122° 7' 38.13"

Pole/Appurtenance Elevations (given relative to Grade Level Elevation):
Top of the Pole : 43.11' AGL

Location of Existing O/H wires, other cables & misc Appurtenances attached to pole :

- 42.90' AGL	- 25.74' AGL
- 40.98' AGL	- 25.26' AGL
- 31.80' AGL	
- 26.94' AGL	

Certification:
I the undersigned, being a registered Professional Land Surveyor licensed under the laws of the State of California do hereby certify the latitude and longitude coordinates and elevations above mean sea level (AMSL) listed above are based on a field survey done under my supervision, and that the accuracy of those coordinates meet or exceed 1-A Standards (Horizontal Accuracy ± 15 feet and Vertical Accuracy ± 3 feet) and that the measured heights above ground level (AGL) are within \pm one (1) foot vertically as defined in the F.A.A. ASAC Information Sheet 91.003, and that data are true and accurate to the best of my knowledge.

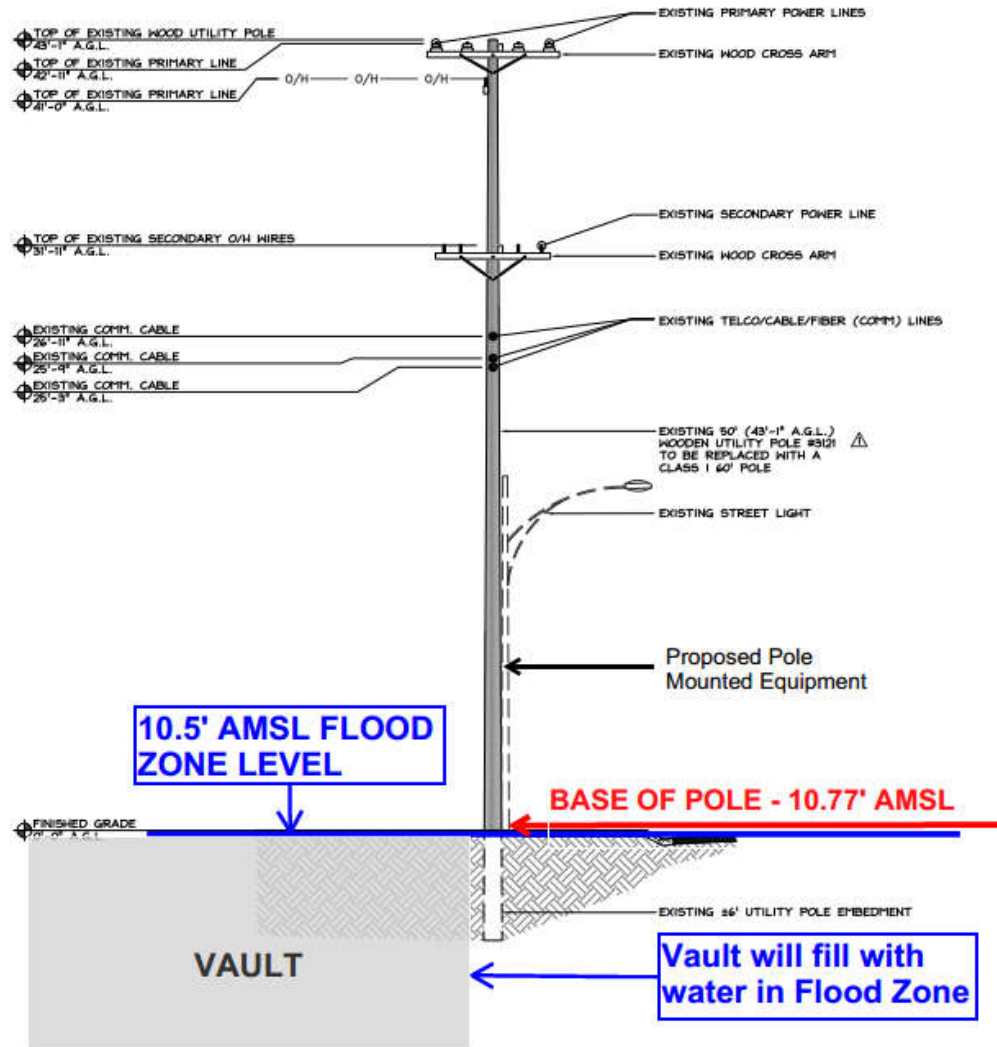


Bruce T. Cramton, PLS #9039 1/11/2017

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Vault Infeasibility within Flood Zone

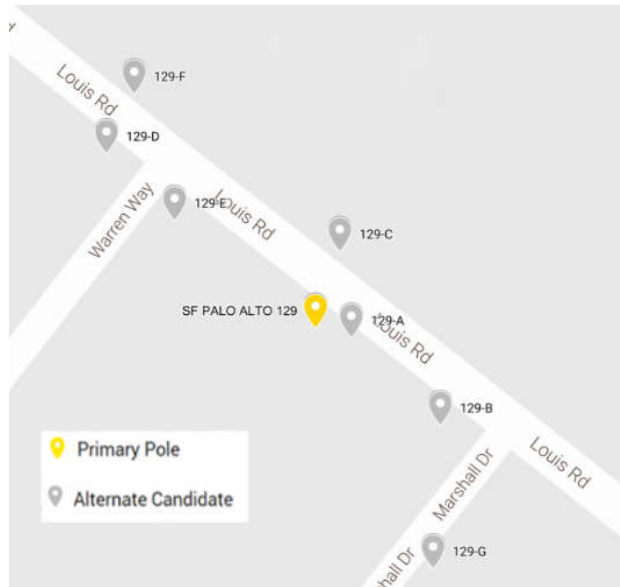
The AMSL at the base of the pole is 10.77'. The Flood Zone designation of AE 10.5 signifies a FEMA Flood Zone level of 10.5 AMSL. A visual example related to this proposed small cell is below, to demonstrate that in the event of flooding, the underground vault would fill completely with water:



Analysis of Vault Feasibility - Alternate Utility Poles

SF PALO ALTO 129 Alternative Site Analysis

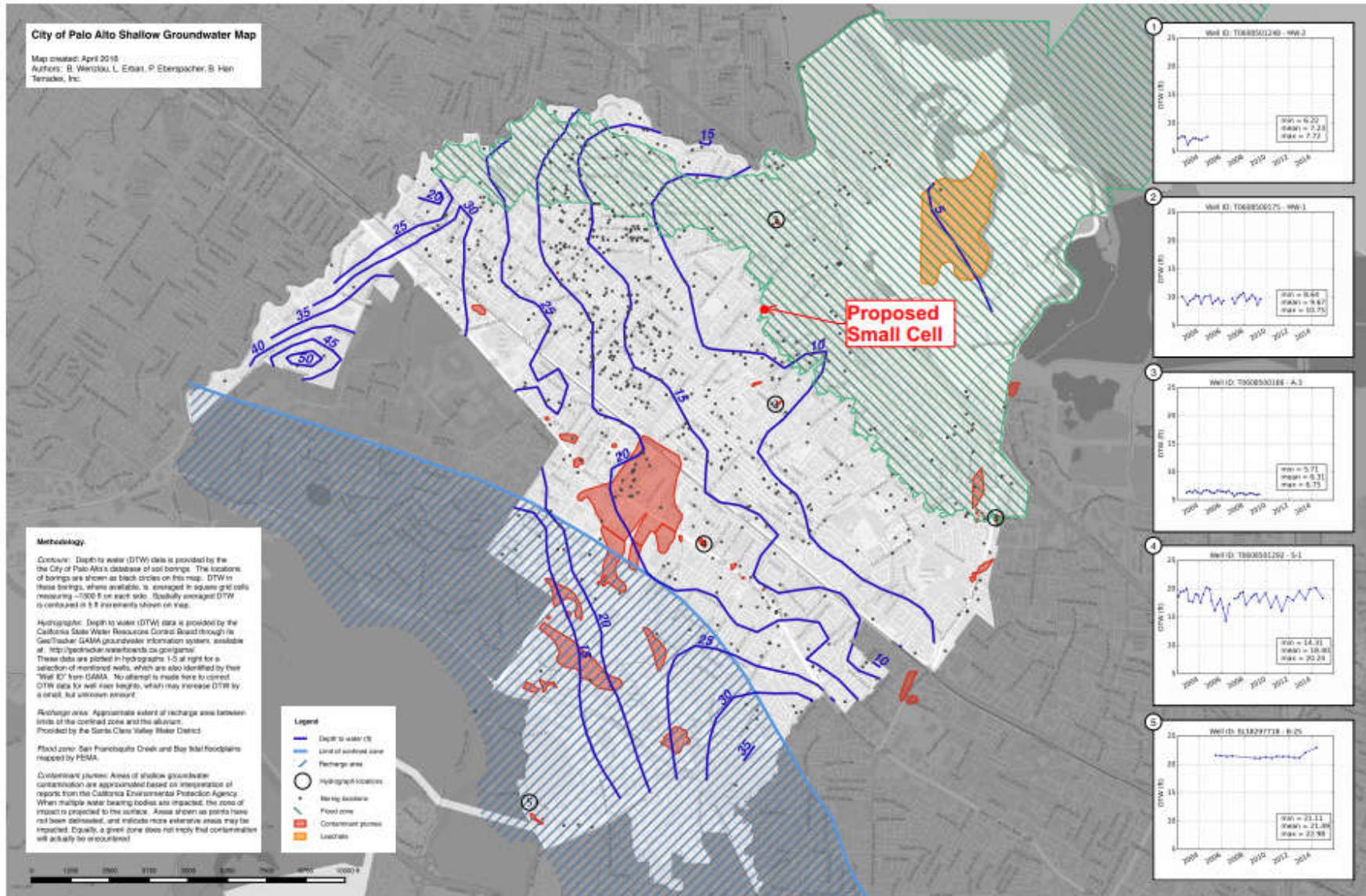
In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 129, only one pole location was determined as viable to meet the engineering objectives for this node, so there are no alternates for review. The original map and ASA of alternates reviewed is included below



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
129-A	Metal Street Light	251	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, utility engineering constraints would not allow an attachment. CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
129-B	Wood Utility Pole	3129	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. CPUC GO95 rules require clear climbing space. There is not enough climbing space on this pole to safely allow a VZW attachment. Additionally, the pole is located near a more visible corner along Louis Rd and therefore would be more visible than the primary pole.
129-C	Wood Utility Pole	3207	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. High voltage lines located on pole.
129-D	Wood Utility Pole	3120	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted. Additionally, not selected as primary because high visibility corners are not preferred per the planning siting guidelines.
129-E	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole and does not provide the same level of service; 2) high visibility corners are not preferred per the planning siting guidelines.
129-F	Wood Utility Pole	3208	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. High voltage lines located on pole.
129-G	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole and does not provide the same level of service.

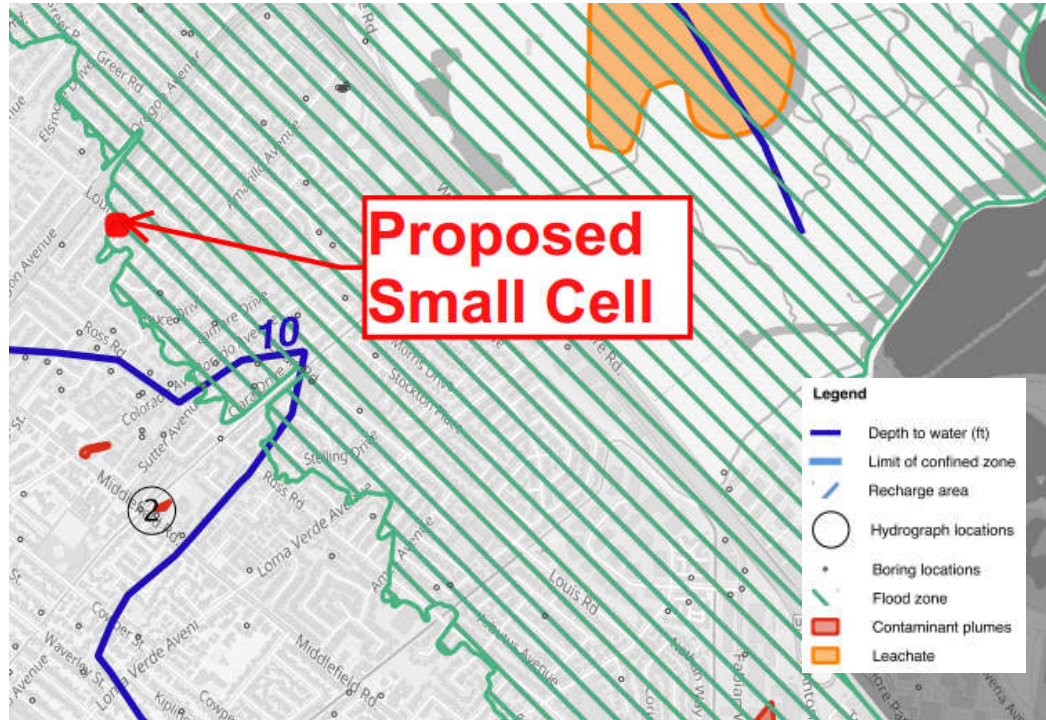
Palo Alto Shallow Groundwater Map

The Palo Alto Shallow Groundwater Map demonstrates, by marking with green stripes, the Flood Zone for San Francisquito Creek and Bay tidal floodplains mapped by FEMA. Both the primary pole and its alternate lie within the Flood Zone.



Zoom of Palo Alto Shallow Groundwater Map:

The proposed primary pole lies within the Flood Zone, designated by the green lines.



Conclusion: Underground Vault Infeasible

As described above, Verizon Wireless is unable to locate equipment in underground vaults in a Flood Zone. The proposed pole and its associated alternate pole for attachment are both located within the Flood Zone, as identified by FEMA. A vault cannot be located within a Flood Zone as Verizon Wireless' radio equipment will not operate under water. The proposed vault is not sealed and thus not completely waterproof; there is absolutely no means of "flood proofing" a vault to house radio equipment. The vault comes equipped with sump pumps in the event of minor water intrusion. In the event of a flood where the water levels have been documented to rise above ground level, there is no mechanical ability to disperse water out of the vault. This would result in the radios inside the vault to be fully submerged in water and unable to operate.

Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a "box" style shroud. Pole mounted equipment begins at 9'-0" on the pole, located well above the Flood Zone.

City of Palo Alto Requirements for Utilities within Flood Zone

The City of Palo Alto website contains helpful information regarding placement utilities in Flood Zones: "Other provisions require openings in areas below flood level to allow water to enter and exit, flood proofing of utilities below the flood level, etc." Source: City of Palo Alto Website – Q&A About Flood Zones: <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=176>. Additionally, comment #A2 from the City of Palo Alto Department of Public Works received in Jan. 2018 matches the same criteria, that all proposed equipment in an underground vault shall be flood proofed. As previously mentioned, there is no way to flood proof underground vaults for radio equipment.



Development Review - Department Comments

City Department: Public Works Engineering
Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org
Date: 1/11/2018
Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
4. EASEMENT: All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

SF Palo Alto 130 **2802 Louis Rd**

Executive Summary– Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 130 is located in the Public Right of Way, adjacent 2802 Louis Rd. The proposed small cell is located within the Flood Zone, as identified by FEMA, and underground vaulting of equipment is infeasible. There is one viable alternate pole for this proposed node, also located the Flood Zone. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4: Parcel Report – Primary Pole
Page 5: Surveyor Report – Primary Pole
Page 6: Vault Feasibility in Flood Zone – Primary Pole
Page 7: Summary of Alternate Poles
Page 8: Palo Alto Groundwater Map (Flood Zone Designation)
Page 9: Zoom View – Pole Locations on Flood Zone Map
Page 10: City of Palo Alto Requirements for Flood Zones

Vaulting Feasibility Report

Site Name: SF PALO ALTO 130

Site Pole Located: Public Right of Way, Adjacent to 2802 Louis Rd

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

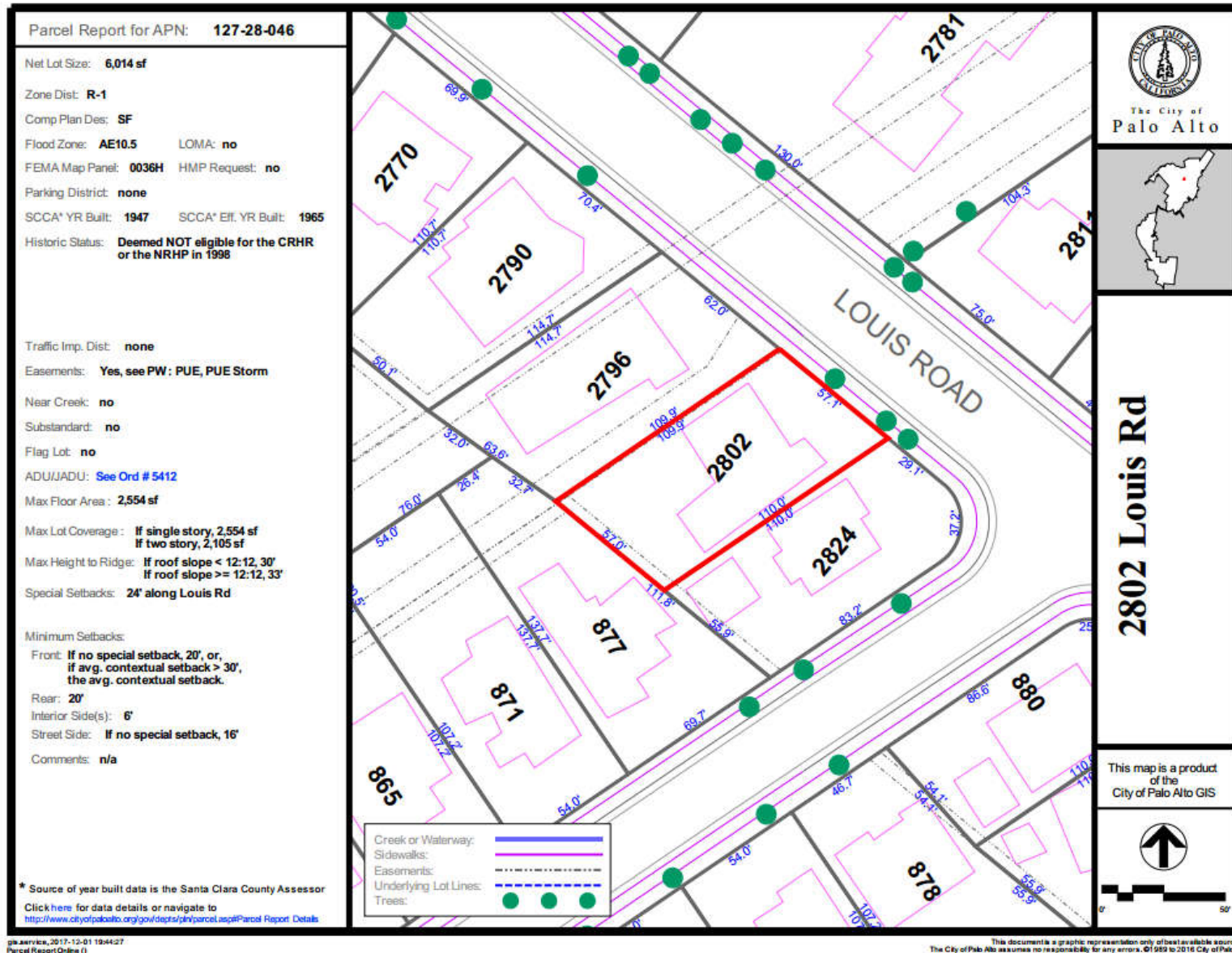
Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter


30-Foot Vault Search Area Along Louis Rd:



The Flood Zone designation of AE 10.5 is listed on the Palo Alto Parcel Report for the adjacent APN-127-28-046:



The elevation in AMSL (above mean sea level) of the base of the pole has been certified to be 8.98' AMSL by a State of California Professional Land Surveyor in a 1-A Accuracy Certification. This can be found on page T-2 of the plan sets. The AMSL at the pole base can also be found on page T-1 of the plan set under "Site Information".



23675 Birtcher Dr.
Lake Forest, CA 92630
Office: (949) 273-0996
Fax: (949) 606-7222

1-A ACCURACY CERTIFICATION

Pole Number : 2461 **Date of Survey:** 1/6/2017

Applicant : Verizon Wireless - 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598
Project Name : SF PALO ALTO 130
Adjacent Address : 2802 LOUIS RD, PALO ALTO, 94303
Adjacent APN / County: 12728046

Survey Equipment / Procedure: Leica TS15 Imaging Total Station and Leica VIVA NetRover Survey data obtained/determined by G.P.S. observations.

Project Description : Install "Small Cell" equipment and antenna on existing joint wooden utility pole for Verizon Wireless network connectivity.

Surveyed Point : Geodetic points are taken at grade at the center of proposed antenna array.

All Geodetic Coordinates are based on NAD 83 and all Elevations are based on NAVD 88.

California State Plane Coordinate Zone: ZONE 3



Geographic Coordinates (NAD 83): **Elevation (NAVD 88):**
Latitude : N 37° 26' 14.13" Existing Grade Elevation at surveyed point : 8.98' AMSL
Longitude : W 122° 7' 23.35"

Pole/Appurtenance Elevations (given relative to Grade Level Elevation):
Top of the Pole : 43.09' AGL

Location of Existing O/H wires, other cables & misc Appurtenances attached to pole :

- 42.79' AGL	- 21.18' AGL
- 36.44' AGL	- 22.86' AGL
- 29.72' AGL	- 21.11' AGL
- 24.61' AGL	

Certification:
I the undersigned, being a registered Professional Land Surveyor licensed under the laws of the State of California do hereby certify the latitude and longitude coordinates and elevations above mean sea level (AMSL) listed above are based on a field survey done under my supervision, and that the accuracy of those coordinates meet or exceed 1-A Standards (Horizontal Accuracy ±15 feet and Vertical Accuracy ±3 feet) and that the measured heights above ground level (AGL) are within ±one (1) foot vertically as defined in the F.A.A. ASAC Information Sheet 91-003, and that data are true and accurate to the best of my knowledge.

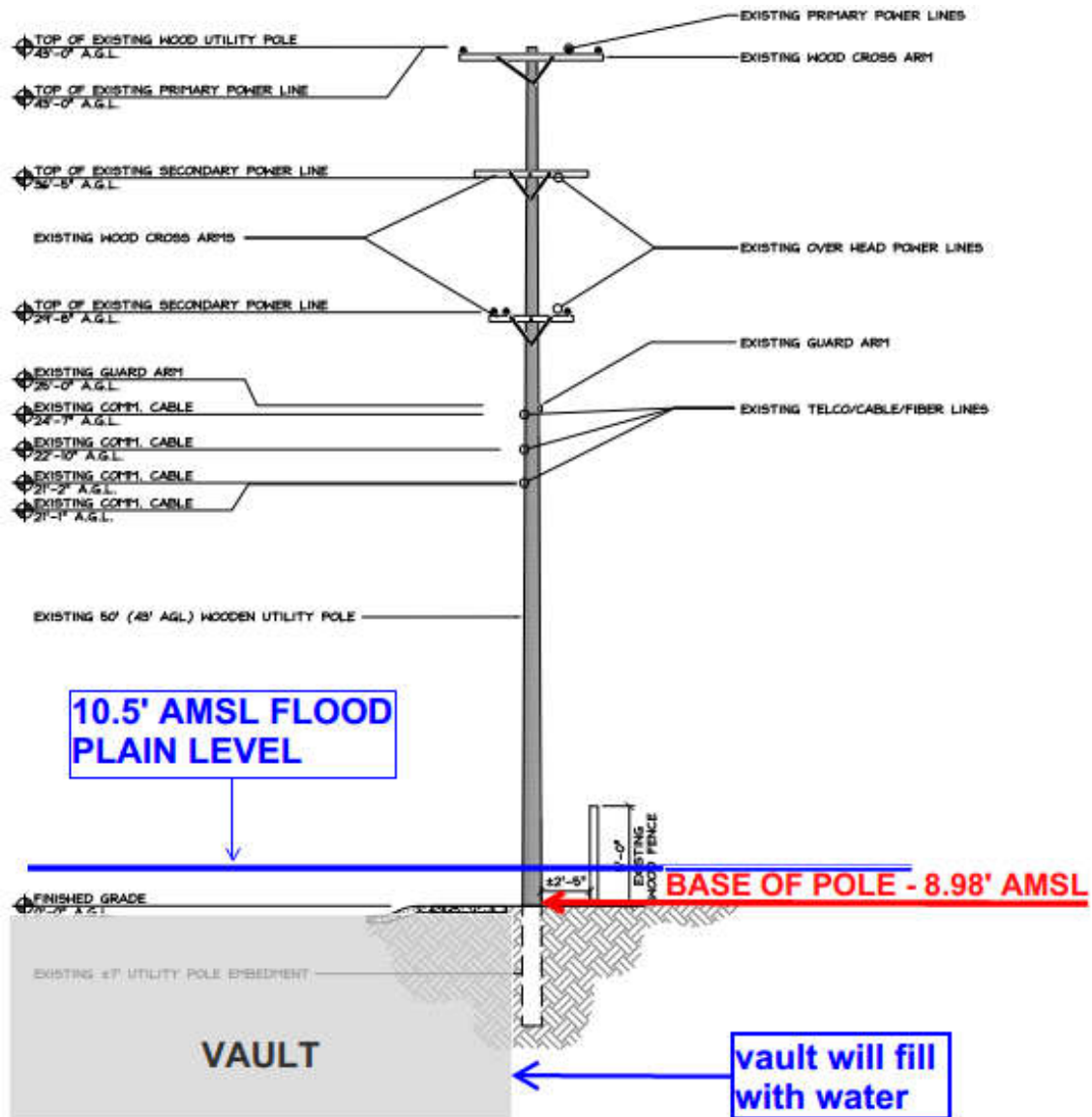


Bruce T. Cramton, PLS #9039 1/11/2017

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<http://www.allstatesengineering.com>

Vault Infeasibility within Flood Zone

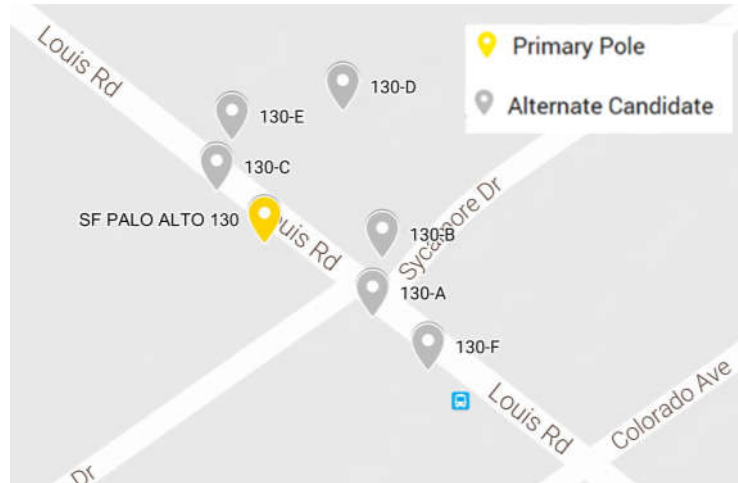
The AMSL at the base of the pole is 8.98'. The Flood Zone designation of AE 10.5 signifies a FEMA Flood Zone level of 10.5 AMSL. A visual example related to this proposed small cell is below, to demonstrate that in the event of flooding, the underground vault would fill completely with water:



Analysis of Vault Feasibility - Alternate Utility Poles

SF PALO ALTO 130 Alternative Site Analysis

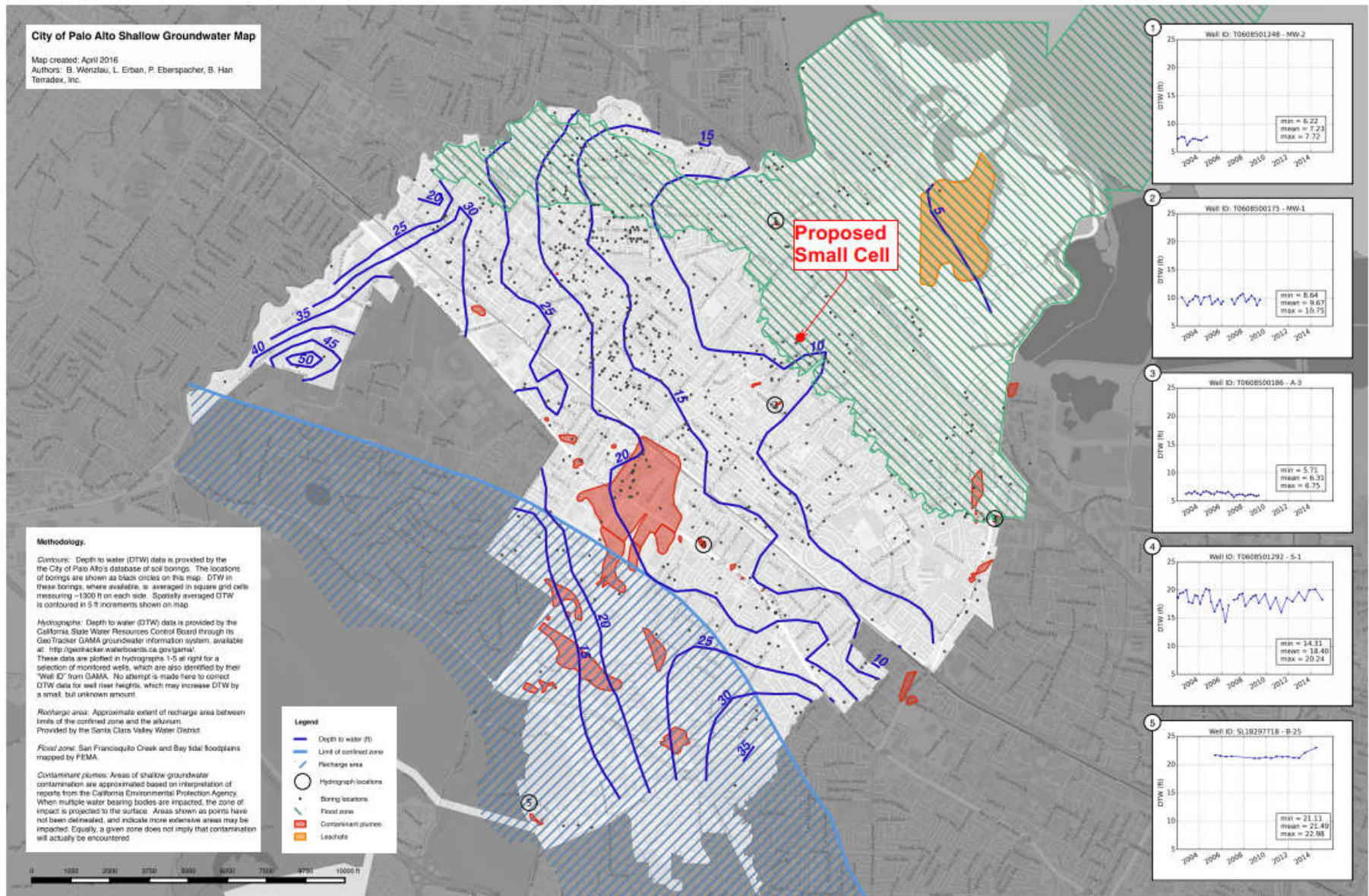
In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 130, only one pole location was determined as viable to meet the engineering objectives for this node, so there are no alternates for review. The original map and ASA of alternates reviewed is included below:



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
130-A	Wood Utility Pole	2462	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted. Additionally, high visibility corners are not preferred per the planning siting guidelines.
130-B	Metal Street Light	281	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
130-C	Wood Utility Pole	2460	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Line and buck situation on pole - wireless equipment not permitted.
130-D	Wood Utility Pole	4016	Not Viable	Planning	Poles located on private property (residential easement) are only selected as a last resort, given potential disturbance to adjacent resident.
130-E	Wood Utility Pole	2430	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. High voltage lines located on pole.
130-F	Wood Utility Pole	2463	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Line and buck situation on pole - wireless equipment not permitted.

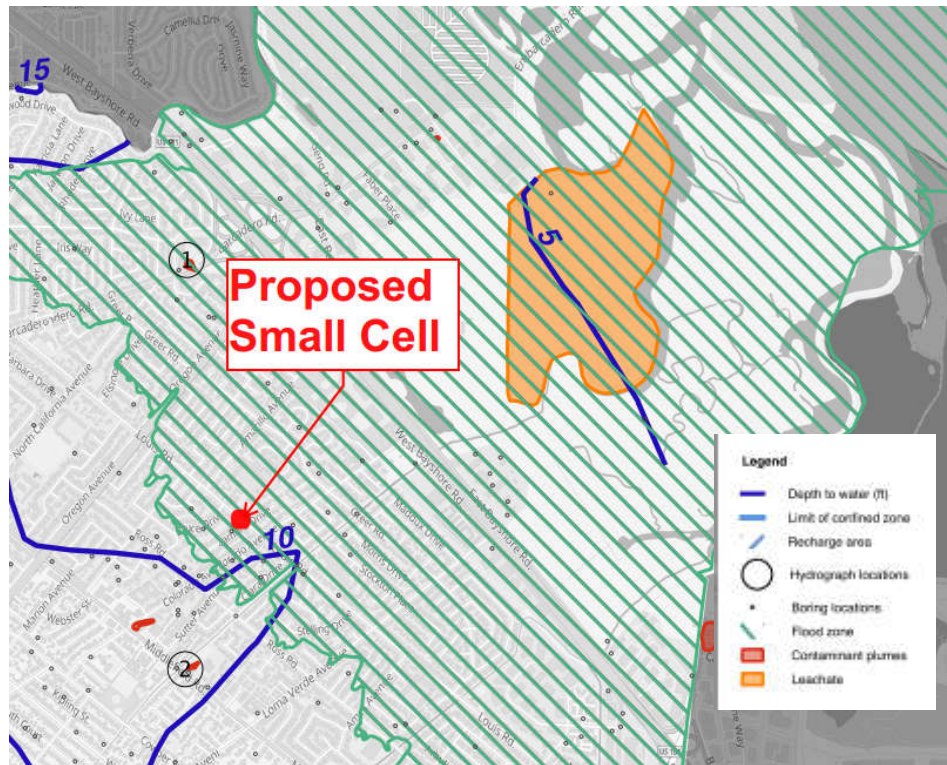
Palo Alto Shallow Groundwater Map

The Palo Alto Shallow Groundwater Map demonstrates, by marking with green stripes, the Flood Zone for San Francisquito Creek and Bay tidal floodplains mapped by FEMA. Both the primary pole and its alternate lie within the Flood Zone.



Palo Alto Shallow Zoom of Palo Alto Shallow Groundwater Map:

The proposed primary pole lies within the Flood Zone, designated by the green lines.



Conclusion: Underground Vault Infeasible

As described above, Verizon Wireless is unable to locate equipment in underground vaults in a Flood Zone. The proposed pole and its associated alternate pole for attachment are both located within the Flood Zone, as identified by FEMA. A vault cannot be located within a Flood Zone as Verizon Wireless' radio equipment will not operate under water. The proposed vault is not sealed and thus not completely waterproof; there is absolutely no means of "flood proofing" a vault to house radio equipment. The vault comes equipped with sump pumps in the event of minor water intrusion. In the event of a flood where the water levels have been documented to rise above ground level, there is no mechanical ability to disperse water out of the vault. This would result in the radios inside the vault to be fully submerged in water and unable to operate.

Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a "box" style shroud. Pole mounted equipment begins at 9'-0" on the pole, located well above the Flood Zone.

City of Palo Alto Requirements for Utilities within Flood Zone

The City of Palo Alto website contains helpful information regarding placement utilities in Flood Zones: "Other provisions require openings in areas below flood level to allow water to enter and exit, flood proofing of utilities below the flood level, etc." Source: City of Palo Alto Website – Q&A About Flood Zones: <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=176>. Additionally, comment #A2 from the City of Palo Alto Department of Public Works received in Jan. 2018 matches the same criteria, that all proposed equipment in an underground vault shall be flood proofed. As previously mentioned, there is no way to flood proof underground vaults for radio equipment.



Development Review - Department Comments

City Department: Public Works Engineering
Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org
Date: 1/11/2018
Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
4. EASEMENT: All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

SF Palo Alto 131 **891 Elbridge Way**

Executive Summary– Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 131 is located in the Public Right of Way, adjacent to 891 Elbridge Way. The proposed small cell is located within the Flood Zone, as identified by FEMA, and underground vaulting of equipment is infeasible. There is one viable alternate pole for this proposed node, also located the Flood Zone. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4: Parcel Report – Primary Pole
Page 5: Surveyor Report – Primary Pole
Page 6: Vault Feasibility in Flood Zone – Primary Pole
Page 7: Summary of Alternate Poles
Page 8: Parcel Report – Alternate Pole
Page 9: Palo Alto Groundwater Map (Flood Zone Designation)
Page 10: Zoom View – Pole Locations on Flood Zone Map
Page 11: City of Palo Alto Requirements for Flood Zones

Vaulting Feasibility Report

Site Name: SF PALO ALTO 131

Site Pole Located: Public Right of Way, Adjacent to 891 Elbridge Way

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

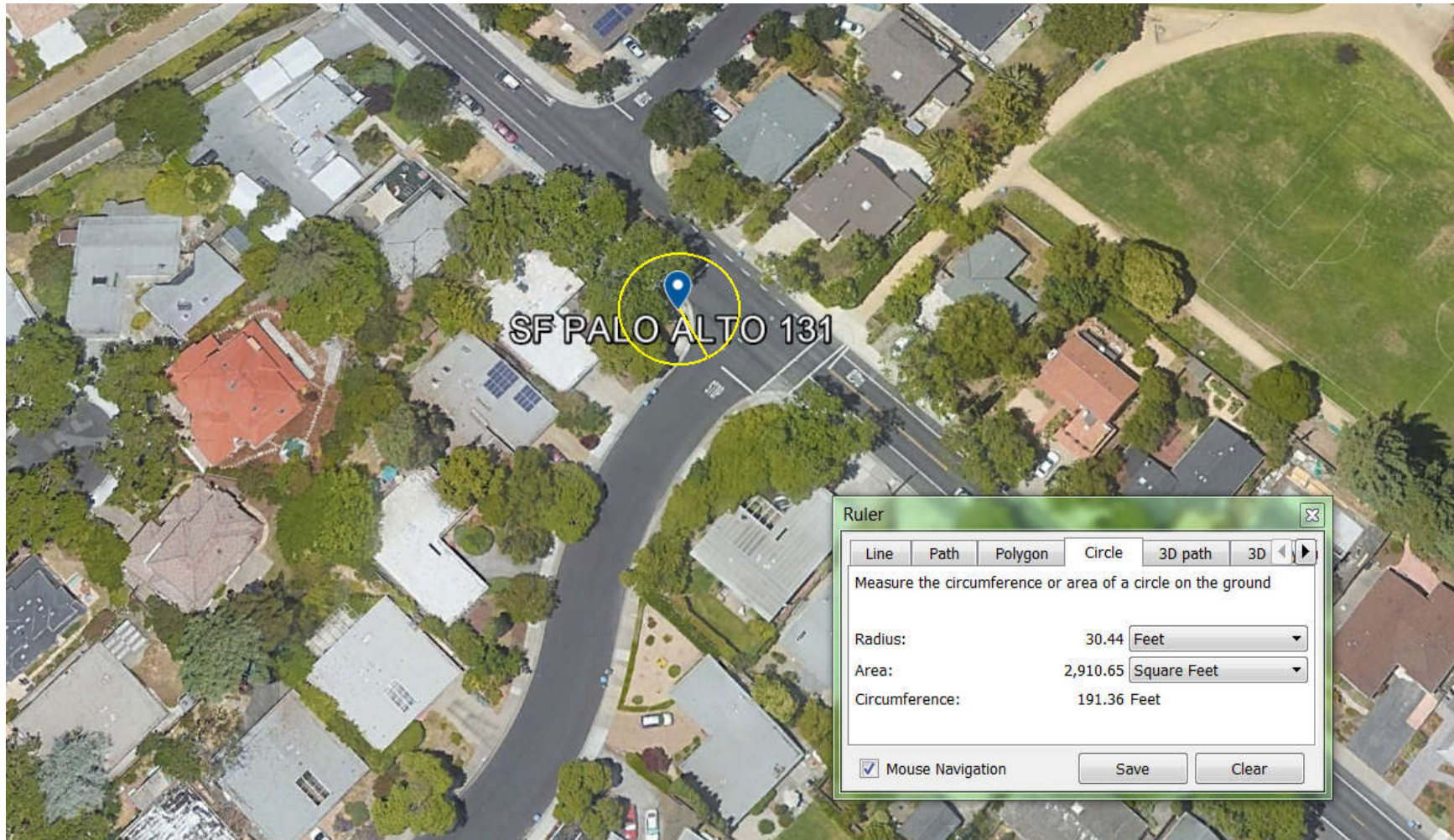
Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

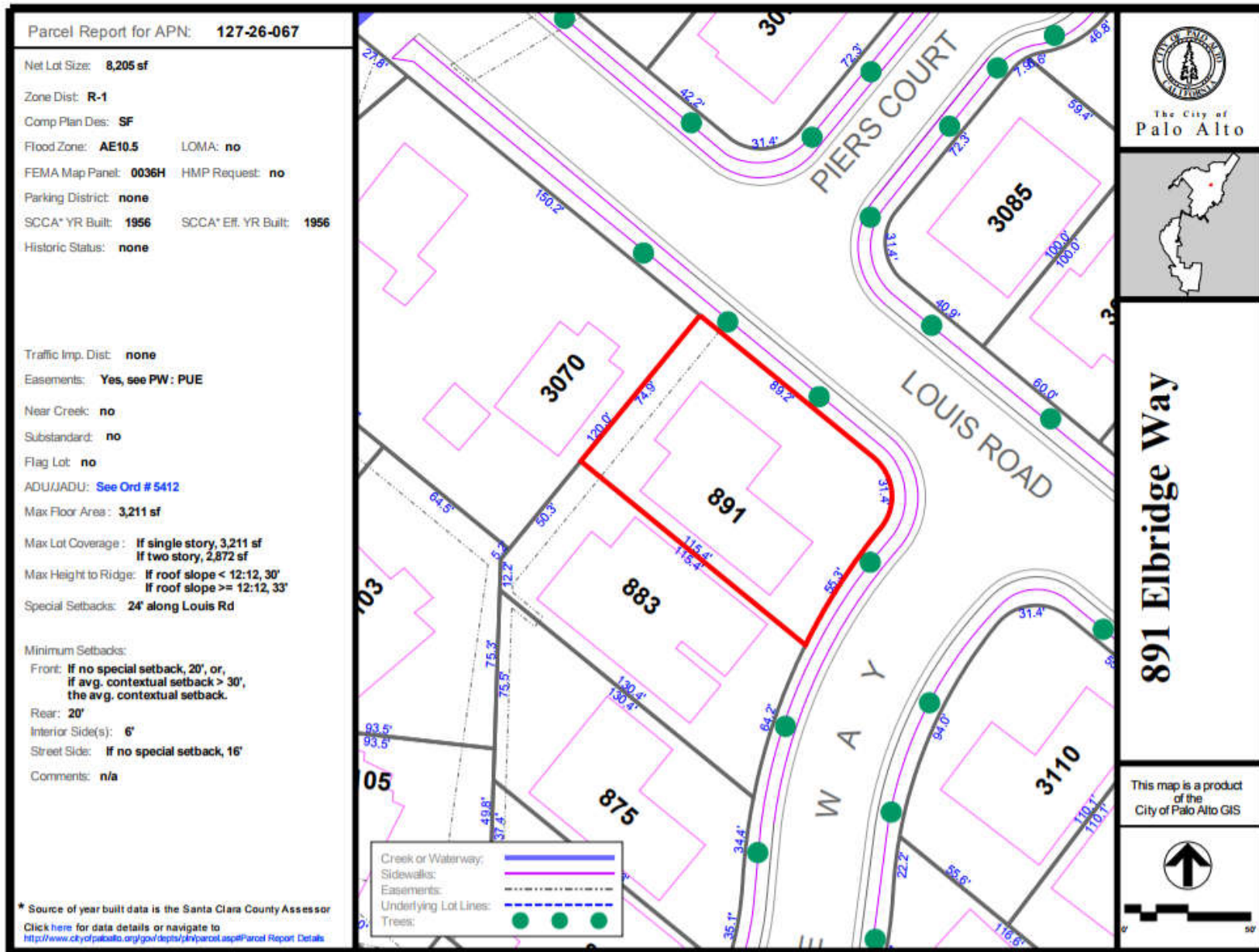
Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter


30-Foot Vault Search Area along Elbridge Way:



The Flood Zone designation of AE 10.5 is listed on the Palo Alto Parcel Report for the primary pole, adjacent APN, 127-26-067:



The elevation in AMSL (above mean sea level) of the base of the pole has been certified to be 8.48' AMSL by a State of California Professional Land Surveyor in a 1-A Accuracy Certification. This can be found on page T-2 of the plan sets. The AMSL at the pole base can also be found on page T-1 of the plan set under "Site Information".



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ENGINEERING & SURVEYING
A ZALZALI & ASSOCIATES COMPANY

23675 Blitcher Dr.
Lake Forest, CA 92630
Office: (949) 273-0996
Fax: (949) 808-7222

1-A ACCURACY CERTIFICATION

Pole Number : 3315 Date of Survey: 1/7/2017

Applicant : Verizon Wireless - 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598
 Project Name : SF PALO ALTO 131
 Adjacent Address : 891 ELBRIDGE WY, PALO ALTO, 94303-3951
 Adjacent APN / County: 12726067

Survey Equipment / Procedure: Leica TS15 Imaging Total Station and Leica VIVA NetRover Survey data obtained/determined by G.P.S. observations.

Project Description : Install 'Small Cell' equipment and antenna on existing joint wooden utility pole for Verizon Wireless network connectivity.

Surveyed Point : Geodetic points are taken at grade at the center of proposed antenna array.

All Geodetic Coordinates are based on NAD 83 and all Elevations are based on NAVD 88.

California State Plane Coordinate Zone: ZONE 3

Geographic Coordinates (NAD 83):	Elevation (NAVD 88):
Latitude : N 37° 26' 06.22"	Existing Grade Elevation at surveyed point : 8.48' AMSL
Longitude : W 122° 7' 10.83"	(37.435061, -122.119675)

Pole/Appurtenance Elevations (given relative to Grade Level Elevation):


Top of the Pole : 43.80' AGL Transformer : 38.86' AGL

Location of Existing O/H wires, other cables & misc Appurtenances attached to pole :

- 42.77' AGL - 23.24' AGL
- 35.33' AGL
- 25.79' AGL
- 23.81' AGL

Certification:

I the undersigned, being a registered Professional Land Surveyor licensed under the laws of the State of California do hereby certify the latitude and longitude coordinates and elevations above mean sea level (AMSL) listed above are based on a field survey done under my supervision, and that the accuracy of those coordinates meet or exceed 1-A Standards (Horizontal Accuracy ± 15 feet and Vertical Accuracy ± 3 feet) and that the measured heights above ground level (AGL) are within \pm one (1) foot vertically as defined in the F.A.A. ASAC Information Sheet 91.003, and that data are true and accurate to the best of my knowledge.



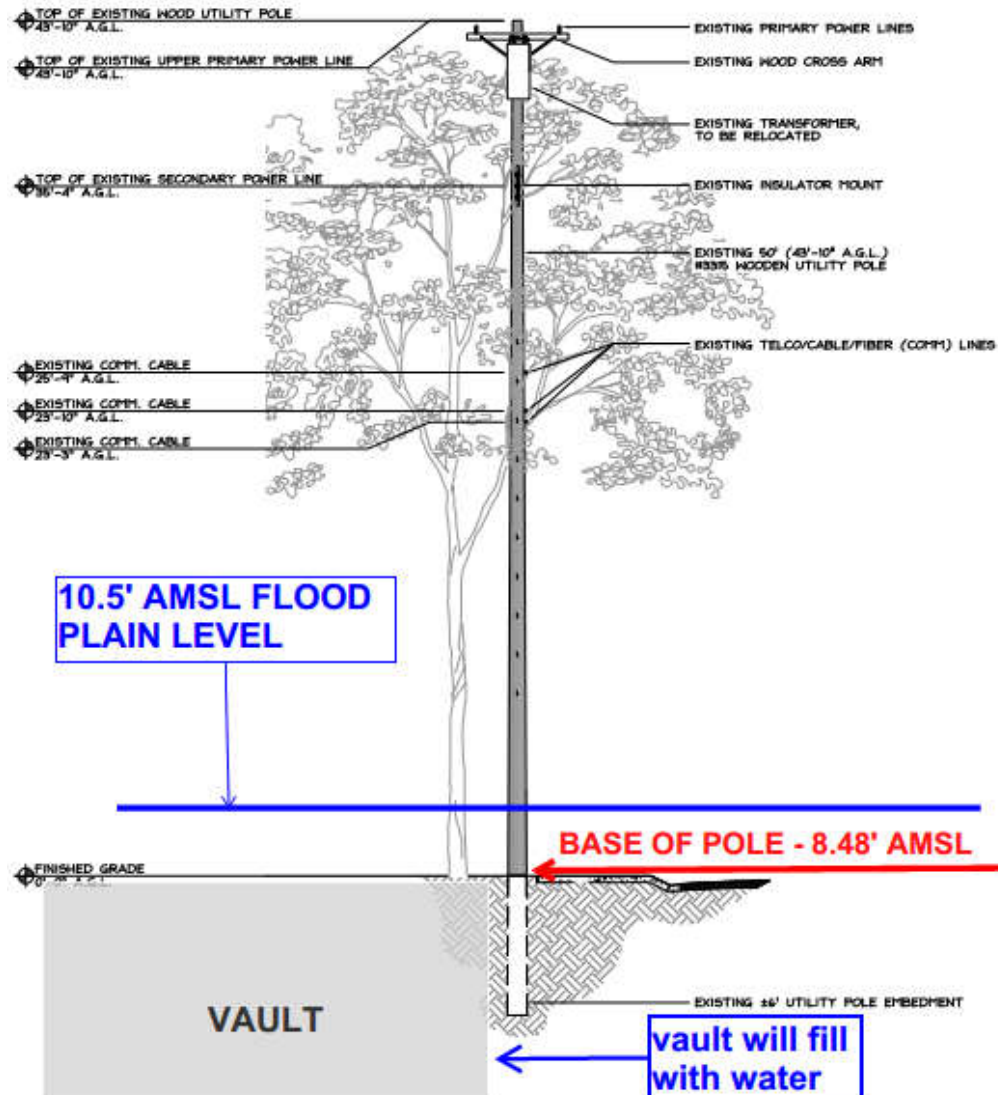


Bruce T. Cramton, PLS #9039 1/11/2017

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<http://www.allstatesengineering.com>

Vault Infeasibility within Flood Zone

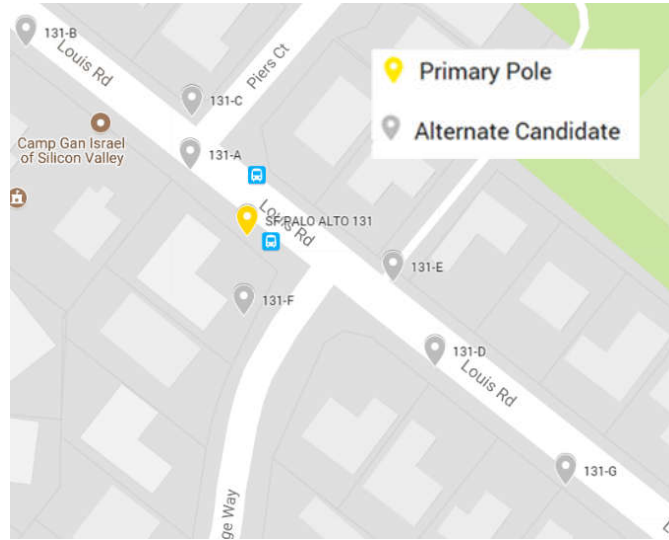
The AMSL at the base of the pole is 8.48'. The Flood Zone designation of AE 10.5 signifies a FEMA Flood Zone level of 10.5 AMSL. A visual example related to this proposed small cell is below, to demonstrate that in the event of flooding, the underground vault would fill completely with water:



Analysis of Vault Feasibility - Alternate Utility Poles

SF PALO ALTO 131 Alternative Site Analysis

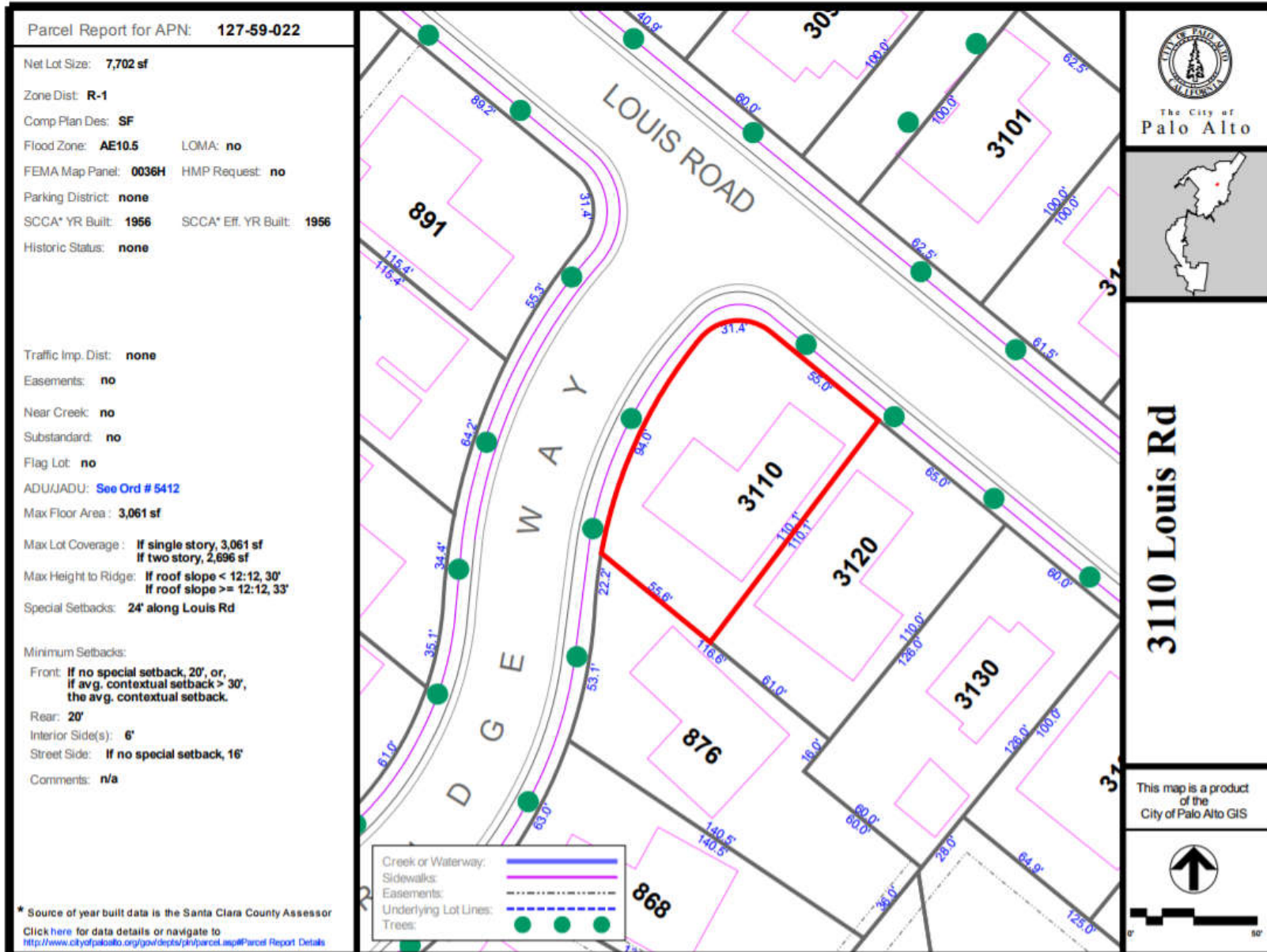
In the Cluster 1 resubmittal dated 12/21/2017, Vinculum included an alternate site analysis for each node. For SF Palo Alto 131, two pole locations were determined as viable to meet the engineering objectives for this node. Candidate 131-D was initially determined to be a viable alternate. As requested by the City of Palo Alto, we will also review its viability for vaulting. The original map and ASA of alternates reviewed is included below:



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
131-A	Wood Utility Pole	3316	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary power riser located on pole.
131-B	Wood Utility Pole	3317	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary power riser located on pole.
131-C	Metal Street Light	N/A	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole and does not provide the same level of service; 2) high visibility corners are not preferred per the planning siting guidelines.
131-D	Wood Utility Pole	3314	Viable	Viable Alternate	Pole is viable alternate, but was not selected as primary as it is more visible from all directions than the corner location selected. It is first alternate candidate.
131-E	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
131-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
131-G	Wood Utility Pole	3313	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Line and buck situation on pole - wireless equipment not permitted.

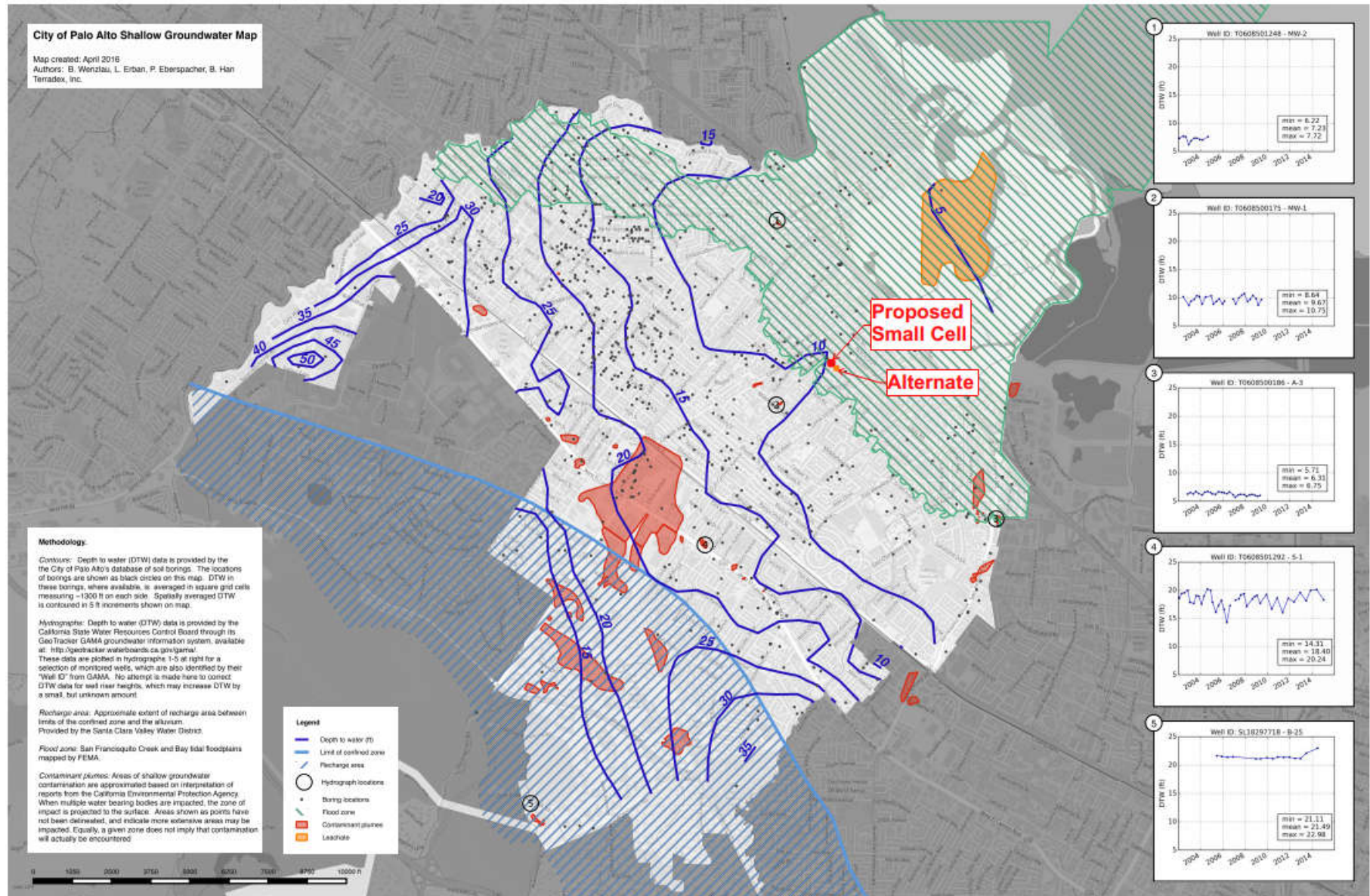
Parcel Map – 127-59-022

The Flood Zone designation of AE 10.5 is listed on the Palo Alto Parcel Report for the only alternate pole SF PALO ALTO 134-D, adjacent to 3110 Louis Rd:



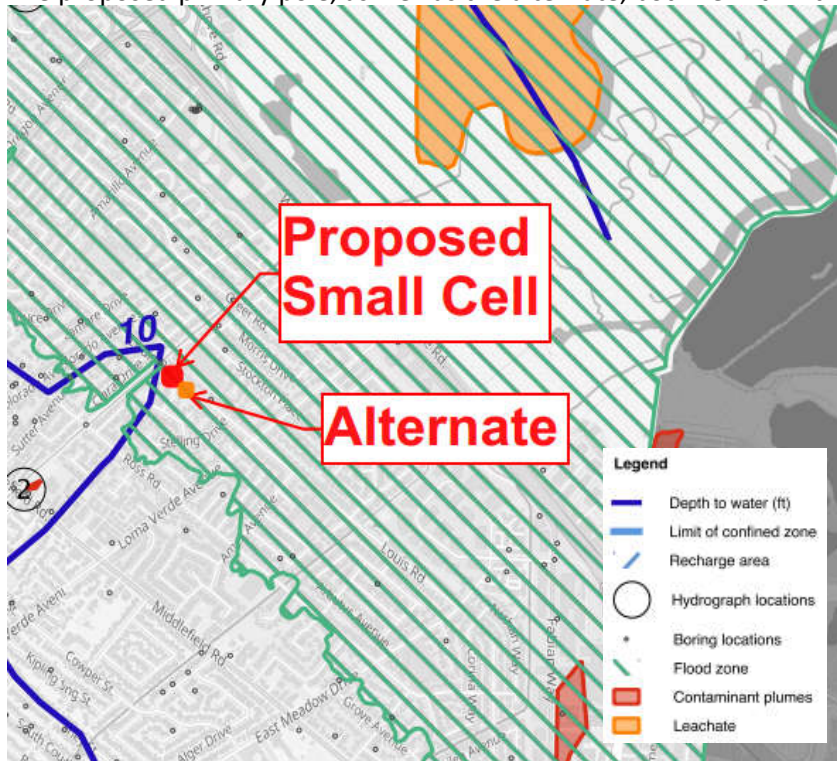
Palo Alto Shallow Groundwater Map

The Palo Alto Shallow Groundwater Map demonstrates, by marking with green stripes, the Flood Zone for San Francisquito Creek and Bay tidal floodplains mapped by FEMA. Both the primary pole and its alternate lie within the Flood Zone.



Zoom of Palo Alto Shallow Groundwater Map:

The proposed primary pole, as well as the alternate, both lie within the Flood Zone, designated by the green lines.



Conclusion: Underground Vault Infeasible

As described above, Verizon Wireless is unable to locate equipment in underground vaults in a Flood Zone. The proposed pole and its associated alternate pole for attachment are both located within the Flood Zone, as identified by FEMA. A vault cannot be located within a Flood Zone as Verizon Wireless' radio equipment will not operate under water. The proposed vault is not sealed and thus not completely waterproof; there is absolutely no means of "flood proofing" a vault to house radio equipment. The vault comes equipped with sump pumps in the event of minor water intrusion. In the event of a flood where the water levels have been documented to rise above ground level, there is no mechanical ability to disperse water out of the vault. This would result in the radios inside the vault to be fully submerged in water and unable to operate.

Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a "box" style shroud. Pole mounted equipment begins at 9'-0" on the pole, located well above the Flood Zone.

City of Palo Alto Requirements for Utilities within Flood Zone

The City of Palo Alto website contains helpful information regarding placement utilities in Flood Zones: "Other provisions require openings in areas below flood level to allow water to enter and exit, flood proofing of utilities below the flood level, etc." Source: City of Palo Alto Website – Q&A About Flood Zones: <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=176>. Additionally, comment #A2 from the City of Palo Alto Department of Public Works received in Jan. 2018 matches the same criteria, that all proposed equipment in an underground vault shall be flood proofed. As previously mentioned, there is no way to flood proof underground vaults for radio equipment.



Development Review - Department Comments

City Department: Public Works Engineering
Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org
Date: 1/11/2018
Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

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The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
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5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

SF Palo Alto 133 **925 Loma Verde Ave**

Executive Summary – Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 133 is located in the Public Right of Way, adjacent to 925 Loma Verde. The proposed small cell is located within the Flood Zone, as identified by FEMA, and underground vaulting of equipment is infeasible. There is one viable alternate pole for this proposed node, also located the Flood Zone. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4: Parcel Report – Primary Pole
Page 5: Surveyor Report – Primary Pole
Page 6: Vault Feasibility in Flood Zone – Primary Pole
Page 7: Summary of Alternate Poles
Page 8: Parcel Report – Alternate Pole
Page 9: Palo Alto Groundwater Map (Flood Zone Designation)
Page 10: Zoom View – Pole Locations on Flood Zone Map
Page 11: City of Palo Alto Requirements for Flood Zones

Vaulting Feasibility Report

Site Name: SF PALO ALTO 133

Site Pole Located: Public Right of Way, Adjacent to 925 Loma Verde Ave

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

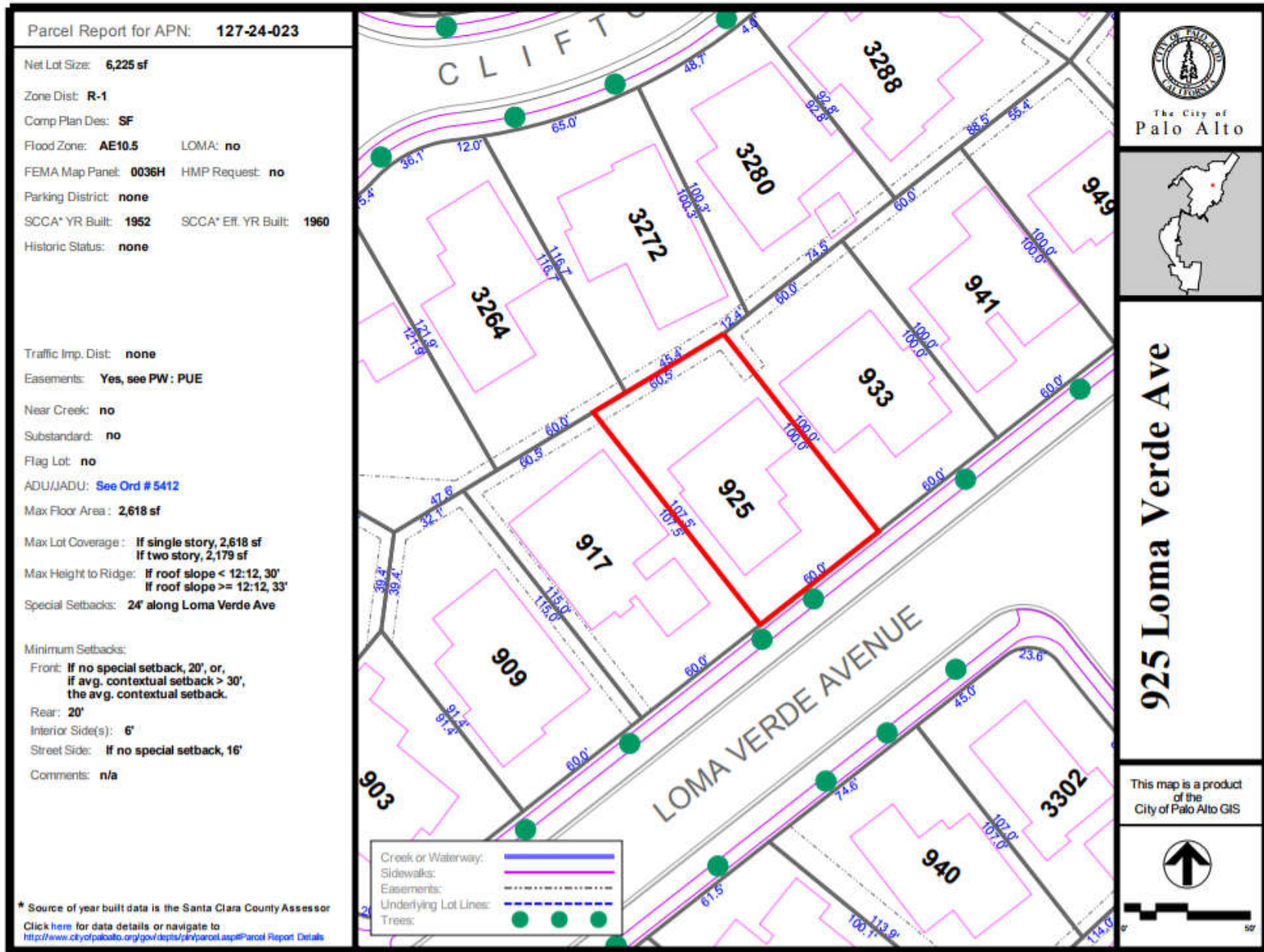
Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter

30-Foot Vault Search Area along Loma Verde Ave:



The Flood Zone designation of AE 10.5 is listed on the Palo Alto Parcel Report for the adjacent APN, 127-24-023:





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1-A ACCURACY CERTIFICATION

Pole Number : 2857 **Date of Survey:** 1/7/2017

Applicant : Verizon Wireless - 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598
Project Name : SF PALO ALTO 133
Adjacent Address : 925 LOMA VERDE AV, PALO ALTO, 94303
Adjacent APN / County: 12724023

Survey Equipment / Procedure: Leica TS15 Imaging Total Station and Leica VIVA NetRover Survey data obtained/determined by G.P.S. observations.

Project Description : Install 'Small Cell' equipment and antenna on existing joint wooden utility pole for Verizon Wireless network connectivity.

Surveyed Point : Geodetic points are taken at grade at the center of proposed antenna array.

All Geodetic Coordinates are based on NAD 83 and all Elevations are based on NAVD 88.

California State Plane Coordinate Zone: **ZONE 3**

Geographic Coordinates (NAD 83):

Latitude : N 37° 26 ' 01.20"

Longitude : W 122° 6 ' 56.72"

Pole/Appurtenance Elevations (c

Elevation (NAVD 88):

Existing Grade Elevation at surveyed point : 7.00' AMSL

(37.433667,-122.115756)

Pole/Appurtenance Elevations (given relative to Grade Level Elevation):

Top of the Pole : 44.16' AGL

Location of Existing O/H wires, other cables & misc Apparentes attached to pole :

- 43.26' AGL	-	26.36' AGL
- 40.53' AGL	-	25.47' AGL
- 29.76' AGL	-	24.23' AGL
- 28.75' AGL	-	22.83' AGL

Certification:

I the undersigned, being a registered Professional Land Surveyor licensed under the laws of the State of California do hereby certify the latitude and longitude coordinates and elevations above mean sea level (AMSL) listed above are based on a field survey done under my supervision, and that the accuracy of those coordinates meet or exceed 1-A Standards (Horizontal Accuracy ± 15 feet and Vertical Accuracy ± 3 feet) and that the measured heights above ground level (AGL) are within ± 0.1 foot vertically as defined in the F.A.A. ASAC Information Sheet 91.003, and that data are true and accurate to the best of my knowledge.

Bruce Grant



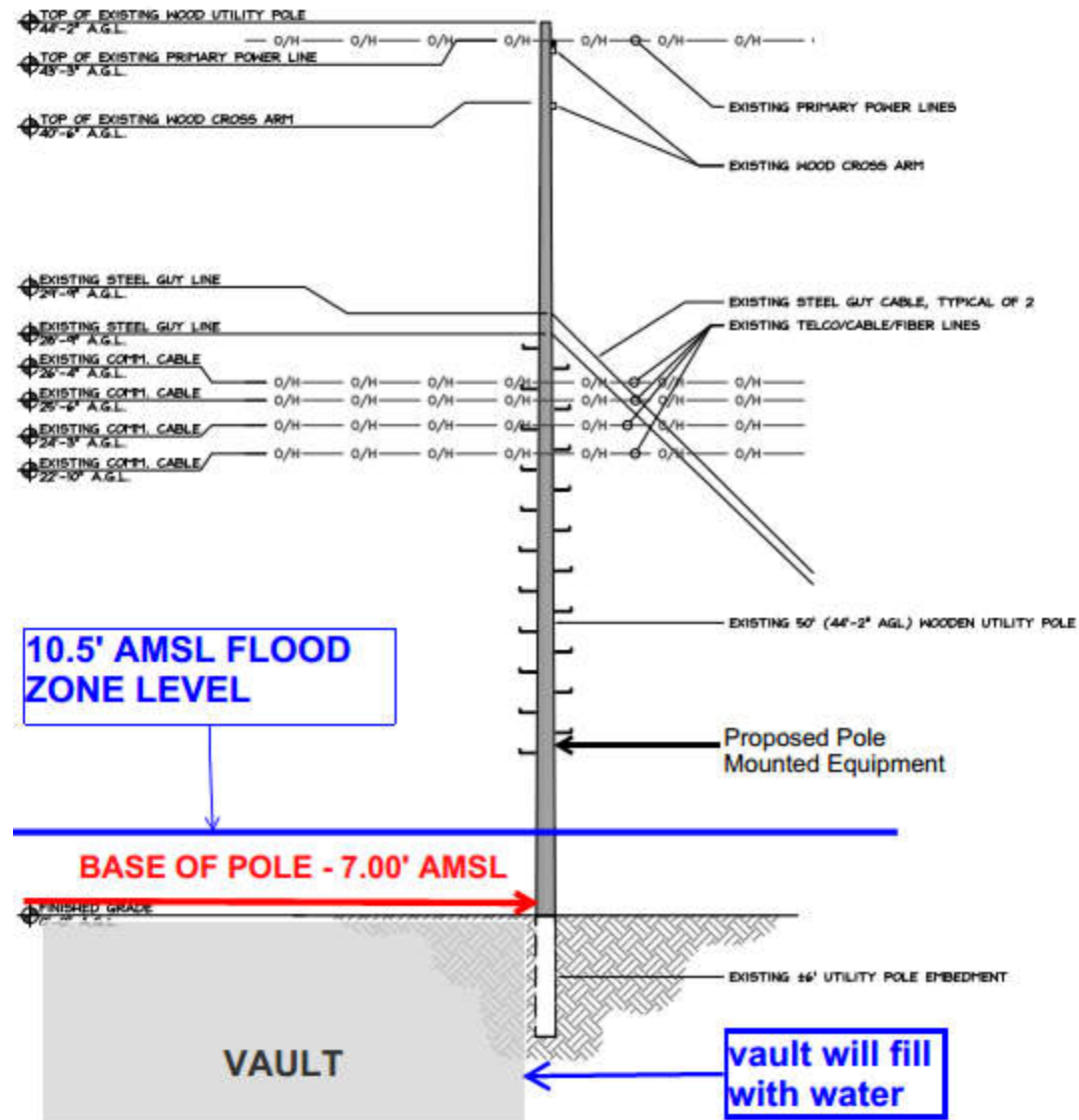
Bruce T. Cramton, PLS #9039

1/11/2017

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<http://www.allstatesengineering.com>

Vault Infeasibility within Flood Zone

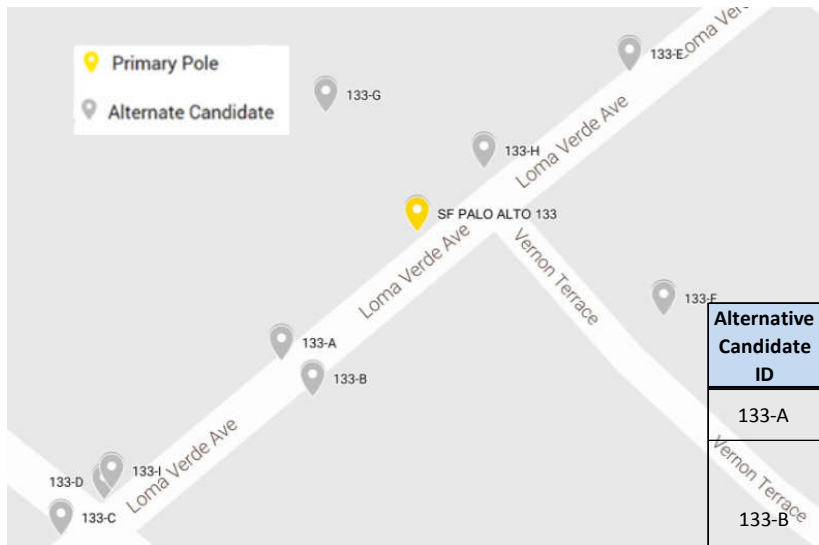
The AMSL at the base of the pole is 7.0'. The Flood Zone designation of AE 10.5 signifies a FEMA Flood Zone level of 10.5 AMSL. A visual example related to this proposed small cell is below, to demonstrate that in the event of flooding, the underground vault would fill completely with water:



Analysis of Vault Feasibility - Alternate Utility Poles

SF PALO ALTO 133 Alternative Site Analysis

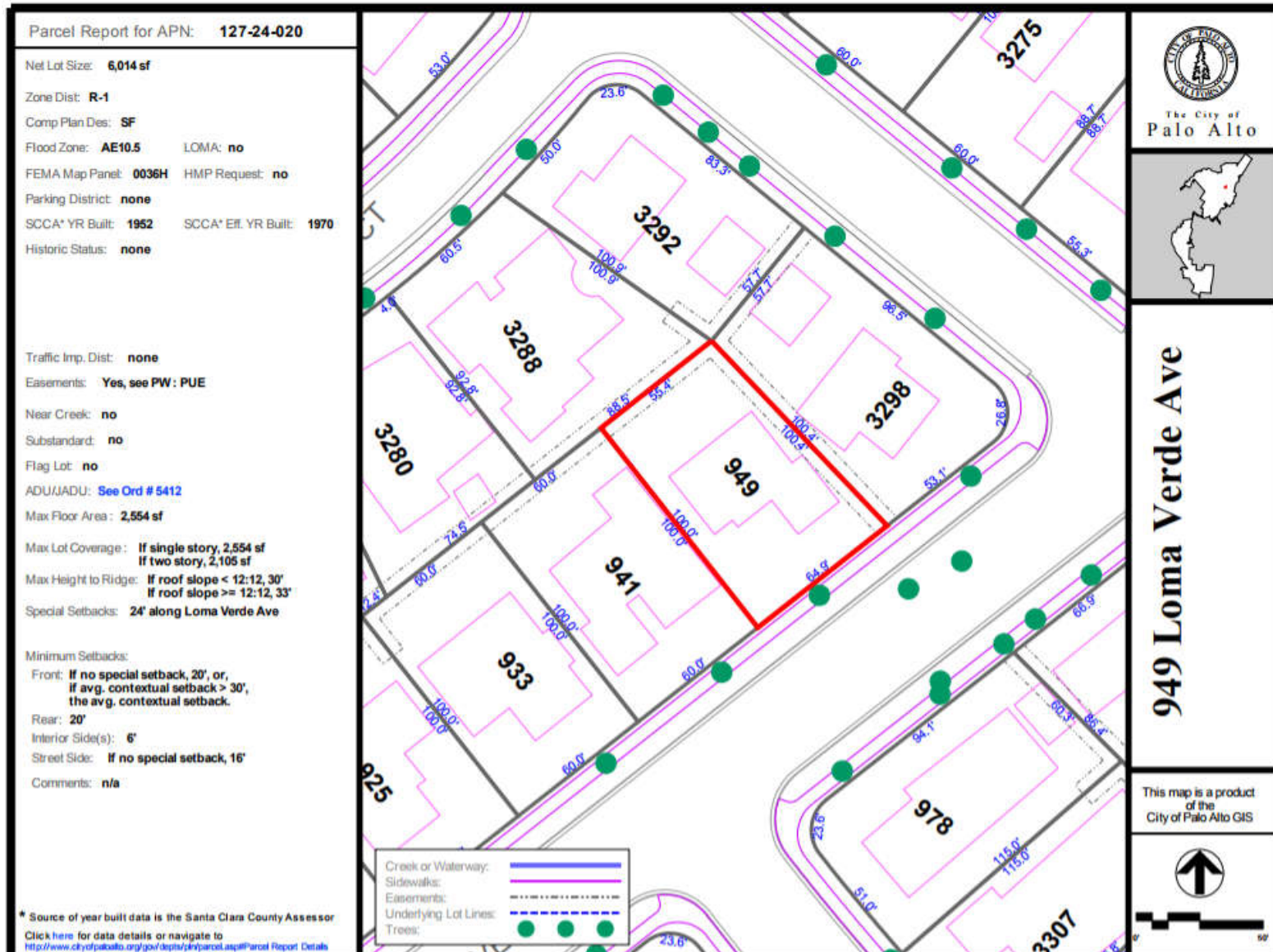
In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 133, two pole locations were determined as viable to meet the engineering objectives for this node. Candidate 134-E was initially determined to be a viable alternate. As requested by the City of Palo Alto, we will also review its viability for vaulting. The original map and ASA of alternates reviewed is included below.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
133-A	Wood Utility Pole	2858	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Line and buck situation on pole - wireless equipment not permitted.
133-B	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, utility engineering constraints would not allow an attachment. CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
133-C	Wood Utility Pole	3304	Not Viable	CPAU Engineering	A power line crossover takes place at this corner and does not allow enough space for attachment. Additionally, high visibility corners are not preferred per the planning siting guidelines
133-D	Wood Utility Pole	2859	Not Viable	CPAU Engineering	A power line crossover takes place at this corner and does not allow enough space for attachment. Additionally, high visibility corners are not preferred per the planning siting guidelines
133-E	Wood Utility Pole	2856	Viable	Viable Alternate	Pole is viable. It is first alternate candidate.
133-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
133-G	Wood Utility Pole	Unknown	Not Viable	Planning	Poles located on private property (residential easement) are only selected as a last resort, given potential disturbance to adjacent resident.
133-H	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
133-I	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.

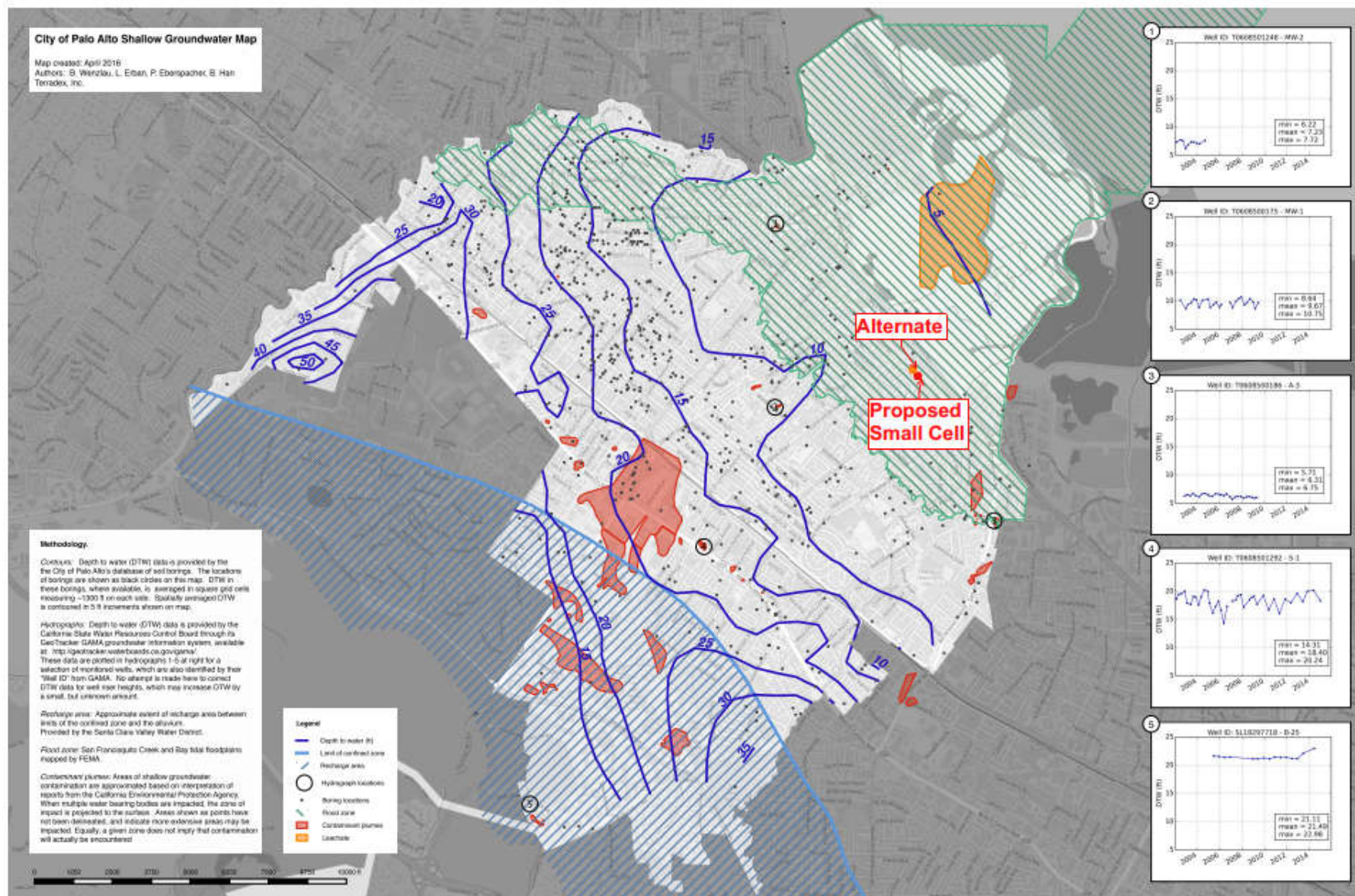
Parcel Map – 127-24-020

The Flood Zone designation of AE 10.5 is listed on the Palo Alto Parcel Report for the only alternate pole SF PALO ALTO 133-E, adjacent to 949 Loma Verde Ave. The alternate pole is located within a Flood Zone.



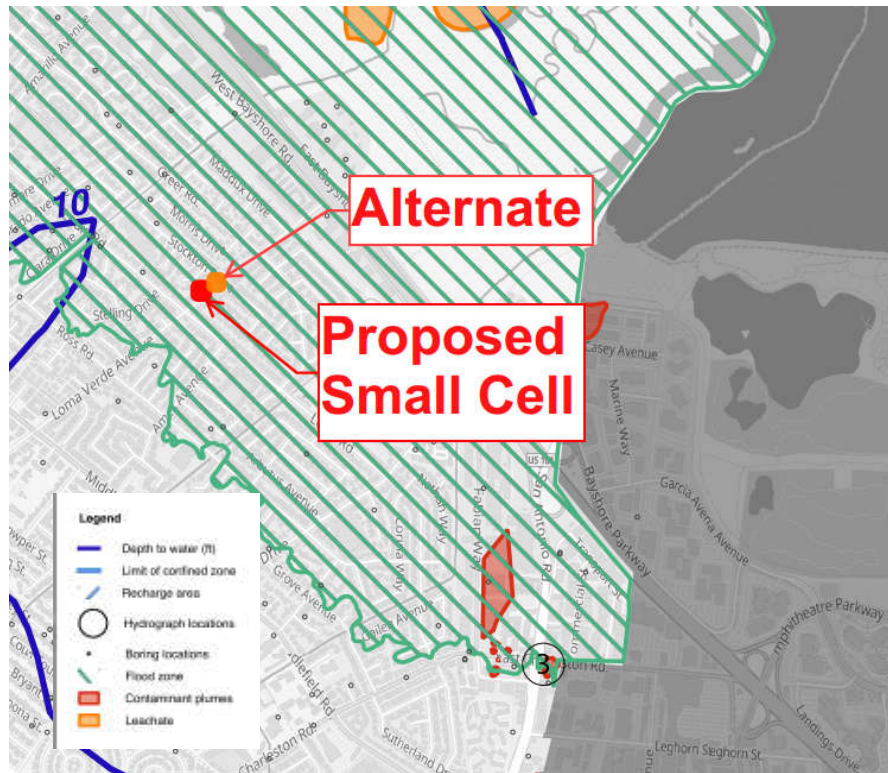
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Zoom of Palo Alto Shallow Groundwater Map:

The proposed primary pole, as well as the alternate, both lie within the Flood Zone, designated by the green lines.



Conclusion: Underground Vault Infeasible

As described above, Verizon Wireless is unable to locate equipment in underground vaults in a Flood Zone. The proposed pole and its associated alternate pole for attachment are both located within the Flood Zone, as identified by FEMA. A vault cannot be located within a Flood Zone as Verizon Wireless' radio equipment will not operate under water. The proposed vault is not sealed and thus not completely waterproof; there is absolutely no means of "flood proofing" a vault to house radio equipment. The vault comes equipped with sump pumps in the event of minor water intrusion. In the event of a flood where the water levels have been documented to rise above ground level, there is no mechanical ability to disperse water out of the vault. This would result in the radios inside the vault to be fully submerged in water and unable to operate.

Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a "box" style shroud. Pole mounted equipment begins at 9'0" on the pole, located well above the Flood Zone.

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Development Review - Department Comments

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Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org
Date: 1/11/2018
Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. **UNDERGROUND VAULT:** Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. **FLOOD ZONE:** All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. **EXCAVATION:** Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
4. **EASEMENT:** All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
5. **DEMOLITION PLAN:** Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

SF Palo Alto 134 **3409 Kenneth Dr**

Executive Summary – Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 134 is located in the Public Right of Way, adjacent to 3409 Kenneth Dr. The proposed small cell is located within the Flood Zone, as identified by FEMA, and underground vaulting of equipment is infeasible. There is one viable alternate pole for this proposed node, also located the Flood Zone. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4: Parcel Report – Primary Pole
Page 5: Surveyor Report – Primary Pole
Page 6: Vault Feasibility in Flood Zone – Primary Pole
Page 7: Summary of Alternate Poles
Page 8: Parcel Report – Alternate Pole
Page 9: Palo Alto Groundwater Map (Flood Zone Designation)
Page 10: Zoom View – Pole Locations on Flood Zone Map
Page 11: City of Palo Alto Requirements for Flood Zones

Vaulting Feasibility Report

Site Name: SF PALO ALTO 134

Site Pole Located: Public Right of Way, Adjacent to 3409 Kenneth Dr

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

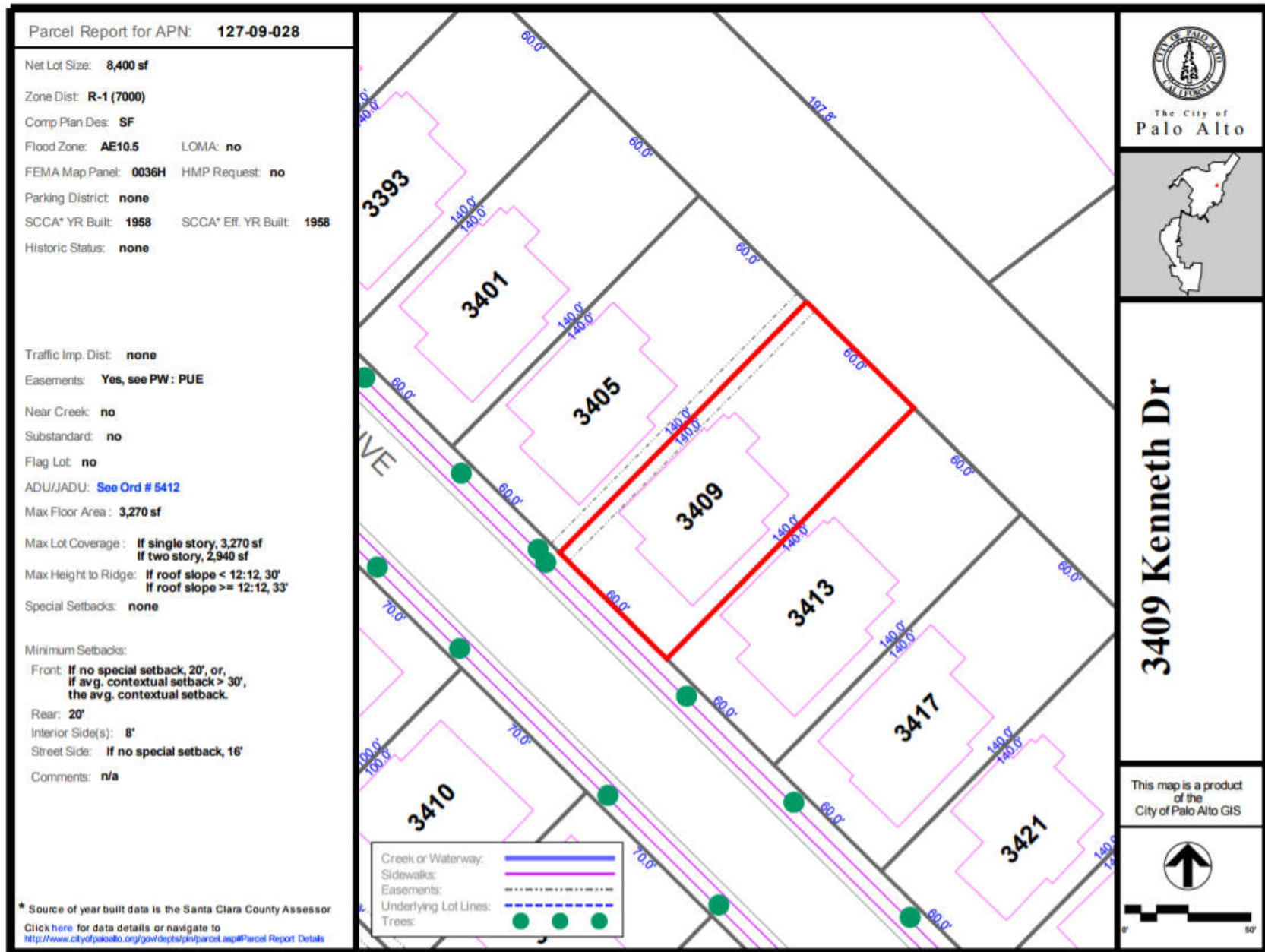
Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter


30-Foot Vault Search Area along Kenneth Dr:



The Flood Zone designation of AE 10.5 is listed on the Palo Alto Parcel Report for the primary pole, adjacent to APN 127-09-028:



The elevation in AMSL (above mean sea level) of the base of the pole has been certified to be 4.75' AMSL by a State of California Professional Land Surveyor in a 1-A Accuracy Certification. This can be found on page T-2 of the plan sets. The AMSL at the pole base can also be found on page T-1 of the plan set under "Site Information".



ALL STATES
ENGINEERING & SURVEYING
A TALZALI & ASSOCIATES COMPANY

23875 Birtcher Dr.
Lake Forest, CA 92630
Office: (949) 273-0996
Fax: (949) 806-7222

1-A ACCURACY CERTIFICATION

Pole Number : 2964 Date of Survey: 1/8/2017

Applicant : Verizon Wireless - 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94596
 Project Name : SF PALO ALTO 134
 Adjacent Address : 3409 KENNETH DR, PALO ALTO, 94303
 Adjacent APN / County: 12709028

Survey Equipment / Procedure: Leica TS15 Imaging Total Station and Leica VIVA NetRover Survey data obtained/determined by G.P.S. observations.

Project Description : Install 'Small Cell' equipment and antenna on existing joint wooden utility pole for Verizon Wireless network connectivity.

Surveyed Point : Geodetic points are taken at grade at the center of proposed antenna array.

All Geodetic Coordinates are based on NAD 83 and all Elevations are based on NAVD 88.

California State Plane Coordinate Zone: ZONE 3


Geographic Coordinates (NAD 83): **Elevation (NAVD 88):**
 Latitude : N 37° 26' 03.18" Existing Grade Elevation at surveyed point : 4.75' AMSL
 Longitude : W 122° 6' 36.63" (37.434217, -122.110175)


Pole/Appurtenance Elevations (given relative to Grade Level Elevation):
 Top of the Pole : 39.09' AGL

Location of Existing O/H wires, other cables & misc Appurtenances attached to pole :

- 38.11' AGL	- 28.64' AGL
- 37.51' AGL	- 21.61' AGL
- 29.96' AGL	- 20.46' AGL
- 29.34' AGL	- 19.67' AGL

Certification:
 I the undersigned, being a registered Professional Land Surveyor licensed under the laws of the State of California do hereby certify the latitude and longitude coordinates and elevations above mean sea level (AMSL) listed above are based on a field survey done under my supervision, and that the accuracy of those coordinates meet or exceed 1-A Standards (Horizontal Accuracy ± 15 feet and Vertical Accuracy ± 3 feet) and that the measured heights above ground level (AGL) are within \pm one (1) foot vertically as defined in the F.A.A. ASAC Information Sheet 91:003, and that data are true and accurate to the best of my knowledge.





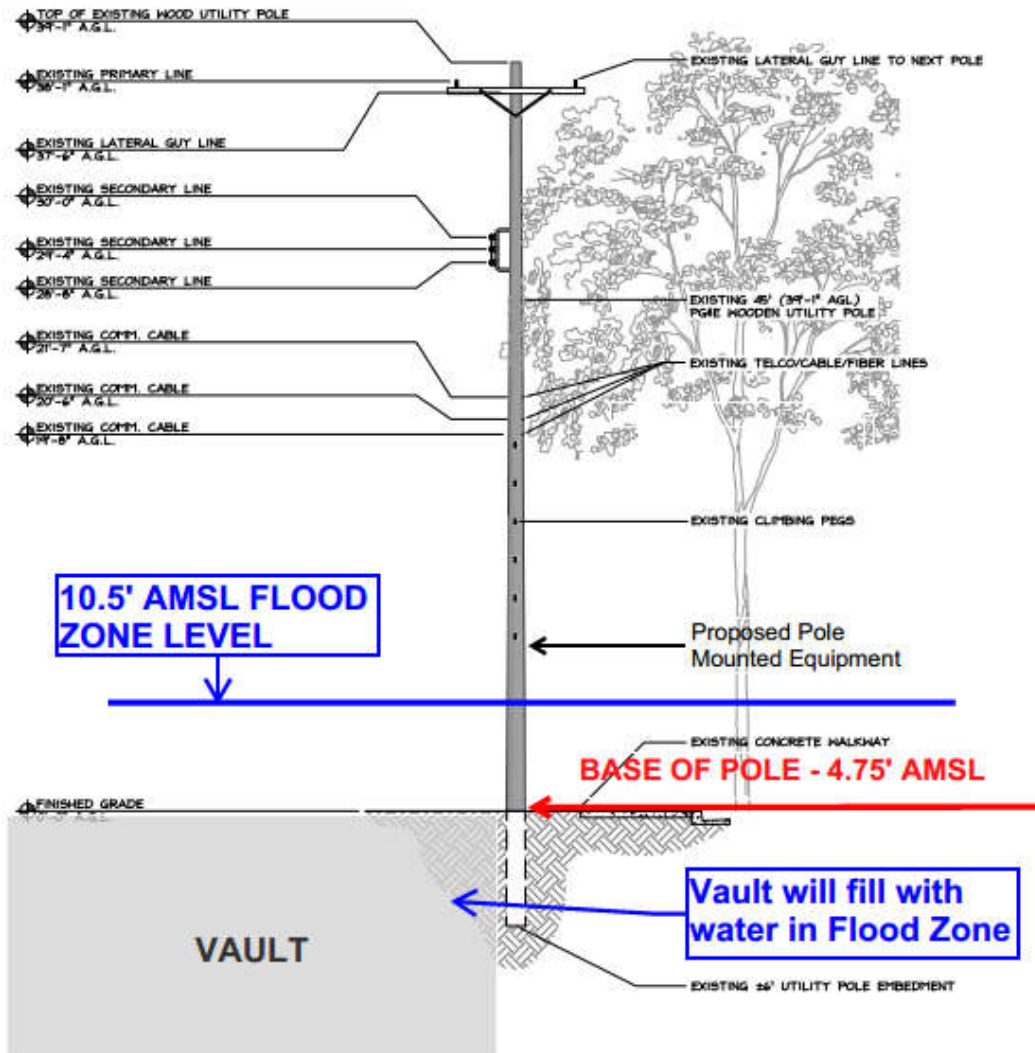
Bruce T. Cramton, PLS #9039

1/11/2017

Professional Engineers & Land Surveyors
 ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, GEOTECHNICAL, SURVEYING
<http://www.allstatesengineering.com>

Vault Infeasibility within Flood Zone

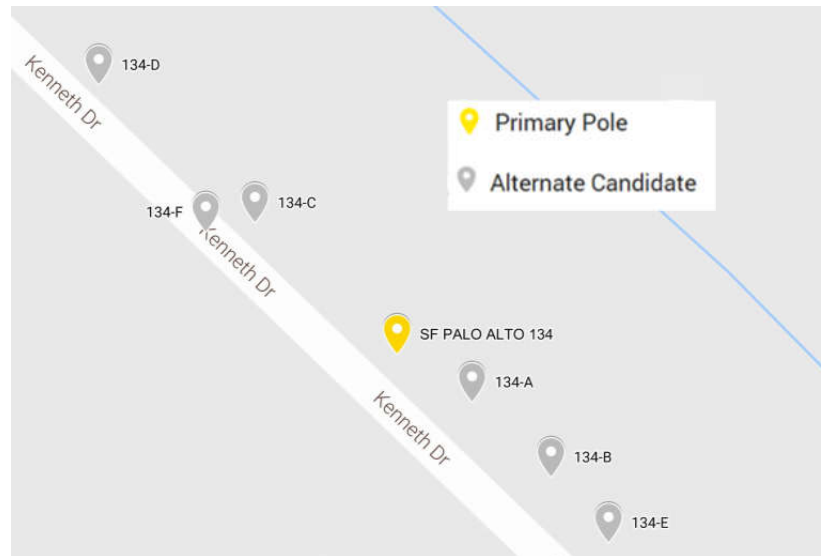
The AMSL at the base of the pole is 4.75'. The Flood Zone designation of AE 10.5 signifies a FEMA Flood Zone level of 10.5 AMSL. A visual example related to this proposed small cell is below, to demonstrate that in the event of flooding, the underground vault would fill completely with water:



Analysis of Vault Feasibility - Alternate Utility Poles

SF PALO ALTO 134 Alternative Site Analysis

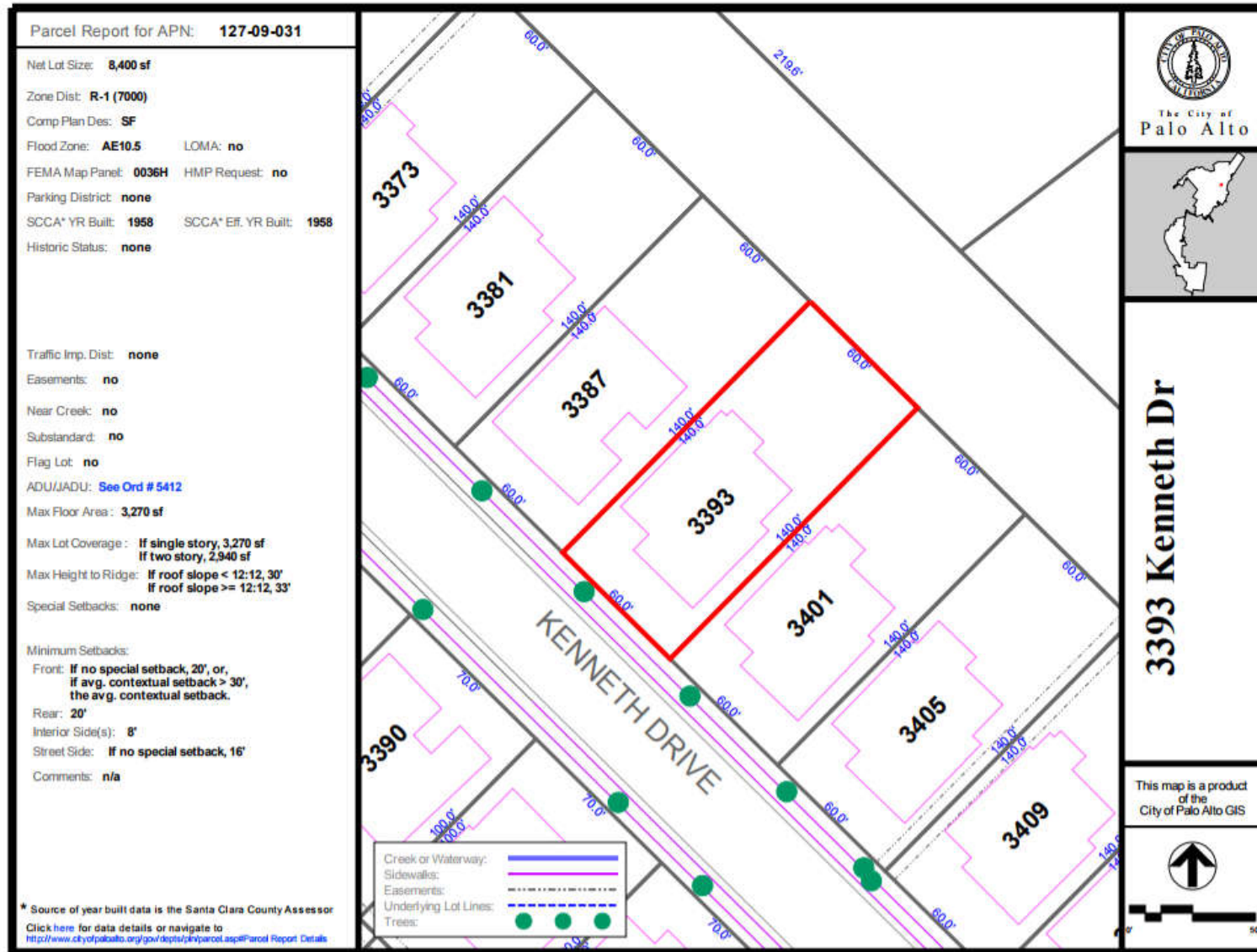
In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 134, two pole locations were determined as viable to meet the engineering objectives for this node. Candidate 134-D was initially determined to be a viable alternate. As requested by the City of Palo Alto, we will also review its viability for vaulting. The original map and ASA of alternates reviewed is included below.



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
134-A	Metal Street Light	345	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, utility engineering constraints would not allow an attachment. CPUC GO95 rules require clearance from secondary power. There is not enough clearance on this pole to allow a VZW attachment.
134-B	Wood Utility Pole	2965	Not Viable	VZW RF Engineering	Pole is too short and so could not meet engineering objective for this area.
134-C	Wood Utility Pole	2963	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer on pole - wireless equipment not permitted.
134-D	Wood Utility Pole	2962	Viable	Viable Alternate	Pole is viable alternate, but was not selected as primary. It is first alternate candidate.
134-E	Wood Utility Pole	2966	Not Viable	VZW RF Engineering	Pole is leaning, too short and surrounded by tree clutter and therefore could not meet the engineering objective for this area.
134-F	Metal Street Light	341	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.

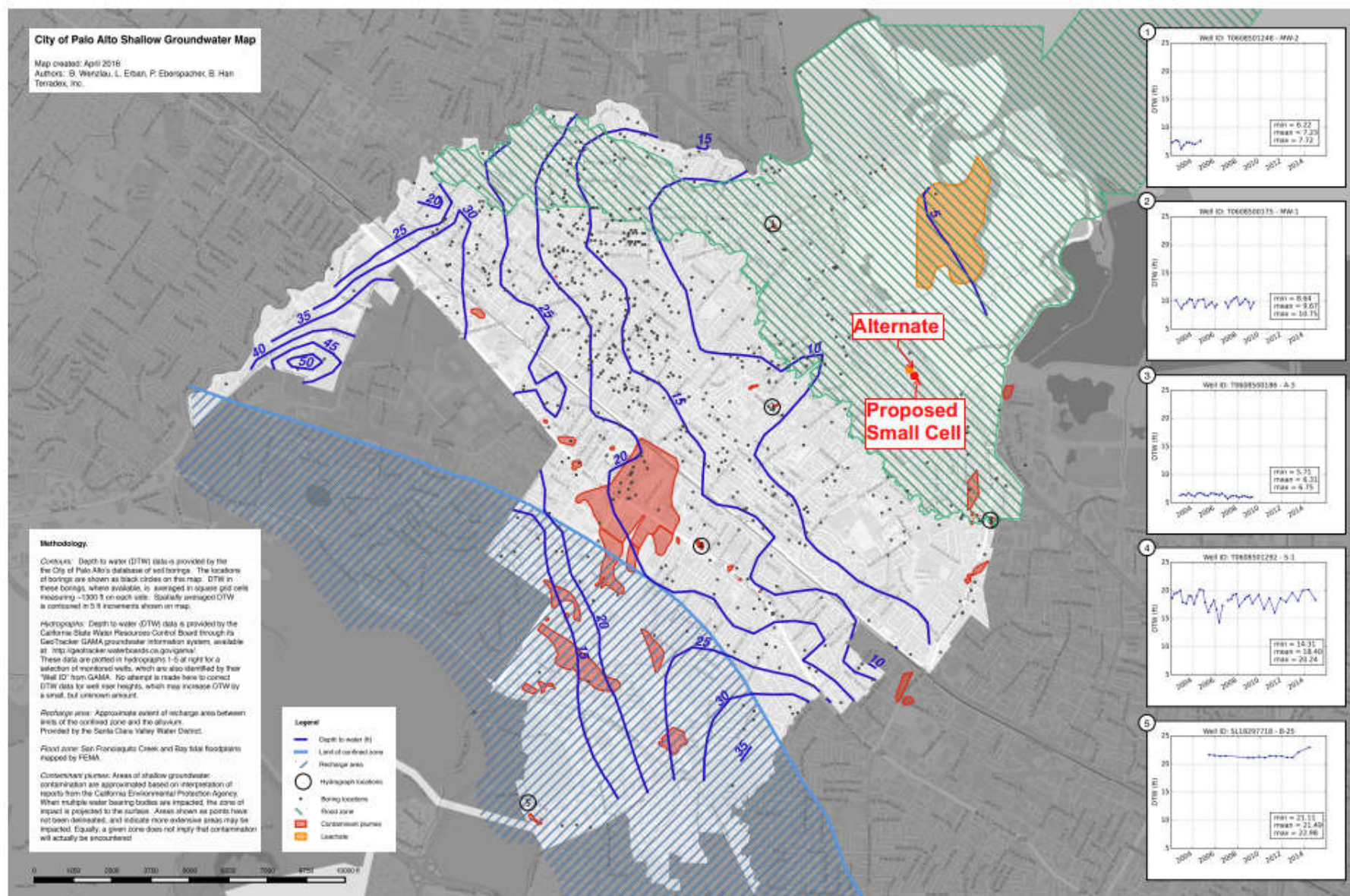
Parcel Map – 127-09-031

The Flood Zone designation of AE 10.5 is listed on the Palo Alto Parcel Report for the only alternate pole SF PALO ALTO 134-D, adjacent to 3393 Kenneth Dr:



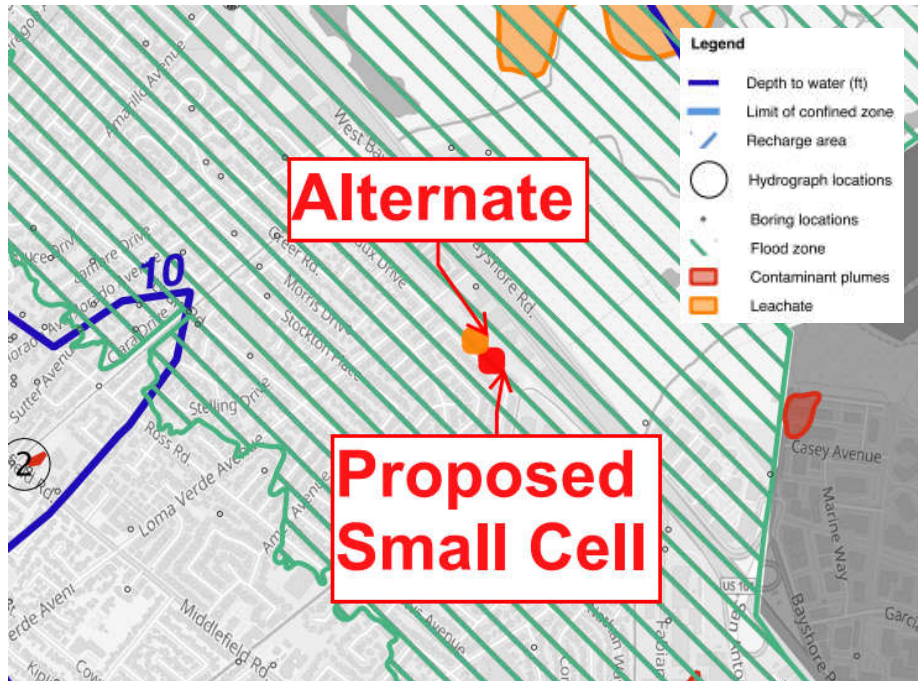
Palo Alto Shallow Groundwater Map

The Palo Alto Shallow Groundwater Map demonstrates, by marking with green stripes, the Flood Zone for San Francisquito Creek and Bay tidal floodplains mapped by FEMA. Both the primary pole and its alternate lie within the Flood Zone.



Zoom of Palo Alto Shallow Groundwater Map:

The proposed primary pole, as well as the alternate, both lie within the Flood Zone, designated by the green lines.



Conclusion: Underground Vault Infeasible

As described above, Verizon Wireless is unable to locate equipment in underground vaults in a Flood Zone. The proposed pole and its associated alternate pole for attachment are both located within the Flood Zone, as identified by FEMA. A vault cannot be located within a Flood Zone as Verizon Wireless' radio equipment will not operate under water. The proposed vault is not sealed and thus not completely waterproof; there is absolutely no means of "flood proofing" a vault to house radio equipment. The vault comes equipped with sump pumps in the event of minor water intrusion. In the event of a flood where the water levels have been documented to rise above ground level, there is no mechanical ability to disperse water out of the vault. This would result in the radios inside the vault to be fully submerged in water and unable to operate.

Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a "box" style shroud. Pole mounted equipment begins at 8'2" on the pole, located well above the Flood Zone.

City of Palo Alto Requirements for Utilities within Flood Zone

The City of Palo Alto website contains helpful information regarding placement utilities in Flood Zones: "Other provisions require openings in areas below flood level to allow water to enter and exit, flood proofing of utilities below the flood level, etc." Source: City of Palo Alto Website – Q&A About Flood Zones: <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=176>. Additionally, comment #A2 from the City of Palo Alto Department of Public Works received in Jan. 2018 matches the same criteria, that all proposed equipment in an underground vault shall be flood proofed. As previously mentioned, there is no way to flood proof underground vaults for radio equ



Development Review - Department Comments

City Department: Public Works Engineering
Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org
Date: 1/11/2018
Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
4. EASEMENT: All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

SF Palo Alto 135 **795 Stone Lane**

Executive Summary – Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 135 is located in the Public Right of Way, adjacent to 795 Stone Lane. All possible vault locations are not feasible due to an existing Santa Clara Valley Water District Storm Drain Channel, prohibited excavation within an existing Tree Protection Zone, sidewalk conditions that do not meet City requirements for vault placement on sloped and rolled curbs, as well as not meeting ADA requirements. There are two viable alternate poles to review in this search ring. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4-6: Ground View and Feasibility Analysis – Primary Pole Search Area
Page 7: Summary of Alternate Poles
Page 8: Aerial View – Vault Search Area Near Alternate Pole
Page 9: Ground View and Feasibility Analysis – Alternate Pole Search Area
Page 10: Aerial View – Vault Search Area Near Alternate Pole
Page 11-12: Ground View and Feasibility Analysis – Alternate Pole Search Area
Page 13-15: Department of Public Works Comments & Standards Regarding Vaults

Vaulting Feasibility Report

Site Name: SF PALO ALTO 135

Site Pole Located: Public Right of Way, Adjacent to 795 Stone Lane

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

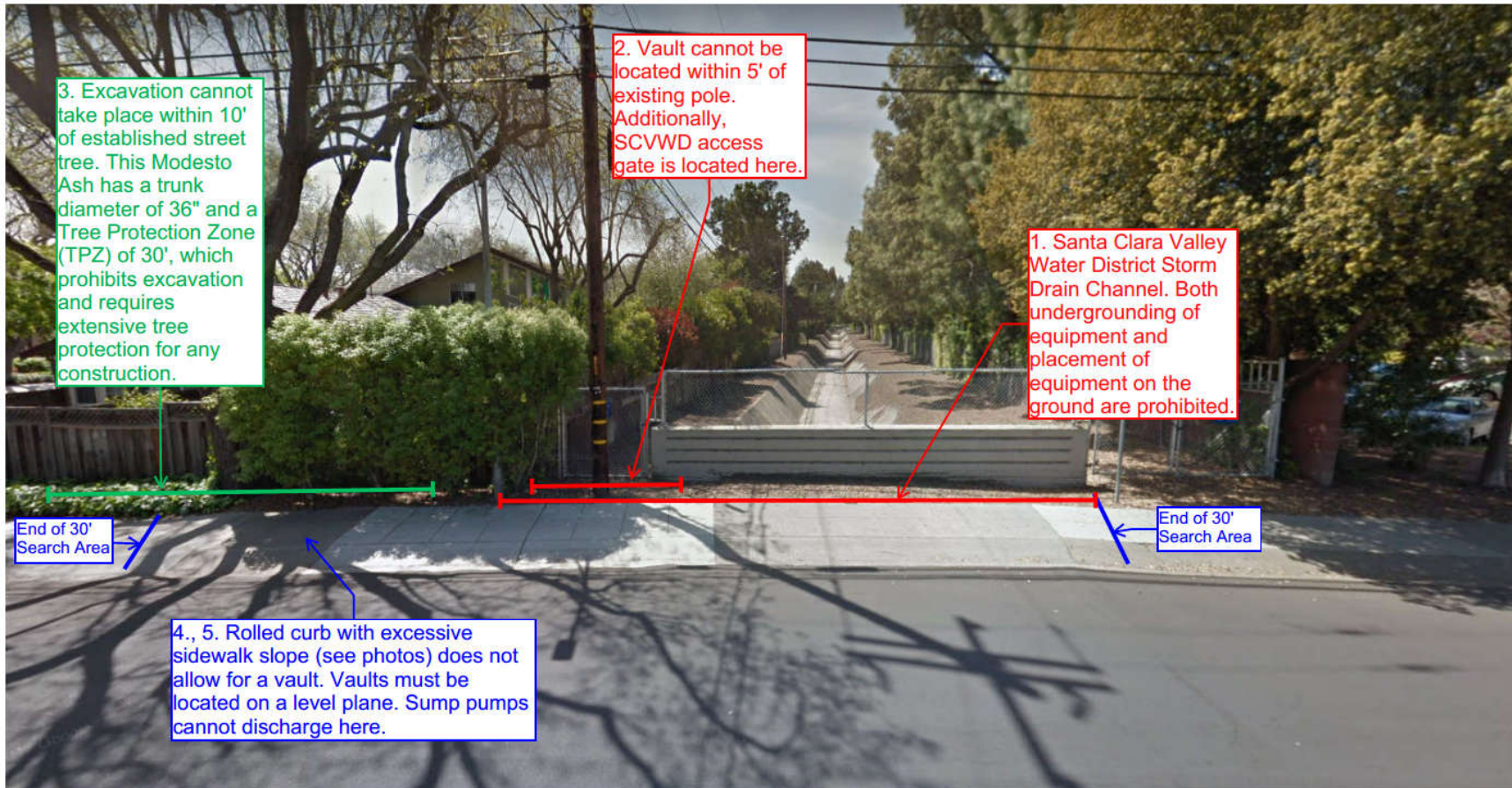
Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter

30-Foot Vault Search Area along Stone Ln:

The search area for the proposed vault location is a diameter of 5' to 30' from the existing pole location. Verizon Wireless engineering will allow a distance of 100' for the coaxial cable from the antenna to the radio before the network no longer operates as designed. To calculate the viable distance for a proposed vault, we must subtract the following from the allowable 100-foot distance: 1) CPAU requires a minimum setback of 5' from an existing pole to a vault location; 2) Antenna height to base of pole≈50'; 3) A 10' length of cable is required within the vault so radios can be elevated for maintenance; 4) City of Palo Alto standards for underground work require boring of ≈12' below grade. **The result is conservatively a viable distance of ≈25-30' from each CPAU pole to locate a vault.**



30-Foot Vault Search Area – along Stone Ln – Detailed View:



The following conditions prohibit the placement of an underground vault along Stone Lane:

1. The pole is located within the Santa Clara Valley Water District Storm Channel Drain, which precludes the undergrounding of equipment as well as placement of ground mounted equipment (See Photo 1).
2. Vault must maintain a 5' setback from the selected utility pole per CPAU.
3. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works' comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The existing Modesto Ash has a trunk diameter of 36" and a dripline of 30'; excavation for a vault would not be allowed within that dripline (see page A-1 of the plan set for tree details and location).

4. The sidewalk along Stone Lane in this area has an excessive slope and rolled curb (see Photo 2). Vaults must be located outside the transition slope and on a level plane per City of Palo Alto Department of Public Works' comment #B16 dated Jan. 2018.
5. Vaults sump pump requires tubes that discharge water into the street; these tubes cannot be placed in a rolled curb, as it creates a trip hazard.

Supporting Visuals

Photo 1: Primary pole located along SCVWD Storm Drain Channel

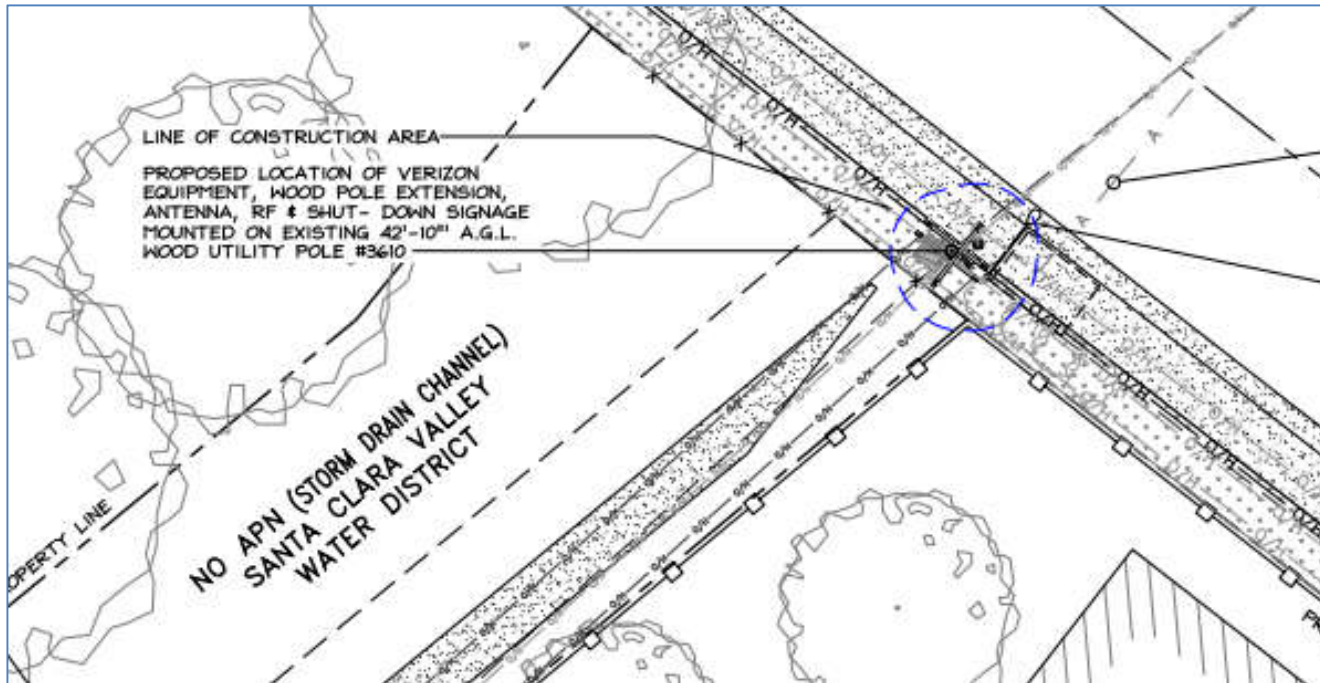


Photo 2: Excessive sidewalk slope and rolled curb, which does not allow for vault placement.



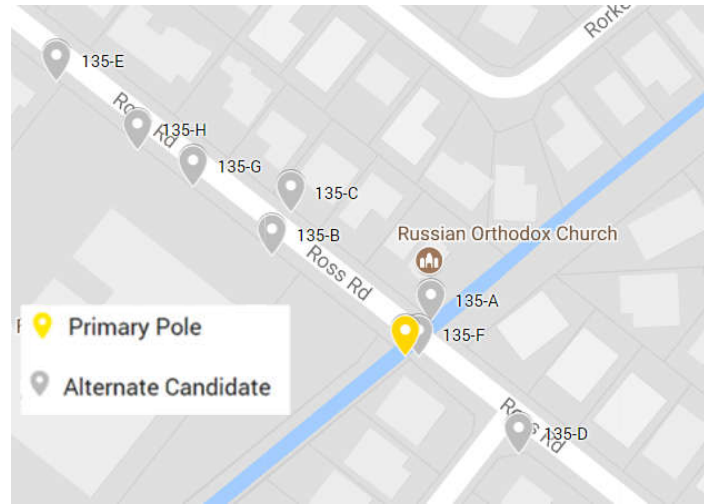
Conclusion: Underground Vault Infeasible

As described above, the various site conditions and sidewalk layout do not provide adequate space to install an underground vault. Placement of a vault would impede Santa Clara Valley Water District operations at the Storm Drain Channel. Additionally, the Tree Protection Zone for trees within the viable search area is so large to prevent excavation. The sidewalk conditions do not meet City of Palo Alto Department of Public Works' requirements regarding transition slopes and rolled curbs. Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a "box" style shroud.

Analysis of Vault Feasibility - Alternate Utility Poles

SF PALO ALTO 135 Alternative Site Analysis

In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 135, three existing pole locations were determined as viable to meet the engineering objectives for this node. Candidates 135-A and 135-D were initially determined to be viable alternates. As requested by the City of Palo Alto, we will also review their viability for vaulting. The original map and ASA of alternates reviewed is included below:



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
135-A	Wood Utility Pole	3611	Viable	VZW RF Engineering	Pole location is viable, but the existing structure does not provide enough height to meet the required engineering objective. It is the first alternate candidate and would require replacement with a taller pole to provide the required level of service.
135-B	Wood Utility Pole	3371	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary power riser located on pole.
135-C	Metal Street Light	342	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
135-D	Wood Utility Pole	3609	Viable	Planning/Visibility Concerns	The pole is technically viable, but was not preferred as it is located on a high visibility corner. It is the second alternate candidate.
135-E	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
135-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, utility engineering constraints would not allow an attachment. CPUC GO95 rules require clearance from secondary power. There is not enough clearance on this pole to allow a VZW attachment.
135-G	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
135-H	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, GO95 requires distance from communication lines, therefore attachment is not feasible.

30-Foot Vault Search Area for Alternate – SF PALO ALTO 135-A:



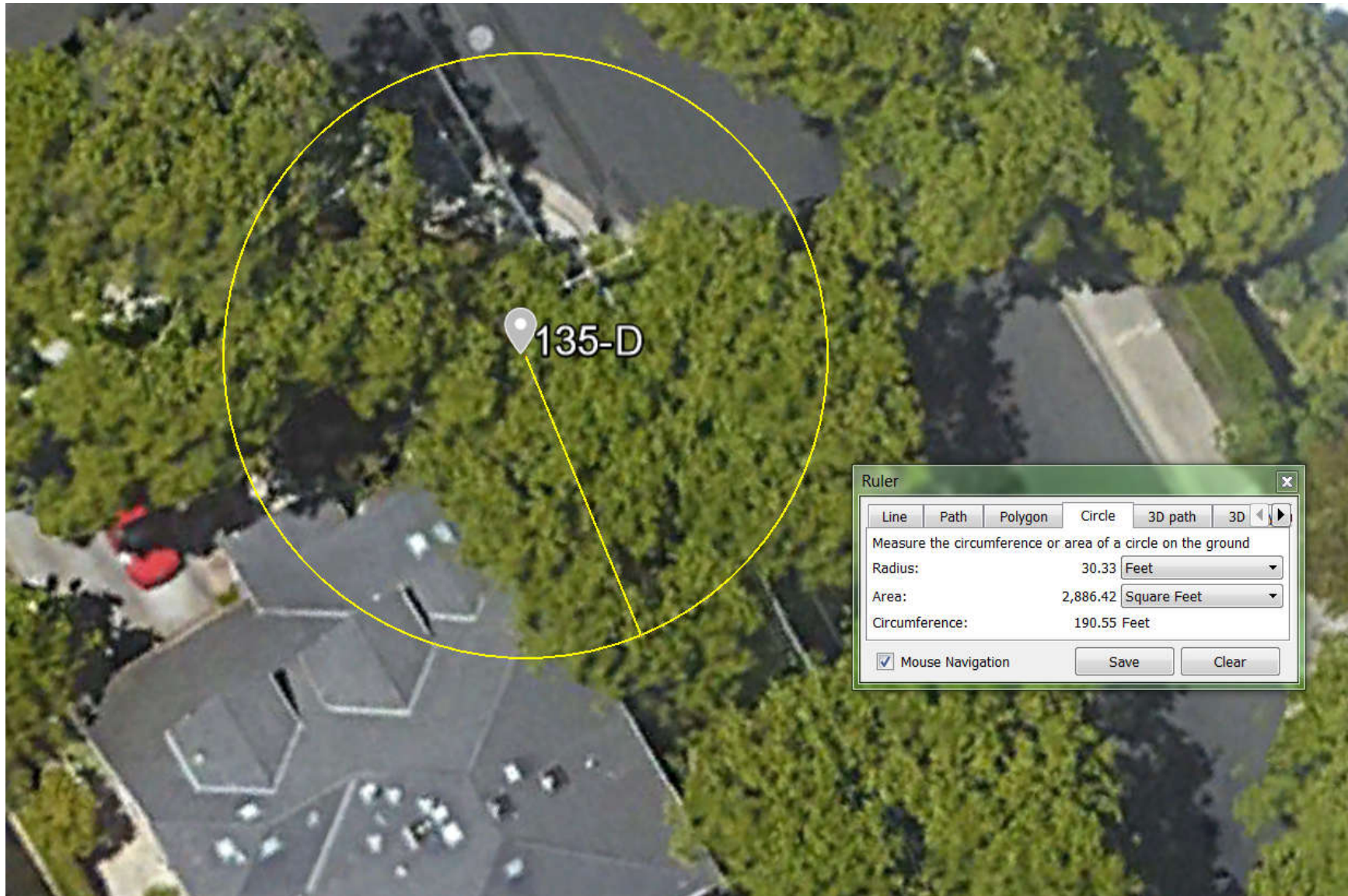
30-Foot Vault Search Area for Alternate – SF PALO ALTO 135-A – Detailed View:



The following conditions prohibit the placement of an underground vault at this alternate pole:

1. The pole is located within the Santa Clara Valley Water District Storm Channel Drain, which precludes the undergrounding of equipment as well as placement of ground mounted equipment.
2. Vault must maintain a 5' setback from existing utility poles per CPAU.
3. The sidewalk along Stone Lane in this area has an excessive slope and rolled curb. Vaults must be located outside the transition slope and on a level plane per City of Palo Alto Department of Public Works' comment #B16 dated Jan. 2018.
4. Vaults sump pump requires tubes that discharge water into the street; these tubes cannot be placed in a rolled curb, as it creates a trip hazard.

30-Foot Vault Search Area for Alternate – SF PALO ALTO 135-D:



30-Foot Vault Search Area for Alternate – SF PALO ALTO 135-D – Detailed View:



The following conditions prohibit the placement of an underground vault at this alternate pole:

1. Vault must maintain a 5' setback from the selected utility pole per CPAU.
2. The sidewalk in this area has an excessive slope and rolled curb. Vaults must be located outside the transition slope and on a level plane per City of Palo Alto Department of Public Works' comment #B16 dated Jan. 2018.
3. Vaults sump pump requires tubes that discharge the into the street; these tubes cannot be placed in a rolled curb, as it creates a trip hazard.
4. ADA Ramp located at corner – vault cannot be located within a transition slope.
5. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works' comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The two large existing trees have driplines that extend well beyond the 10-foot minimum; excavation for a vault would not be allowed within that dripline.

Conclusion: Underground Vault Infeasible

As described above, the various site conditions and sidewalk layout do not provide adequate space to install an underground vault. Placement of a vault would impede the facilities of the Santa Clara Valley Water District, not meet ADA requirements for access to the sidewalk, safety standards regarding curb safety and required distance from established street trees. Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a “box” style shroud.



Development Review - Department Comments

City Department: Public Works Engineering

Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org

Date: 1/11/2018

Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
4. EASEMENT: All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

6. **WORK IN THE RIGHT-OF-WAY:** The plans must clearly indicate any work that is proposed in the public right-of-way, such as sidewalk replacement, driveway approach, or utility laterals. The plans must include notes that the work must be done per City standards and that the contractor performing this work must first obtain a Street Work Permit from Public Works at the Development Center. If a new driveway is in a different location than the existing driveway, then the sidewalk associated with the new driveway must be replaced with a thickened (6" thick instead of the standard 4" thick) section. Additionally, curb cuts and driveway approaches for abandoned driveways must be replaced with new curb, gutter and planter strip.
7. All proposed cube cabinet mounted equipment shall maintain a minimum clearance for 48 inches. The clearance shall be measured from the edge of the cabinet to the nearest obstruction and/or property line. Include a dimension for each location that has above ground equipment that will be mounted on a sidewalk.
8. **GRADING PERMIT:** Provide earthwork volumes on plan submittal indicating proposed cut and fill volumes in cubic yards. Any locations with a volume of 100 cubic yards or greater will require an additional grading and excavation permit. The application and instructions can be found on the City's website.
http://www.cityofpaloalto.org/gov/depts/pwd/forms_and_permits.asp
9. The applicant will be required to apply for all necessary permits including: Street Work and Encroachment Permit applications. All required applications shall be in the submittal package for Public Works. Any necessary traffic control plans will also be submitted in the permit application packet. Any submitted traffic control plans shall be routed to Transportation for review. These necessary permit applications and requirements are available from Public Works on our website:
<http://www.cityofpaloalto.org/gov/depts/pwd/default.asp>
10. Public Works to determine number of required permits for each proposed cluster phase of wireless sites. Any batching of permits for multiple locations will be determined by Public Works prior to issuance of permits.
11. All trench work and placement of fiber optic conduit shall adhere to City of Palo Alto Public Works specifications. Refer to City of Palo Alto Public Works Conduit Location Detail Telecommunications Drawing No. 402. This detail will provide specifics for placement of conduit in both residential and commercial areas. Any deviation from City Standards and Regulations must be approved by Public Works and all other applicable Departments.
12. Provide the following note on the Site Plan and adjacent to the work within the Public road right-of-way. "Any construction within the city's public road right-of-way shall have an approved Permit for Construction in the Public Street prior to commencement of this work."
13. **STORM WATER POLLUTION PREVENTION:** The City's full-sized "Pollution Prevention - It's Part of the Plan" sheet must be included in the plan set. Copies are available from Public Works on our website <http://www.cityofpaloalto.org/civicax/filebank/documents/2732>
14. Provide the following as a note on the Site Plan: "The contractor may be required to submit a logistics plan to the Public Works Department prior to commencing work that addresses all impacts to the City's right-of-way, including, but not limited to: pedestrian control, traffic control, truck routes, material deliveries, contractor's parking, concrete pours, crane lifts, work hours, noise control, dust control, storm water pollution prevention, contractor's contact, noticing of affected surrounding properties, and schedule of work. The requirement to submit a logistics

plan will be dependent on the number of applications Public Works Engineering receives within close proximity to help mitigate and control the impact to the public-right-of-way. If necessary, Public Works may require a Logistics Plan during construction.”

15. **TRAFFIC CONTROL:** All traffic control plans associated with each proposal location shall be reviewed by Transportation Division under Planning & Community Environment. Public Works will route all traffic control plans for Transportation review when associated Street Work and Encroachment permits are submitted.
16. **CURB CONDITION:** Each location shall identify curb type on plans. Indicate if whether or not a site has a rolled curb or standard curb/gutter. Proposed vault locations and equipment shall not be placed within a curb area. In the instance of the rolled curb, all equipment shall be removed from the transition slope area of the rolled curb. The equipment shall be on one plane.
17. Include sidewalk width for each location on site plans.
18. SFPA 0130 – Proposed vault location is not ideal. Location is directly in front of front entry of home. Relocate vault location.
19. SFPA 131 – Proposed vault location is not fully depicted on sheet A-2. Notes obscure a portion of the vault. Revise the page to show the entire vault location, sidewalk, curb/gutter, etc.
20. SFPA133 – Proposed vault location is shown in conflict with existing electrical hand hole. Revise location so that no portion of vault is in the same area as an existing utility vault.
21. SFPA137: Portion of vault is shown in curb area.
22. SFPA 144 – Existing mailbox structure is not depicted on plans. Existing curb ramp area shall be shown on plans to indicate distance from proposed underground vault.

SF Palo Alto 137
3090 Ross Rd

Executive Summary – Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 137 is located in the Public Right of Way, adjacent to 3090 Ross Rd. All possible vault locations are not feasible due to existing sidewalks and curb conditions; existing infrastructure such as street lights and driveways; or excavation encroaching within an existing tree drip line. There is one viable alternate pole to review in this search ring. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4-5: Ground View and Feasibility Analysis – Primary Pole Search Area
Page 6-7: Summary of Alternate Poles
Page 8: Aerial View – Vault Search Area Near Alternate Pole
Page 9-10: Ground View and Feasibility Analysis – Alternate Pole Search Area
Page 11-13: Department of Public Works Comments & Standards Regarding Vaults

Vaulting Feasibility Report

Site Name: SF PALO ALTO 137

Site Pole Located: Public Right of Way, Adjacent to 3090 Ross Rd

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

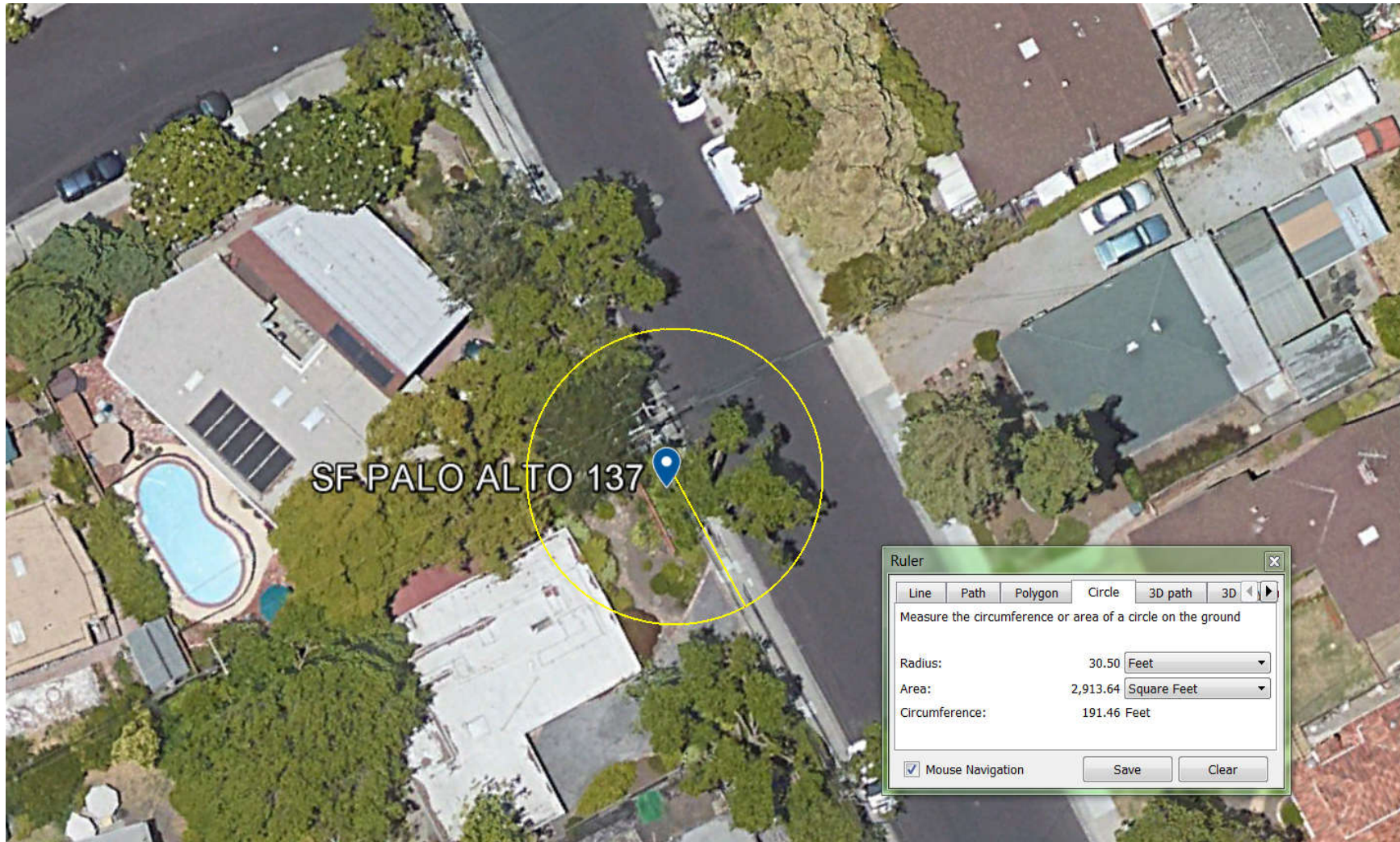
- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

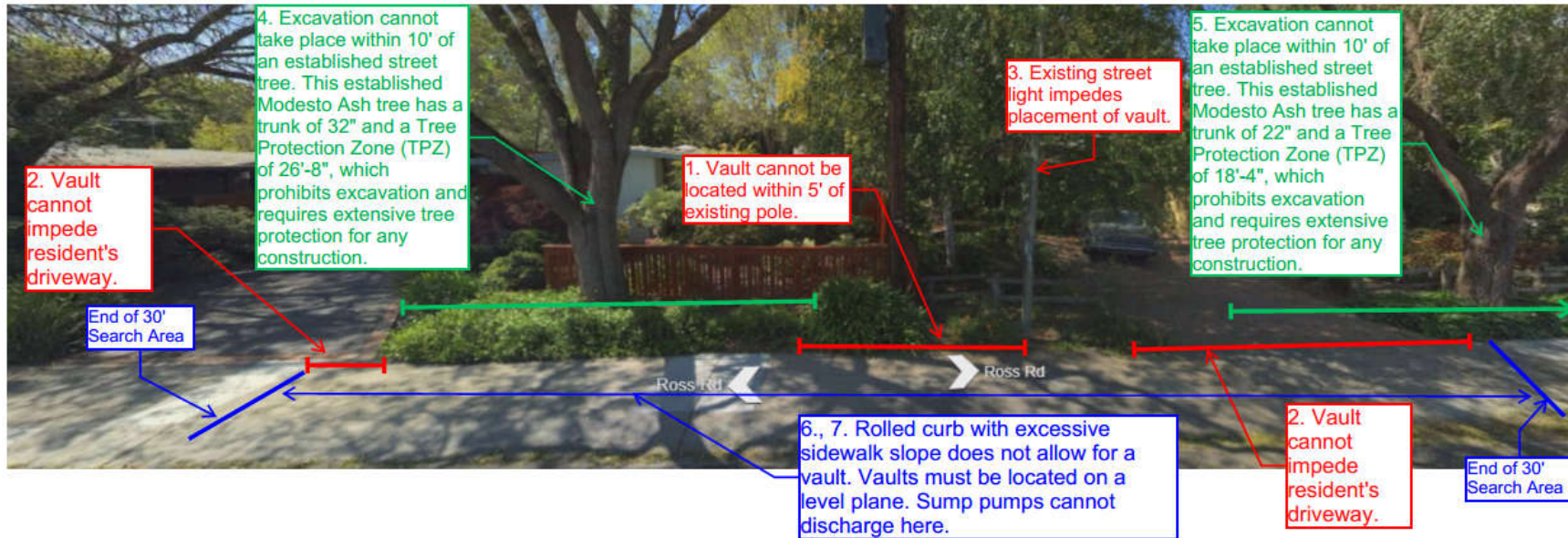
Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter

30-Foot Vault Search Area along Ross Rd:

The search area for the proposed vault location is a diameter of 5' to 30' from the existing pole location. Verizon Wireless engineering will allow a distance of 100' for the coaxial cable from the antenna to the radio before the network no longer operates as designed. To calculate the viable distance for a proposed vault, we must subtract the following from the allowable 100-foot distance: 1) CPAU requires a minimum setback of 5' from an existing pole to a vault location; 2) Antenna height to base of pole≈50'; 3) A 10' length of cable is required within the vault so radios can be elevated for maintenance; 4) City of Palo Alto standards for underground work require boring of ≈12' below grade. **The result is conservatively a viable distance of ≈25-30' from each CPAU pole to locate a vault.**



30-Foot Vault Search Area – along Ross Rd – Detailed View:



The following conditions prohibit the placement of an underground vault at the primary pole along Ross Road:

1. Vault must maintain a 5' setback from the selected utility pole per CPAU.
2. Residential driveways are located on both sides of the pole that preclude vault placement.
3. An existing street light precludes placement of a vault in that area.
4. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The existing Modesto Ash to the northwest has a trunk diameter of 32" and a dripline of 26'-8"; excavation for a vault would not be allowed within that dripline (see page A-1 of the plan set for tree details and location).
5. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The existing Modesto Ash to the southeast has a trunk diameter of 22" and a dripline of 18'-4"; excavation for a vault would not be allowed within that dripline (see page A-1 of the plan set for tree details and location).

6. The sidewalk along Stone Lane in this area has an excessive slope and rolled curb (see Photo 2). Vaults must be located outside the transition slope and on a level plane per City of Palo Alto Department of Public Works comment #B16 dated Jan. 2018.
7. Vaults sump pump requires tubes that discharge the into the street; these tubes cannot be placed in a rolled curb, as it creates a trip hazard.

Supporting Visuals

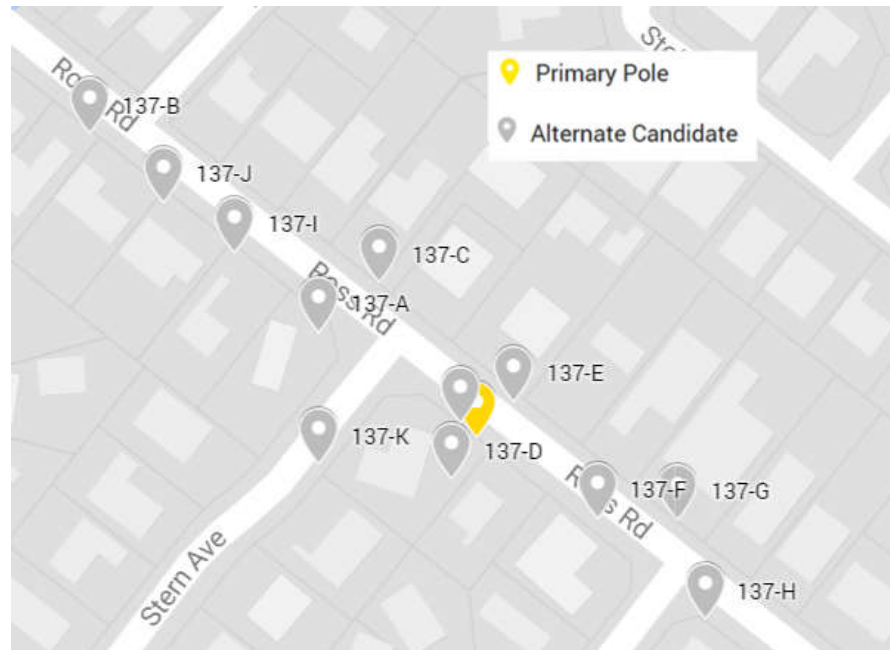
Photo 1: Excessive sidewalk slope and rolled curb does not allow for vault placement.



Analysis of Vault Feasibility - Alternate Utility Poles

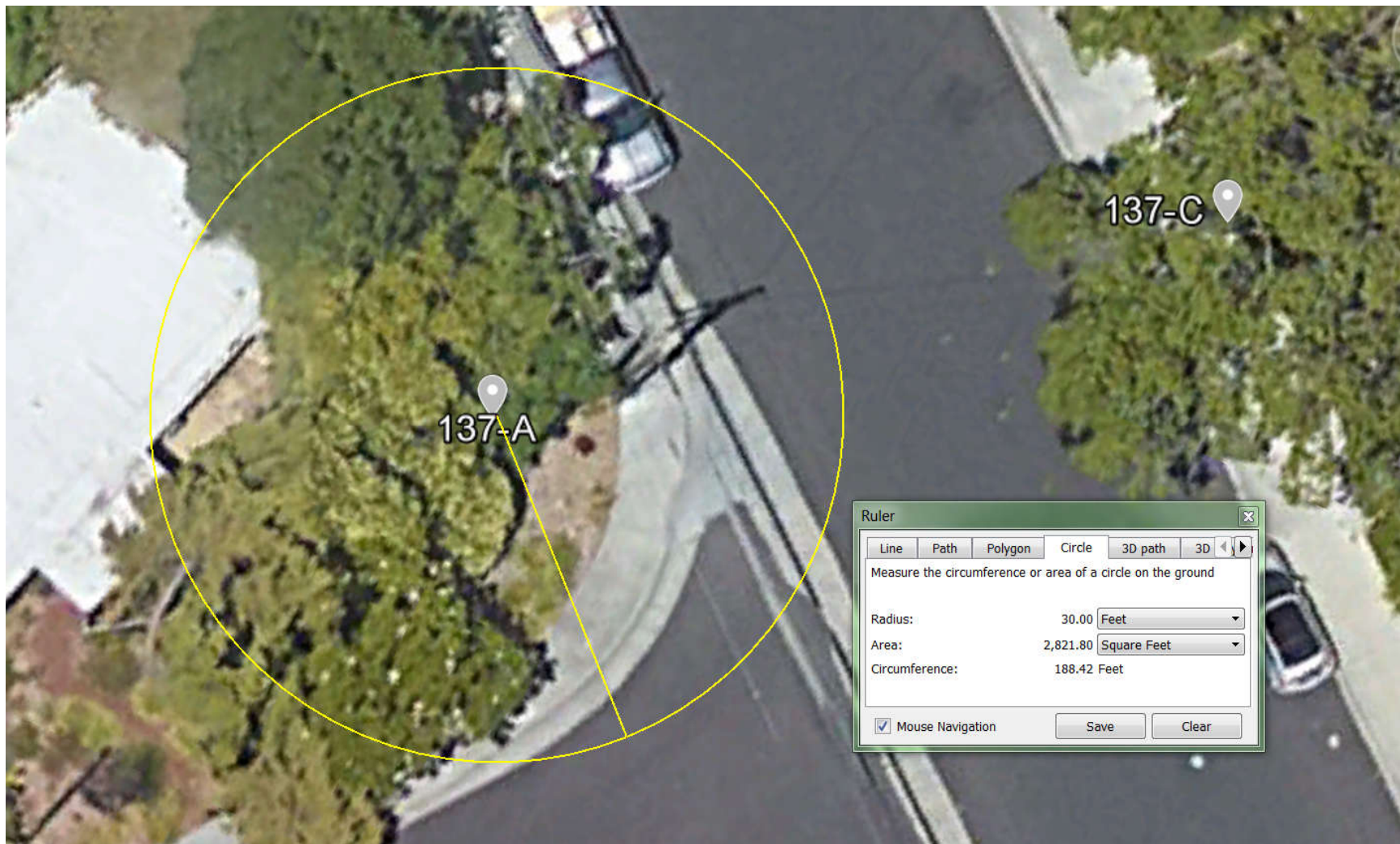
SF PALO ALTO 137 Alternative Site Analysis

In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 137, two existing pole locations were determined as viable to meet the engineering objectives for this node. Candidates 137-A were initially determined to be viable alternates. As requested by the City of Palo Alto, we will also review their viability for vaulting. The original map and ASA of alternates reviewed is included below:

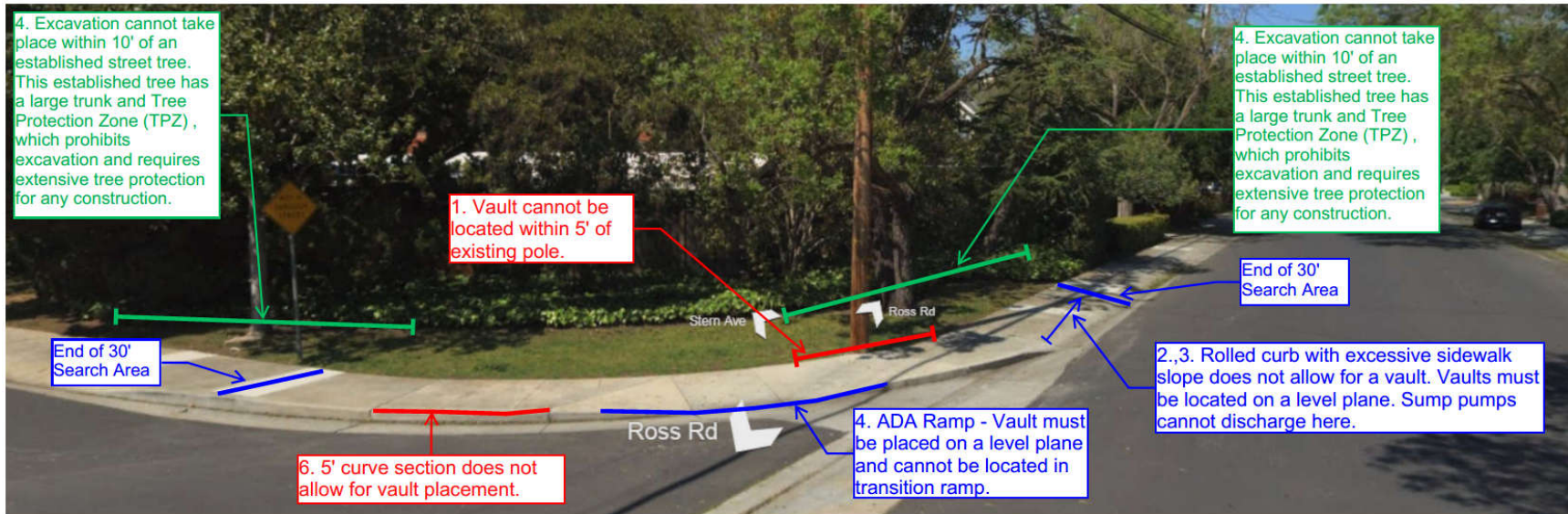


Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
137-A	Wood Utility Pole	3349	Viable	Planning	Pole is viable from an engineering perspective, but its highly visible location at an intersection, with only moderate screening, makes it the first alternate candidate.
137-B	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow attachment. Line and buck situation on pole - wireless equipment not permitted. Additionally, pole is too far north to meet required engineering objectives.
137-C	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, the pole is surrounded by tree clutter and could not meet the engineering objective for this area.
137-D	Wood Utility Pole	Unknown	Not Viable	Planning	Poles located outside of the Public ROW, within a public utility easement, are only selected as a last resort, given potential disturbance to the resident. Could not get pole number as it is located in backyard.
137-E	Wood Utility Pole	3352	Not Viable	VZW RF Engineering	Pole is too short and so could not meet engineering objective for this area. It would require replacement with a taller pole.
137-F	Wood Utility Pole	3353	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
137-G	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
137-H	Wood Utility Pole	3554	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. CPUC GO95 rules require clear climbing space. There is not enough climbing space on this pole to safely allow a VZW attachment. Additionally, the pole is somewhat too far so the south to meet the required engineering objective and is highly visible.
137-I	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
137-J	Metal Street Light	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. CPUC GO95 rules require a minimum distance from communication lines, which could not be met on this pole. Additionally, not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. The pole is also surrounded by tree clutter and could not meet the required engineering objectives.
137-K	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, the pole is surrounded by tree clutter and could not meet the required engineering objectives. GO95 requires a minimum distance from communication lines, which could not be met on this pole.
137-L	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, the pole is surrounded by tree clutter and could not meet the required engineering objectives. GO95 requires a minimum distance from communication lines, which could not be met on this pole.

30-Foot Vault Search Area for Alternate – SF PALO ALTO 137-A:



30-Foot Vault Search Area for Alternate – SF PALO ALTO 137-A – Detailed View:

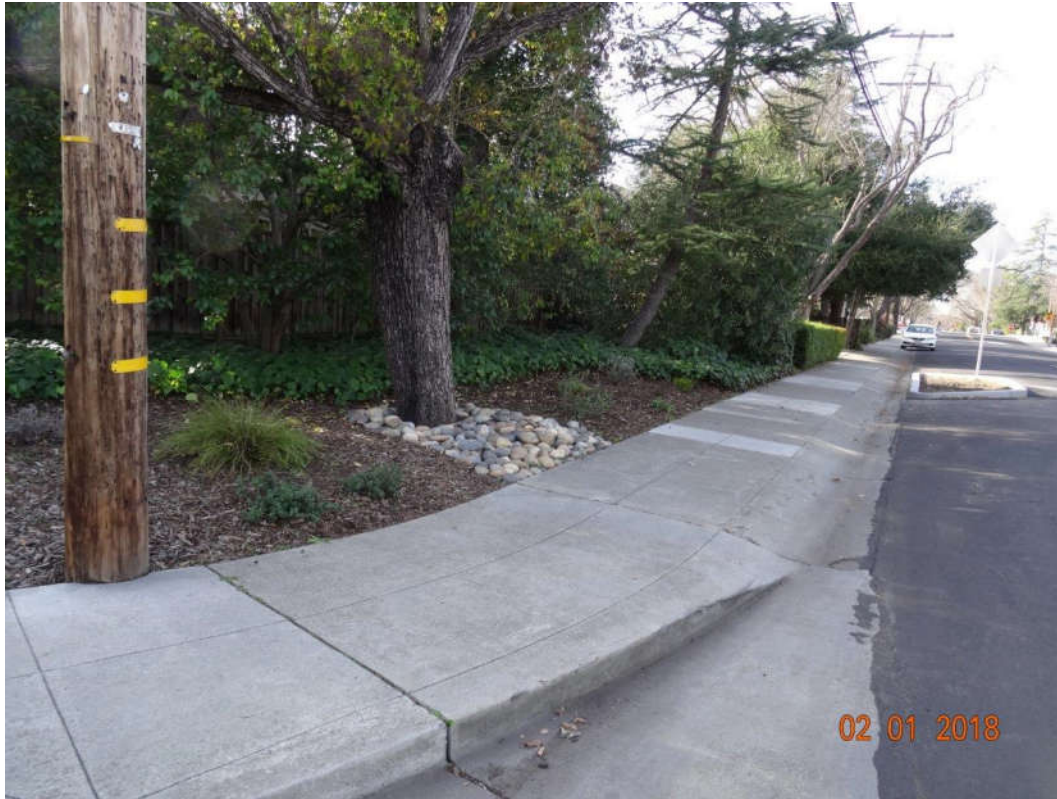


The following conditions prohibit the placement of an underground vault at this alternate pole:

1. Vault must maintain a 5' setback from the selected utility pole per CPAU.
2. The sidewalk along Stone Lane in this area has an excessive slope and rolled curb (see Photo 1). Vaults must be located outside the transition slope and on a level plane per City of Palo Alto Department of Public Works comment #B16 dated Jan. 2018.
3. Vaults sump pump requires tubes that discharge water into the street; these tubes cannot be placed in a rolled curb, as it creates a trip hazard.
4. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The existing street trees have large trunks; excavation for a vault would not be allowed within that dripline.
5. ADA Ramp located at corner – vault cannot be located within transition slope.
6. Rectangular vaults must be placed outside of a curved sidewalk area.

Supporting Photos

Photo 1: Excessive sidewalk slope and rolled curb does not allow for vault placement.



Conclusion: Underground Vault Infeasible

As described above, the various site conditions and sidewalk layout do not provide adequate space to install an underground vault. The sidewalk conditions, including the ADA ramp, do not meet City of Palo Alto Department of Public Works' requirements regarding transition slopes and rolled curbs. Proximity to existing trees would not allow the required distance from established street trees and their Tree Protection Zones for excavation. Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a "box" style shroud.



Development Review - Department Comments

City Department: Public Works Engineering

Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org

Date: 1/11/2018

Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
4. EASEMENT: All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

6. **WORK IN THE RIGHT-OF-WAY:** The plans must clearly indicate any work that is proposed in the public right-of-way, such as sidewalk replacement, driveway approach, or utility laterals. The plans must include notes that the work must be done per City standards and that the contractor performing this work must first obtain a Street Work Permit from Public Works at the Development Center. If a new driveway is in a different location than the existing driveway, then the sidewalk associated with the new driveway must be replaced with a thickened (6" thick instead of the standard 4" thick) section. Additionally, curb cuts and driveway approaches for abandoned driveways must be replaced with new curb, gutter and planter strip.
7. All proposed cube cabinet mounted equipment shall maintain a minimum clearance for 48 inches. The clearance shall be measured from the edge of the cabinet to the nearest obstruction and/or property line. Include a dimension for each location that has above ground equipment that will be mounted on a sidewalk.
8. **GRADING PERMIT:** Provide earthwork volumes on plan submittal indicating proposed cut and fill volumes in cubic yards. Any locations with a volume of 100 cubic yards or greater will require and additional grading and excavation permit. The application and instructions can be found on the City's website.
http://www.cityofpaloalto.org/gov/depts/pwd/forms_and_permits.asp
9. The applicant will be required to apply for all necessary permits including: Street Work and Encroachment Permit applications. All required applications shall be in the submittal package for Public Works. Any necessary traffic control plans will also be submitted in the permit application packet. Any submitted traffic control plans shall be routed to Transportation for review. These necessary permit applications and requirements are available from Public Works on our website:
<http://www.cityofpaloalto.org/gov/depts/pwd/default.asp>
10. Public Works to determine number of required permits for each proposed cluster phase of wireless sites. Any batching of permits for multiple locations will be determined by Public Works prior to issuance of permits.
11. All trench work and placement of fiber optic conduit shall adhere to City of Palo Alto Public Works specifications. Refer to City of Palo Alto Public Works Conduit Location Detail Telecommunications Drawing No. 402. This detail will provide specifics for placement of conduit in both residential and commercial areas. Any deviation from City Standards and Regulations must be approved by Public Works and all other applicable Departments.
12. Provide the following note on the Site Plan and adjacent to the work within the Public road right-of-way. "Any construction within the city's public road right-of-way shall have an approved Permit for Construction in the Public Street prior to commencement of this work."
13. **STORM WATER POLLUTION PREVENTION:** The City's full-sized "Pollution Prevention - It's Part of the Plan" sheet must be included in the plan set. Copies are available from Public Works on our website <http://www.cityofpaloalto.org/civicax/filebank/documents/2732>
14. Provide the following as a note on the Site Plan: "The contractor may be required to submit a logistics plan to the Public Works Department prior to commencing work that addresses all impacts to the City's right-of-way, including, but not limited to: pedestrian control, traffic control, truck routes, material deliveries, contractor's parking, concrete pours, crane lifts, work hours, noise control, dust control, storm water pollution prevention, contractor's contact, noticing of affected surrounding properties, and schedule of work. The requirement to submit a logistics

plan will be dependent on the number of applications Public Works Engineering receives within close proximity to help mitigate and control the impact to the public-right-of-way. If necessary, Public Works may require a Logistics Plan during construction.”

15. **TRAFFIC CONTROL:** All traffic control plans associated with each proposal location shall be reviewed by Transportation Division under Planning & Community Environment. Public Works will route all traffic control plans for Transportation review when associated Street Work and Encroachment permits are submitted.
16. **CURB CONDITION:** Each location shall identify curb type on plans. Indicate if whether or not a site has a rolled curb or standard curb/gutter. Proposed vault locations and equipment shall not be placed within a curb area. In the instance of the rolled curb, all equipment shall be removed from the transition slope area of the rolled curb. The equipment shall be on one plane.
17. Include sidewalk width for each location on site plans.
18. SFPA 0130 – Proposed vault location is not ideal. Location is directly in front of front entry of home. Relocate vault location.
19. SFPA 131 – Proposed vault location is not fully depicted on sheet A-2. Notes obscure a portion of the vault. Revise the page to show the entire vault location, sidewalk, curb/gutter, etc.
20. SFPA133 – Proposed vault location is shown in conflict with existing electrical hand hole. Revise location so that no portion of vault is in the same area as an existing utility vault.
21. SFPA137: Portion of vault is shown in curb area.
22. SFPA 144 – Existing mailbox structure is not depicted on plans. Existing curb ramp area shall be shown on plans to indicate distance from proposed underground vault.

SF Palo Alto 138
836 Colorado Ave

Executive Summary – Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 138 is located in the Public Right of Way, adjacent to 836 Colorado Ave. The proposed small cell is located within the Flood Zone, as identified by FEMA, and underground vaulting of equipment is infeasible. There is one viable alternate pole for this proposed node, also located the Flood Zone. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4: Parcel Report – Primary Pole
Page 5: Surveyor Report – Primary Pole
Page 6: Vault Feasibility in Flood Zone – Primary Pole
Page 7: Summary of Alternate Poles
Page 8: Parcel Report – Alternate Pole
Page 9: Palo Alto Groundwater Map (Flood Zone Designation)
Page 10: Zoom View – Pole Locations on Flood Zone Map
Page 11: City of Palo Alto Requirements for Flood Zones

Vaulting Feasibility Report

Site Name: SF PALO ALTO 138

Site Pole Located: Public Right of Way, Adjacent to 836 Colorado Ave

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

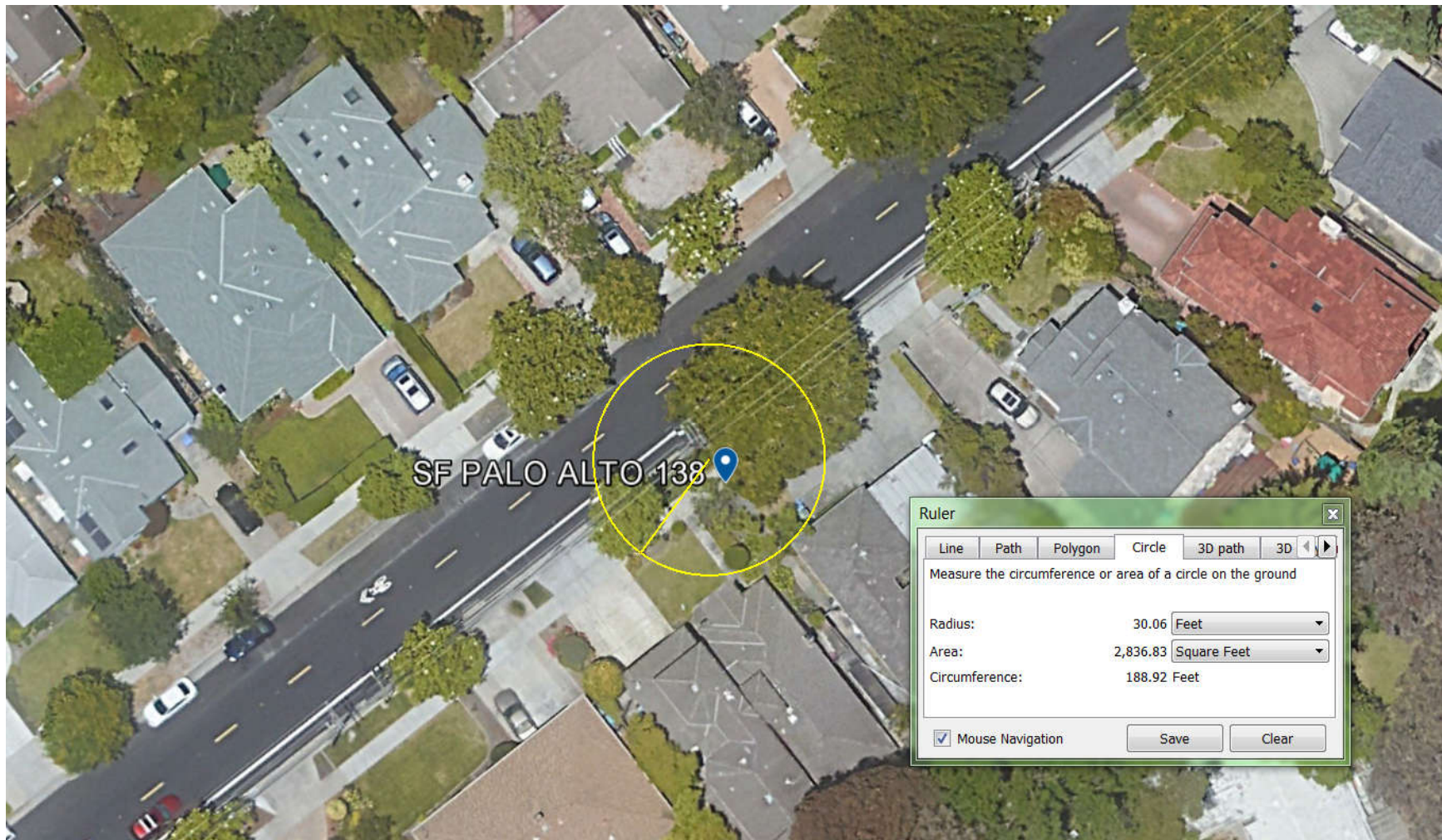
Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

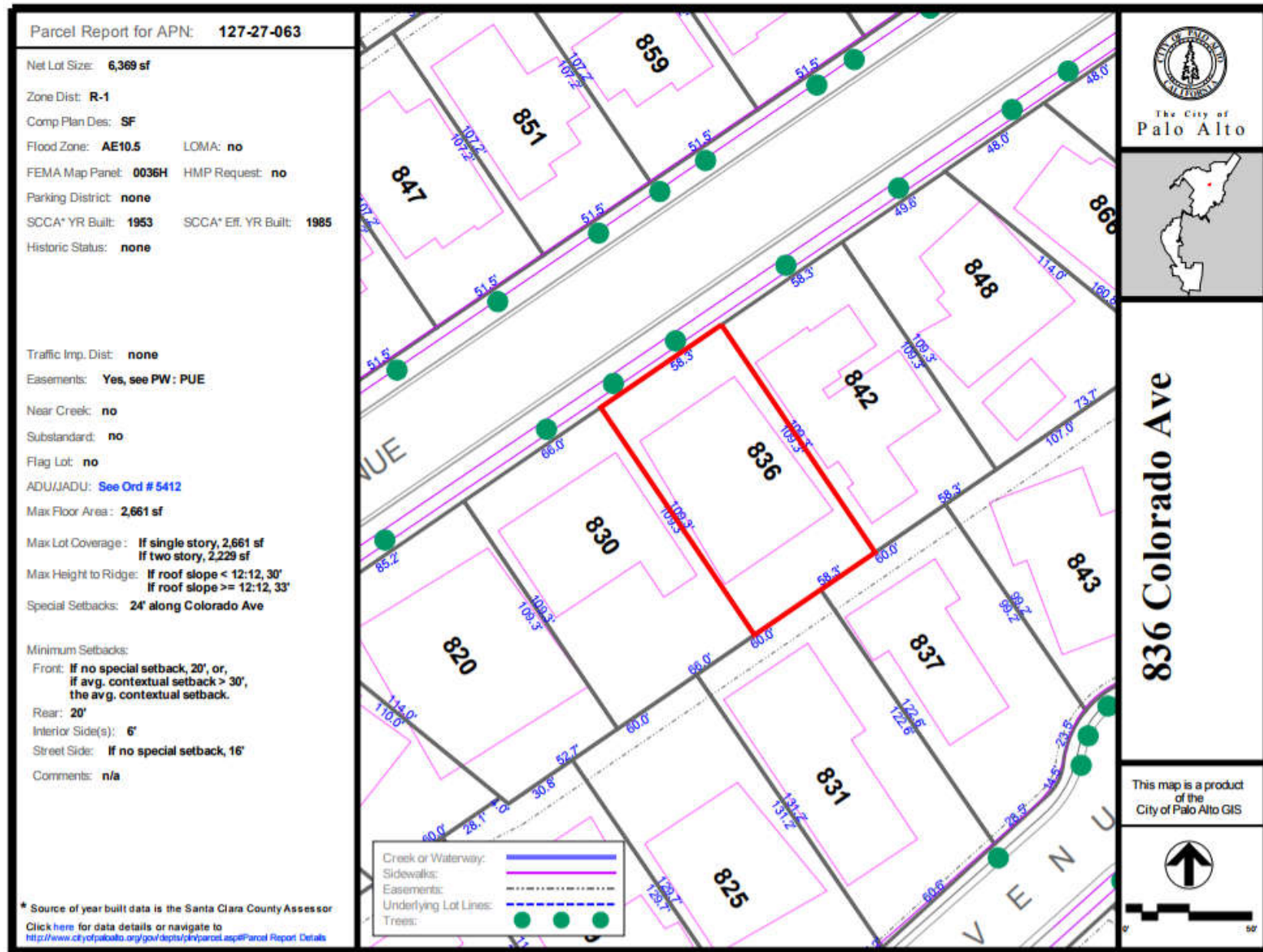
Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter

30-Foot Vault Search Area along Colorado Ave:



The Flood Zone designation of AE 10.5 is listed on the Palo Alto Parcel Report for the primary pole, adjacent to APN 127-27-063:



The elevation in AMSL (above mean sea level) of the base of the pole has been certified to be 9.86' AMSL by a State of California Professional Land Surveyor in a 1-A Accuracy Certification. This can be found on page T-2 of the plan sets. The AMSL at the pole base can also be found on page T-1 of the plan set under "Site Information".



23675 Birtcher Dr.
Lake Forest, CA 92630
Office: (949) 273-0996
Fax: (949) 608-7222

1-A ACCURACY CERTIFICATION

Pole Number : 2479 Date of Survey: 1/6/2017

Applicant : Verizon Wireless - 2785 Mitchell Drive, Suite 9 Walnut Creek, CA 94598
Project Name : SF PALO ALTO 138
Adjacent Address : 836 COLORADO AV, PALO ALTO, 94303
Adjacent APN / County: 12727063

Survey Equipment / Procedure: Leica TS15 Imaging Total Station and Leica VIVA NetRover Survey data obtained/determined by G.P.S. observations.

Project Description : Install 'Small Cell' equipment and antenna on existing joint wooden utility pole for Verizon Wireless network connectivity

Surveyed Point : Geodetic points are taken at grade at the center of proposed antenna array.

All Geodetic Coordinates are based on NAD 83 and all Elevations are based on NAVD 88.

California State Plane Coordinate Zone: ZONE 3

Geographic Coordinates (NAD 83):

Latitude : N 37° 26 ' 07.97"

Longitude : W 122° 7 ' 26.27"

Elevation (NAVD 88):

Existing Grade Elevation at surveyed point : 9.86 ' AMSL

Pole/Appurtenance Elevations (given relative to Grade Level Elevation):

Top of the Pole : 43.13' AGL

Box Panel : 19.91' AGL

Street Light : 18.51' AGL

Location of Existing O/H wires, other cables & misc Appurtenances attached to pole :

- 42.85' AGL	- 23.72' AGL
- 34.24' AGL	- 21.97' AGL
- 26.08' AGL	
- 24.58' AGL	

Certification:

I the undersigned, being a registered Professional Land Surveyor licensed under the laws of the State of California do hereby certify the latitude and longitude coordinates and elevations above mean sea level (AMSL) listed above are based on a field survey done under my supervision, and that the accuracy of those coordinates meet or exceed 1-A Standards (Horizontal Accuracy ± 15 feet and Vertical Accuracy ± 3 feet) and that the measured heights above ground level (AGL) are within ± 0.1 foot vertically as defined in the F.A.A. ASAC Information Sheet 91.003, and that data are true and accurate to the best of my knowledge.



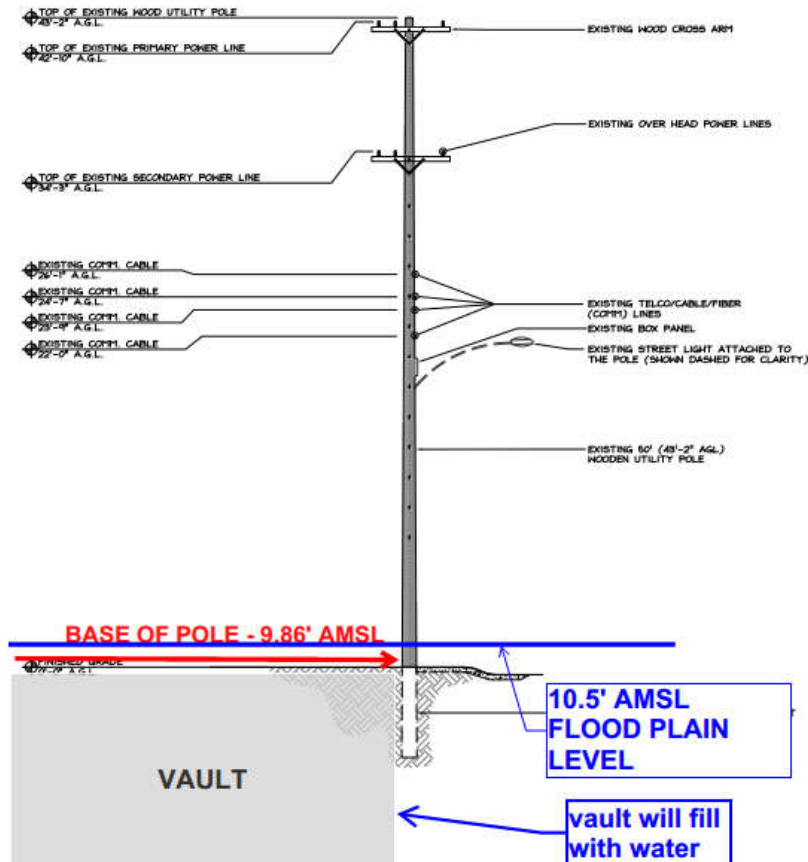
Bruce T. Cramton, PLS #9039

1/11/2017

Professional Engineers & Land Surveyors
ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, GEOTECHNICAL, SURVEYING
<http://www.allstatesengineering.com>

Vault Infeasibility within Flood Zone

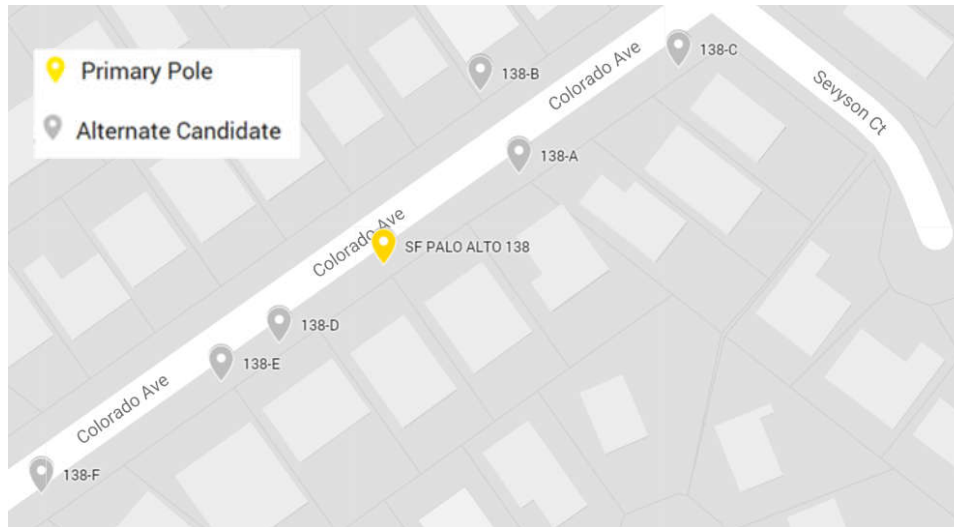
The AMSL at the base of the pole is 9.86'. The Flood Zone designation of AE 10.5 signifies a FEMA flood plain level of 10.5 AMSL. A visual example related to this proposed small cell is below, to demonstrate that in the event of flooding, the underground vault would fill completely with water:



Analysis of Vault Feasibility - Alternate Utility Poles

SF PALO ALTO 138 Alternative Site Analysis

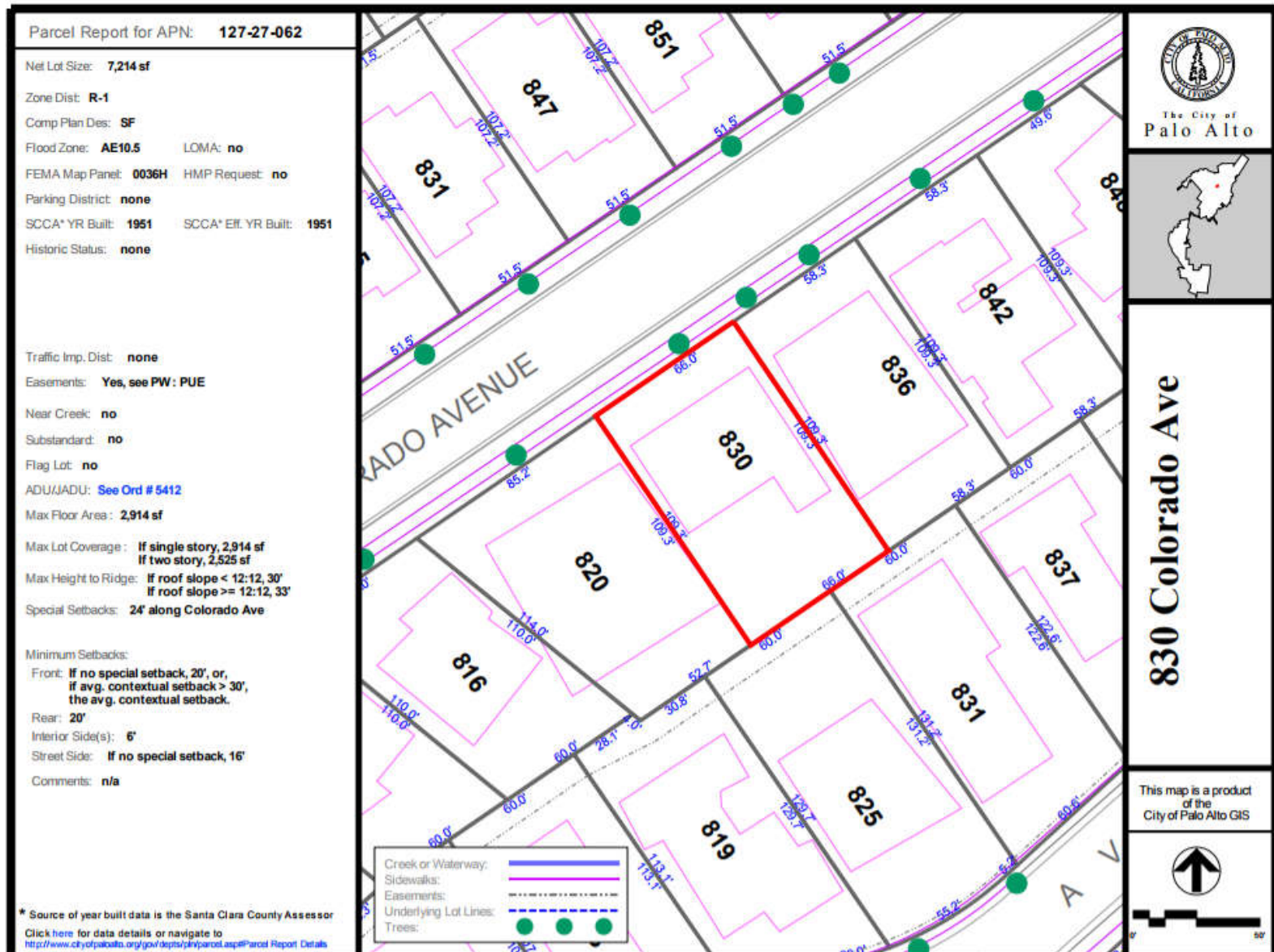
In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 138, two pole locations were determined as viable to meet the engineering objectives for this node. Candidate 138-E was initially determined to be a viable alternate. As requested by the City of Palo Alto, we will also review its viability for vaulting. The original map and ASA of alternates reviewed is included below:



Alternative Candidate ID	Structure Type	Pole #	Viable Alternate Candidate	Fallout Reason	Fallout Note
138-A	Wood Utility Pole	2478	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole. Additionally, a primary riser is located on the pole. Neither allows attachment.
138-B	Metal Street Light	85	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment. There is also too much tree clutter surrounding this pole, so it would not meet the engineering objective for this area.
138-C	Wood Utility Pole	2477	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary riser located on pole. Additionally, pole is slightly to far east to meet the intended engineering objectives.
138-D	Metal Street Light	83	Not Viable	VZW RF Engineering	Not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
138-E	Wood Utility Pole	2480	Viable	Viable Alternate	Pole is viable alternate, but was not selected as primary as it has less natural screening.
138-F	Wood Utility Pole	2481	Not Viable	VZW RF Engineering	Pole is viable from a structural perspective, but is too close the west to meet the required engineering objective.

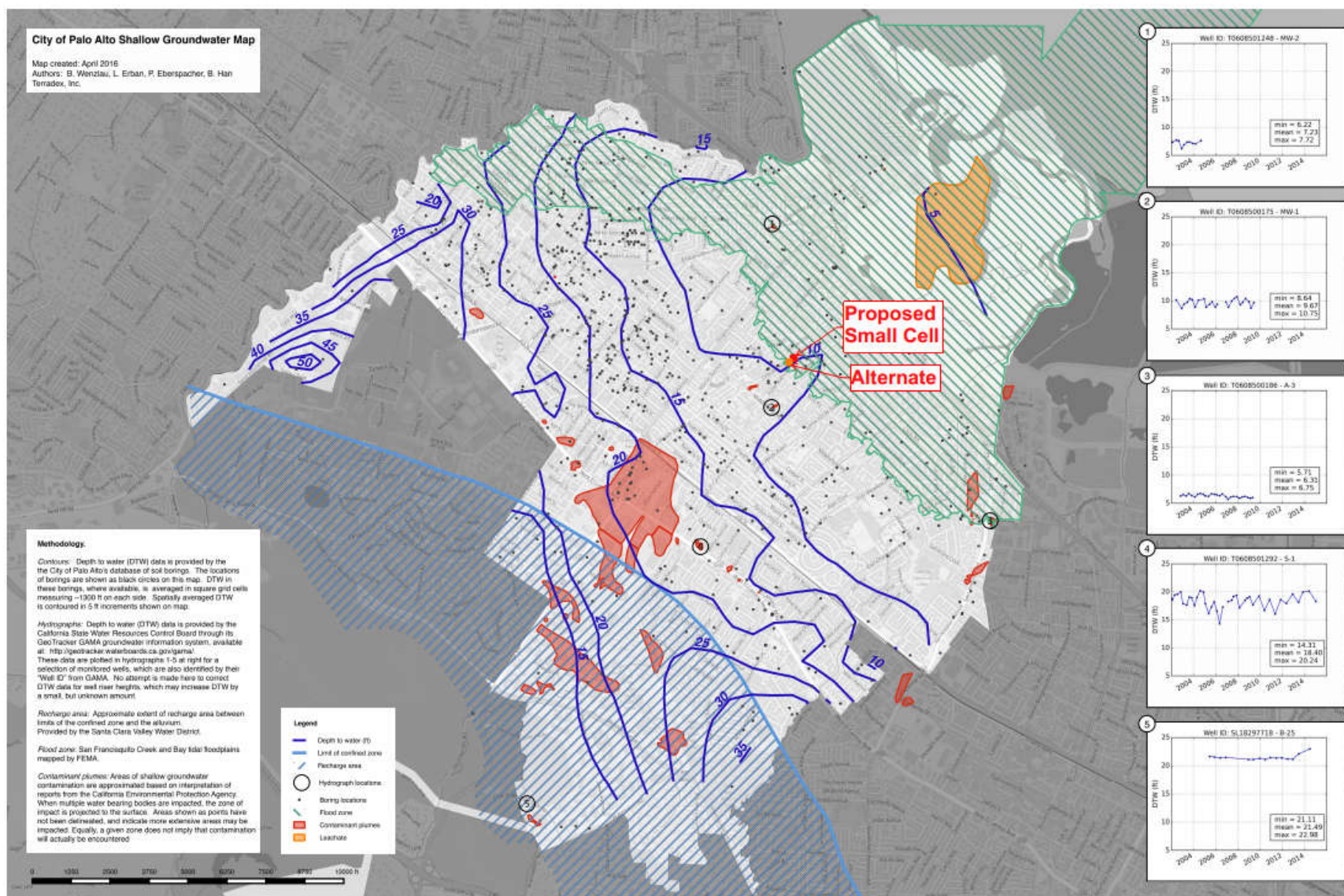
Parcel Map – 127-26-062

The Flood Plain designation of AE 10.5 is listed on the Palo Alto Parcel Report for the only alternate pole SF PALO ALTO 138-E, adjacent to 830 Colorado Ave:



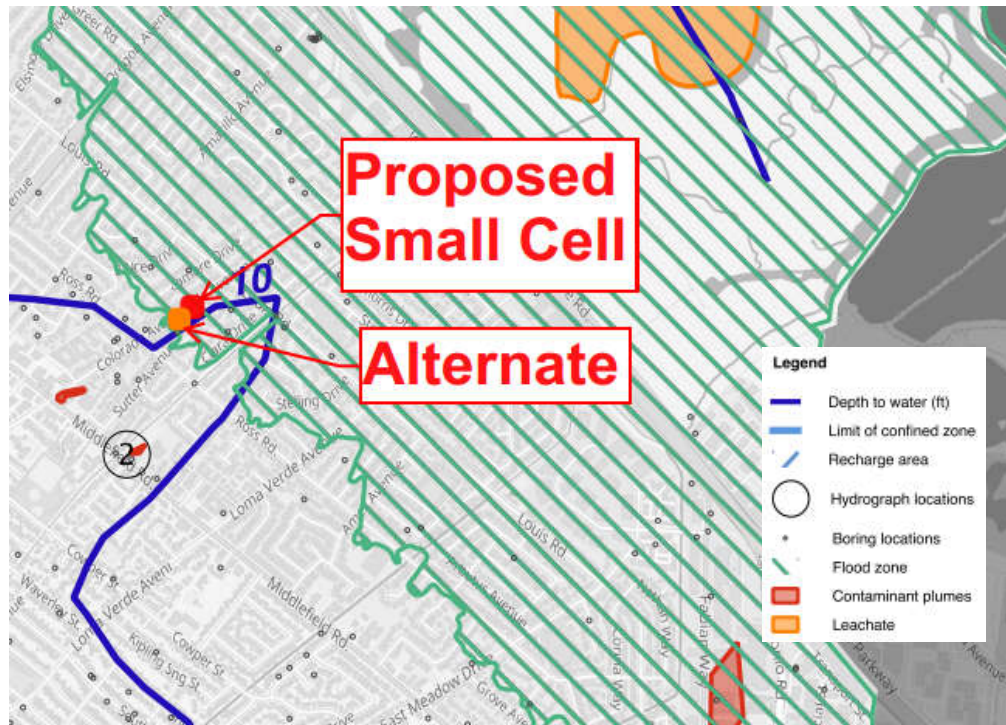
Palo Alto Shallow Groundwater Map

The Palo Alto Shallow Groundwater Map demonstrates, by marking with green stripes, the Flood Zone for San Francisquito Creek and Bay tidal floodplains mapped by FEMA. Both the primary pole and its alternate lie within the Flood Zone.



Zoom of Palo Alto Shallow Groundwater Map:

The proposed primary pole, as well as the alternate, both lie within the Flood Zone, designated by the green lines.



Conclusion: Underground Vault Infeasible

As described above, Verizon Wireless is unable to locate equipment in underground vaults in a Flood Zone. The proposed pole and its associated alternate pole for attachment are both located within the Flood Zone, as identified by FEMA. A vault cannot be located within a Flood Zone as Verizon Wireless' radio equipment will not operate under water. The proposed vault is not sealed and thus not completely waterproof; there is absolutely no means of "flood proofing" a vault to house radio equipment. The vault comes equipped with sump pumps in the event of minor water intrusion. In the event of a flood where the water levels have been documented to rise above ground level, there is no mechanical ability to disperse water out of the vault. This would result in the radios inside the vault to be fully submerged in water and unable to operate.

Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a "box" style shroud. Pole mounted equipment begins at 9'-0" on the pole, located well above the flood plain.

City of Palo Alto Requirements for Utilities within Flood Zone

The City of Palo Alto website contains helpful information regarding placement utilities in Flood Zones: "Other provisions require openings in areas below flood level to allow water to enter and exit, flood proofing of utilities below the flood level, etc." Source: City of Palo Alto Website – Q&A About Flood Zones: <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=176>. Additionally, comment #A2 from the City of Palo Alto Department of Public Works received in Jan. 2018 matches the same criteria, that all proposed equipment in an underground vault shall be flood proofed. As previously mentioned, there is no way to flood proof underground vaults for radio equipment.



Development Review - Department Comments

City Department: Public Works Engineering
Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org
Date: 1/11/2018
Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.

2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.

4. EASEMENT: All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.

5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

SF Palo Alto 143 **419 El Verano Ave**

Executive Summary – Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 143 is located in the Public Right of Way, adjacent to 419 El Verano Ave. All possible vault locations are not feasible due to prohibited excavation within an existing Tree Protection Zone, sidewalk conditions that do not meet City requirements for vault placement on sloped and rolled curbs, as well as placement that would impede the adjacent residents' driveway. There are no viable alternate poles to review in this search ring. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4-5: Ground View and Feasibility Analysis – Primary Pole Search Area
Page 6: Summary of Alternate Poles
Page 7-9: Department of Public Works Comments & Standards Regarding Vaults

Vaulting Feasibility Report

Site Name: SF PALO ALTO 143

Site Pole Located: Public Right of Way, Adjacent to 419 El Verano Ave

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter

30-Foot Vault Search Area along El Verano:

The search area for the proposed vault location is a diameter of 5' to 30' from the existing pole location. Verizon Wireless engineering will allow a distance of 100' for the coaxial cable from the antenna to the radio before the network no longer operates as designed. To calculate the viable distance for a proposed vault, we must subtract the following from the allowable 100-foot distance: 1) CPAU requires a minimum setback of 5' from an existing pole to a vault location; 2) Antenna height to base of pole≈50'; 3) A 10' length of cable is required within the vault so radios can be elevated for maintenance; 4) City of Palo Alto standards for underground work require boring of ≈12' below grade. **The result is conservatively a viable distance of ≈25-30' from each CPAU pole to locate a vault.**



30-Foot Vault Search Area - along El Verano – Detailed View:



The following conditions prohibit the placement of an underground vault along El Verano:

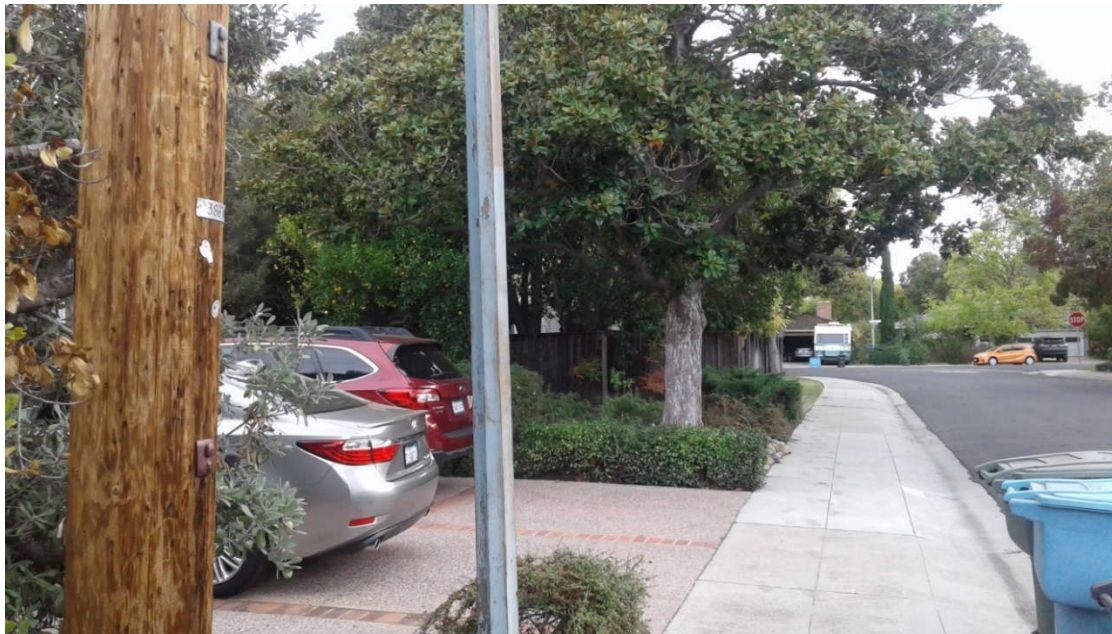
1. Vault must maintain a 5' setback from the selected utility pole per CPAU.
2. The sidewalk in this area has an excessive slope and rolled curb (see Photo 1). Vaults must be located outside the transition slope and on a level plane per City of Palo Alto Department of Public Works comment #B16 dated Jan. 2018.
3. Vaults sump pump requires tubes that discharge water into the street; these tubes cannot be placed in a rolled curb, as it creates a trip hazard and violates OSHA standards.
4. Vaults cannot impede a resident's driveway.
5. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto

Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The existing Southern Magnolia has a trunk diameter of 20" and a dripline of 16'-8"; excavation for a vault would not be allowed within that dripline (see page A-1 of the plan set for tree details and location).

6. An existing street light precludes placement of a vault in that area.

Supporting Visuals

Photo 1: Excessive sidewalk slope and rolled curb, which does not allow for vault placement.



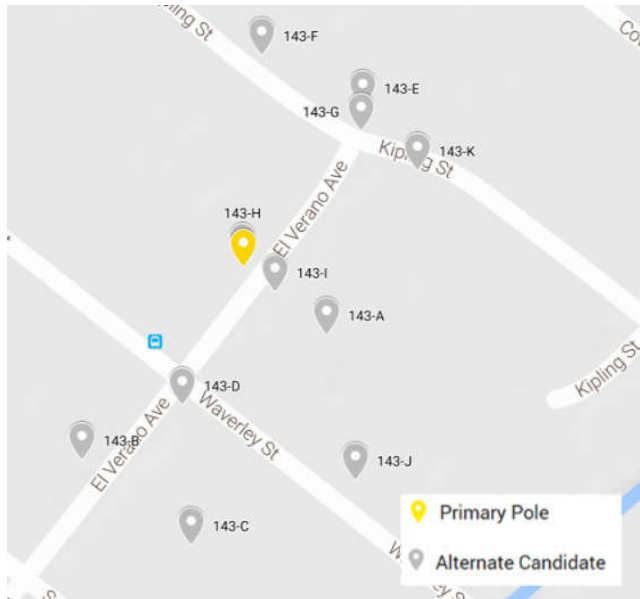
Conclusion: Underground Vault Infeasible

As described above, the various site conditions and sidewalk layout do not provide adequate space to install an underground vault. Placement of a vault would impede the adjacent resident's driveway. Additionally, the Tree Protection Zone for trees within the viable search area is so large to prevent excavation. The sidewalk conditions do not meet City of Palo Alto Department of Public Works' requirements regarding transition slopes and rolled curbs. Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a "box" style shroud.

Analysis of Vault Feasibility - Alternate Utility Poles

SF PALO ALTO 143 Alternative Site Analysis

In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 143, only the primary pole is viable to meet the engineering objectives for this node. The original map and ASA of alternates reviewed is included below:



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
143-A	Wood Utility Pole	3866	Not Viable	Planning	Poles located on private property (residential easement), as opposed to the Public ROW, are only selected as a last resort, given potential disturbance to adjacent resident. Could not get pole number as it is located in yard.
143-B	Wood Utility Pole	3889	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on pole - wireless equipment not permitted.
143-C	Wood Utility Pole	Unknown	Not Viable	Planning	Poles located on private property (residential easement), as opposed to the Public ROW, are only selected as a last resort, given potential disturbance to adjacent resident. Could not get pole number as it is located in backyard.
143-D	Metal Street Light	18	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because 1) antenna location on streetlight is lower than on wood pole; 2) high visibility corners are not preferred per the planning siting guidelines.
143-E	Wood Utility Pole	3995	Not Viable	VZW RF Engineering	Pole is too short give the surrounding tree clutter and so could not meet engineering objective for this area.
143-F	Wood Utility Pole	3996	Not Viable	VZW RF Engineering	Pole location is viable, but was not selected as primary, as it is short and likely would require replacement to meet the required engineering objective. The pole partially resides in the driveway of the adjacent resident and would not be selected for attachment.
143-G	Metal Street Light	323	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
143-H	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
143-I	Wood Utility Pole	Unknown	Not Viable	Planning	Pole appears to be located on private property (residential easement), rather than Public ROW, and would only be selected as a last resort, given potential disturbance to adjacent resident. It is located within the yard of the resident.
143-J	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
143-K	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.



Development Review - Department Comments

City Department: Public Works Engineering

Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org

Date: 1/11/2018

Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
4. EASEMENT: All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

6. **WORK IN THE RIGHT-OF-WAY:** The plans must clearly indicate any work that is proposed in the public right-of-way, such as sidewalk replacement, driveway approach, or utility laterals. The plans must include notes that the work must be done per City standards and that the contractor performing this work must first obtain a Street Work Permit from Public Works at the Development Center. If a new driveway is in a different location than the existing driveway, then the sidewalk associated with the new driveway must be replaced with a thickened (6" thick instead of the standard 4" thick) section. Additionally, curb cuts and driveway approaches for abandoned driveways must be replaced with new curb, gutter and planter strip.
7. All proposed cube cabinet mounted equipment shall maintain a minimum clearance for 48 inches. The clearance shall be measured from the edge of the cabinet to the nearest obstruction and/or property line. Include a dimension for each location that has above ground equipment that will be mounted on a sidewalk.
8. **GRADING PERMIT:** Provide earthwork volumes on plan submittal indicating proposed cut and fill volumes in cubic yards. Any locations with a volume of 100 cubic yards or greater will require and additional grading and excavation permit. The application and instructions can be found on the City's website.
http://www.cityofpaloalto.org/gov/depts/pwd/forms_and_permits.asp
9. The applicant will be required to apply for all necessary permits including: Street Work and Encroachment Permit applications. All required applications shall be in the submittal package for Public Works. Any necessary traffic control plans will also be submitted in the permit application packet. Any submitted traffic control plans shall be routed to Transportation for review. These necessary permit applications and requirements are available from Public Works on our website:
<http://www.cityofpaloalto.org/gov/depts/pwd/default.asp>
10. Public Works to determine number of required permits for each proposed cluster phase of wireless sites. Any batching of permits for multiple locations will be determined by Public Works prior to issuance of permits.
11. All trench work and placement of fiber optic conduit shall adhere to City of Palo Alto Public Works specifications. Refer to City of Palo Alto Public Works Conduit Location Detail Telecommunications Drawing No. 402. This detail will provide specifics for placement of conduit in both residential and commercial areas. Any deviation from City Standards and Regulations must be approved by Public Works and all other applicable Departments.
12. Provide the following note on the Site Plan and adjacent to the work within the Public road right-of-way. "Any construction within the city's public road right-of-way shall have an approved Permit for Construction in the Public Street prior to commencement of this work."
13. **STORM WATER POLLUTION PREVENTION:** The City's full-sized "Pollution Prevention - It's Part of the Plan" sheet must be included in the plan set. Copies are available from Public Works on our website <http://www.cityofpaloalto.org/civicax/filebank/documents/2732>
14. Provide the following as a note on the Site Plan: "The contractor may be required to submit a logistics plan to the Public Works Department prior to commencing work that addresses all impacts to the City's right-of-way, including, but not limited to: pedestrian control, traffic control, truck routes, material deliveries, contractor's parking, concrete pours, crane lifts, work hours, noise control, dust control, storm water pollution prevention, contractor's contact, noticing of affected surrounding properties, and schedule of work. The requirement to submit a logistics

plan will be dependent on the number of applications Public Works Engineering receives within close proximity to help mitigate and control the impact to the public-right-of-way. If necessary, Public Works may require a Logistics Plan during construction.”

15. **TRAFFIC CONTROL:** All traffic control plans associated with each proposal location shall be reviewed by Transportation Division under Planning & Community Environment. Public Works will route all traffic control plans for Transportation review when associated Street Work and Encroachment permits are submitted.
16. **CURB CONDITION:** Each location shall identify curb type on plans. Indicate if whether or not a site has a rolled curb or standard curb/gutter. Proposed vault locations and equipment shall not be placed within a curb area. In the instance of the rolled curb, all equipment shall be removed from the transition slope area of the rolled curb. The equipment shall be on one plane.
17. Include sidewalk width for each location on site plans.
18. SFPA 0130 – Proposed vault location is not ideal. Location is directly in front of front entry of home. Relocate vault location.
19. SFPA 131 – Proposed vault location is not fully depicted on sheet A-2. Notes obscure a portion of the vault. Revise the page to show the entire vault location, sidewalk, curb/gutter, etc.
20. SFPA133 – Proposed vault location is shown in conflict with existing electrical hand hole. Revise location so that no portion of vault is in the same area as an existing utility vault.
21. SFPA137: Portion of vault is shown in curb area.
22. SFPA 144 – Existing mailbox structure is not depicted on plans. Existing curb ramp area shall be shown on plans to indicate distance from proposed underground vault.

SF Palo Alto 144 **201 Loma Verde Ave**

Executive Summary – Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 144 is located in the Public Right of Way, adjacent to 201 Loma Verde Ave. All possible vault locations are not feasible due to existing underground utilities, ADA requirements and encroaching within an existing tree drip line. There are no viable alternate poles to review in this search ring. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4-10: Ground View and Feasibility Analysis – Primary Pole Search Area
Page 11: Summary of Alternate Poles
Page 12-14: Department of Public Works Comments & Standards Regarding Vaults

Vaulting Feasibility Report

Site Name: SF PALO ALTO 144

Site Pole Located: Public Right of Way, Adjacent to 201 Loma Verde Ave

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

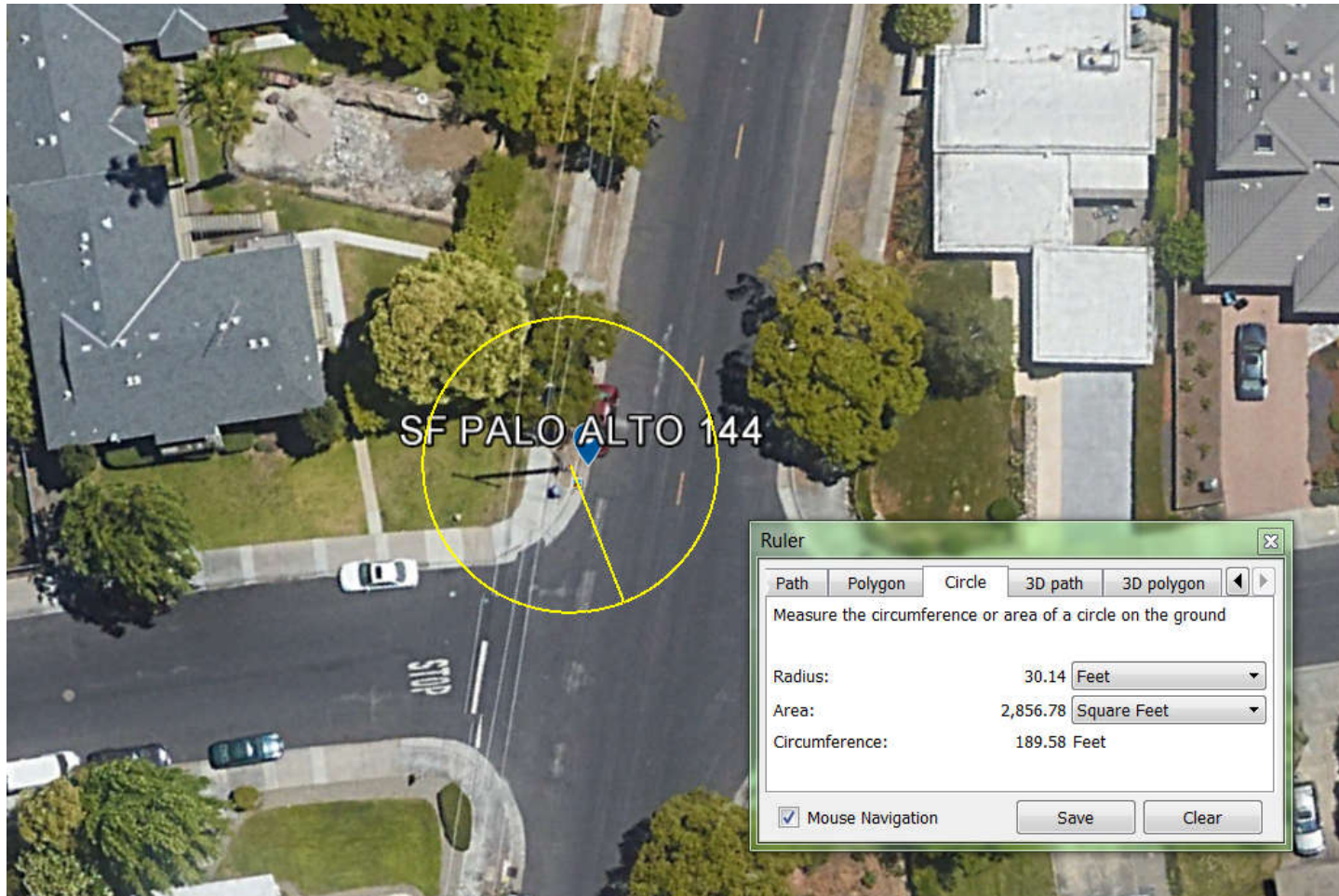
- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

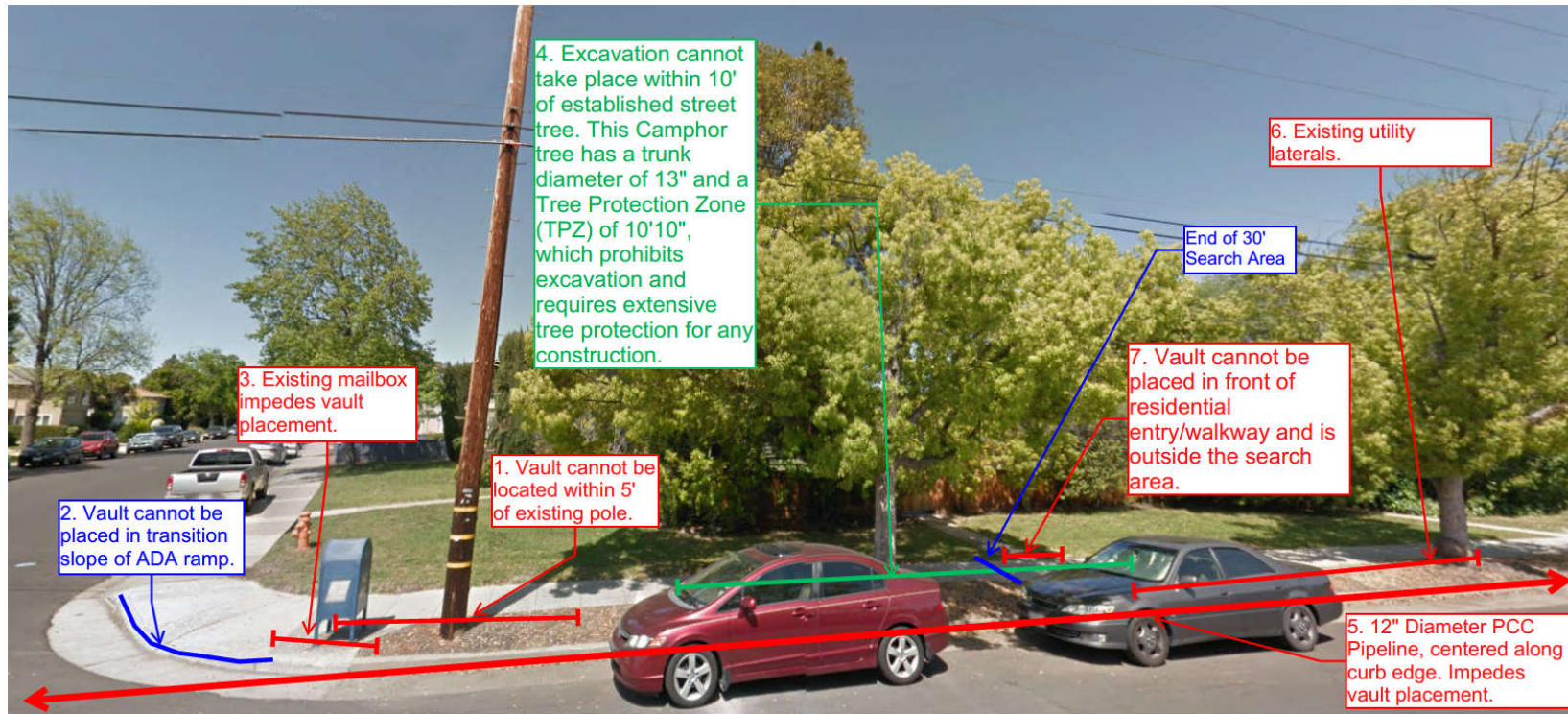
Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter

30-Foot Vault Search Area along Loma Verde Ave and Emerson St:

The search area for the proposed vault location is a diameter of 5' to 30' from the existing pole location. Verizon Wireless engineering will allow a distance of 100' for the coaxial cable from the antenna to the radio before the network no longer operates as designed. To calculate the viable distance for a proposed vault, we must subtract the following from the allowable 100-foot distance: 1) CPAU requires a minimum setback of 5' from an existing pole to a vault location; 2) Antenna height to base of pole≈50'; 3) A 10' length of cable is required within the vault so radios can be elevated for maintenance; 4) City of Palo Alto standards for underground work require boring of ≈12' below grade. **The result is conservatively a viable distance of ≈25-30' from each CPAU pole to locate a vault.**



30-Foot Vault Search Area – Part 1: along Loma Verde – Detailed View:



The following conditions prohibit the placement of an underground vault along Loma Verde Ave:

1. Vault must maintain a 5' setback from the selected utility pole per CPAU.
2. Vault cannot be placed in transition slope of ADA ramp.
3. Existing mailbox on corner impedes placement of a vault.
4. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works' comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The existing Modesto Ash has a trunk diameter of 13" and a dripline of 10'-10"; excavation for a vault would not be allowed within that dripline (see page A-1 of the plan set for tree details and location).
5. A 12" diameter PCC Storm Pipeline is located along the entire curb edge of Loma Verde Ave (see Utility Map 1 below).
6. Existing utility laterals to the northeast of the pole require setbacks per CPUC GO128 (Rules for Underground Electric Supply and Communication Systems). Additionally, this area is outside the acceptable distance of 25-30' from the pole.
7. Residence to northeast has entry/walkway that cannot be blocked (it is also outside the acceptable search area).

Supporting Visuals

Utility Map 1: Existing utility laterals along Loma Verde Ave.

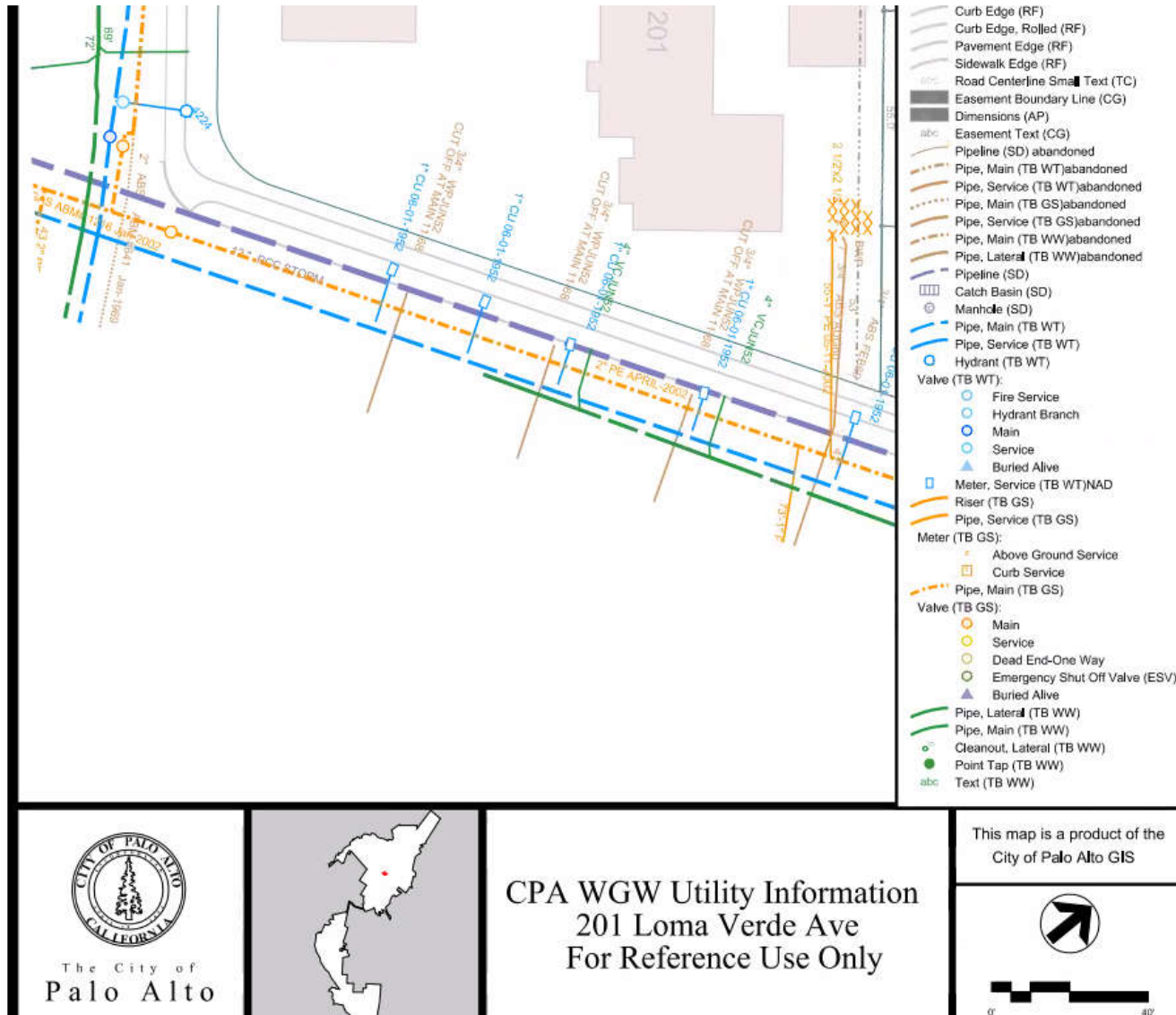
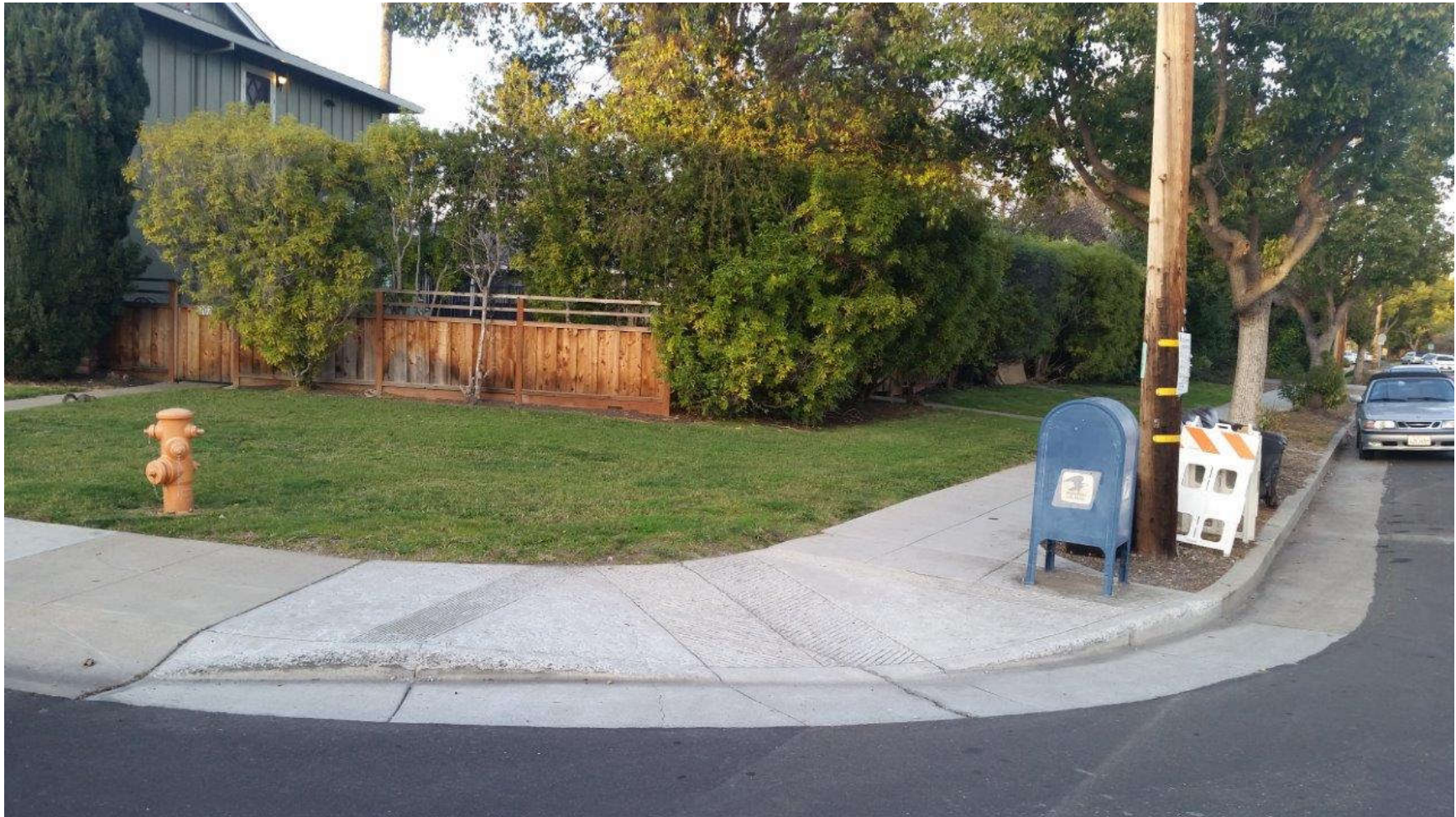
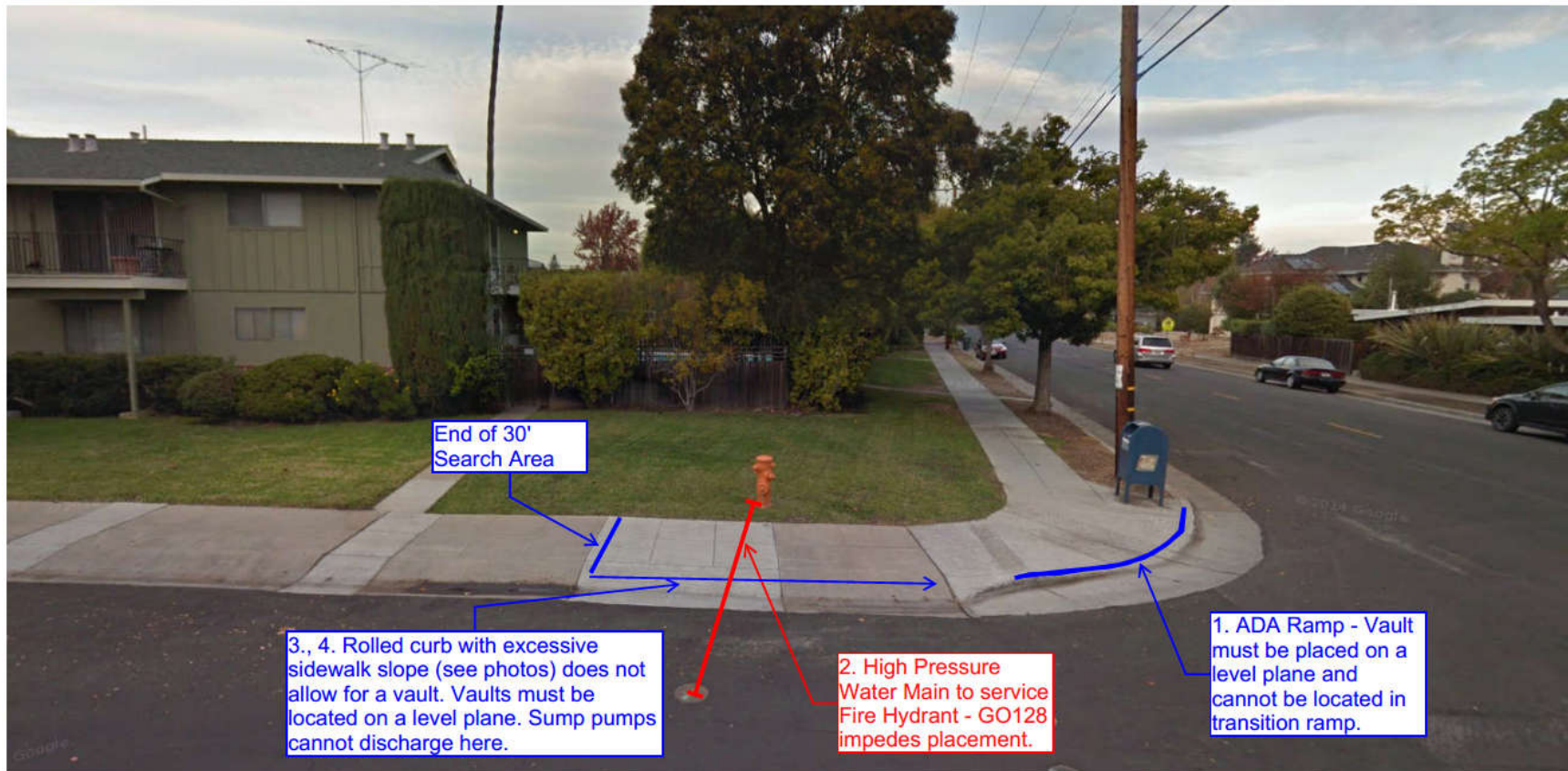


Photo 2: ADA Ramp and Existing Mailbox



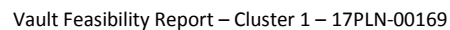
30-Foot Vault Search Area – Part 2: along Loma Verde – Detailed View:



The following conditions prohibit the placement of an underground vault along Emerson St:

1. ADA Ramp located at corner – vault cannot be located within transition slope.
2. Vault cannot be placed in front of fire hydrant, serviced by high pressure water main per CPUC GO128 (Rules for Underground Electric Supply and Communication Systems). See Utility Map 1 below.
3. The sidewalk along Stone Lane in this area has an excessive slope and rolled curb (see Photo 2). Vaults must be located outside the transition slope and on a level plane per City of Palo Alto Department of Public Works' comment #B16 dated Jan. 2018.
4. Vaults sump pump requires tubes that discharge water into the street; these tubes cannot be placed in a rolled curb, as it creates a trip hazard.

Utility Map 1: High Pressure Water Service to Existing Fire Hydrant Along Emerson Ave.



Underground Utility Map from Plan Set (Page A-1.1): In addition to the City utility map above, underground utilities are also depicted on page A-1.1 of the Plan Set.

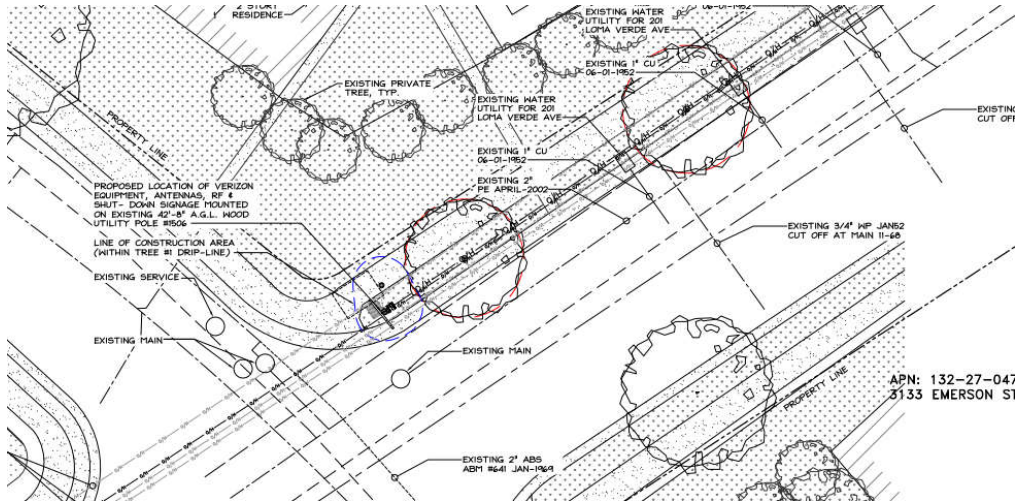
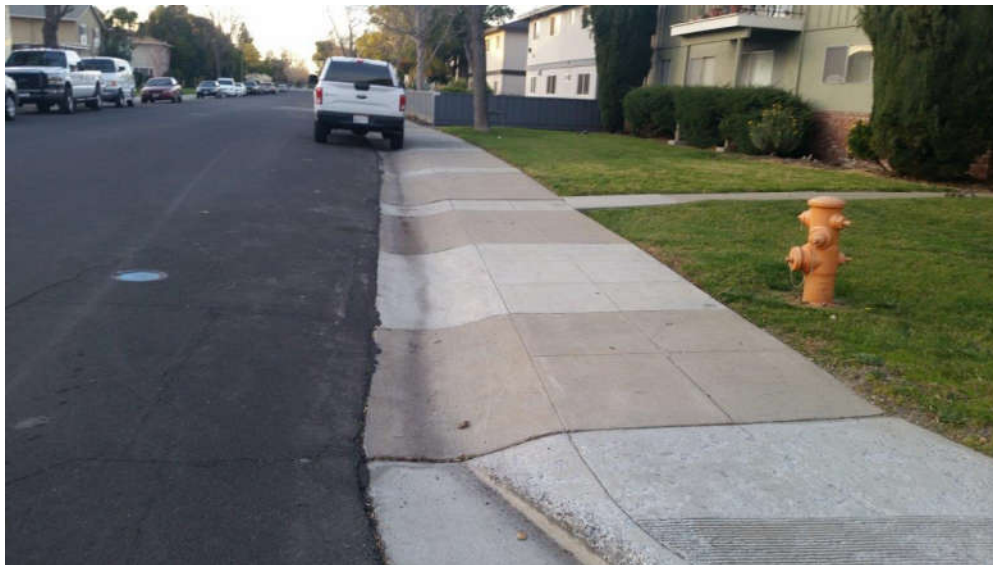


Photo 1: Excessive sidewalk slope, rolled curb and existing fire hydrant does not allow for vault placement.



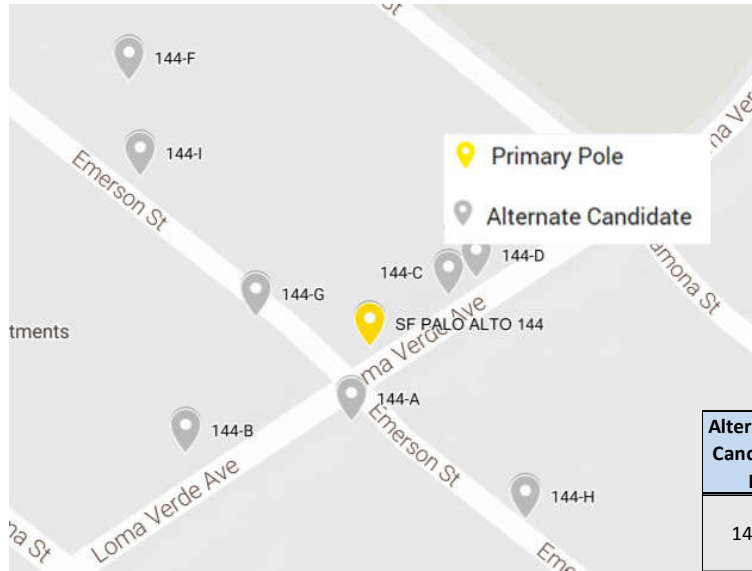
Conclusion: Underground Vault Infeasible

As described above, the various site conditions and sidewalk layout do not provide adequate space to install an underground vault. Placement of a vault would violate CPUC GO128 (Rules for Underground Electric Supply and Communication Systems), ADA requirements for access to the sidewalk, safety standards regarding curb safety and required distance from established street trees. Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a “box” style shroud.

Analysis of Vault Feasibility - Alternate Utility Poles

SF PALO ALTO 144 Alternative Site Analysis

In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 143, only the primary pole is viable to meet the engineering objectives for this node. The original map and ASA of alternates reviewed is included below:



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
144-A	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Not selected as primary because 1) antenna location on streetlight is lower than on wood pole; 2) high visibility corners are not preferred per the planning siting guidelines.
144-B	Wood Utility Pole	1521	Not Viable	CPAU Engineering	Existing AT&T utilities conflict with attachment.
144-C	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
144-D	Wood Utility Pole	1507	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on the pole.
144-E	Wood Utility Pole	1508	Not Viable	Planning	Poles located on private property (residential easement), rather than in the Public ROW, are only selected as a last resort, given potential disturbance to adjacent resident.
144-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
144-G	Metal Street Light	304	Not Viable	VZW RF Engineering	Significant tree clutter surround light and would not meet engineering objectives.
144-H	Metal Street Light	311	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
144-I	Metal Street Light	Unknown	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.



Development Review - Department Comments

City Department: Public Works Engineering

Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org

Date: 1/11/2018

Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
4. EASEMENT: All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

6. **WORK IN THE RIGHT-OF-WAY:** The plans must clearly indicate any work that is proposed in the public right-of-way, such as sidewalk replacement, driveway approach, or utility laterals. The plans must include notes that the work must be done per City standards and that the contractor performing this work must first obtain a Street Work Permit from Public Works at the Development Center. If a new driveway is in a different location than the existing driveway, then the sidewalk associated with the new driveway must be replaced with a thickened (6" thick instead of the standard 4" thick) section. Additionally, curb cuts and driveway approaches for abandoned driveways must be replaced with new curb, gutter and planter strip.
7. All proposed cube cabinet mounted equipment shall maintain a minimum clearance for 48 inches. The clearance shall be measured from the edge of the cabinet to the nearest obstruction and/or property line. Include a dimension for each location that has above ground equipment that will be mounted on a sidewalk.
8. **GRADING PERMIT:** Provide earthwork volumes on plan submittal indicating proposed cut and fill volumes in cubic yards. Any locations with a volume of 100 cubic yards or greater will require and additional grading and excavation permit. The application and instructions can be found on the City's website.
http://www.cityofpaloalto.org/gov/depts/pwd/forms_and_permits.asp
9. The applicant will be required to apply for all necessary permits including: Street Work and Encroachment Permit applications. All required applications shall be in the submittal package for Public Works. Any necessary traffic control plans will also be submitted in the permit application packet. Any submitted traffic control plans shall be routed to Transportation for review. These necessary permit applications and requirements are available from Public Works on our website:
<http://www.cityofpaloalto.org/gov/depts/pwd/default.asp>
10. Public Works to determine number of required permits for each proposed cluster phase of wireless sites. Any batching of permits for multiple locations will be determined by Public Works prior to issuance of permits.
11. All trench work and placement of fiber optic conduit shall adhere to City of Palo Alto Public Works specifications. Refer to City of Palo Alto Public Works Conduit Location Detail Telecommunications Drawing No. 402. This detail will provide specifics for placement of conduit in both residential and commercial areas. Any deviation from City Standards and Regulations must be approved by Public Works and all other applicable Departments.
12. Provide the following note on the Site Plan and adjacent to the work within the Public road right-of-way. "Any construction within the city's public road right-of-way shall have an approved Permit for Construction in the Public Street prior to commencement of this work."
13. **STORM WATER POLLUTION PREVENTION:** The City's full-sized "Pollution Prevention - It's Part of the Plan" sheet must be included in the plan set. Copies are available from Public Works on our website <http://www.cityofpaloalto.org/civicax/filebank/documents/2732>
14. Provide the following as a note on the Site Plan: "The contractor may be required to submit a logistics plan to the Public Works Department prior to commencing work that addresses all impacts to the City's right-of-way, including, but not limited to: pedestrian control, traffic control, truck routes, material deliveries, contractor's parking, concrete pours, crane lifts, work hours, noise control, dust control, storm water pollution prevention, contractor's contact, noticing of affected surrounding properties, and schedule of work. The requirement to submit a logistics

plan will be dependent on the number of applications Public Works Engineering receives within close proximity to help mitigate and control the impact to the public-right-of-way. If necessary, Public Works may require a Logistics Plan during construction.”

15. **TRAFFIC CONTROL:** All traffic control plans associated with each proposal location shall be reviewed by Transportation Division under Planning & Community Environment. Public Works will route all traffic control plans for Transportation review when associated Street Work and Encroachment permits are submitted.
16. **CURB CONDITION:** Each location shall identify curb type on plans. Indicate if whether or not a site has a rolled curb or standard curb/gutter. Proposed vault locations and equipment shall not be placed within a curb area. In the instance of the rolled curb, all equipment shall be removed from the transition slope area of the rolled curb. The equipment shall be on one plane.
17. Include sidewalk width for each location on site plans.
18. SFPA 0130 – Proposed vault location is not ideal. Location is directly in front of front entry of home. Relocate vault location.
19. SFPA 131 – Proposed vault location is not fully depicted on sheet A-2. Notes obscure a portion of the vault. Revise the page to show the entire vault location, sidewalk, curb/gutter, etc.
20. SFPA133 – Proposed vault location is shown in conflict with existing electrical hand hole. Revise location so that no portion of vault is in the same area as an existing utility vault.
21. SFPA137: Portion of vault is shown in curb area.
22. SFPA 144 – Existing mailbox structure is not depicted on plans. Existing curb ramp area shall be shown on plans to indicate distance from proposed underground vault.

SF Palo Alto 145
737 Loma Verde Ave

Executive Summary – Vault Feasibility Report

Summary:

The proposed location for SF Palo Alto 145 is located in the Public Right of Way, adjacent to 737 Loma Verde Ave. All possible vault locations are not feasible due to existing underground utilities and encroachment within an existing tree drip line. There is one viable alternate pole to review in this search ring. Further details to follow.

Report Contents:

Page 1: Summary
Page 2: Vault Specifications
Page 3: Aerial View – Vault Search Area Near Primary Pole
Page 4-7: Ground View and Feasibility Analysis – Primary Pole Search Area
Page 8: Summary of Alternate Poles
Page 9: Aerial View – Vault Search Area Near Alternate Pole
Page 10-11: Ground View and Feasibility Analysis – Alternate Pole Search Area
Page 12-14: Department of Public Works Comments & Standards Regarding Vaults

Vaulting Feasibility Report

Site Name: SF PALO ALTO 145

Site Pole Located: Public Right of Way, Adjacent to 737 Loma Verde Ave

Vault Dimension Requirements:

Vault Equipment: Western Utility Vault ID-717

Vault Interior Dimensions: 4' x 6'-6" x 4' to accommodate required three (3) radios

Vault Exterior Dimensions, including Lid with Hatch: 5'-8" x 8'-2" x 1'

Vault Excavation Requirements: 10' x 18' x 8'-1"

- Depth to accommodate 1'-8" x 1'-8" x 2'-6" drywell for sump, located under vault
- Width to accommodate two (2) intake and exhaust vents on either end of the vault lid, both 2'-6" x 2'-6" x 5'-7"

Venting Requirements: (2) underground vent stacks for intake and exhaust at 2'-6" x 2'-6" x 5'-7", separation from vault required for temperature regulation

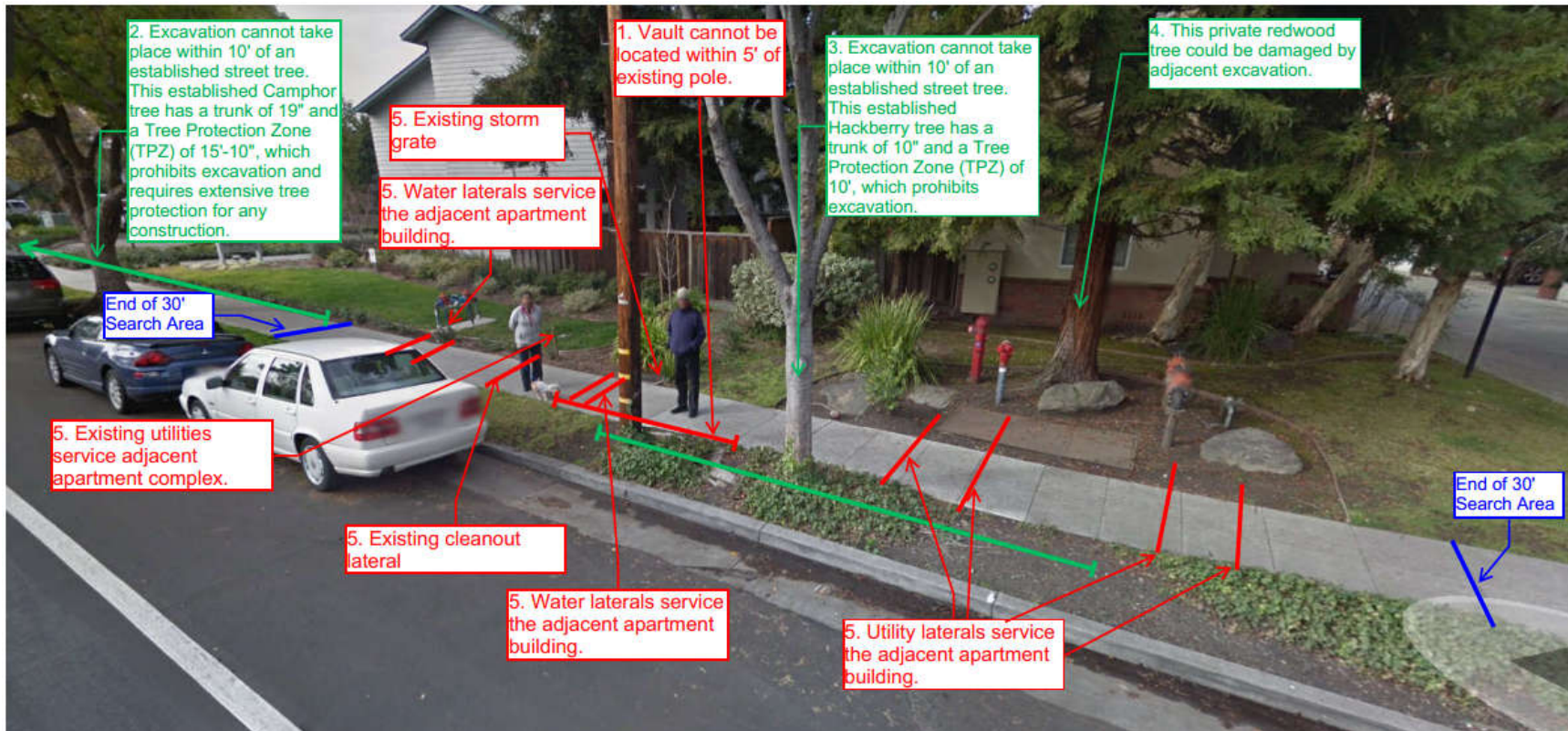
Vault Sump Pump Drainage: (2) underground sump pumps required, located on top of drywell, core drilled to curb release to gutter

30-Foot Vault Search Area along Loma Verde Ave:

The search area for the proposed vault location is a diameter of 5' to 30' from the existing pole location. Verizon Wireless engineering will allow a distance of 100' for the coaxial cable from the antenna to the radio before the network no longer operates as designed. To calculate the viable distance for a proposed vault, we must subtract the following from the allowable 100-foot distance: 1) CPAU requires a minimum setback of 5' from an existing pole to a vault location; 2) Antenna height to base of pole≈50'; 3) A 10' length of cable is required within the vault so radios can be elevated for maintenance; 4) City of Palo Alto standards for underground work require boring of ≈12' below grade. **The result is conservatively a viable distance of ≈25-30' from each CPAU pole to locate a vault.**



30-Foot Vault Search Area – along Loma Verde – Detailed View:



The following conditions prohibit the placement of an underground vault at the primary pole along Loma Verde Ave:

1. Vault must maintain a 5' setback from the selected utility pole per CPAU.
2. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works' comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The existing Camphor tree has a trunk diameter of 19" and a dripline of 15'-10"; excavation for a vault would not be allowed within that dripline (see page A-1 of the plan set for tree details and location).
3. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works' comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto

Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The existing Hackberry has a trunk diameter of 10" and a dripline of 10'; excavation for a vault would not be allowed within that dripline (see page A-1 of the plan set for tree details and location).

4. The adjacent private redwood is a Protected Tree species in the City of Palo Alto.
5. Utility laterals to service the adjacent apartment building lie along the entire sidewalk, which impedes placement of a vault. See supporting Utility Map 1 below.

Supporting Visuals

Utility Map 1: Laterals servicing the adjacent apartment building run along the entire length of adjacent sidewalk.

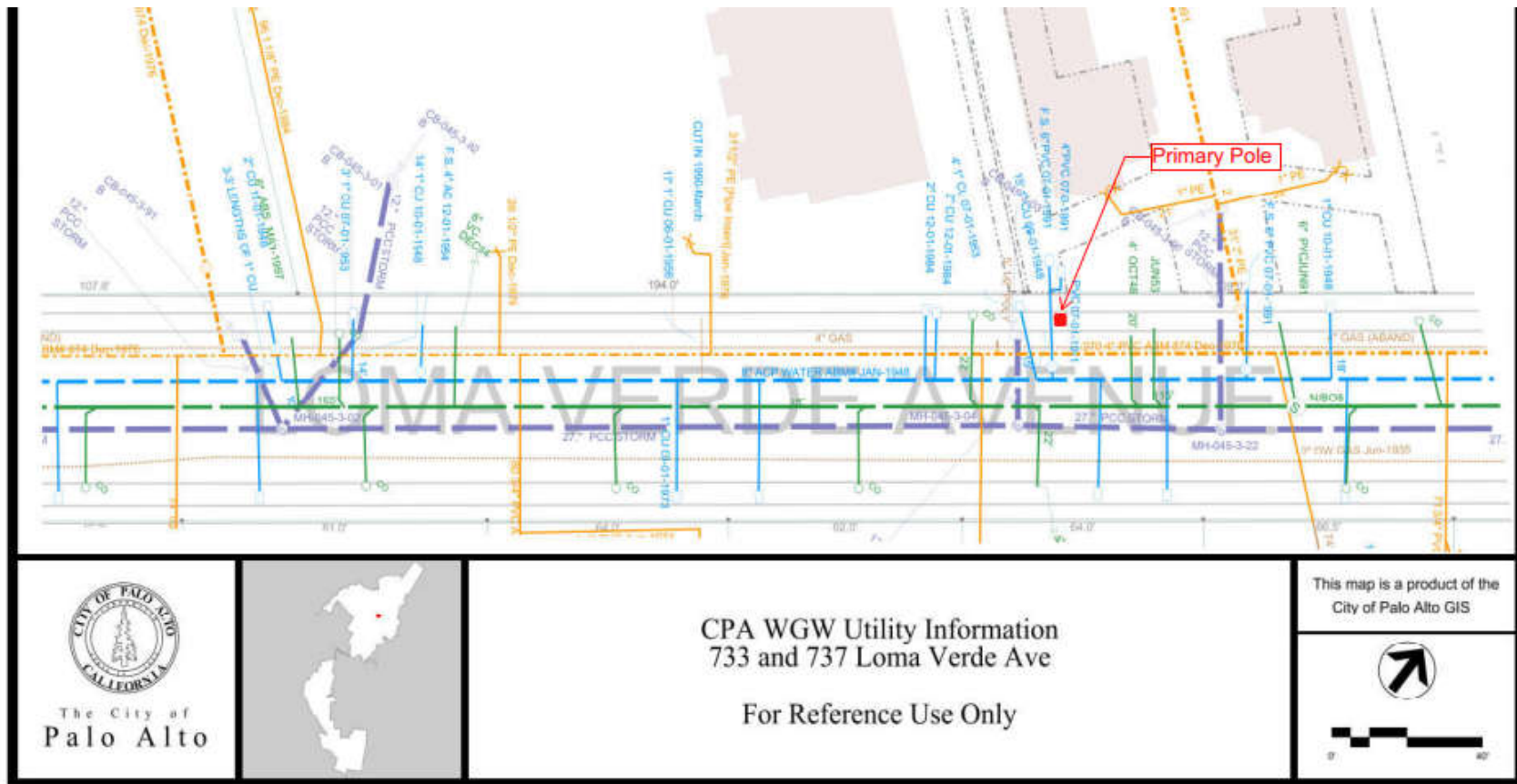
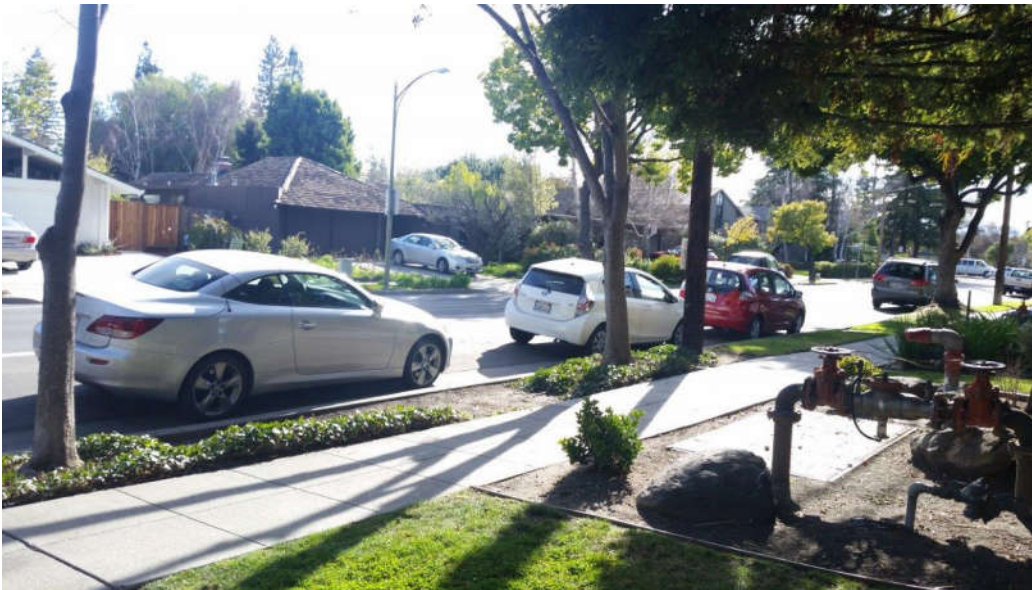


Photo 1: Existing utilities impede vault placement.



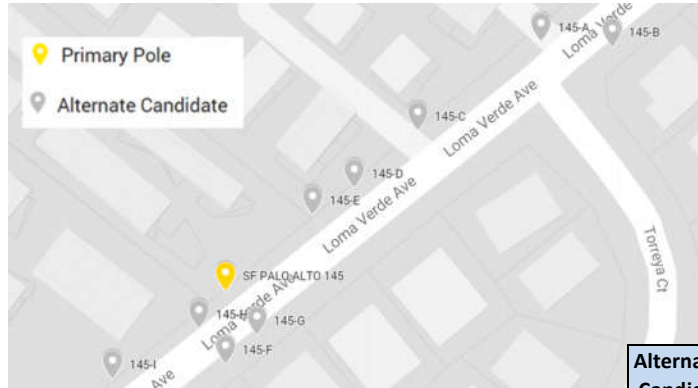
Photo 2: Existing utilities impede vault placement.



Analysis of Vault Feasibility - Alternate Utility Poles

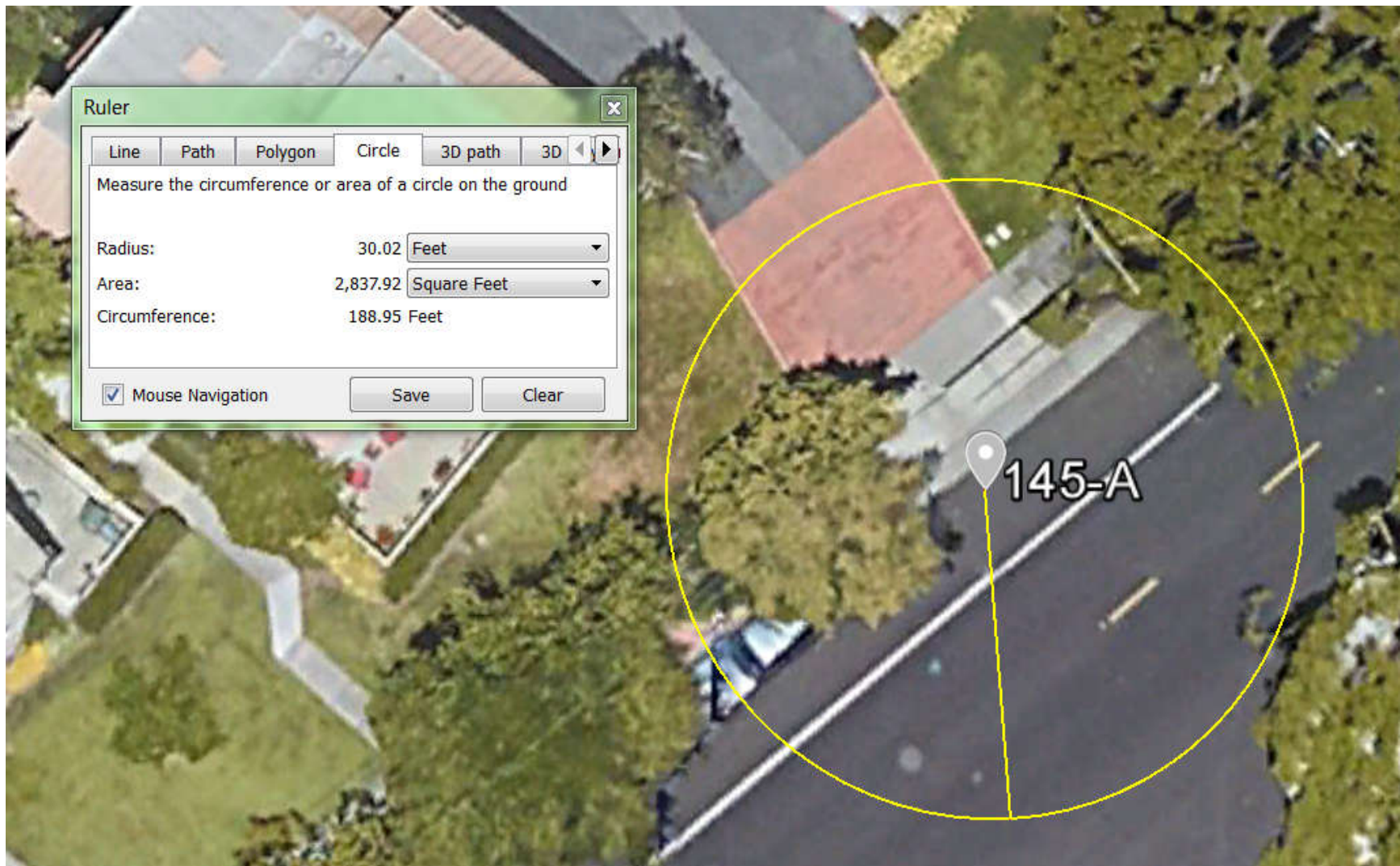
SF PALO ALTO 145 Alternative Site Analysis

In the Cluster 1 resubmittal dated 12/21/2017, Vinculums included an alternate site analysis for each node. For SF Palo Alto 145, two existing pole locations were determined as viable to meet the engineering objectives for this node. Candidate 145-A was initially determined to be a viable alternate. As requested by the City of Palo Alto, we will also review the alternate viability for vaulting. The original map and ASA of alternates reviewed is included below:



Alternative Candidate ID	Structure Type	Pole #	Viable Alternative Candidate	Fallout Reason	Fallout Note
145-A	Wood Utility Pole	3292	Viable	Viable Alternate	Pole is viable alternate, but was not selected as primary. It is first alternate candidate. The pole was recently replaced and the old transfer pole still exists.
145-B	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, there is too much tree clutter surrounding this pole, so it would not meet the engineering objective for this area.
145-C	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Transformer located on the pole.
145-D	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service. Additionally, CPUC GO95 rules require clearance from communication equipment. There is not enough clearance on this pole to allow a VZW attachment.
145-E	Wood Utility Pole	Unknown	Not Viable	CPAU Engineering	Existing AT&T utilities conflict with attachment.
145-F	Metal Street Light	No Tag	Not Viable	VZW RF Engineering	Viable location, but not selected as primary because an antenna location on streetlight is lower than on wood pole and does not provide the same level of service.
145-G	Wood Utility Pole	3290	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary riser located on pole.
145-H	Wood Utility Pole	3289	Not Viable	CPAU Engineering	Pole is for communications only and not electrical transmission. Additionally, it is too short to meet the required engineering objectives.
145-I	Wood Utility Pole	3285	Not Viable	CPAU Engineering	Utility engineering constraints would not allow an attachment. Primary riser located on pole.

30-Foot Vault Search Area for Alternate – SF PALO ALTO 145-A:



30-Foot Vault Search Area for Alternate – SF PALO ALTO 145-A – Detailed View:



The following conditions prohibit the placement of an underground vault at this alternate pole:

1. Vault must maintain a 5' setback from the selected utility pole per CPAU.
2. The walkway of the adjacent residence precludes vault placement (See Photo 1).
3. The vault cannot be placed within a driveway.
4. Excavation cannot occur within 10' of an established street tree, per City of Palo Alto Department of Public Works' comment #B5 dated Jan. 2018. Additionally, Section 1.39 of the Palo Alto Tree Technical Manual confirms that trenching within the Tree Protection Zone (TPZ) is injurious to roots and tree health and is prohibited. The TPZ extends a *minimum distance* of the dripline, per Section 1.36 of the Palo Alto Tree Technical Manual. Section 2.15 of the outlines prohibited activities within the TPZ including foundation digging, utility trenching, paving, or any other excavation. The two large existing trees have driplines that extend well beyond the 10-foot minimum; excavation for a vault would not be allowed within that dripline.

Supporting Visuals

Photo 1: Existing walkway impede vault placement



Conclusion: Underground Vault Infeasible

As described above, the various site conditions and sidewalk layout do not provide adequate space to install an underground vault. The extensive presence of existing utilities impedes the placement of a vault. Existing driveways and trees prevent vault placement at an alternate. Given the infeasibility of a vault at this location, Verizon Wireless has proposed pole mounted equipment with a “box” style shroud.



Development Review - Department Comments

City Department: Public Works Engineering

Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org

Date: 1/11/2018

Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval:

1. UNDERGROUND VAULT: Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.
2. FLOOD ZONE: All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

B. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. EXCAVATION: Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.
4. EASEMENT: All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
5. DEMOLITION PLAN: Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

6. WORK IN THE RIGHT-OF-WAY: The plans must clearly indicate any work that is proposed in the public right-of-way, such as sidewalk replacement, driveway approach, or utility laterals. The plans must include notes that the work must be done per City standards and that the contractor performing this work must first obtain a Street Work Permit from Public Works at the Development Center. If a new driveway is in a different location than the existing driveway, then the sidewalk associated with the new driveway must be replaced with a thickened (6" thick instead of the standard 4" thick) section. Additionally, curb cuts and driveway approaches for abandoned driveways must be replaced with new curb, gutter and planter strip.
7. All proposed cube cabinet mounted equipment shall maintain a minimum clearance for 48 inches. The clearance shall be measured from the edge of the cabinet to the nearest obstruction and/or property line. Include a dimension for each location that has above ground equipment that will be mounted on a sidewalk.
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11. All trench work and placement of fiber optic conduit shall adhere to City of Palo Alto Public Works specifications. Refer to City of Palo Alto Public Works Conduit Location Detail Telecommunications Drawing No. 402. This detail will provide specifics for placement of conduit in both residential and commercial areas. Any deviation from City Standards and Regulations must be approved by Public Works and all other applicable Departments.
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14. Provide the following as a note on the Site Plan: "The contractor may be required to submit a logistics plan to the Public Works Department prior to commencing work that addresses all impacts to the City's right-of-way, including, but not limited to: pedestrian control, traffic control, truck routes, material deliveries, contractor's parking, concrete pours, crane lifts, work hours, noise control, dust control, storm water pollution prevention, contractor's contact, noticing of affected surrounding properties, and schedule of work. The requirement to submit a logistics

plan will be dependent on the number of applications Public Works Engineering receives within close proximity to help mitigate and control the impact to the public-right-of-way. If necessary, Public Works may require a Logistics Plan during construction.”

15. **TRAFFIC CONTROL:** All traffic control plans associated with each proposal location shall be reviewed by Transportation Division under Planning & Community Environment. Public Works will route all traffic control plans for Transportation review when associated Street Work and Encroachment permits are submitted.
16. **CURB CONDITION:** Each location shall identify curb type on plans. Indicate if whether or not a site has a rolled curb or standard curb/gutter. Proposed vault locations and equipment shall not be placed within a curb area. In the instance of the rolled curb, all equipment shall be removed from the transition slope area of the rolled curb. The equipment shall be on one plane.
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19. SFPA 131 – Proposed vault location is not fully depicted on sheet A-2. Notes obscure a portion of the vault. Revise the page to show the entire vault location, sidewalk, curb/gutter, etc.
20. SFPA133 – Proposed vault location is shown in conflict with existing electrical hand hole. Revise location so that no portion of vault is in the same area as an existing utility vault.
21. SFPA137: Portion of vault is shown in curb area.
22. SFPA 144 – Existing mailbox structure is not depicted on plans. Existing curb ramp area shall be shown on plans to indicate distance from proposed underground vault.

Attachment E

Project Plans

Hardcopies of project plans are provided to City Council Members. Hardcopies are available to the public by visiting the Planning and Community Environmental Department on at City Hall at 250 Hamilton Avenue.

Project Plans may also be viewed online:

Please visit the Project Website here to review the February 26, 2018 Project Plans:

- <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=3999&TargetID=319>

Additional application materials, including superseded project plan sets, can be found online by visiting the City's Building Eye:

1. Go to: <https://paloalto.buildingeye.com/planning>
2. Search for **"250 Hamilton Avenue"**
and open the record for 17PLN-00169 by clicking on the green dot
3. Review the record details and open the "more details" option
4. Use the "Records Info" drop down menu and select "Attachments"

The February 26, 2018 Project Plans are named:

"17PLN-00169 Cluster 1 Resubmittal Plans 02-26-18 FULL PLAN SET" (76MB)

OR for smaller file sizes:

"17PLN-00169 Cluster 1 Resubmittal Plans 02-26-18 1 of 4" (27MB)
"17PLN-00169 Cluster 1 Resubmittal Plans 02-26-18 2 of 4" (27MB)
"17PLN-00169 Cluster 1 Resubmittal Plans 02-26-18 3 of 4" (23MB)
"17PLN-00169 Cluster 1 Resubmittal Plans 02-26-18 4 of 4" (17MB)

Note:

The address for this application 17PLN-00169 is listed in the City's permit tracking system under 250 Hamilton Avenue because the utility poles and streetlights that are proposed to host the small cell deployment nodes are identified by unique pole numbers and do not have specific property addresses.



CITY OF
**PALO
ALTO**

PLANNING & COMMUNITY ENVIRONMENT

250 Hamilton Avenue, 5th Floor
Palo Alto, CA 94301
650.329.2441

March 26, 2018

Mary Diesch, Site Acquisition Manager, Small Cells
Vinculums Services
575 Lennon Lane
Walnut Creek CA 94598

Subject: 250 Hamilton Avenue [17PLN-00169]; Tier 3 Wireless Communication Facility Permit Applications for 11 Small Cell Nodes – Vinculums/Verizon Cluster 1

Dear Mary Diesch:

On March 26, 2018 the Director of Planning and Community Environment (Director) approved 11 small cell nodes referenced below, under file 17PLN-00169.

These Director's approvals (known as Tier 3 Wireless Communication Facility (WCF) permits) were granted pursuant to the Palo Alto Municipal Code (PAMC) Sections 18.42.110 (c)(3), 18.42.110 (h)(1), 18.42.110 (h)(2), 18.42.110 (i), and 18.42.110 (j). These decisions were based on the review of all information contained within the project file, all public comments received to date, and the review of the proposal in comparison to applicable Comprehensive Plan goals and policies, as well as zoning and other municipal code requirements. These Director's approvals correspond with the recommendations of the Architectural Review Board from March 15, 2018.

APPROVED PROJECT LOCATIONS: Tier 3 Wireless Communication Facilities (small cell wireless communication equipment) are hereby approved on eleven utility poles in the public right of way within the Mid-Town, Palo Verde, St. Claire Gardens, and South of Mid-Town neighborhoods, as follows:

- Node #129: CPAU Pole# 3121 (near 2490 Louis Road APN 127-30-062)
- Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046)
- Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067)
- Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-23-009)
- Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028)
- Node #135: CPAU Pole # 3610 (near 795 Stone Ln APN 127-47-001)
- Node #137: CPAU Pole #3351 (near 3090 Ross Rd APN 127-52-031)
- Node #138: CPAU Pole #2479 (near 836 Colorado Av APN 127-27-063)
- Node #143: CPAU Pole #3867 (near 419 El Verano Av APN 132-15-017)
- Node #144: CPAU Pole #1506 (near 201 Loma Verde Av APN 132-48-015) and
- Node #145: CPAU Pole #3288 (near 737 Loma Verde Av APN 127-64-039).



Pursuant to the California Environmental Quality Act (CEQA), the Director determined that each WCF is Categorically Exempt under CEQA Class 3, Guidelines Section 15303 (New Construction or Conversion of Small Structures).

The Director's decision on each of the 11 nodes shall become final and effective fourteen (14) calendar days from the postmark date of the March 26, 2018 mailing (or on the next business day if it falls on a weekend or holiday), unless appeal(s) are filed pursuant to PAMC Section 18.77.070(e). Any appeal(s) shall be in writing and submitted to the Planning Division prior to the end of the business day of the fourteenth day. The Director's decisions for nodes that are not appealed within this time shall become final, notwithstanding any timely appeal of one or more of the other nodes included in this letter.

Any appeal(s) shall be placed on the City Council consent calendar within 45 days pursuant to PAMC Section 18.77.070(f). The appeal form, which contains brief instructions, can be found on the City website (<https://www.cityofpaloalto.org/civicax/filebank/documents/61907>). Each appealed node should be specifically listed by node number on the appeal form and in the letter stating the reason(s) for the appeal.

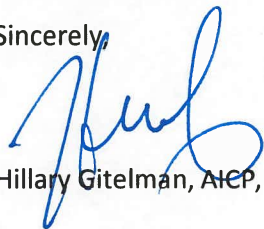
As outlined in the Fiscal Year 2018 Municipal Fee Schedule found on the City's website (<https://www.cityofpaloalto.org/civicax/filebank/documents/61512>), the total fee to file an appeal for one or more nodes is two-hundred and eighty dollars (\$280.00). The fee is refunded if the City Council chooses not to hear an appeal.

Approvals shall be effective for one year from the date they become final, within which time construction of the project shall have commenced. Applications for extensions may be made prior to approval expiration.

According to PAMC Section 18.42.110(l), the Director may revoke any WCF permit if the permit holder fails to comply with any conditions of approval.

Should you have any questions regarding this approval, please do not hesitate to contact Rebecca Atkinson, at (650) 329-2596, or e-mail Rebecca.Atkinson@CityofPaloAlto.org.

Sincerely,



Hillary Gitelman, AICP, Director of Planning and Community Environment

Cc:

Jennifer Haas, Verizon Wireless, 2785 Mitchell Drive, Building 9, Walnut Creek, CA 94598
Paul Albritton, Esq. Mackenzie & Albritton LLP, 155 Sansome St., Ste. 800, San Francisco, CA 94104
Hamid Ghaemmaghami, Manager Real Property for Administrative Services, City of Palo Alto
Jim Fleming, Senior Management Analyst for Utilities Department, City of Palo Alto

Attachment:

Findings and Conditions of Approval

FINDINGS FOR APPROVAL [17PLN-00169]:

These Director's approvals are granted based upon adherence to the process required by Palo Alto Municipal Code (PAMC) Section 18.42.110(c)(3) and Section 18.42.110(h). In accordance with PAMC 18.42.110(h)(2) and as outlined below, the project complies with PAMC 18.42.110(i) Development Standards, complies with PAMC 18.42.110(j) Conditions of Approval, and the Architectural Review Findings in PAMC Section 18.76.020(d) and Conditional Use Permit Findings in PAMC Section 18.76.010(c) can be made for the project.

Tier 3 WCF Permit Development Standards PAMC 18.42.110(i)

Each of the 11 approved nodes complies with the Development Standards in **PAMC Section 18.42.110(i)(1) through (11)** because:

- (1) *Shall utilize the smallest footprint possible.* The proposed Wireless Communication Facilities (WCF) employs a design that balances aesthetic considerations and reduces, to the extent feasible, the small cell's footprint on the utility pole.
- (2) *Shall be designed to minimize the overall height, mass, and size of the cabinet and enclosure structure.* The project applicant presented four design options for pole mounted mechanical equipment. The overall size and dimensions varied, but the approved design was selected for its concealment and integration with pole design, in addition to overall reduction in mass and size. The antennas require a bayonet extension or pole replacement, but the height of the antennas extends to the minimum height necessary for effective transmission.
- (3) *Shall be screened from public view.* The proposed mechanical equipment, bayonet extensions and antennas are screened from public view with metal shrouds that will be painted to match existing or proposed utility poles. Sites with sparse street trees are conditioned to have additional trees planted to further screen the WCF from view.
- (4) *Shall be architecturally compatible with the existing site.* The small cell nodes will be located on wood utility poles. The proposed shroud and concealment approach is consistent and compatible with other equipment screening on utility poles.
- (5) *Shall be placed at a location that would not require the removal of any required landscaping or would reduce the quantity of landscaping to a level of noncompliance with the Zoning Code.* No significant landscaping or parkway planting will be disturbed or lost. Additionally, amenity trees are identified in the project plans for the following nodes to improve screening: Node 130 (2 trees), Node 131 (1 tree), Node 133-E (1 tree), Node 143 (1 tree), Node 144 (2 trees), and Node 145 (1 tree).
- (6) *An antenna, base station, or tower shall be designed to minimize its visibility from off-site locations and shall be of a "camouflaged" or "stealth" design, including concealment, screening, and other techniques to hide or blend the antenna, base station, or tower into the surrounding area.* Proposed mechanical equipment and antennas will be concealed with shrouds colored to the extent feasible to match existing or proposed utility poles. The placement and orientation of each node's mechanical equipment has been evaluated to minimize visual impacts and, to the extent feasible, blend in with the surrounding area.

- (7) *A building-mounted antenna, base station, or tower shall be architecturally compatible with the existing building on which the antenna, base station, or tower is attached.* This provision does not apply to the subject project.
- (8) *For any Tier 2 or Tier 3 WCF proposed to be attached on an historic structure/site, as designated by Chapter 16.49, historic review shall also be required.* This provision does not apply to the subject project. No WCR is proposed to be located on a historic structure or site.
- (9) *Except as otherwise permitted by the Spectrum Act, a building-mounted WCF may extend fifteen (15) feet beyond the permitted height of the building in the zone district.* The proposed facility is not building mounted and, therefore, this provision does not apply to the subject application.
- (10) *Except as otherwise permitted by the Spectrum Act, a tower or other stand-alone Tier 3 WCF Project shall not exceed sixty-five (65) feet in height.* None of the proposed WCF's extend beyond 65 feet in height. Most antennas are located at or around 55 feet in height.
- (11) *A tower or other stand-alone Tier 3 WCF may encroach into the interior/street side and rear setback.* This provision does not apply to the subject project. The proposed small cell nodes are all located on public property, which is not subject to setback requirements.

Tier 3 WCF Permit Conditions of Approval PAMC 18.42.110(j)

Each of the 11 approved nodes complies with **PAMC Section 18.42.110(j)** because the referenced Wireless Communication Facility standard conditions of approval are incorporated into the specific conditions of approval for this project 17PLN-00169.

Architectural Review Findings PAMC Section 18.76.020(d)

All of the architectural review findings in **PAMC Section 18.76.020(d)** can be made because:

- (1) *The design is consistent with applicable provisions of the Palo Alto Comprehensive Plan, Zoning Code, coordinated area plans (including compatibility requirements), and any relevant design guides.* As conditioned, the proposed project complies with applicable local regulations for WCF's, specifically the development requirements of PAMC 18.42.110 (i). There are no applicable design guidelines or coordinated area plan that is relevant to this project. There are several policies in the city's comprehensive plan that relate to preserving the character and enjoyment residential neighborhoods and wireless communication facilities are not precluded from locating in residential districts. The city's zoning code provides a process to permit WCF's that blend with their existing surroundings and do not negatively impact the environment, historic properties, or public safety. None of the proposed small cell nodes are located on a historic resource and, as conditioned, each has been designed to blend in with the surrounding neighborhood to the extent feasible. The proposed facilities are located on utility poles that typically have equipment boxes, transformers, cable runs and other features to support a variety of utility service providers. The comprehensive plan includes Program L9.11.2, which provides that the city identifies city-owned properties where combinations of wireless facilities can be co-located, assuming appropriate lease agreements are in place. The subject antennas are subject to an approved Master License Agreement approved by the City Council in June 2016. Based on the foregoing and information contained in the administrative record, the proposed project complies with this finding.

(2) *The project has a unified and coherent design, that:*

- A. *Creates an internal sense of order and desirable environment for occupants, visitors, and the general community.* The project includes the establishment of mechanical equipment, antennas and associated cabling. As conditioned, the small cell nodes are designed to balance the aesthetic interests to minimize the visibility of the WCF in the smallest footprint reasonable. The sites are located on utility poles distributed throughout portions of the city and are not intended to be occupied or visited structures.
- B. *Preserves, respects and integrates existing natural features that contribute positively to the site and the historic character including historic resources of the area when relevant.* The proposed small cell nodes are attached to existing or planned replacement utility poles. There WCFs are not located on historic resources and are not located in any area recognized by the city for its historic character.
- C. *Is consistent with context based design criteria of the applicable zone district.* There is context based design criteria for RM zone district where some of the nodes are located, however, these standards typically relate to building mass, façade treatment, entries, open space, site planning, parking and related matters that are not related to the subject small cell nodes. As conditioned, the proposed WCFs, however, are designed to blend into the environmental to the extent possible with integrated screening techniques and matching exterior surfaces to the color of existing or planned utility poles.
- D. *Provides harmonious transitions in scale, mass and character to adjacent land uses and land use designations.* As conditioned, the proposed WCFs are designed to blend in with the existing environment, are located on existing or replacement utility poles and will be painted to match the structures they will be located upon. The proposed equipment is not an atypical use of the utility poles which provides a variety of communication utility services and would not impact the scale, mass or character of adjacent land uses.
- E. *Enhances living conditions on the site (if it includes residential uses) and in adjacent residential areas.* The proposed project does not include residential uses and placement of WCFs on utility poles does not disrupt living conditions in adjacent residential areas. Some residents may benefit from improved wireless coverage.

(3) *The design is of high aesthetic quality, using high quality, integrated materials and appropriate construction techniques, and incorporating textures, colors, and other details that are compatible with and enhance the surrounding.* The proposed project includes the placement of mechanical equipment, cabling, antennas and screening material. The components necessarily by design and function must be integrated and employ appropriate construction techniques. The proposed materials and colors have been reviewed and, as conditioned, determined appropriate for the utility use planned for with the proposed WCFs. The propose material and colors were selected to blend in with the surrounding environment.

(4) *The design is functional, allowing for ease and safety of pedestrian and bicycle traffic and providing for elements that support the building's necessary operations (e.g. convenient vehicle access to property and utilities, appropriate arrangement and amount of open space and integrated signage, if applicable, etc.).* As conditioned, the proposed project has been designed in compliance with local, state and federal safety standards, construction techniques and clearances required to allow for the ease and safety of pedestrian and bicycle traffic. The design is functional for its intended use and includes components necessary for its operation and screening.

- (5) *The landscape design complements and enhances the building design and its surroundings, is appropriate to the site's functions, and utilizes to the extent practical, regional indigenous drought resistant plant material capable of providing desirable habitat that can be appropriately maintained.* As a condition of approval, the project requires screen trees at certain small cell node locations. While subject to review and approval from the City's Urban Forestry division, the variety of trees proposed include *Forest Pansy, Blue Atlas Cedar, Dodonea Viscosa, Crape Myrtle, Shamel Ash, Drake Elm, Live Oaks (Quercus Wislizenii); and Hackberry*. These trees are consistent and appropriate to the local conditions and support the desired habitat in these areas.
- (6) *The project incorporates design principles that achieve sustainability in areas related to energy efficiency, water conservation, building materials, landscaping, and site planning.* The proposed project draws energy from the city's utility service, requires no water, employs appropriate landscaping where required to enhance screening and is designed with material appropriate to the proposed utility use.

Conditional Use Permit Findings PAMC Section 18.76.010(c)

All of the conditional use permit findings in **PAMC Section 18.76.010(c)** can be made because:

- (1) *The project will not be detrimental or injurious to property or improvements in the vicinity, and will not be detrimental to the public health, safety, general welfare, or convenience.* As conditioned, the project involves the construction of 11 small cell nodes to provide wireless service in certain coverage areas of the city. The federal government has preempted local jurisdictions from denying projects based on electromagnetic radiation generated by these WCFs. However, local governments can impose conditions to verify compliance with federal thresholds, which has been incorporated into this approval. The mechanical equipment and antennas are located on existing or planned to be replaced, utility poles. These structures provide a range of communication services to Palo Alto residents. The proposed WCF is consistent with this service objective and is placed in a manner that is designed to blend in with the environment to the extent feasible. The utility poles have been evaluated and determined to be able to support the increased weight and for those poles not suitable, replacement poles are planned. The equipment is placed at an appropriate height and will not interfere with motorists, pedestrians or cyclists. No noise will be emitted from any of the proposed equipment. Based on the foregoing and other information contained in the administrative record, it is found that the proposed project will not be detrimental or injurious to property or improvements in the vicinity or to public health, safety, general welfare or convenience.
- (2) *The project is located and conducted in a manner in accord with the Palo Alto Comprehensive Plan and the purposes of this title (Zoning).* Wireless Communication Facilities are permitted uses in the residential district. The city's zoning code provides a process to permit WCF's that blend with their existing surroundings and do not negatively impact the environment, historic properties, or public safety. None of the proposed small cell nodes are located on a historic resource and, as conditioned, each has been designed to blend in with the surrounding neighborhood to the extent feasible. The proposed facilities are located on utility poles that typically have equipment boxes, transformers, cable runs and other features to support a variety of utility service providers. The comprehensive plan includes Program L9.11.2, which provides that the city identifies city-owned properties where combinations of wireless facilities can be co-located, assuming appropriate lease agreements are in place. The subject antennas are subject to an approved Master License Agreement approved by the City Council in June 2016. Based on the foregoing and information contained in the administrative record, the proposed project is consistent with the city's comprehensive plan.

CONDITIONS OF APPROVAL [17PLN-00169]:

Planning Division

1. **COMPLIANCE WITH APPROVED PLANS.** The nodes shall be built in compliance with the approved plans and associated application materials on file with the Planning Division for 17PLN-00169, except as modified by these conditions of approval. Any additional azimuths, antennas or equipment shown on the project plans beyond that mentioned in the application materials are not approved. The aforementioned plans and materials include:
 - Color Sample Board, received June 27, 2017.
 - Project Description, received February 26, 2018.
 - Project Plans, titled "PALO ALTO SMALL CELL CLUSTER 1," received February 26, 2018.
 - Statement of Hammett & Edison, Inc., Consulting Engineers, titled "Verizon Wireless • Proposed Small Cell Base Stations - Noise Levels at Eleven Pole Locations (Cluster 1) • Palo Alto, California," dated February 22, 2018 as received February 26, 2018.
 - Statement of Hammett & Edison, Inc., Consulting Engineers, titled and dated as follows:
 - a. Verizon Wireless • Proposed Small Cell (No. 133-E), 949 Loma Verde Avenue • Palo Alto, California, dated February 22, 2018 as received February 26, 2018
 - b. Verizon Wireless • Proposed Small Cell (No. 129) 2490 Louis Road • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - c. Verizon Wireless • Proposed Small Cell (No. 130) 2802 Louis Road • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - d. Verizon Wireless • Proposed Small Cell (No. 131) 891 Elbridge Way • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - e. Verizon Wireless • Proposed Small Cell (No. 134) 3409 Kenneth Drive • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - f. Verizon Wireless • Proposed Small Cell (No. 135) 795 Stone Lane • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - g. Verizon Wireless • Proposed Small Cell (No. 137) 3090 Ross Road • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - h. Verizon Wireless • Proposed Small Cell (No. 138) 836 Colorado Avenue • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - i. Verizon Wireless • Proposed Small Cell (No. 143) 419 El Verano Avenue • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - j. Verizon Wireless • Proposed Small Cell (No. 144) 201 Loma Verde Avenue • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
 - k. Verizon Wireless • Proposed Small Cell (No. 145) 737 Loma Verde Avenue • Palo Alto, California, dated December 18, 2017 and as received December 21, 2017.
2. **ANTENNAS.** The antenna model numbers, tilts, and azimuths shall remain consistent between the permit plan set and the Statement of Hammett & Edison, Inc., Consulting Engineers, dated as received February 26, 2018 (Node 133-E) and December 21, 2017 (all other Nodes).
3. **NODES EXCLUDED.** This approval does not include Nodes 127, 139, 146, 136, 140, 141, and 147, as the applicant elected to not pursue these nodes at this time and these nodes were removed by the applicant from the Project Plans, dated received February 26, 2018.

4. **BATTERY BACK-UP UNITS EXCLUDED.** This approval does not contain battery back-up units and associated heat exchangers, as this equipment was removed by the applicant from the Project Plans, dated received February 26, 2018. The proposed design is considered concealment/camouflage for purposes of the Spectrum Act, and battery backups shall not be installed at any node without application for the appropriate WCF permit, consistent with PAMC Section 18.42.110(c).
5. **APPROVAL OF NODE ALTERNATE.** This approval does not include Node 133, as Alternate Node 133-E is approved as an alternate.
6. **USE OF EXISTING POLES OR POLE REPLACEMENTS.** Pole replacement is required if existing poles do not meet structural and loading requirements. All pole replacements are approved – Node 129 and Node 133-E. All existing poles to remain shall be returned to plumb.
7. **PAINT COLOR FOR CONDUIT AND EQUIPMENT.** Each node shall be painted to match most closely the color of the adjacent pole as shown on the Color Sample Board, dated received June 27, 2017. If a pole is replaced, the conduit and equipment shall be painted “Railroad Ties.”
8. **ANTENNA CANISTER/BAYONET SHROUD OR POLE REPLACEMENT/CAP MOUNT.** Each node shall utilize the “Taper Shroud” shown as on Sheet CT-2 of the plan set, unless the node is listed for pole replacement and the associated cap mount format. No sky shall be seen through the mounting and attachment equipment for the antennas.
9. **VAULTING OF EQUIPMENT.** This approval does not include any vaulting of equipment listed to be pole mounted, as vaulting was found to be infeasible at the approved locations.
10. **POLE-MOUNTED EQUIPMENT SHROUD.** Each node shall utilize the “Box Shroud” as shown on Sheet CT-4 for any pole mounted equipment.
11. **POLE-MOUNTED EQUIPMENT STANDOFF DISTANCE.** The standoff distance for the pole mounted equipment shall not exceed five (5) inches.
12. **POLE-MOUNTED EQUIPMENT ORIENTATION.** All nodes shall maintain required climbing space. Pole mounted-equipment shall not face directly toward adjacent private property or extend over sidewalks. The Director of Planning and Community Environment may approve minor modifications to equipment orientation in order to address any resource, technical, or utilities engineering-related site constraints based upon field conditions.
13. **AMENITY TREES FOR ADDITIONAL SCREENING.** New amenity trees proposed on private property are not a part of this approval. All nodes shall incorporate new amenity trees in the right of way where possible in order to provide for additional screening of pole mounted equipment and conduit. All new amenity trees shall be listed in the “New Tree Table” on Node Sheets A-1. Amenity trees are identified for the following nodes: Node 130 (2 trees), Node 131 (1 tree), Node 133-E (1 tree), Node 143 (1 tree), Node 144 (2 trees), and Node 145 (1 tree).
14. **EXPLANATORY AND OTHER SAFETY SIGNAGE.** The recommended explanatory signage described in the Statement of Hammett & Edison, Inc., Consulting Engineers, dated as received February 26, 2018 (Node 133-E) and December 21, 2017 (all other Nodes), shall be incorporated into the permit plan set. Signage shall comply with any relevant requirements of California Public Utilities Commission General Order No.

95. All radio frequency signage shall comply with FCC Office of Engineering and Technology Bulletin No. 65 or ANSI C95.2 for color, symbol, and content conventions. All such signage shall at all times provide a working local or toll-free telephone number to its network operations center, and such telephone number shall be able to reach a live person who can exert transmitter power-down control over this Site as required by the FCC.

15. **PERMITTING.** This approval letter, including the associated conditions of approval, shall be printed on the plan sets submitted for encroachment and street work permit review. Encroachment permit and streetwork permit plan sets shall include accurate locations of driveways, curb lines, utilities, and other existing conditions.
16. **DEVELOPMENT STANDARDS.** The project establishes the site specific camouflage, concealment and stealth elements for each approved new node, and for that node only.
17. **PERMITTING BY OTHERS.** This approval does not include approval or permitting by the Santa Clara Valley Water District and/or other entities that may have additional permitting authority separate from the City of Palo Alto.
18. **PLANNING FINAL INSPECTION.** A Planning Division Final inspection will be required to determine substantial compliance with the approved plans prior to the scheduling of a permit final inspection by the Public Works and/or Building Departments. Any revisions during the construction process must be approved by Planning, including but not limited to; landscaping, equipment, and hard surface locations. Contact the Planning Department to schedule this inspection.
19. **NODE MAINTENANCE.** All aspects of the small cell node shall be well maintained at all times and replaced, if necessary, to the satisfaction of the Director of Planning.
20. **MODIFICATIONS TO APPROVED PLANS.** Any modifications, additions and intensification of use (i.e. additional antennas, equipment substitutions, adjustments in location or height) shall require review and approval as specified in the Palo Alto Municipal Code prior to construction. Please see PAMC Section 18.42.110(c) for more information.
21. **NOISE ORDINANCE AND NOISE POLICIES.** The project shall comply with all noise standards specified in Municipal Code Chapter 9.10.050 and the noise-related policies in Chapter 4 (Natural Environment).
22. **REMOVAL OF ABANDONED EQUIPMENT.** Any components of the Wireless Communication Facility (WCF) that cease to be in use for more than ninety (90) days shall be removed by the applicant, Wireless Communications Service provider, or property owner within ninety (90) days of the cessation of use of that WCF. No new permits shall be approved until the abandoned WCF or applicable components are removed.
23. **AS-BUILT PLANS.** An as-built set of plans and photographs depicting the entire WCF as modified, including all Transmission Equipment and all utilities, shall be submitted to the Planning Division within ninety (90) days after the completion of construction.
24. **RADIO FREQUENCY EMISSION.** The applicant shall hire a radio engineer licensed by the State of California to measure the actual radio frequency emission of the WCF and determine if it meets Federal Communications Commission standards. A report, certified by the engineer, of all calculations, required

measurements, and the engineer's findings with respect to compliance with the FCC's radio frequency emission standards shall be submitted to the Planning Division within one year of commencement of operation. The report shall have a methodology section outlining instrumentation, measurement direction, heights and distances, and other protocols outlined in FCC Bulletin OET 65. The report shall include a list and identify any nearby RF sources, nearby reflecting surfaces or conductive objects that could produce regions of field intensification, antenna gain and vertical and horizontal radiation patterns, type of modulation of the site, polarization and emissions orientation(s) of the antenna(s), a log of all equipment used, and a map and list of all locations measured indicating the maximum power observed and the percentage of the FCC Uncontrolled/General Population guidelines at the measurement location. At the applicant's expense, the City may elect to have a City-staff observer during the measurements, may elect to receive raw test measurements by location provided in electronic format to the observer, and may elect to have the report independently peer reviewed prior to report acceptance. Applicant may be required to submit these reports periodically for the life of the project, as determined by the Director of Planning and Community Environment.

25. INDEMNIFICATION. To the extent permitted by law, the applicant shall indemnify and hold harmless the City, its City Council, its officers, employees and agents (the "indemnified parties") from and against any claim, action, or proceeding brought by a third party against the indemnified parties and the applicant to attack, set aside or void, any permit or approval authorized hereby for the Project, including (without limitation) reimbursing the City for its actual attorneys' fees and costs incurred in defense of the litigation. The City may, in its sole discretion and at Applicant's expense, elect to defend any such action with attorneys of its own choice.
26. COMPLIANCE WITH APPLICABLE LAWS. The applicant shall comply with all applicable provisions of the Code, any permit issued under this Code, and all other applicable federal, state and local laws (including without limitation all building code, electrical code and other public safety requirements). Any failure by the City to enforce compliance with any applicable laws shall not relieve any applicant of its obligations under this code, any permit issued under this code, or all other applicable laws and regulations.
27. PERMIT EXPIRATION. The project approval shall be valid for a period of one year from the original date of approval. In the event a building permit(s), if applicable, is not secured for the project within the time limit specified above, the approval shall expire and be of no further force or effect. A written request for a one-year extension shall be submitted prior to the expiration date in order to be considered by the Director of Planning and Community Environment.
28. REVOCATION. The Director of Planning and Community Environment may revoke any WCF permit if the permit holder fails to comply with any conditions of the permit. The Director's decision to revoke a permit shall be appealable pursuant to the process for architectural review set forth in Section 18.77.070 and the process for conditional use permits set forth in Section 18.77.060.

Fire Department

29. FIRE CODE. This project shall comply with the 2016 CFC and local Fire Code ordinance/requirements.
30. ELECTRICAL DISCONNECT. The project shall label the main electrical disconnect.

31. **HAZARDOUS MATERIALS REGISTRATION FORM.** A Hazardous Materials Registration Form is required to be submitted and approved prior to bringing any hazardous materials on site. Forms also available at <http://www.unidocs.org>
32. **SIGNS.** The project shall provide warning signs at locations where workers and general public may be exposed to RF exposure above the federal Maximum Permissible Level.
33. **CONTACT INFORMATION.** Each site shall have at least one sign per owner/service provider that indicates the company's name, site # and 24 hour emergency number.

Transportation Division

34. **TRAFFIC CONTROL PLANS:** Include site-specific traffic control plans which conform to the latest version of the California Manual on Uniform Traffic Control Devices (CAMUTCD) with plans submitted for a Street Work Permit or Encroachment Permit. Temporary traffic control plans will be reviewed as part of the Street Work and/or Encroachment Permit. Approval of the planning entitlement does not constitute approval of any temporary traffic control plans.
35. **VERTICAL AND HORIZONTAL CLEARANCES:** At least 1.5-feet horizontal clearance shall be provided between any new or relocated equipment and the adjacent face of curb or edge of traveled way for any public roadway, driveway, or alley, unless 16-feet vertical clearance is provided between equipment and the top of adjacent travel way. In no circumstance shall less than 10-feet vertical clearance be provided between adjacent sidewalk, path, or walkway grade.

Public Works-Urban Forestry Department

36. **NEW AMENITY TREE PLANTING AND WATERING.** The applicant shall coordinate with the Urban Forestry Department to finalize all amenity tree species, locations, and box sizes prior to permit in order for all trees to be accurately noted on the plans for permit. The applicant shall make a one-time only standard contribution to the Urban Forestry Fund in the amount of \$650 per tree for Urban Forestry to plant and then water the respective tree during the tree establishment period.
37. **PROJECT ARBORIST.** The property owner shall retain a certified arborist to ensure the project conforms to all Planning and Urban Forestry conditions related to landscaping/trees, as shown in the approved plan set.
38. **TREE DAMAGE.** Tree Damage, Injury Mitigation and Inspections apply to Contractor. Reporting, injury mitigation measures and arborist inspection schedule (1-5) apply pursuant to TTM, Section 2.20-2.30. Contractor shall be responsible for the repair or replacement of any publicly owned or protected trees that are damaged during the course of construction, pursuant to Title 8 of the Palo Alto Municipal Code, and city Tree Technical Manual, Section 2.25.
39. **GENERAL.** The following general tree preservation measures apply to all trees to be retained: No storage of material, topsoil, vehicles or equipment shall be permitted within the tree enclosure area. The ground under and around the tree canopy area shall not be altered. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

Utilities-Water, Gas, Wastewater Department

40. SERVICE REQUIREMENTS. The applicant shall comply with all the Water, Gas, and Wastewater Department requirements noted during plan review.

Utilities-Electrical Department

41. MASTER LICENSE AGREEMENT. Each small cell node will comply at all times with the terms and conditions in the Master License Agreement for Use of City-Controlled Space on Utility Poles and Streetlight Poles and in Conduits ("MLA") between the City of Palo Alto and GTE Mobilnet of California Limited Partnership, DBA Verizon Wireless, executed on June 27, 2016 (Contract No. C16165156). A security instrument, such as a Performance Bond or Letter of Credit, shall be provided in accordance with Section 14.0 of the Master License Agreement prior to encroachment or street work permit issuance.
42. LOADING CALCULATIONS. All sites shall include pole loading calculations.
43. ATTACHMENTS. All attachments for equipment must be in the 12, 3, 6, or 9 o'clock positions as shown on the approved plans.
44. SERVICE REQUIREMENTS. The applicant shall comply with all the Electric Utility Engineering Department service requirements noted during plan review.
45. PRIOR TO WORK. Contractors and developers shall obtain permit from the Department of Public Works before digging in the street right-of-way. This includes sidewalks, driveways and planter strips.
46. IDENTIFICATION OF UTILITIES. The applicant shall be responsible for identification and location of all utilities, both public and private, within the work area. At least 48 hours prior to starting any excavation, the customer must call Underground Service Alert (USA) at 1-800-227-2600 to have existing underground utilities located and marked. The areas to be checked for underground facility marking shall be delineated with white paint. All USA markings shall be removed by the customer or contractor when construction is complete.
47. UTILITY DISCONNECTION. The applicant shall submit a request to disconnect all existing utility services and/or meters including a signed affidavit of vacancy, on the form provided by the Building Inspection Division. Utilities will be disconnected or removed within 10 working days after receipt of request. The demolition permit will be issued after all utility services and/or meters have been disconnected and removed.

Public Works-Engineering Department

48. PERMIT REVIEW. Public Works shall determine the number of encroachment permits and associated street work permits, if any, that can be processed in a batch. The applicant will be required to apply for all necessary permits including: Street Work and Encroachment Permit applications. All required applications shall be in the submittal package for Public Works. Any necessary traffic control plans will also be submitted in the permit application packet. These necessary permit applications and requirements are available from Public Works on our website:
<http://www.cityofpaloalto.org/gov/depts/pwd/default.asp>. All traffic control plans associated with each

proposal location shall be reviewed by Transportation Division under Planning & Community Environment. Public Works will route all traffic control plans for Transportation review when associated Street Work and Encroachment permits are submitted.

49. TRENCH WORK AND FIBER OPTIC CONDUIT. All trench work and placement of fiber optic conduit shall adhere to City of Palo Alto Public Works specifications. Refer to City of Palo Alto Public Works Conduit Location Detail Telecommunications Drawing No. 402. This detail will provide specifics for placement of conduit in both residential and commercial areas. Any deviation from City Standards and Regulations must be approved by Public Works and all other applicable Departments.
50. EASEMENTS. All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.
51. FLOOD ZONE. Notes shall be included on the Site Plan and/or Grading and Drainage Plan that includes the FIRM panel number, flood zone designation, BFE elevation and the North American Vertical Datum (NAVD). You may access project specific information on Public Works Storm water website. See Flood zone Lookup under the attached link:
<http://www.cityofpaloalto.org/gov/depts/pwd/stormwater/floodzones.asp>
52. PLAN SET NOTES. The following notes shall be added to the plan set for permits:
 - a. Include the sidewalk width for each location on site plans.
 - b. Add a note to the plans that says, "The contractor using the city sidewalk, alley or parking lot to work on an adjacent private building must do so in a manner that is safe for pedestrians and vehicles. The contractor must cone or tape-off the work area while still leaving adequate room for pedestrians and vehicles to safely pass. If the contractor's work area leaves insufficient sidewalk or alley space for safe pedestrian and vehicle passage, the contractor must apply to Public Works for an encroachment permit to close the sidewalk or alley."
 - c. Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan:
"Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same."
 - d. Provide the following note on the Site Plan and adjacent to the work within the Public road right-of-way. "Any construction within the city's public road right-of-way shall have an approved Permit for Construction in the Public Street prior to commencement of this work."
 - e. The following note shall be included on the Site Plan: "Contractor shall not stage, store, or stockpile any material or equipment within the public road right-of-way." Construction phasing shall be coordinate to keep materials and equipment onsite.
 - f. The following note shall be included on the Site Plan: "The contractor shall be required to submit a logistics plan to the Public Works Department prior to commencing work that addresses all impacts to the City's right-of-way, including, but not limited to: pedestrian control,

traffic control, truck routes, material deliveries, contractor's parking, concrete pours, crane lifts, work hours, noise control, dust control, storm water pollution prevention, contractor's contact, noticing of affected surrounding properties, and schedule of work. The requirement to submit a logistics plan will be dependent on the number of applications Public Works Engineering receives within close proximity to help mitigate and control the impact to the public-right-of-way. If necessary, Public Works may require a Logistics Plan during construction."

- g. The following note shall be included on the Site Plan: "The contractor using the city sidewalk to work on an adjacent private building must do so in a manner that is safe for pedestrians using the sidewalk. Pedestrian protection must be provided per the 2007 California Building Code Chapter 33 requirements. If the height of construction is 8 feet or less, the contractor must place construction railings sufficient to direct pedestrians around construction areas. If the height of construction is more than 8 feet, the contractor must obtain an encroachment permit from Public Works at the Development Center in order to provide a barrier and covered walkway or to close the sidewalk."

- 53. CURB CONDITION. Each location shall identify curb type on plans. Indicate whether or not a site has a rolled curb or a standard curb/gutter. In the instance of the rolled curb, all equipment shall be removed from the transition slope area of the rolled curb. The equipment shall be on one plane.
- 54. UTILITIES. Note that all above ground utilities, such as transformer, backflow preventer, gas meters, etc., shall be located within the project site but accessible from the street. Any new or relocated utilities will correspond with approved locations from City Utilities Department.
- 55. STORM WATER POLLUTION PREVENTION. The permit plans shall include the City's full-sized "Pollution Prevention - It's Part of the Plan." The sheet is available here:
<http://www.cityofpaloalto.org/civicax/filebank/documents/2732>
- 56. WORK IN THE RIGHT-OF-WAY. The plans shall clearly indicate any work that is proposed in the public right-of-way, such as trenching, sidewalk replacement, driveway approach, utility laterals or crane. The plans must include notes that the work must be done per City standards and that the contractor performing this work must first obtain a Street Work Permit from Public Works at the Development Center. If a new driveway is in a different location than the existing driveway, then the sidewalk associated with the new driveway must be replaced with a thickened (6" thick instead of the standard 4" thick) section. Additionally, curb cuts and driveway approaches for abandoned driveways must be replaced with new curb, gutter and planter strip.
- 57. SIDEWALK, CURB & GUTTER. In the event existing sidewalks, curbs, gutters, driveway approaches, or street areas in the public right-of-way are disturbed as part of this project, the applicant shall repair or replace those sidewalks, curbs, gutters, driveway approaches, or street areas as directed by and to the satisfaction of the City Engineer. Contact Public Works' inspector at 650-496-6929 to arrange a site visit so that the inspector can discuss the extent of replacement work along the public road. The site plan submitted with the building permit plan set must show the extent of the replacement work. The plan must note that any work in the right-of-way must be done per Public Works' standards by a licensed contractor who must first obtain a *Street Work Permit* from Public Works at the Development Center.

18-AP-2

**Herc Kwan, Node #129: CPAU Pole# 3121
(near 2490 Louis Road)**

CITY OF PALO ALTO
Office of the City Clerk
**APPEAL FROM THE DECISION OF DIRECTOR OF PLANNING
AND COMMUNITY ENVIRONMENT***

For appeals of final decisions on Architectural Review Board and Home Improvement Exception applications (rendered after public hearing), this appeal form shall be completed and submitted by appellant within fourteen days from date of the Director's decision. Appeals of final decisions on Individual Review applications (rendered after public hearing) must be submitted within ten days of the Director's decision. Complete form, the current fee and a letter stating reasons for the appeal shall be submitted to front desk staff of the Planning Division, 5th floor, City Hall, 250 Hamilton Avenue, except for 980 Fridays when City Hall is closed, when these items shall be submitted to Planning staff at the Development Center, 285 Hamilton Avenue (glass storefront across from City Hall on the corner of Bryant and Hamilton).

* Director of Planning includes his designees, which are Planning Managers or the Chief Planning Official

Appeal Application No. 18-AP-2 Receipt No. 2018099001-7
Name of Appellant Herc Kwan Phone (650) 843-0852
Address 2490 LOUIS RD, PALO ALTO, CA 94303
Street City ZIP

LOCATION OF PROPERTY SUBJECT TO APPEAL:

Street Address 2490 LOUIS RD 'Node #129 Role #3121
Name of Property Owner (if other than appellant) City of Palo Alto
Property Owner's Address 250 Hamilton 94301
Street City ZIP

The decision of the Director of Planning and Community Environment dated March 26, 2018
whereby the application 17PLN-00169 by Tier 3 Wireless Communications
(file number) (original project applicant)

was approved, is hereby appealed for the reasons stated in the attached letter (in duplicate)
(approved/denied)

Date: 4/6/2018 Signature of Appellant [Signature]

PLANNING COMMISSION RECOMMENDATION TO THE CITY COUNCIL (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

CITY COUNCIL DECISION (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

SUBMITTAL REQUIREMENTS SATISFIED:

1. Letter stating reasons for appeal [Signature]
2. Fee (currently \$280.00) [Signature]

Received by:

Received by:

Kim Lunt (P. B. 2 of this document)
Kim Lunt

Received

APR 09 2018

CITY OF PALO ALTO, CA
CITY CLERK'S OFFICE
18 APR -9 AM 8:55

Dear City Clerk Beth Minor:

My wife, two young daughters, and I live on 2490 Louis Rd (APN-127-30-062).

On March 26, 2018, the Director of Planning and Community Environment approved 11 small cell nodes under file 17PLN-00169.

I am writing to appeal her decision to approve Node #129, CPAU Pole #3121, which is located only a few feet from our house.

I urge City Council to overturn the Director's decision and direct Verizon to comply with Palo Alto's aesthetics, noise and other ordinances.

Specifically, I ask you to:

1) Direct Verizon to locate all of its equipment except the antenna underground in flush-to-the-ground vaults with no protruding elements; and

2) Ensure that Verizon not install any equipment that exceeds the noise levels permitted by Palo Alto's ordinances and policies.

In making her decision, I fear the Director was unaware that Verizon did not make a good faith effort to do as the Architectural Review Board directed in December, 2017, namely, comply with Palo Alto's ordinances and locate underground the hundreds of pounds of ugly equipment it proposes to install next to our home:

- Verizon claims that underground vaulting is not feasible here. That is not true. For example:
 - Our home is *not* in a Special Flood Hazard Area—see the attached 9/30/15 email from the City to our architect which states “**Flood hazard construction regulations do not apply for buildings [such as yours] in flood zone X**”—yet Verizon pretends it is;
 - In fact, Verizon's own Environmental Assessment Worksheet, which it prepared and submitted with its initial

application for this site, shows that it is well aware that 2490 Louis Road is not in a Special Flood Hazard Area.

FLOOD ZONE INFORMATION:

2490 Louis Flood Zone Boundaries

Mullen, Jarrett <Jarrett.Mullen@cityofpaloalto.org>
To: "jen@jkretschmer.com" <jen@jkretschmer.com>

Wed, Sep 30, 2015 at 5:53 PM

Hi Jen,

Enclosed is a map panel from the city's mapping software showing the flood zone boundaries around 2490 Louis Road. The area with brown shading is within flood zone AE10.5 and the area with light green shading is in flood zone X. Flood hazard construction regulations do not apply for buildings in flood zone X.

If you have further questions, please do not hesitate to e-mail or call.

Regards,



**PALO
ALTO**

Jarrett Mullen| Engineering Technician

Public Works Engineering Services

285 Hamilton Avenue 1FL | Palo Alto, CA 94301

Development Center Hours: 9AM-4PM M-F

D: 650.329.2676 | E: jarrett.mullen@cityofpaloalto.org

Please think of the environment before printing this email – Thank you.

P.3



- The City of Palo Alto is committed to undergrounding our utilities. If Palo Alto can do it, Verizon can do it.


[PRODUCTS](#)
[LOCATIONS](#)
[RESOURCES](#)
[COMPANY](#)


[Northern California](#)
[5' X 10' UTILITY VAULT - PALO ALTO](#)

5' X 10' UTILITY VAULT - PALO ALTO




CITY OF PALO ALTO UTILITY VAULT - 5'-0" X 10'-0" X 7'-0"

Equipment Pads serve as a foundation for equipment and cabinets for the communications and electrical industries. Embedded lifters and openings can be customized to suit your specific needs.



MODEL: CPA-510
MFG PLANT: Pleasanton, CA
MFG REGION: Northern California
DIMENSIONS: 5'-0" x 10'-0" x 7'-0"
WEIGHT: 26,245 lbs




[PRODUCTS](#)
[LOCATIONS](#)
[RESOURCES](#)
[COMPANY](#)

[Northern California](#)
[4'-6" X 8'-6" SPLICE ENCLOSURE - PALO ALTO](#)

4'-6" X 8'-6" SPLICE ENCLOSURE - PALO ALTO




CITY OF PALO ALTO UTILITY VAULT - 4'-6" X 8'-6" X 7'-0"

Oldcastle Precast utility vaults are the industry's leading product choice to protect and provide access to subterranean public utility equipment such as valves for water, natural gas lines, or electrical and telecommunications equipment.



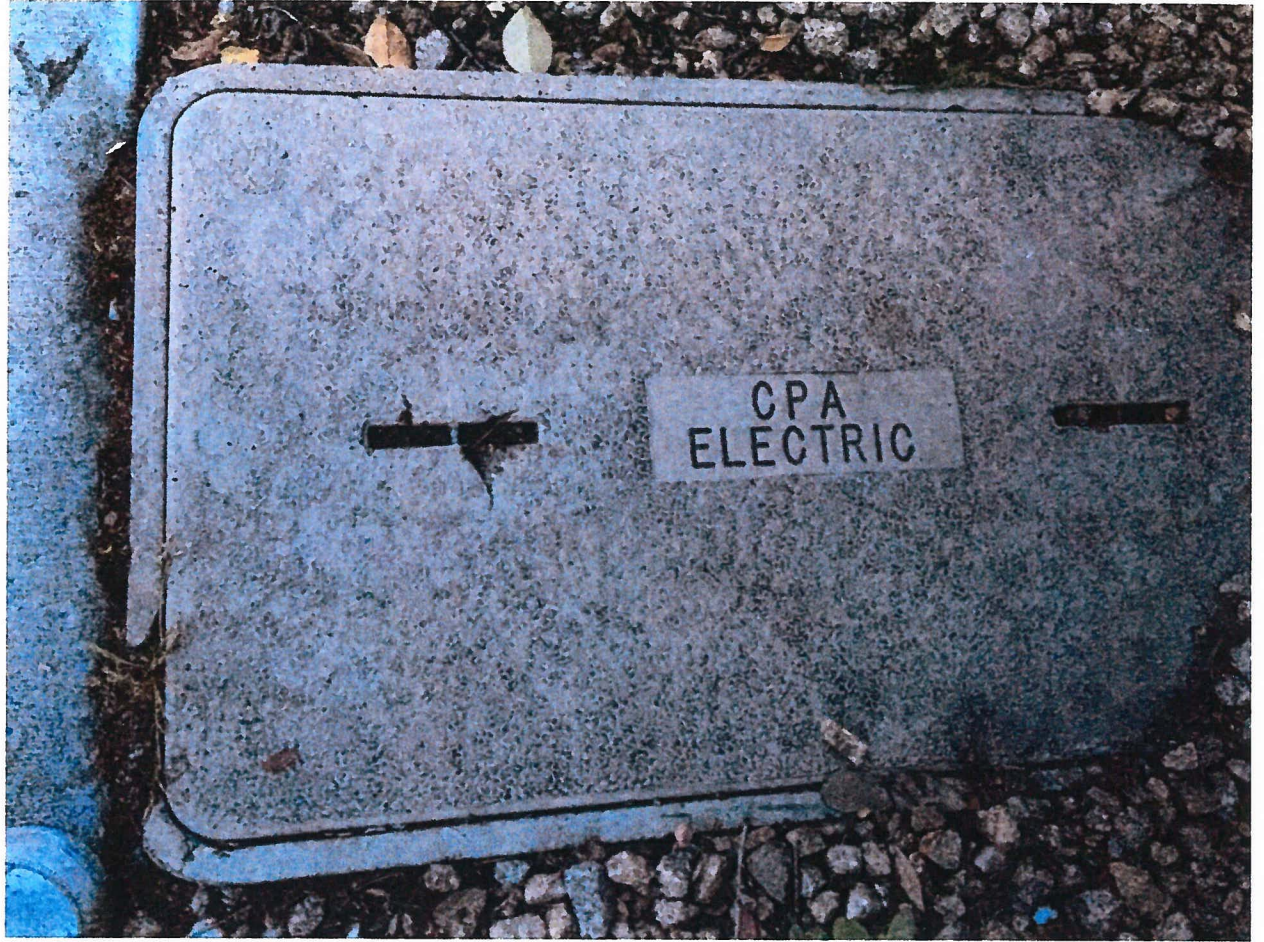
MODEL: CPA-4686
MFG PLANT: Pleasanton, CA
MFG REGION: Northern California
DIMENSIONS: 4'-6" x 8'-6" x 7'-0"



- Others in our zone and at our elevation have successfully undergrounded the utilities from the pole to their homes.
- Moreover, less than quarter of a block from where Verizon says it cannot vault its equipment, the City of Palo Alto has already vaulted equipment for its electricity and utilities using the vault

P.5

designs shown above. Here are photographs of the exterior of the City vault:







This City vault is at the same elevation as the pole by my house (i.e., Node #129 CPAU Pole #3121). If this vault could be installed here, using the vault design recommended by the City of Palo Alto for AT&T's telecom equipment and utilities, why can't Verizon use similar vaults for their equipment?

The real reason Verizon does not want to locate its equipment underground: Vaulted equipment is more expensive to install and more expensive to maintain than equipment on a pole.

I would note that, according to item (6) on page 4 of the Director's memo, the proposed project draws energy from the city's utility service. Surely the equipment that Verizon proposes to install on the pole should instead be vaulted and buried underground just as the electric utility equipment that the City of Palo Alto has installed nearby is.

And I would note as well that we plan to underground our utilities from the pole to our house in the near future, just as our neighbors have been doing. Moreover, we are of course—like everyone in our neighborhood—looking forward to the day when the City, as promised, undergrounds all the utilities in our neighborhood.

If Verizon installs its equipment on the pole next to our house, it will violate Palo Alto's aesthetics' ordinances.

Verizon's photographs and simulated photographs are completely misleading. Attached are photos of what the proposed site next to our house actually looks like.

- There is NO tree screening to reduce the visibility of the proposed cell tower's ugly, bulky, crude equipment except on the southeast side.
- It is in FULL VIEW of the second story windows of our home.
- It is in FULL VIEW of the great room on the first floor of our home.
- It is in FULL VIEW of the homes across the street from our home.
- It is in FULL VIEW of the second story of the home at 897 Marshall Drive.

- It is in close proximity to an intersection and in FULL VIEW of cars turning west onto Louis Road from Marshall Drive or east onto Louis Road from Warren Way.







If Verizon installs its equipment on the pole next to our house, it is sure to try to add a noise-ordinance-violating back up battery to the pole.

While Verizon has removed noisy batteries from its design, it has left open the prospect of adding them at a later date, and—based on what Verizon’s lawyer said at both ARB hearings—it believes it is entitled to do so.

If Verizon installs its equipment on the pole next to our house, it will lower the value of our home and the homes of our neighbors.

Palo Alto is undergrounding the utilities everywhere in the City, including in our neighborhood. **Why should Verizon be permitted to add to a problem the City is in the process of rectifying?**

Four final points:

1. There is no significant gap in service at 2490 Louis Road. For example, *we are Verizon users*, and we have never experienced a service problem.
2. Verizon is about to install a macro tower at 1032 Colorado Avenue. Our house is .8 miles from 1032 Colorado, and the effective range of service of a macro tower is roughly 1.5 miles. So how can an additional cell tower at our house possibly be necessary?
3. Overloaded utility poles have caused devastating fires in California (for example, in Malibu Canyon, Sonoma County and Butte County).
4. HUD requires its appraisers to take cell towers—which it categorizes with “hazards and nuisances”—into consideration when determining the value of a single-family residence. Could there be clearer proof that Verizon’s proposed tower will lower our property values as well as endanger our home?

Please don’t allow Verizon to saddle our property with cheek-by-jowl proximity to Verizon’s ugly, bulky, hazardous equipment, equipment that is already as outdated as the huge, ugly TV antennas people used to install and just as unnecessary.

Thank you for your consideration.

Sincerely,

Herc Kwan
Owner, 2490 Louis Road

P.15

Addendum:

2490 Louis Flood Zone Boundaries Mullen, Jarrett

<Jarrett.Mullen@cityofpaloalto.org> Wed, Sep 30, 2015 at 5:53 PM To:
"jen@jkretschmer.com" <jen@jkretschmer.com>

Hi Jen,

Enclosed is a map panel from the city's mapping software showing the flood zone boundaries around 2490 Louis Road. The area with brown shading is within flood zone AE10.5 and the area with light green shading is in flood zone X. Flood hazard construction regulations do not apply for buildings in flood zone X.

If you have further questions, please do not hesitate to e-mail or call.

Regards,

Jarrett Mullen | Engineering Technician

Public Works Engineering Services

285 Hamilton Avenue 1FL | Palo Alto, CA 94301

Development Center Hours: 9AM-4PM M-F

D: 650.329.2676 | E: jarrett.mullen@cityofpaloalto.org



ENVIRONMENTAL ASSESSMENT WORKSHEET

City of Palo Alto Department of Planning and Community Environment

SF Palo Alto 129

GENERAL INFORMATION:

Date Filed 12/15/17

1. Address of Project: 2490 LOUIS RD, PALO ALTO, 94303-3607 Pole # 3121
2. Assessor's Parcel Number: 12730062 Book #: _____ Page #: _____
3. Application Number(s): _____
4. Applicant:

Name Verizon Wireless c/o Vinculums Services Telephone 415-730-3700

Address 575 Lennon Lane Ste. 125 Fax # _____

Walnut Creek, CA 94598 E-mail mdiesch@vinculums.com
5. Owner:

Name City of Palo Alto Utilities Telephone 650-329-2161

Address 250 Hamilton Ave. Fax # 650-617-3142

Palo Alto, CA 94301 E-mail _____
6. Current Zoning: R-1 Comprehensive Plan Designation _____
7. Application for:

Site and Design _____ Parcel Map _____ ARB Review _____

Use Permit X Zone Change _____ EIA, EIR _____

EXISTING SITE:

8. State all known or suspected prior uses, operations, or other activities on the site over the past 20 years Utility Pole - Right of Way
9. Size of site: Gross N/A Net N/A
10. Site is owned _____ Rented X by applicant.
11. Existing use of property: Utility Pole - Right of Way
*Attach photographs of project site, also include an aerial photo of the project site.
12. Number of existing structures N/A Current Use Utility Pole
13. Size of existing structures 43' 1" Condition Utility Pole
14. Will any structure be demolished for this project Yes _____ No X
15. Total square footage to be demolished N/A
16. Total number of building occupants for existing use N/A
17. Number of parking spaces N/A % compact spaces N/A # Bicycle spaces N/A
18. If current use is residential:
- Number of owner-occupied units N/A
- Number of renter-occupied units N/A

PROPOSED PROJECT:

19. Project description Install small cell antenna and wireless radio equipment on pole

20. Future tenant if known Utility Pole
21. Number of structures proposed N/A Size (in square feet) N/A
22. Number of floors and building height N/A FAR N/A
23. Percentage of site to be covered (including bricks and pavers) N/A
24. Estimated number of employees per shift N/A
25. If the proposed project is residential:
- Total number of units N/A Number of units per acre N/A
- Expected sales price or monthly rent per dwelling unit N/A
- List kinds and size of community buildings N/A
- Area of private open space N/A Area of common open space N/A
- Provision of low/moderate income units:
- 1) Number of units provided for: Sale N/A Rent N/A
- 2) Sale and / or rental price N/A
26. Total number of vehicles expected daily for proposed project 1 per quarter, 4 per year
27. Number of proposed parking spaces N/A Percentage compact spaces N/A
- Number of bicycle spaces N/A
28. Are there any toxic wastes to be discharged? Yes _____ No X
- (If yes, please complete a Sewer Discharge Questionnaire, which is furnished by the Building Department)
29. Has the facility in the past or will the operation of the proposed facility involve the storage or use of Hazardous materials? Yes _____ No X
- (If yes, please complete a Hazardous Materials Disclosure checklist, which is furnished by the Fire Department)

30. Expected amount of water usage (except for residential developments of fewer than 4 units not located in the foothills)

Domestic N/A gal/day

Peak use N/A gal/day

Commercial N/A gal/day

Peak use N/A gal/day

31. Daily sewer discharge (over 30 fixtures only) N/A

32. Expected energy use:

Gas N/A therms Electric 1.8 KWH Peak electric demand 1.8

Uses and equipment sizes

A. Space heating:

Gas N/A BTUH Solar N/A

Electric N/A KW Heat pump Tons

Other N/A

B. Air conditioning:

Number of units N/A Total tonnage

C. Water heating:

Gas N/A BTUH Solar N/A

Electric N/A KW Heat Pump Tons

Other N/A

Type: Central system N/A Individual system N/A

Recirculating Loop? Yes N/A No N/A

D. Other:

Indoor lighting N/A KW Outdoor lighting N/A KW

Cooking N/A KW Refrigeration N/A Tons or ft

Motors N/A HP x-ray N/A Computer N/A

33. Air pollution emissions (Check applicable BAAQMD regulations).

Commercial / Industrial only: Source N/A

Type N/A

Amount N/A

34. Noise generation: eg. Generators, chitlers, HVAC, drive through speakers, etc.

Source N/A

Amount (dBa) N/A

Please list outside noise sources that may affect the project: eg. Traffic, train
etc. N/A

Sound proofing/mitigation proposed N/A

35. Site drainage provisions N/A

36. Amount of proposed grading (cubic yards) N/A Cut N/A Fill N/A

37. Disposition of excavated material N/A

38. Permits required from other agencies:

Santa Clara Valley Water District N/A

Bay Area Air Quality Management District N/A

Army Corps of Engineers N/A

Other N/A

Environmental Setting:

39. Percent and direction of ground slope at site N/A

40. Is this site within a special flood hazard area? Yes _____ No X

41. Existing site vegetation (please list, and indicate any to be removed)
*Also include a tree disclosure statement. The size and location of all public, protected private, and heritage trees must be shown. (This form can be obtained at the Development Center or by calling (650) 617-314) Please see Tree Table on page A-1 of plan set

42. Existing animal and bird life on site None

43. Detailed description of conditions and uses of adjacent properties Residential

Prepared by Mary Diesch

Date 12/15/17

Note: More information may be required before the application for which this assessment has been prepared can be processed. Please call the Department of Planning and Community Environment at (650) 329-2442 if you have any questions.

PLEASE RETURN COMPLETED WORKSHEET TO THE DEPARTMENT OF PLANNING AND COMMUNITY ENVIRONMENT, DEVELOPMENT CENTER, 285 HAMILTON AVENUE, 1ST FLOOR.

City of Palo Alto Requirements for Utilities within Flood Zone

The City of Palo Alto website contains helpful information regarding placement utilities in Flood Zones: "Other provisions require openings in areas below flood level to allow water to enter and exit, flood proofing of utilities below the flood level, etc." Source: City of Palo Alto Website – Q&A About Flood Zones: <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=176>. Additionally, comment #A2 from the City of Palo Alto Department of Public Works received in Jan. 2018 matches the same criteria, that all proposed equipment in an underground vault shall be flood proofed. As previously mentioned, there is no way to flood proof underground vaults for radio equipment.



Development Review - Department Comments

City Department: Public Works Engineering
Staff Contact: Ajay Kumar
(650) 329-2209
Ajay.Kumar@cityofpaloalto.org
Date: 1/11/2018
Project Address/File #: 250 Hamilton Ave / 17PLN-00169

A. The following comments are required to be addressed prior to Planning entitlement approval.

1. **UNDERGROUND VAULT:** Provide additional details regarding proposed underground vaults. Include information regarding specific equipment being placed in each vault with supplemental detail drawings for each item. Include necessary dimensions on plans and detail sheets. Vault covers shall have information regarding slip resistant surface. The depth of the vaults needs to be specified for each location on the plans. Vaults need to be depicted on relevant drawings aside from side plan: sections, elevations and details.

2. **FLOOD ZONE:** All proposed equipment in underground vault shall be flood proofed if site location is within Special Flood Hazard Area. The plans shall depict the flood zone designation along with the base flood elevation (BFE).

8. The following comments are provided as a courtesy and shall be addressed prior to any other permit application submittal. This includes Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit and Encroachment Permit but after the Planning entitlement approval.

The following comments apply to work being performed on existing wood utility poles:

3. **EXCAVATION:** Include excavation area for proposed vaults including deepest excavation points. Specify if excavation area will extend past the right-of-way into private property.

4. **EASEMENT:** All existing easements shall be indicated on plan submittal to Public Works for necessary permits. Any proposed items in existing Public Utility Easement areas shall be approved by CPA Utilities and Public Works Engineering. This can be covered under an Encroachment Permit. Include a note on site plan indicating whether easements are present for each location.

5. **DEMOLITION PLAN:** Place the following note adjacent to an affected tree on the Site Plan and Demolition Plan: "Excavation activities associated with the proposed scope of work shall occur no closer than 10-feet from the existing street tree, or as approved by the Urban Forestry Division contact 650-496-5953. Any changes shall be approved by the same".

Not what this says,
and 2490 LOUIS is
not in a Special
Flood Hazard Area.



PLANNING & COMMUNITY ENVIRONMENT

CITY OF
**PALO
ALTO**

250 Hamilton Avenue, 5th Floor
Palo Alto, CA 94301
650.329.2441

March 26, 2018

Mary Diesch, Site Acquisition Manager, Small Cells
Vinculums Services
575 Lennon Lane
Walnut Creek CA 94598

Subject: 250 Hamilton Avenue [17PLN-00169]; Tier 3 Wireless Communication Facility Permit Applications for 11 Small Cell Nodes – Vinculums/Verizon Cluster 1

Dear Mary Diesch:

On March 26, 2018 the Director of Planning and Community Environment (Director) approved 11 small cell nodes referenced below, under file 17PLN-00169.

These Director's approvals (known as Tier 3 Wireless Communication Facility (WCF) permits) were granted pursuant to the Palo Alto Municipal Code (PAMC) Sections 18.42.110 (c)(3), 18.42.110 (h)(1), 18.42.110 (h)(2), 18.42.110 (i), and 18.42.110 (j). These decisions were based on the review of all information contained within the project file, all public comments received to date, and the review of the proposal in comparison to applicable Comprehensive Plan goals and policies, as well as zoning and other municipal code requirements. These Director's approvals correspond with the recommendations of the Architectural Review Board from March 15, 2018.

APPROVED PROJECT LOCATIONS: Tier 3 Wireless Communication Facilities (small cell wireless communication equipment) are hereby approved on eleven utility poles in the public right of way within the Mid-Town, Palo Verde, St. Claire Gardens, and South of Mid-Town neighborhoods, as follows:

- Node #129: CPAU Pole# 3121 (near 2490 Louis Road APN 127-30-062)
- Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046)
- Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067)
- Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-23-009)
- Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028)
- Node #135: CPAU Pole # 3610 (near 795 Stone Ln APN 127-47-001)
- Node #137: CPAU Pole #3351 (near 3090 Ross Rd APN 127-52-031)
- Node #138: CPAU Pole #2479 (near 836 Colorado Av APN 127-27-063)
- Node #143: CPAU Pole #3867 (near 419 El Verano Av APN 132-15-017)
- Node #144: CPAU Pole #1506 (near 201 Loma Verde Av APN 132-48-015) and
- Node #145: CPAU Pole #3288 (near 737 Loma Verde Av APN 127-64-039).



B.1

Pursuant to the California Environmental Quality Act (CEQA), the Director determined that each WCF is Categorically Exempt under CEQA Class 3, Guidelines Section 15303 (New Construction or Conversion of Small Structures).

The Director's decision on each of the 11 nodes shall become final and effective fourteen (14) calendar days from the postmark date of the March 26, 2018 mailing (or on the next business day if it falls on a weekend or holiday), unless appeal(s) are filed pursuant to PAMC Section 18.77.070(e). Any appeal(s) shall be in writing and submitted to the Planning Division prior to the end of the business day of the fourteenth day. The Director's decisions for nodes that are not appealed within this time shall become final, notwithstanding any timely appeal of one or more of the other nodes included in this letter.

Any appeal(s) shall be placed on the City Council consent calendar within 45 days pursuant to PAMC Section 18.77.070(f). The appeal form, which contains brief instructions, can be found on the City website (<https://www.cityofpaloalto.org/civicax/filebank/documents/61907>). Each appealed node should be specifically listed by node number on the appeal form and in the letter stating the reason(s) for the appeal.

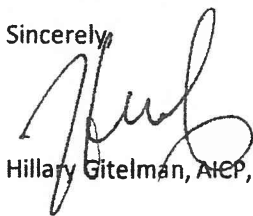
As outlined in the Fiscal Year 2018 Municipal Fee Schedule found on the City's website (<https://www.cityofpaloalto.org/civicax/filebank/documents/61512>), the total fee to file an appeal for one or more nodes is two-hundred and eighty dollars (\$280.00). The fee is refunded if the City Council chooses not to hear an appeal.

Approvals shall be effective for one year from the date they become final, within which time construction of the project shall have commenced. Applications for extensions may be made prior to approval expiration.

According to PAMC Section 18.42.110(l), the Director may revoke any WCF permit if the permit holder fails to comply with any conditions of approval.

Should you have any questions regarding this approval, please do not hesitate to contact Rebecca Atkinson, at (650) 329-2596, or e-mail Rebecca.Atkinson@CityofPaloAlto.org.

Sincerely,



Hillary Gitelman, AICP, Director of Planning and Community Environment

Cc:

Jennifer Haas, Verizon Wireless, 2785 Mitchell Drive, Building 9, Walnut Creek, CA 94598
Paul Albritton, Esq. Mackenzie & Albritton LLP, 155 Sansome St., Ste. 800, San Francisco, CA 94104
Hamid Ghaemmaghani, Manager Real Property for Administrative Services, City of Palo Alto
Jim Fleming, Senior Management Analyst for Utilities Department, City of Palo Alto

Attachment:

Findings and Conditions of Approval

17PLN-00169
Page 2 of 2

City of Palo Alto

B.2

City of Palo Alto Revenue Collections

Received From: _____

Date: _____

In Payment Of _____

By: _____

ITEM

() Certified Mail Fee	40050009	18990	\$ _____
() False Alarm Late Fee	70020002	13110	\$ _____
() Miscellaneous Revenue	10200000	18990	\$ _____
() Transient Occupancy Tax	10200000	11850	\$ _____
() Sales Tax	10200000	60050	\$ _____
() Utility User Tax	10300000	11870	\$ _____
() ZoneMapSales	60020201	17030	\$ _____
() Univ Ave Parking	23600000	14510	\$ _____
() Calif Ave Parking	23700000	14520	\$ _____
() Lot S Parking	23600000	14500	\$ _____
() Other	_____	_____	\$ _____
		Total	\$ _____

Copies to: _____

22-37 REV 10/03

Cash () Check ()

City of Palo Alto
City of Palo Alto
Revenue Collection

Reference Number: 2018099001-7
Date/Time: 04/09/2018 8:44:19 AM

Miscellaneous

2018099001-7-1

Reference: Appeal

Allocation 29

GL #: 60020402..13290....

1@ \$280.00

Total: \$280.00

1 ITEM TOTAL:

\$280.00

TOTAL:

\$280.00

VISA

\$280.00

Credit Card Nbr: *****2572

Payer Lname: SHUJI

Payment Type: VeriFone

Total Received:

\$280.00



C E 2 0 1 8 0 9 9 0 0 1 - 7

Customer Copy

18-AP-3

**Francesca Lane Kautz, Node #143: CPAU Pole #3867
(near 419 El Verano Avenue)**

Node 143, CPAU Polc 3867

CITY OF PALO ALTO
Office of the City Clerk
APPEAL FROM THE DECISION OF DIRECTOR OF PLANNING
AND COMMUNITY ENVIRONMENT*

For appeals of final decisions on Architectural Review Board and Home Improvement Exception applications (rendered after public hearing), this appeal form shall be completed and submitted by appellant within fourteen days from date of the Director's decision. Appeals of final decisions on Individual Review applications (rendered after public hearing) must be submitted within ten days of the Director's decision. Complete form, the current fee and a letter stating reasons for the appeal shall be submitted to front desk staff of the Planning Division, 5th floor, City Hall, 250 Hamilton Avenue, except for 980 Fridays when City Hall is closed, when these items shall be submitted to Planning staff at the Development Center, 285 Hamilton Avenue (glass storefront across from City Hall on the corner of Bryant and Hamilton).

* Director of Planning includes his designees, which are Planning Managers or the Chief Planning Official

Appeal Application No. 18-AP-3 Receipt No. 201809901-13-1
Name of Appellant Francesca Lane Kautz Phone (650) 857-0784
Address 3324 South Court Palo Alto 94306
Street City ZIP

LOCATION OF PROPERTY SUBJECT TO APPEAL:

Street Address 419 El Verano Avenue
Name of Property Owner (if other than appellant) David and Ellen Vanderwilt
Property Owner's Address 419 El Verano Ave Palo Alto 94306
Street City ZIP

The decision of the Director of Planning and Community Environment dated March 26, 2018
whereby the application 17PLN-00169 by Verizon Wireless
(file number) (original project applicant)

was approved, is hereby appealed for the reasons stated in the attached letter (in duplicate)
(approved/denied)

Date: April 9, 2018 Signature of Appellant Francesca Lane Kautz

PLANNING COMMISSION RECOMMENDATION TO THE CITY COUNCIL (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

CITY COUNCIL DECISION (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

SUBMITTAL REQUIREMENTS SATISFIED:

1. Letter stating reasons for appeal (160)
2. Fee (currently \$280.00) (160)

Received by: Kim Lunt - attached last page
Received by: Kim Lunt

18 APR -9 AM 9:35
CITY OF PALO ALTO, CA
CITY CLERK'S OFFICE

Received

APR 09 2018

Department of Planning
& Community Environment

Dear City Clerk Beth Minor,

Sunday, April 8, 2018

My name is Francesca Lane Kautz. I have lived in Palo Alto for 50 years and in the same house in the Cluster 1 neighborhood for 32 years. This is the first time in all these years that I have felt the need to speak out against a decision that I feel is very wrong for our city and our residential neighborhoods.

On March 26, 2018, the Director of Planning and Community Environment approved 11 small cell nodes under file 17PLN-00169. I am writing to appeal the decision for Node 143, CPAU Pole 3867, which is located within 600 feet of our home. I urge City Council to overturn the Director's decision and direct Verizon to comply with Palo Alto's aesthetics, noise and other ordinances.

I have been waiting patiently for the undergrounding of our utilities, which is happening slowly all over the city and I'm afraid that Verizon's cells will make this impossible. Once Verizon has made a significant investment *on* the utility poles, they will fight hard to prevent undergrounding. I ask you to direct Verizon to locate all of its equipment underground now, in anticipation of Palo Alto's plans for the future. Palo Alto has electric high voltage underground on city sidewalks and no one is tripping or having a hard time pushing their strollers (see photos below taken on the 400 block of Cambridge between Sedro and Mimosa Lanes).

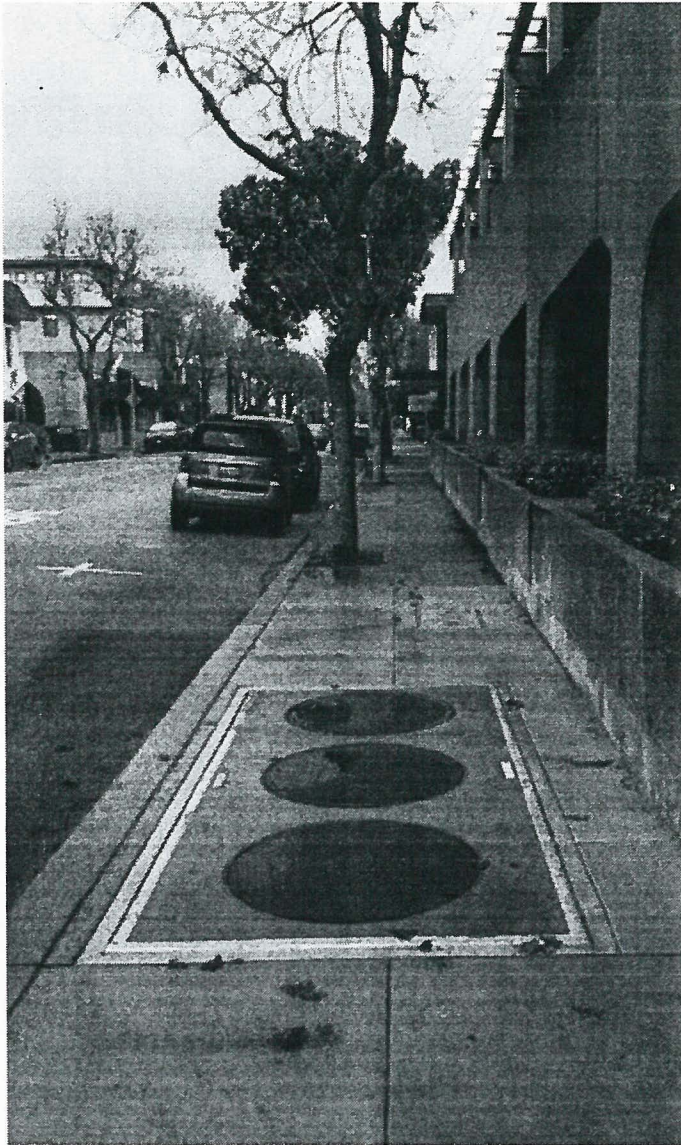
If Verizon doesn't want to underground the cells, then I ask that you direct Verizon to locate all of its equipment on or near existing Utility Sub-Stations or on city owned structures, commercial and industrial buildings. Verizon's cells do not belong in residential neighborhoods. It is not fair that while Verizon is generating billions in profits every year, we homeowners have to foot the bill to have our neighborhoods defaced.

The equipment that Verizon is planning to install at 419 El Verano will not be hidden by any landscaping as shown by their own proposed photo-simulation. The pole with its antenna will stick out way above the tree line. The owners of the house, David and Ellen Vanderwilt, who currently have Verizon cell service, say their coverage is fine and they are not in favor of any additional equipment. They also said they will terminate their contract should Verizon go forward with its plan to destroy our neighborhoods.

I am concerned about the antennas in an earthquake or fire and troubled that we taxpayers are liable, not Verizon, should they come down. 200 extra pounds on a pole are not insignificant. Please put the health and safety of Palo Alto's residents above Verizon's profits and do not allow Verizon cells in our neighborhoods. Please have Verizon innovate and use superior, less intrusive solutions rather than doing the cheapest and most unsightly project. Please defend the aesthetics, home values and quality of life in our neighborhoods. Please help Palo Alto keep its promises and our whole town beautiful.

Thank you for your consideration,

Francesca Lane Kautz





NOTICE OF DIRECTOR'S DECISIONS APPROVING 11 WIRELESS COMMUNICATION FACILITY PERMITS

NOTICE IS HEREBY GIVEN: The Director of Planning and Community Environment (PCE) approved 11 'Tier 3' Wireless Communication Facility (WCF) Permit applications (file 17PLN-00169) following Architectural Review Board (ARB) approval recommended March 15, 2018. The PCE Director decision letter (viewable at this website: <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=3999&TargetID=319>) approved these small cell equipment 'nodes' submitted by Vinculums/Verizon on 11 utility poles in public right-of-way within the Mid-Town, Palo Verde, St. Claire Gardens, and South of Mid-Town neighborhoods, as follows: Node #129: CPAU Pole# 3121 (near 2490 Louis Road APN 127-30-062); Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046); Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067); Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-23-009); Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028); Node #135: CPAU Pole #3610 (near 795 Stone Ln APN 127-47-001); Node #137: CPAU Pole #3351 (near 3090 Ross Rd APN 127-52-031); Node #138: CPAU Pole #2479 (near 836 Colorado Av APN 127-27-063); Node #143: CPAU Pole #3867 (near 419 El Verano Av APN 132-15-017); Node #144: CPAU Pole #1506 (near 201 Loma Verde Av APN 132-48-015) and Node #145: CPAU Pole #3288 (near 737 Loma Verde Av APN 127-64-039). Each WCF is Categorically Exempt under California Environmental Quality Act Class 3, Guidelines Section 15303.

You are receiving this notice because you own property or reside within 600 feet of one or more of the 11 small cell nodes on the above list. The PCE Director's decisions become final and effective after fourteen (14) calendar days from March 26, 2018, unless timely written appeal(s) are filed. For more information contact the Project Planner Rebecca Atkinson at Rebecca.Atkinson@CityofPaloAlto.org.

AMERICANS WITH DISABILITY ACT (ADA) Persons with disabilities who require auxiliary aids or services in using City facilities, services or programs or who would like information on the City's compliance with the Americans with Disabilities Act (ADA) of 1990, may contact (650) 329-2550 (Voice) or (650) 328-1199 (TDD) 72 hours in advance.

City of Palo Alto Revenue Collections

Received From: Francesca Kautz

Date: 4/9/18

In Payment Of: Appeal

By: _____

ITEM

() Certified Mail Fee	40050009	18990	\$
() False Alarm Late Fee	70020002	13110	\$
() Miscellaneous Revenue	10200000	18990	\$
() Transient Occupancy Tax	10200000	11850	\$
() Sales Tax	10200000	60050	\$
() Utility User Tax	10300000	11870	\$
() ZoneMapSales	60020201	17030	\$
() Univ Ave Parking	23600000	14510	\$
() Calif Ave Parking	23700000	14520	\$
() Lot S Parking	23600000	14500	\$
() Other	_____	_____	\$
		Total	\$ <u>280.00</u>

Copies to: _____

22-37 REV 10/03

Cash () Check ()

Customer Copy



C E 2 0 1 8 0 9 9 0 0 1 - 1 3

Total Received:

\$280.00

Check Nbr: 16844

\$280.00

Check

TOTAL:

\$280.00

1 ITEM TOTAL:

\$280.00

Total:

\$280.00

GL #: 60020402..13290...

Allocation 29

Reference: Francesca Kautz appeal

2018099001-13-1

Miscellaneous

Date/Time: 04/09/2018 9:19:29 AM

Reference Number: 2018099001-13

City of Palo Alto

Revenue Collection

City of Palo Alto

18-AP-4

**Christopher Linn, Node #130: CPAU Pole #2461
(near 2802 Louis Road)**

Node 130

CITY OF PALO ALTO
Office of the City Clerk
CITY OF PALO ALTO, CA
PLANNING CLERK'S OFFICE
APPEAL FROM THE DECISION OF DIRECTOR OF PLANNING
AND COMMUNITY ENVIRONMENT*

18 APR -9 AM 9:43

For appeals of final decisions on Architectural Review Board and Home Improvement Exception applications (rendered after public hearing), this appeal form shall be completed and submitted by appellant within fourteen days from date of the Director's decision. Appeals of final decisions on Individual Review applications (rendered after public hearing) must be submitted within ten days of the Director's decision. Complete form, the current fee and a letter stating reasons for the appeal shall be submitted to front desk staff of the Planning Division, 5th floor, City Hall, 250 Hamilton Avenue, *except* for 980 Fridays when City Hall is closed, when these items shall be submitted to Planning staff at the Development Center, 285 Hamilton Avenue (glass storefront across from City Hall on the corner of Bryant and Hamilton).

* Director of Planning includes his designees, which are Planning Managers or the Chief Planning Official

Appeal Application No. 17PLN-00169 ^{18-AP-4}

Receipt No. 2018099002-2-1

Name of Appellant Christopher Linn

Phone (650) 868-5223

Address 2802 Louis Rd.

Palo Alto CA 94303

Street

City

ZIP

LOCATION OF PROPERTY SUBJECT TO APPEAL:

Street Address 2802 Louis Rd. Palo Alto

Name of Property Owner (if other than appellant) Christopher Linn

Property Owner's Address Same 2802 Louis Rd Palo Alto CA 94303

Street

City

ZIP

The decision of the Director of Planning and Community Environment dated March 26, 2018

whereby the application 17PLN-00169 by Verizon
(file number) (original project applicant)

was approved, is hereby appealed for the reasons stated in the attached letter (in duplicate)
(approved/denied)

Date: 4/9/18 Signature of Appellant Christopher Linn

PLANNING COMMISSION RECOMMENDATION TO THE CITY COUNCIL (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

CITY COUNCIL DECISION (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

Received

APR 09 2018

Department of Planning
& Community Environment

SUBMITTAL REQUIREMENTS SATISFIED:

1. Letter stating reasons for appeal IM Received by: Irma Mora (Last Page)
2. Fee (currently \$280.00) IM Received by: Irma Mora

April 9, 2018

Dear City Clerk Beth Minor,

My name is Christopher Linn, and I am property owner at 2802 Louis Road. On March 26, 2018, the Director of Planning and Community Environment approved 11 small cell nodes under file 17PLN-00169.

I am writing to appeal the decision for Node 130, CPAU Pole #2461, which is located directly at the front of my property.

I urge City Council to overturn the Director's decision and direct Verizon to comply with Palo Alto's aesthetics, noise and other ordinances.

Specifically, I ask you direct Verizon to locate all of its equipment here except the antenna underground in a flush-to-the-ground vault with no protuberances and to ensure that Verizon not install any equipment that does not meet noise levels permitted by Palo Alto's ordinances and policies.

When I moved to Palo Alto in 1999, I was happy to live in a community with high esthetic standards and a plan to bury utility lines. Nearly twenty years later, it seems the city has abandoned that goal and instead is moving in the opposite direction, by approving new, above-ground Verizon equipment that is large, very ugly, and in full view of my home.

Completion of this project virtually ensures the utilities on Louis Road will never be moved underground. This will unfairly lower my property's value, while other Palo Alto owners enjoy the esthetic and financial benefits of underground utility lines.

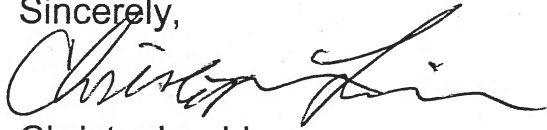
Verizon claims that vaulting in infeasible at this location because of lateral sewer lines and the flood zone. This is a thin excuse. **Palo Alto should require all new utilities to be located underground** (except for the antenna itself). Locations should be chosen that allow this, and the vaulting cost to Verizon, even in a flood zone, is irrelevant.

Frustratingly, it seems Node 130 is entirely unnecessary to improve coverage. Node 130 is located within a half mile of 1032 Colorado, the site of a planned Verizon macro cell tower. That tower will provide ample coverage to Verizon customers throughout my neighborhood.

I am outraged that the city is caving to Verizon's demands rather than protecting the esthetics and property interests of residents. Please reject the plan for Node 130.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher Linn". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Christopher Linn
2802 Louis Road
Palo Alto



NOTICE OF DIRECTOR'S DECISIONS APPROVING 11 WIRELESS COMMUNICATION FACILITY PERMITS

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You are receiving this notice because you own property or reside within 600 feet of one or more of the 11 small cell nodes on the above list. The PCE Director's decisions become final and effective after fourteen (14) calendar days from March 26, 2018, unless timely written appeal(s) are filed. For more information contact the Project Planner Rebecca Atkinson at Rebecca.Atkinson@CityofPaloAlto.org.

AMERICANS WITH DISABILITY ACT (ADA) Persons with disabilities who require auxiliary aids or services in using City facilities, services or programs or who would like information on the City's compliance with the Americans with Disabilities Act (ADA) of 1990, may contact (650) 329-2550 (Voice) or (650) 328-1199 (TDD) 72 hours in advance.

City of Palo Alto Revenue Collections

Received From: Christopher Linn

Date: 4/13/17

In Payment Of Apple

By: _____

ITEM

() Certified Mail Fee	40050009	18990	\$
() False Alarm Late Fee	70020002	13110	\$
() Miscellaneous Revenue	10200000	18990	\$
() Transient Occupancy Tax	10200000	11850	\$
() Sales Tax	10200000	60050	\$
() Utility User Tax	10300000	11870	\$
() ZoneMapSales	60020201	17030	\$
() Univ Ave Parking	23600000	14510	\$
() Calif Ave Parking	23700000	14520	\$
() Lot S Parking	23600000	14500	\$
() Other <u>Apple</u> <u>10020442</u> <u>13240</u>			\$ <u>280</u>
Total			\$

Copies to: _____

22-37 REV 10/03

Cash () Check ()

City of Palo Alto
City of Palo Alto
Revenue Collection

Reference Number: 2018099002-2
Date/Time: 04/09/2018 9:34:50 AM

Miscellaneous
2018099002-2-1
Reference: Christopher Linn
Allocation 29 1@ \$280.00
GL #: 60020402...13290...
Total: \$280.00

1 ITEM TOTAL: \$280.00

TOTAL: \$280.00

Check \$280.00

Check Nbr: 1019

Total Received: \$280.00



Customer Copy

18-AP-5

**Jeanne Fleming on behalf of United Neighbors
All eleven (11) nodes**

CITY OF PALO ALTO
Office of the City Clerk
APPEAL FROM THE DECISION OF DIRECTOR OF PLANNING
AND COMMUNITY ENVIRONMENT*

For appeals of final decisions on Architectural Review Board and Home Improvement Exception applications (rendered after public hearing), this appeal form shall be completed and submitted by appellant within fourteen days from date of the Director's decision. Appeals of final decisions on Individual Review applications (rendered after public hearing) must be submitted within ten days of the Director's decision. Complete form, the current fee and a letter stating reasons for the appeal shall be submitted to front desk staff of the Planning Division, 5th floor, City Hall, 250 Hamilton Avenue, except for 980 Fridays when City Hall is closed, when these items shall be submitted to Planning staff at the Development Center, 265 Hamilton Avenue (glass storefront across from City Hall on the corner of Bryant and Hamilton).

* Director of Planning includes his designees, which are Planning Managers or the Chief Planning Official

18-AP-5

Appeal Application No. 17 PLN-00169 Receipt No. 2018099001-25-1
Name of Appellant Jeanne Fleming Phone (650) 325-5151
Address 2070 Webster Street Palo Alto 94301
Street City ZIP

LOCATION OF PROPERTY SUBJECT TO APPEAL: Please see attachment for more information.
Street Address CPAV Poles #3121, 2461, 3315, 2856, 2964, 3610, 3351, 2479, 3867, 1506 + 3288
Name of Property Owner (if other than appellant) City of Palo Alto
Property Owner's Address 250 Hamilton Avenue Palo Alto 94301
Street City ZIP

The decision of the Director of Planning and Community Environment dated March 26, 2018
whereby the application 17 PLN-00169 by Vinculums/Verizon
(file number) (original project applicant)

was approved, is hereby appealed for the reasons stated in the attached letter (in duplicate)
(approved/denied)

Date: April 9, 2018 Signature of Appellant Jeanne Fleming

PLANNING COMMISSION RECOMMENDATION TO THE CITY COUNCIL (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

CITY COUNCIL DECISION (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

SUBMITTAL REQUIREMENTS SATISFIED

1. Letter stating reasons for appeal (initials)
2. Fee (currently \$280.00) (initials)

Received by:

Received by:

Kim Lunt (last page)
Kim Lunt

APR 09 2018

CITY OF PALO ALTO, CA
CITY CLERK'S OFFICE
18 APR -9 AM 10:58

Attachment to Jeanne Fleming's 4/9/18 appeal of Application 17PLN-00169

LOCATION OF PROPERTY SUBJECT TO APPEAL:

- Node #129: CPAU Pole #3121 (near 2490 Louis Road APN 127-30-062)
- Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046)
- Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067)
- Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-23-009)
- Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028)
- Node #135: CPAU Pole #3610 (near 795 Stone Lane APN 127-47-001)
- Node #137: CPAU Pole #3351 (near 3090 Ross Road APN 127-52-031)
- Node #138: CPAU Pole #2479 (near 836 Colorado Avenue APN 127-27-063)
- Node #143: CPAU Pole #3867 (near 419 El Verano Avenue APN 132-15-017)
- Node #144: CPAU Pole #1506 (near 201 Loma Verde Avenue APN 132-48-015)
- Node #145: CPAU Pole #3288 (near 737 Loma Verde Avenue APN 127-64-039)

April 9, 2018

Dear City Clerk Beth Minor:

On behalf of United Neighbors, I am appealing the Director of Planning's decision to approve the eleven cell towers known as Cluster 1 that Verizon is applying to install in Palo Alto, most of them in close proximity to residents' homes.

United Neighbors appreciates the work the City and, in particular, the Architectural Review Board, has done in reviewing Verizon's applications. We believe, however, that the Director has arrived at the wrong decision.

Please understand, we welcome the ramp up to 5G in Palo Alto. Telecom's next generation holds the promise of improving our lives in new and exciting ways. But it is our view that Palo Alto should be a leader in ensuring that the equipment required to support this service is thoughtfully integrated into residential neighborhoods. This means hiding it, not—as the Director's decision would allow—mounting cheap, oversized equipment next to people's homes—equipment that, in the words of ARB member Robert Gooyer, is "butt ugly."

Better alternatives exist, much better. Here is a link to a terrific short video (2.26 minutes) that shows how Swisscom, a Swiss telecom company, is fully undergrounding its equipment, including antennas, and doing it in a way that makes the equipment invisible to residents and passers-by: <https://www.ericsson.com/en/news/2016/3/swisscom-and-ericsson-plant-lte-small-cells-underground>. If you don't have time to view the video, attached are two stills from it (please see Exhibit A for photos of Swisscom's elegantly undergrounded equipment in Bern).

Surely Verizon, which dwarfs Swisscom in resources and revenue, is capable of overcoming the barriers to undergrounding it says exist and placing in vaults its equipment (except for the antenna) at the eleven sites in question.

For example, Verizon states that it cannot underground its equipment at six of the eleven sites because they are in a 100-year-storm flood zone, meaning there's a remote possibility its radios could get wet and need to be replaced. But if this very small chance of water damaging its radios is truly a problem for Verizon, it could use fully water-proof radios. Ericsson makes one (please see Exhibit B). Problem solved.

Again for example, Verizon states that vaulting could represent an impediment to pedestrians. But in reality, the telecom industry, like the public utility industry, knows exactly how to install flush-to-the-ground-with-no-protuberances vaulted equipment. In Exhibit C, you will see a photo of the top of a vault for electrical equipment, installed by Palo Alto Utilities, that is in the middle of a sidewalk in the 400 block of Cambridge

Avenue and that represents no impediment to pedestrians. In Exhibit D, you will find a photograph of a fully-undergrounded *telecom* installation in Rancho Palos Verdes, California. And in Exhibit E you will see plans Verizon itself submitted to the City of Montecito for a fully-undergrounded installation in that community.

Verizon has a laundry list of objections to undergrounding its cell tower equipment, all as unconvincing as the two considered above. As we all know, Palo Alto has undergrounded its utilities in much of the city and plans to place all the utilities underground in the future, including in the Cluster 1 neighborhoods. Indeed, the City has already installed fully-undergrounded electricity vaults in Cluster 1 neighborhoods. (Please see Exhibit F for two photographs of a City vault at 897 Marshall Drive, which is next door to 2490 Louis Road, a site where Verizon says vaulting is not feasible because it is in a 100-year-storm zone.) It makes no sense that the largest telecom company in the United States and second largest in the world is incapable of undergrounding equipment where Palo Alto can.

Truth be told, there is only one reason why Verizon wants to install its equipment on utility poles rather than to place it in underground vaults: Above ground installations are cheaper.

But Verizon's expenses are not Palo Alto's responsibility. The City's responsibility is to its residents. In this regard, the City's code requires everyone—telecom companies included—to abide by Palo Alto's aesthetics, noise and other ordinances. Plus, with Governor Brown's veto of SB649—a move supported by the City, which joined the League of California Cities in fighting SB649—state law continues to give Palo Alto the right to do so.

In short, we see no reason why the quality of life in our neighborhoods should be compromised to allow Verizon to save money. Verizon, AT&T and other players in the telecom industry have already filed applications to install new cell towers at over 150 locations in the heart of Palo Alto, and more applications are on the way. As it welcomes the ramp up to 5G in our city, Palo Alto—the epicenter of technological innovation in the 21st Century—should insist that this massive buildout be done right, and not on the cheap.

In conclusion: In appealing the Director's decision, we ask City Council to stipulate that approval is granted to Verizon to install cell towers only on the condition that it fully undergrounds all its equipment, save for the antennas.

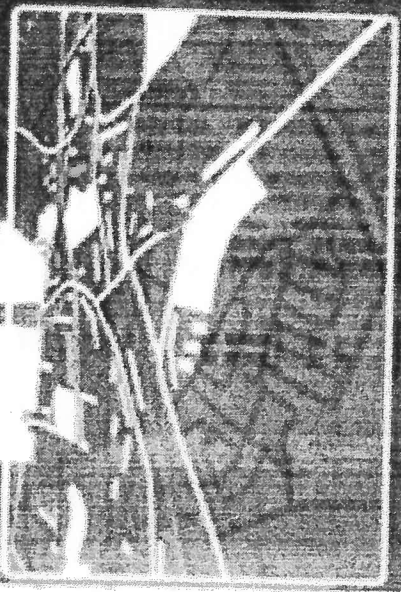
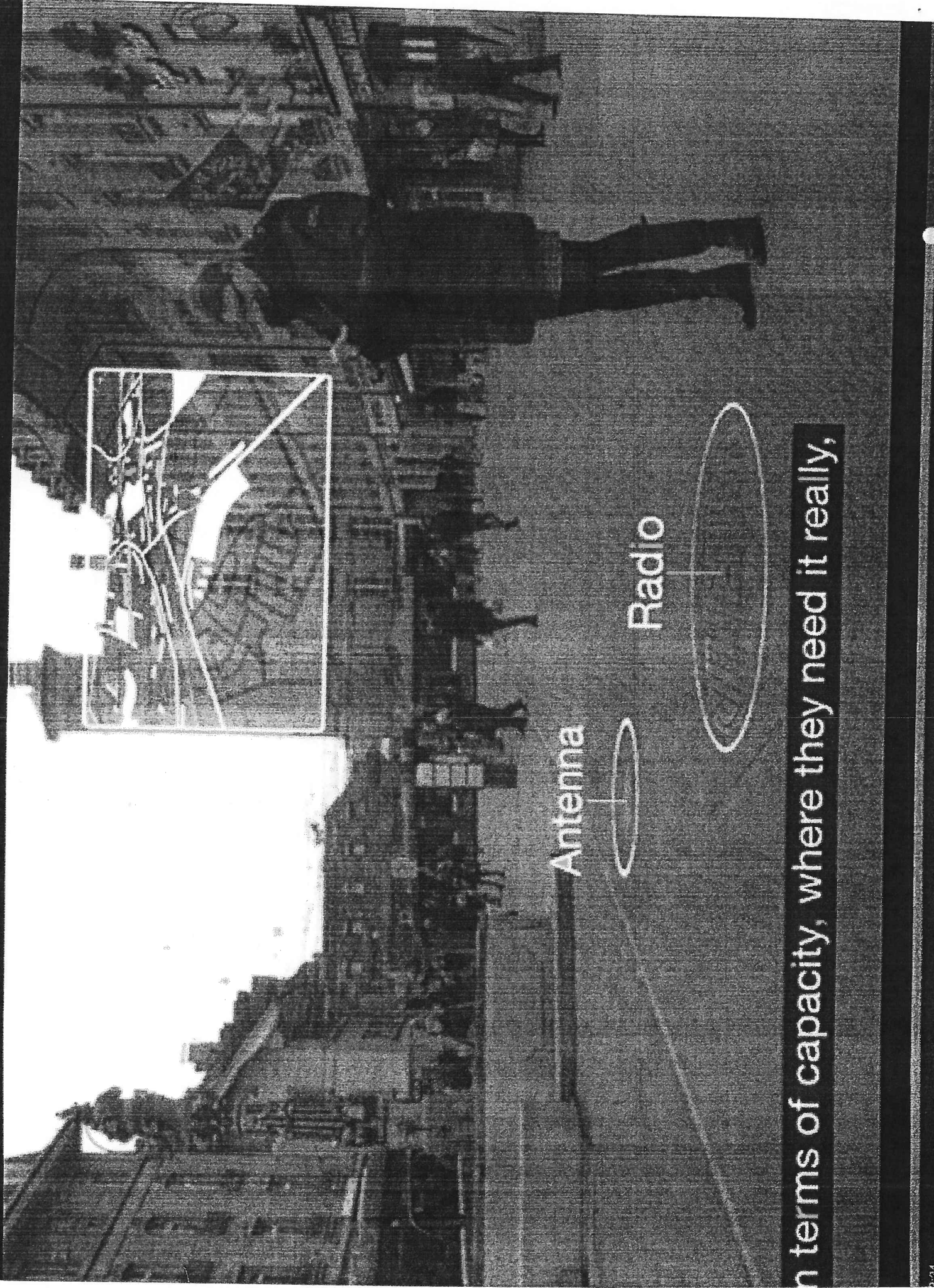
Sincerely,


Jeanne Fleming

Exhibit A

Two photographs of fully-undergrounded
cell tower equipment in Bern,
Switzerland

Source: Swisscom video



Antenna

Radio

in terms of capacity, where they need it really,



Underground vault

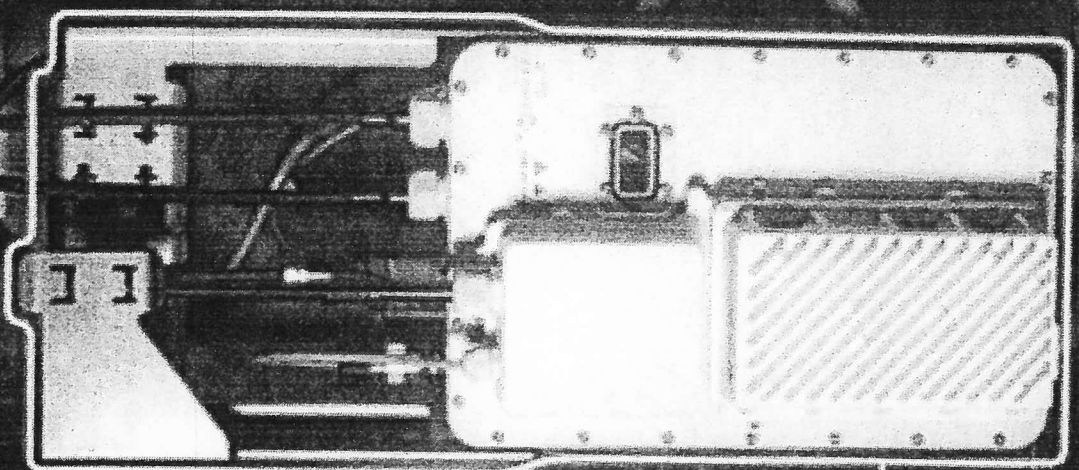
have tons of cable ducts and manholes,

Exhibit B

Promotional photograph of Ericsson's
waterproof radio

Source: Swisscom video

IP68 DEEP WATERPROOF GASPROOF



which is waterproof, airproof,

Exhibit C

Fully-undergrounded City of Palo Alto
utility vaults in the
400 block of Cambridge Avenue

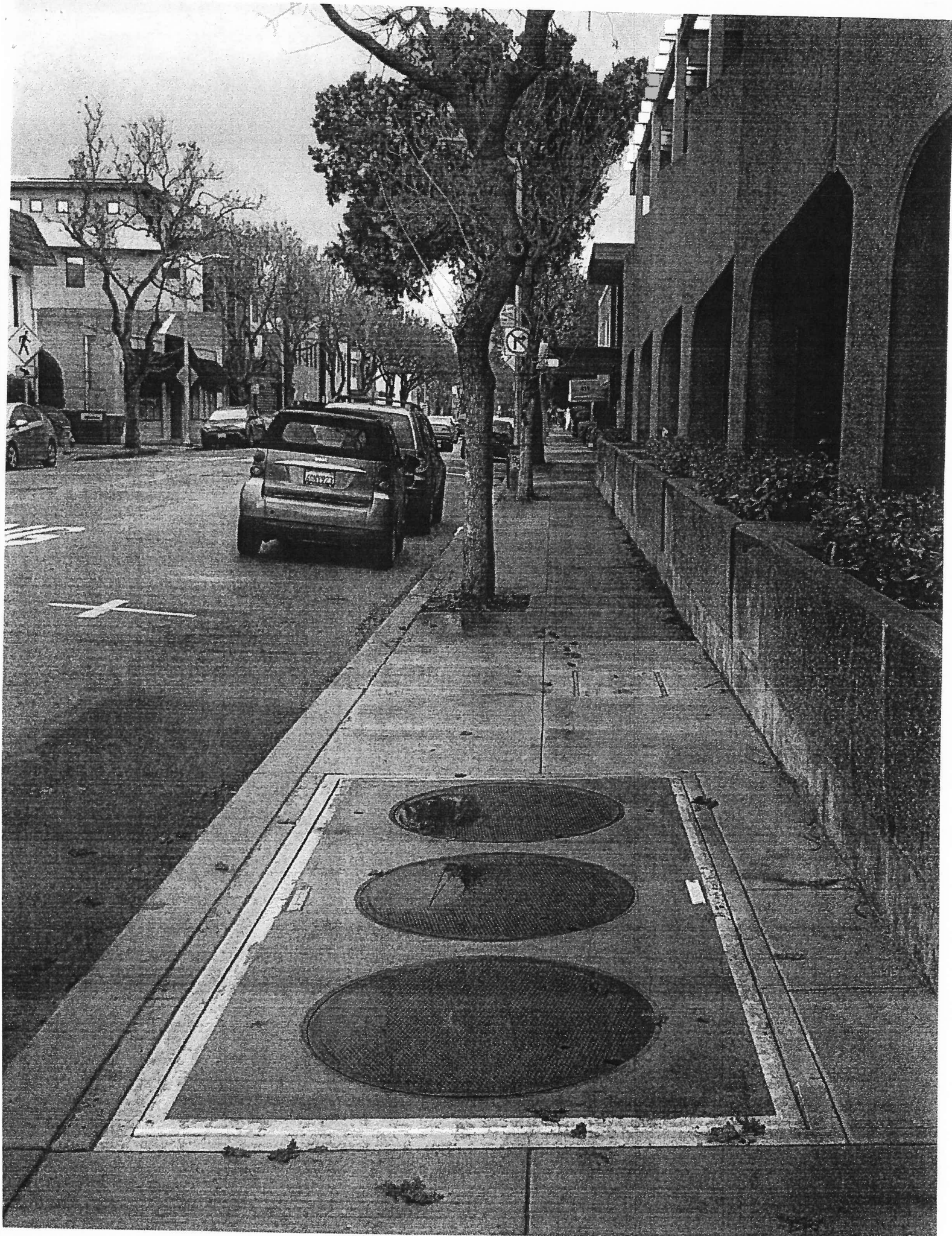
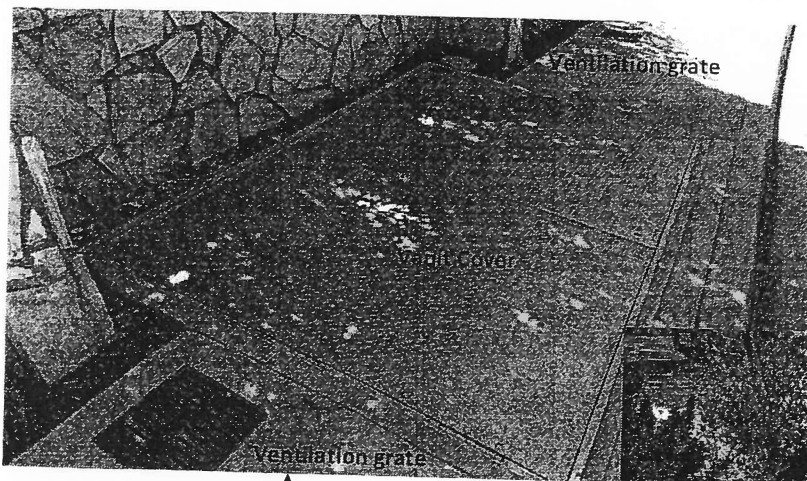


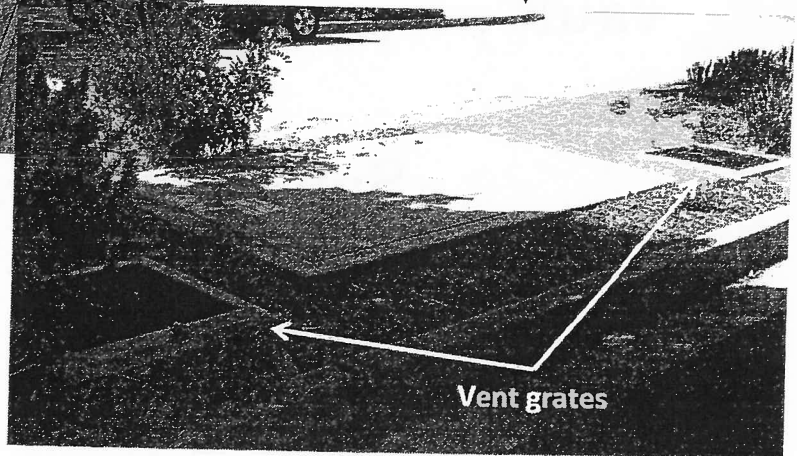
Exhibit D

Fully-undergrounded cell tower vaults in
Rancho Palos Verdes, California

Underground vaults routinely use ventilation grates flush with the surface. There is no need for the highly intrusive vent stacks



Existing cell tower underground vault at the corner of PV Drive East and Calle Aveventura in RPV. No vent stacks



Existing cell tower underground vault at the corner of Highridge Road and Ridgegate Road in RPV. No vent stacks

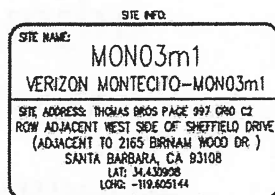
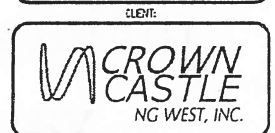
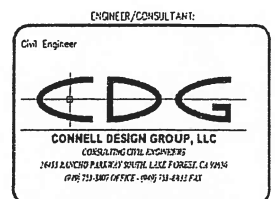
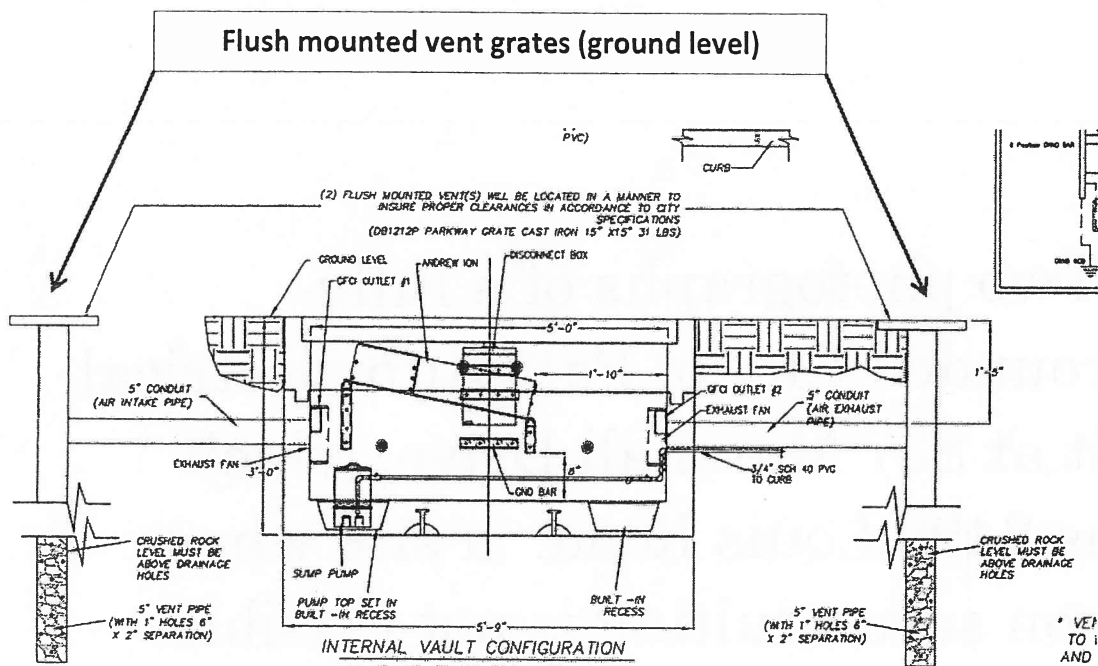


Exhibit E

Plan for a fully-undergrounded cell tower vault proposed by Verizon/Crown Castle in Santa Barbara County

Note: You will find Verizon's name in the box in the bottom right of the image.

Crown Castle proposed underground vaults without vent stacks in a large Santa Barbara County deployment using comparable equipment

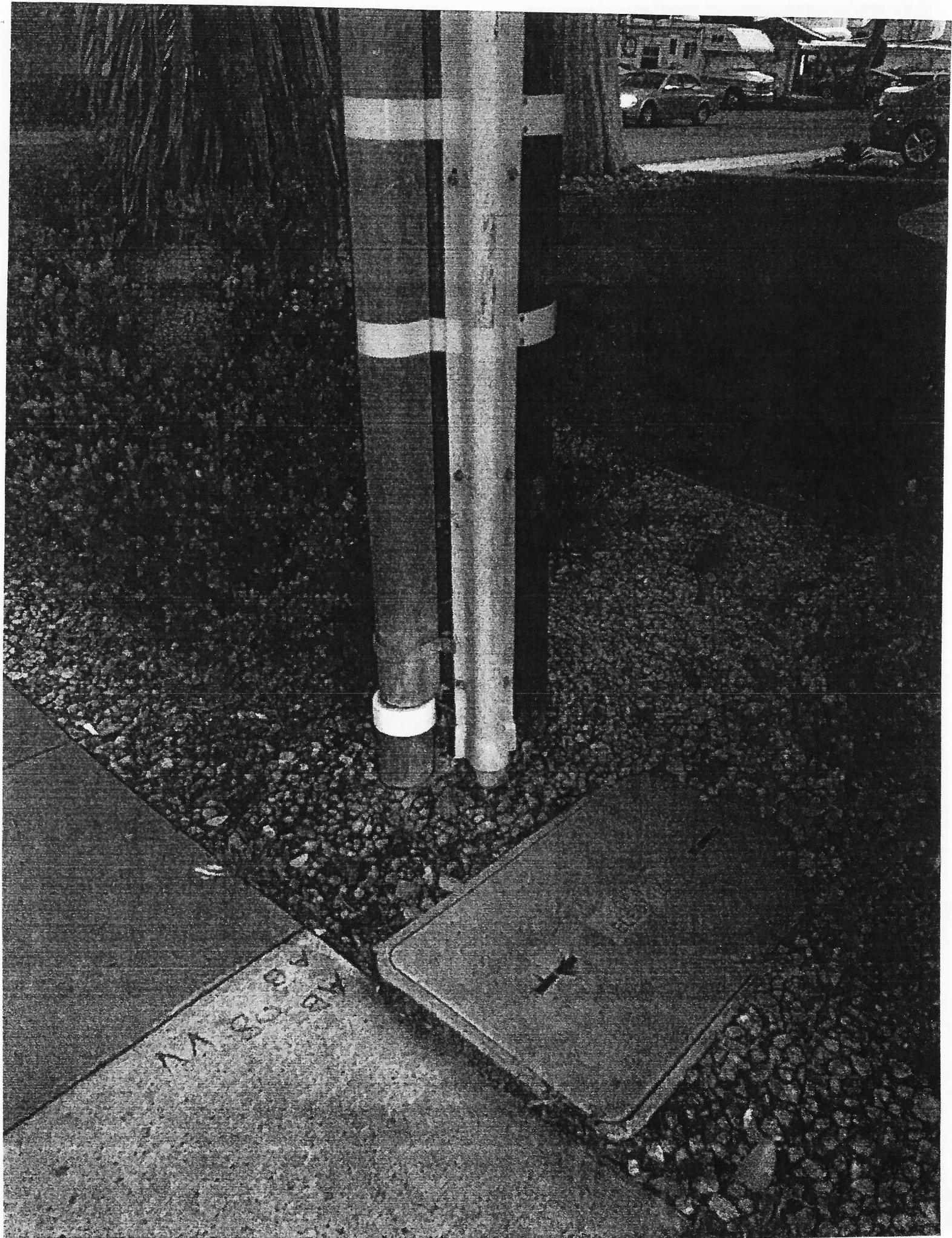


SHEET TITLE:

Source: Santa Barbara County Planning (see page 25)
<http://sbcountyplanning.org/PDF/boards/MPC/07-24-2014/13CUP-00000-00009/Plans.pdf>

Exhibit F

Two photographs of a fully-undergrounded City of Palo Alto electrical vault at 837 Marshall Drive, which adjoins 2490 Louis Road: a site where Verizon says vaulting is not feasible because it is in a 100-year-storm zone.



OPA
ELECTRIC



NOTICE OF DIRECTOR'S DECISIONS APPROVING 11 WIRELESS COMMUNICATION FACILITY PERMITS

NOTICE IS HEREBY GIVEN: The Director of Planning and Community Environment (PCE) approved 11 'Tier 3' Wireless Communication Facility (WCF) Permit applications (file 17PLN-00169) following Architectural Review Board (ARB) approval recommended March 15, 2018. The PCE Director decision letter (viewable at this website: <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=3999&TargetID=319>) approved these small cell equipment 'nodes' submitted by Vinculums/Verizon on 11 utility poles in public right-of-way within the Mid-Town, Palo Verde, St. Claire Gardens, and South of Mid-Town neighborhoods, as follows: Node #129: CPAU Pole# 3121 (near 2490 Louis Road APN 127-30-062); Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046); Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067); Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-23-009); Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028); Node #135: CPAU Pole #3610 (near 795 Stone Ln APN 127-47-001); Node #137: CPAU Pole #3351 (near 3090 Ross Rd APN 127-52-031); Node #138: CPAU Pole #2479 (near 836 Colorado Av APN 127-27-063); Node #143: CPAU Pole #3867 (near 419 El Verano Av APN 132-15-017); Node #144: CPAU Pole #1506 (near 201 Loma Verde Av APN 132-48-015) and Node #145: CPAU Pole #3288 (near 737 Loma Verde Av APN 127-64-039). Each WCF is Categorically Exempt under California Environmental Quality Act Class 3, Guidelines Section 15303.

You are receiving this notice because you own property or reside within 600 feet of one or more of the 11 small cell nodes on the above list. The PCE Director's decisions become final and effective after fourteen (14) calendar days from March 26, 2018, unless timely written appeal(s) are filed. For more information contact the Project Planner Rebecca Atkinson at Rebecca.Atkinson@CityofPaloAlto.org.

AMERICANS WITH DISABILITY ACT (ADA) Persons with disabilities who require auxiliary aids or services in using City facilities, services or programs or who would like information on the City's compliance with the Americans with Disabilities Act (ADA) of 1990, may contact (650) 329-2550 (Voice) or (650) 328-1199 (TDD) 72 hours in advance.

City of Palo Alto Revenue Collections

Received From: Jeanne Fleming

Date: 4/9/18

In Payment Of: Appeal

By: _____

ITEM

() Certified Mail Fee	40050009	18990	\$
() False Alarm Late Fee	70020002	13110	\$
() Miscellaneous Revenue	10200000	18990	\$
() Transient Occupancy Tax	10200000	11850	\$
() Sales Tax	10200000	60050	\$
() Utility User Tax	10300000	11870	\$
() ZoneMapSales	60020201	17030	\$
() Univ Ave Parking	23600000	14510	\$
() Calif Ave Parking	23700000	14520	\$
() Lot S Parking	23600000	14500	\$
() Other	<u>60020201</u>	<u>133916</u>	<u>\$ 2579</u>
Total		\$	

Copies to: _____

22-37 REV 10/03

Cash () Check ()

City of Palo Alto
City of Palo Alto
Revenue Collection

Reference Number: 2018099001-25
Date/Time: 04/09/2018 10:48:50 AM

Miscellaneous
2018099001-25-1
Reference: Jeanne Fleming appeal
Allocation 29
GL #: 60020402..13290...
Total: \$280.00

1 ITEM TOTAL: \$280.00
TOTAL: \$280.00
Check \$280.00
Check Nbr: 0797
Total Received: \$280.00



CE2018099001-25

Customer Copy

18-AP-6

**RK Parthasarathy, Node #134: CPAU Pole #2964
(near 3409 Kenneth Drive)**

CITY OF PALO ALTO
Office of the City Clerk
**APPEAL FROM THE DECISION OF DIRECTOR OF PLANNING
AND COMMUNITY ENVIRONMENT***

For appeals of final decisions on Architectural Review Board and Home Improvement Exception applications (rendered after public hearing), this appeal form shall be completed and submitted by appellant within fourteen days from date of the Director's decision. Appeals of final decisions on Individual Review applications (rendered after public hearing) must be submitted within ten days of the Director's decision. Complete form, the current fee and a letter stating reasons for the appeal shall be submitted to front desk staff of the Planning Division, 5th floor, City Hall, 250 Hamilton Avenue, except for 980 Fridays when City Hall is closed, when these items shall be submitted to Planning staff at the Development Center, 265 Hamilton Avenue (glass storefront across from City Hall on the corner of Bryant and Hamilton).

* Director of Planning includes his designees, which are Planning Managers or the Chief Planning Official

Appeal Application No. 18-AP-6 Receipt No. # 2018099001-43-1
Name of Appellant RK PARTHASARATHY Phone () 650-485-1160
Address 3409 KENNETH DRIVE, PALO ALTO CA 94303
Street City ZIP

LOCATION OF PROPERTY SUBJECT TO APPEAL:

Street Address 3409 KENNETH DRIVE, PALO ALTO CA 94303
Name of Property Owner (if other than appellant) RK PARTHASARATHY
Property Owner's Address 3409 KENNETH DRIVE, PALO ALTO CA 94303
Street City ZIP

The decision of the Director of Planning and Community Environment dated MARCH 26, 2018
whereby the application 17PLN-00169 by TIER 3 WIRELESS COMMUNICATIONS
(file number) (original project applicant)

was approved, is hereby appealed for the reasons stated in the attached letter (in duplicate)
(approved/denied)

Date: 4/9/18 Signature of Appellant [Signature]

PLANNING COMMISSION RECOMMENDATION TO THE CITY COUNCIL (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

CITY COUNCIL DECISION (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

SUBMITTAL REQUIREMENTS SATISFIED:

1. Letter stating reasons for appeal 4/6/18
2. Fee (currently \$280.00) 4/9/18

Received by: Kim Lunt
Received by: Kim Lunt

APR 09 2018

Department of Planning
& Community Environment

18 APR - 9 PM 1:02
CITY OF PALO ALTO, CA
CITY CLERK'S OFFICE

Received



PLANNING & COMMUNITY ENVIRONMENT

250 Hamilton Avenue, 5th Floor
Palo Alto, CA 94301
650.329.2441

March 26, 2018

Mary Diesch, Site Acquisition Manager, Small Cells
Vinculums Services
575 Lennon Lane
Walnut Creek CA 94598

Subject: 250 Hamilton Avenue [17PLN-00169]; Tier 3 Wireless Communication Facility Permit Applications for 11 Small Cell Nodes – Vinculums/Verizon Cluster 1

Dear Mary Diesch:

On March 26, 2018 the Director of Planning and Community Environment (Director) approved 11 small cell nodes referenced below, under file 17PLN-00169.

These Director's approvals (known as Tier 3 Wireless Communication Facility (WCF) permits) were granted pursuant to the Palo Alto Municipal Code (PAMC) Sections 18.42.110 (c)(3), 18.42.110 (h)(1), 18.42.110 (h)(2), 18.42.110 (i), and 18.42.110 (j). These decisions were based on the review of all information contained within the project file, all public comments received to date, and the review of the proposal in comparison to applicable Comprehensive Plan goals and policies, as well as zoning and other municipal code requirements. These Director's approvals correspond with the recommendations of the Architectural Review Board from March 15, 2018.

APPROVED PROJECT LOCATIONS: Tier 3 Wireless Communication Facilities (small cell wireless communication equipment) are hereby approved on eleven utility poles in the public right of way within the Mid-Town, Palo Verde, St. Claire Gardens, and South of Mid-Town neighborhoods, as follows:

- Node #129: CPAU Pole# 3121 (near 2490 Louis Road APN 127-30-062)
- Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046)
- Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067)
- Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-23-009)
- Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028)
- Node #135: CPAU Pole # 3610 (near 795 Stone Ln APN 127-47-001)
- Node #137: CPAU Pole #3351 (near 3090 Ross Rd APN 127-52-031)
- Node #138: CPAU Pole #2479 (near 836 Colorado Av APN 127-27-063)
- Node #143: CPAU Pole #3867 (near 419 El Verano Av APN 132-15-017)
- Node #144: CPAU Pole #1506 (near 201 Loma Verde Av APN 132-48-015) and
- Node #145: CPAU Pole #3288 (near 737 Loma Verde Av APN 127-64-039).



Pursuant to the California Environmental Quality Act (CEQA), the Director determined that each WCF is Categorically Exempt under CEQA Class 3, Guidelines Section 15303 (New Construction of Conversion of Small Structures).

The Director's decision on each of the 11 nodes shall become final and effective fourteen (14) calendar days from the postmark date of the March 26, 2018 mailing (or on the next business day if it falls on a weekend or holiday), unless appeal(s) are filed pursuant to PAMC Section 18.77.070(e). Any appeal(s) shall be in writing and submitted to the Planning Division prior to the end of the business day of the fourteenth day. The Director's decisions for nodes that are not appealed within this time shall become final, notwithstanding any timely appeal of one or more of the other nodes included in this letter.

Any appeal(s) shall be placed on the City Council consent calendar within 45 days pursuant to PAMC Section 18.77.070(f). The appeal form, which contains brief instructions, can be found on the City website (<https://www.cityofpaloalto.org/civicax/filebank/documents/61907>). Each appealed node should be specifically listed by node number on the appeal form and in the letter stating the reason(s) for the appeal.

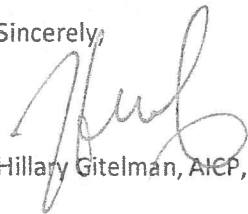
As outlined in the Fiscal Year 2018 Municipal Fee Schedule found on the City's website (<https://www.cityofpaloalto.org/civicax/filebank/documents/61512>), the total fee to file an appeal for one or more nodes is two-hundred and eighty dollars (\$280.00). The fee is refunded if the City Council chooses not to hear an appeal.

Approvals shall be effective for one year from the date they become final, within which time construction of the project shall have commenced. Applications for extensions may be made prior to approval expiration.

According to PAMC Section 18.42.110(l), the Director may revoke any WCF permit if the permit holder fails to comply with any conditions of approval.

Should you have any questions regarding this approval, please do not hesitate to contact Rebecca Atkinson, at (650) 329-2596, or e-mail Rebecca.Atkinson@CityofPaloAlto.org.

Sincerely,



Hillary Gitelman, AICP, Director of Planning and Community Environment

Cc:

Jennifer Haas, Verizon Wireless, 2785 Mitchell Drive, Building 9, Walnut Creek, CA 94598
Paul Albritton, Esq. Mackenzie & Albritton LLP, 155 Sansome St., Ste. 800, San Francisco, CA 94104
Hamid Ghaemmaghami, Manager Real Property for Administrative Services, City of Palo Alto
Jim Fleming, Senior Management Analyst for Utilities Department, City of Palo Alto

Attachment:

Findings and Conditions of Approval

Dear City Clerk Beth Minor,

On March 26, 2018, the Director of Planning and Community Environment approved 11 small cell nodes under file 17PLN-00169. We are writing to appeal the decision for Node 134, CPAU Pole #2964, which is located right in front our home. We urge City Council to overturn the Director's decision and direct Verizon to comply with Palo Alto's aesthetics, noise and other ordinances.

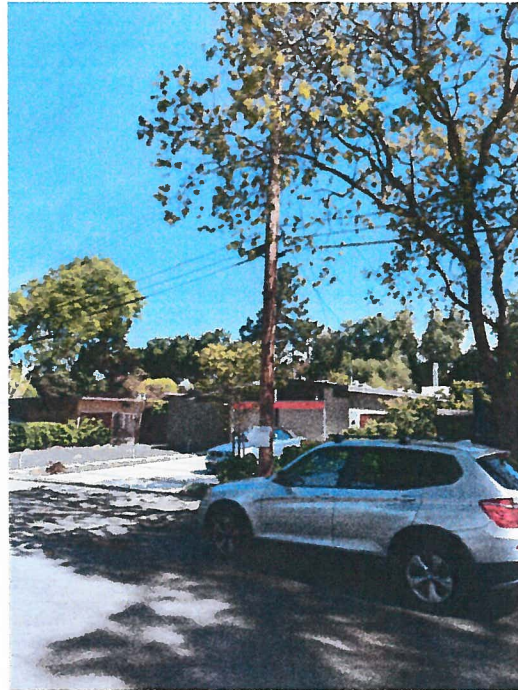
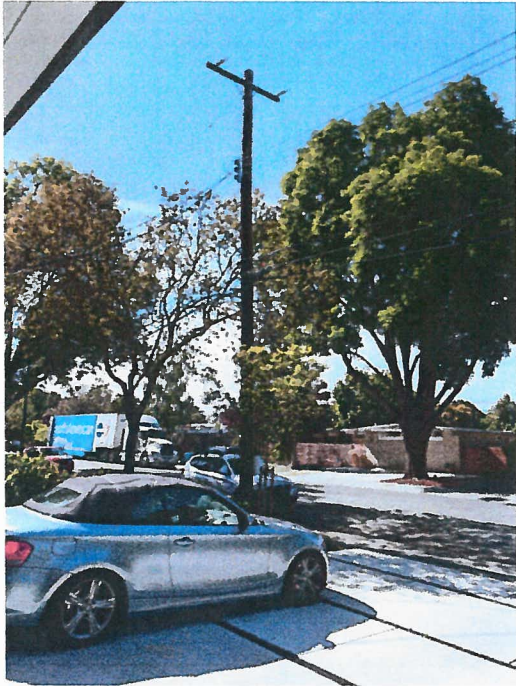
Specifically, we ask

1. you consider our appeal to eliminate this node, as this location is within 0.6 miles of the Verizon macro tower to be installed soon at 1032 Colorado Avenue. This macro tower will provide sufficient coverage to the area around our house, as the coverage radius of that tower is to be 1.5 miles.
2. if you allow Verizon to install a node in front of our house, that you direct Verizon to locate all of its equipment here except the antenna underground in a flush-to-the-ground vault with no protuberances and to ensure that Verizon not install any equipment that does not meet noise levels permitted by Palo Alto's ordinances and policies.

It is possible to vault the equipment underground in front of our house. There is already existing underground equipment, including a water meter. There is also space to place equipment underground.



If Verizon installs its equipment as proposed by them on the pole in front of our house, it will violate Palo Alto's aesthetics ordinances. As the pictures below show, this pole is in full view from our house, from all our neighbors' houses, and the street.



We also have significant concerns about the potential physical and fire hazards this equipment will pose. We have elementary school children. In 10 home vicinity on either

side, there are 17 school-age children that often play outside on the sidewalk and street, right near the utility pole in discussion. Such a top heavy installation poses significant risks of injury to children and adults. The new height of the proposed installation would enable the top of the pole to contact our house if it fell in case of a fire or other disaster like an earthquake. In this situation, we are deeply concerned for the fire hazard and other safety hazards this could pose to our home.



We already have PG&E transmission lines directly above our backyard, with accompanying easements that restrict use of our property. With this proposed Verizon installation in front, we are concerned about the potential implications to our property value.

Thank you for your consideration.

Sincerely,

RK Parthasarathy & Rathna Ramakrishnan
3409 Kenneth Drive, Palo Alto CA 94303
485-1160

rkpartha@gmail.com (650)

City of Palo Alto Revenue Collections

Received From: SR. PARTHASARATHY

Date: 1/17/15

In Payment Of Appeal

By: _____

ITEM

() Certified Mail Fee	40050009	18990	\$
() False Alarm Late Fee	70020002	13110	\$
() Miscellaneous Revenue	10200000	18990	\$
() Transient Occupancy Tax	10200000	11850	\$
() Sales Tax	10200000	60050	\$
() Utility User Tax	10300000	11870	\$
() ZoneMapSales	60020201	17030	\$
() Univ Ave Parking	23600000	14510	\$
() Calif Ave Parking	23700000	14520	\$
() Lot S Parking	23600000	14500	\$
() Other	\$
		Total	\$

Copies to: _____

22-37 REV 10/03

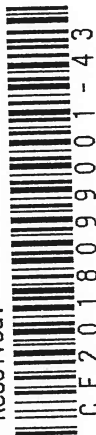
Cash () Check ()

City of Palo Alto
City of Palo Alto
Revenue Collection

Reference Number: 2018099001-43
Date/Time: 04/09/2018 12:47:47 PM

Miscellaneous
2018099001-43-1
Reference: PK Parthasarathy appeal
Allocation 29 1@ \$280.00
GL #: 60020402..13290...
Total: \$280.00

1 ITEM TOTAL: \$280.00
TOTAL: \$280.00
Check \$280.00
Check Nbr: 0675
Total Received: \$280.00



C E 2 0 1 8 0 9 9 0 0 1 - 4 3

Customer Copy

18-AP-7

Russell Targ and Patricia Targ

All eleven (11) nodes

Russ Targ email: con

CITY OF PALO ALTO
Office of the City Clerk
APPEAL FROM THE DECISION OF DIRECTOR OF PLANNING
AND COMMUNITY ENVIRONMENT*

CITY OF PALO ALTO, CA
CITY CLERK'S OFFICE
18 APR -9 PM 4:01

For appeals of final decisions on Architectural Review Board and Home Improvement Exception applications (rendered after public hearing), this appeal form shall be completed and submitted by appellant within fourteen days from date of the Director's decision. Appeals of final decisions on Individual Review applications (rendered after public hearing) must be submitted within ten days of the Director's decision. Complete form, the current fee and a letter stating reasons for the appeal shall be submitted to front desk staff of the Planning Division, 5th floor, City Hall, 250 Hamilton Avenue, except for 980 Fridays when City Hall is closed, when these items shall be submitted to Planning staff at the Development Center, 285 Hamilton Avenue (glass storefront across from City Hall on the corner of Bryant and Hamilton).

* Director of Planning includes his designees, which are Planning Managers or the Chief Planning Official

Appeal Application No. 18-AP-7 Receipt No. 2018099001-64
Name of Appellant Russell & Patricia Targ Phone (650) 333 8550
Address 1010 Harriet Street Palo Alto CA 94301
Street City ZIP

LOCATION OF PROPERTY SUBJECT TO APPEAL:

Street Address All Approvals of use of utility poles for 4656 Telecom
Name of Property Owner (if other than appellant) Russell & Patricia Targ
Property Owner's Address 1010 Harriet Street Palo Alto 94301
Street City ZIP

The decision of the Director of Planning and Community Environment dated _____, 20____
whereby the application All Approvals of use of utility poles for 4556 Telecom by _____
(file number) (original project applicant)

17PLN169 R T
was _____, is hereby appealed for the reasons stated in the attached letter (in duplicate)
(approved/denied)

Date: 4/9/18 Signature of Appellant Russell Targ

PLANNING COMMISSION RECOMMENDATION TO THE CITY COUNCIL (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

CITY COUNCIL DECISION (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

SUBMITTAL REQUIREMENTS SATISFIED:

1. Letter stating reasons for appeal IM
2. Fee (currently \$280.00) IM

Received by: IRMA MORA
Received by: IRMA MORA

APR 09 2018

Appeal and Claim of Russell Targ and Patricia Targ in opposition to the proposed placement of 4G and 5G close proximity radiation emitting devices on utility poles within the City of Palo Alto.

Background statement of Russell Targ

I am a Silicon Valley engineer and physicist. I have lived in Palo Alto for approximately 50 years and have lived in our current home on Harriet Street for the last 45 years. My earlier background is as a laser physicist, my work at SRI with Hal Putoff on governmental projects has been the subject of several books and articles.

Faced with this brand-new (to me) data, I find it ironic that I have been a student of the effects of electromagnetic radiation at different times for more than 60 years. My first such engagement was in physics at The Sperry Gyroscope company in Great Neck New York, where my scientific investigations of a nearby non-ionizing radiation source led to the installation of a Faraday wall screen to protect our laboratory area from a nearby source of such radiation.

I must now submit this Appeal and Claim on the basis of fragmentary information, because my wife Patricia and I never received any Notice of the impending installation of what the San Jose Mercury News reports will be 92 additional new cell towers within our city limits on previously publically owned utility poles. This entire event series would have transpired without our even knowing about these impending health risks had it not been that a friend mentioned this to me by telephone last Saturday.

I am satisfied from study that the microwave broadcast from these so-called Small Cell towers present risks to the human biological system. I Object to the continuation of any installation of these cell towers on our residential and commercial streets as set forth under the Claims section below.

Background statement of Patricia Targ

My name is Patricia Targ. I am an artist. I have lived in the Bay Area for twenty-five years, and taught elementary school in San Jose for fifteen of those years. I am a resident of the City of Palo Alto. I am married to Russell Targ and live with him in our home on Harriet Street in Palo Alto. I have lived in Palo

Alto for fifteen years. I only learned about the proposed installation of these utility pole towers yesterday, and with any detail today, I am told the last day to file, and like my husband have no choice other than to proceed on my currently limited data. However, from my recent examination of materials in this area I believe that the concentrations of radiation from the proposed installation of these towers on utility poles presents health risks to residents to Palo Alto and visitors to our City, and I Object to the continuation of this process on the grounds stated in the Claims section.

Nature of Objections and Claims

Each and both Russell Targ and Patricia Targ, only within days aware of the action of their City, Object and Claim against any use of utility poles which are public property owned or cooperatively endeavored by or with the City of Palo Alto for the installation of cellular towers.

Each and both Russell Targ and Patricia Targ, only within days aware of the action of their City, Object and Claim, and Appeal against each and every action or proposed action, by contract, ordinance, policy, or otherwise, under which the City of Palo Alto allows the use of public sidewalks for the installation of power supplies for these microwave generating 4G and/or 5G radiation distribution towers. In every instance where there is attempted or actual legal enablement of the installation of such microwave generating communication devices on public utility poles or publicly owned easements or rights of way, such installations on poles or sidewalks result, by Joint Venture, Agency, Landlord Tenant, and direct action, governmental actions and thus State Actions.

Appeal and Claims

1. NOTICE: I, and each of us, and together as a married couple, Appeal and Claim against any use of utility poles which are public property owned or cooperatively endeavored by or with the City of Palo Alto for the installation of cellular towers on the basis that we did not receive any proper Notice of such intention of the City or Verizon, and that we and each of us have thereby been deprived of Due Process, to our disadvantage, including the losses and damages stated herein.

2. DANGEROUS CONDITION OF PUBLIC PROPERTY AS TO UTILITY POLE MOUNTED TELECOMMUNICATIONS MICROWAVE ANTENAS: I and each of us, and together as a married couple, Appeal and Claim against any use of publically owned utility poles within the City of Palo Alto for close proximity radiation generating devices, including as described as Smart Cell Towers in discussions between the City and Telecom, including but not limited to Verizon, on the basis that upon the installation of such devices upon said publicly owned utility poles, including and not limited to because of the Doctrine of Fixtures, the melded resultant hybrid structures, meaning the City utility poles coupled with the health-endangering microwave broadcast towers, become dangerous public property, including within the meaning of Government Code 835 and other law, and we seek and request that such attachment of such radiation generators to said publicly owned utility poles not be allowed to proceed. We Object and Claim against any such installation of such health endangering radiation broadcast systems on any of said utility poles and Appeal from each, any, and every prior act of our City Counsel which has given indications of permission, by ordinance, contract, or otherwise, for the installation of such towers on such public property.
3. DANGEROUS CONDITION OF PUBLIC PROPERTY AS TO SIDEWALK POWER SUPPLIES FOR UTILITY POLE MOUNTED TELECOMMUNICATIONS MICROWAVE ANTENAS: I and each of us, and together as a married couple, Appeal and Claim against any use of publically owned sidewalk or roadway easements within the City of Palo Alto for the installation of power supplies for close proximity radiation generating devices, including as described as Smart Cell Towers in discussions between the City and Telecom, including but not limited to Verizon, on the basis that upon the installation of such devices upon said public sidewalk and roadway easements, including and not limited to because of the Doctrine of Fixtures, the melded resultant hybrid structures, meaning the City utility poles coupled with the health-endangering microwave broadcast towers, as powered by such power supplies, become dangerous public property, including within the meaning of Government Code 835 and other law, and we seek and request that such placement

of such power supplies for such radiation generators on said publicly owned utility poles not be allowed to proceed. We Object and Claim against any such installation of such power supplies for said health endangering radiation broadcast systems on any of said City roadway or sidewalk easements and Appeal from each, any, and every prior act of our City Counsel which has previously given indications of permission, by ordinance, contract, or otherwise, for the installation of such power supplies on towers on such public property. With regard to the Dangerous Condition of Public Property inherent in such power supplies, it is noted that all reserve power provisions, whether by lithium batteries or by petroleum or propane powered generators, present a risk of explosion and fire and that said installation of said power supplies on such rights of way are objected to by this Appeal, Claim, and Objection as herein set forth.

4. DUE PROCESS OBJECTION TO SIDEWALK AND ROADWAY POWER SUPPLIES:

We, Russell and Patricia individually, and as a married couple, did not receive any Notice of the proposed installation of these structures on public rights of way, and therefore Object, and Claim, and Appeal against any such power supply installation on public rights of way due to the absence of proper notice to us, who, like all residents of Palo Alto are affected by these proposed installations.

5. FISCAL OBJECTIONS TO THE INSTALLATION OF CLOSE PROXIMITY RADIATION GENERATING DEVICES AND THE POWER SUPPLIES THEREFORE, ON PUBLIC UTILITY POLES AND RIGHTS OF WAY.

The effect of this installation of Dangerous Conditions of Public Property will have the effect of transferring liability from Telecom to the Taxpayer, and as Taxpayers, not only for direct damage or injury to persons and animals, but in that the effect of such installation will subject such governmental entities to potential liability for all cellular radiation injury based claims, including those asserted by persons claiming to have been injured, such as by brain cancer, from their use of

their personal cellular devices. I and we Object, Claim, and Appeal that the City should immediately and forthwith renounce any such contractual involvement with Verizon or other carriers, to avoid having the City with other governmental entities becoming liable to persons injured and or damaged by such radiation coming from such joint venture operated radiation broadcast mechanisms on such public rights of way and utility poles.

6. OBJECTION BASED UPON NON-DISCLOSURE OF MATERIAL FACTS. The work of Dr. Henry Lai, showing DNA strand fracture from cellular radiation is but one example of the well-established health risks from cellular signal not fully disclosed by any Telecom carrier or entity to the City of Palo Alto. There are many other scientific proofs of damage to the human biological system from such non-ionizing radiation, such as from Dr. Martha Herbert of The Harvard University School of Medicine, including but not limited to as set forth in her letter of February 2013 to the Los Angeles Unified School District, and other letters, from Dr. Herbert and other medical entities, as can be seen, for one of many examples, at the webpage of epidemiologist Dr. Devra Davis at www.ehtrust.org , and many other sites, including www.greenswan.org, and including articles in late March of this year which appeared in Scientific American, Wired, and especially The Nation, all as published on March 29th in such publications on the linkage between microwave signal and cancer formation. It is specifically alleged that each and all of the carriers involved, including Verizon, and including CTIA, are aware of these well-documented health risks, including but not limited to from their reading of the July 19, 2017 letter from attorney Harry V. Lehmann to the Assembly Appropriations Committee in California, in opposition CA SB 649, which letter opposing SB 649, amongst others, and which letter I have received and examined, is known to persons in Sacramento and national advocacy for CTIA and multiple cellular carriers. Despite knowledge of such documented health risks, such risks were not disclosed to the City of Palo Alto, and on that basis the City should be morally and legally released from any contractual obligation resulting

from such non-disclosure of such material facts, and for such repudiation with just cause we hereby Appeal and Claim.

7. OBJECTION AND APPEAL AND CLAIM BASED ON UNLAWFUL TAKING:

Appeal, Claim, and Objection is hereby stated against any installation of any use of public easement over private property, including sidewalk easements, for microwave broadcast or related power supply purposes, on the ground that no utility easement, granted to any entity or the City allows for such physical encroachment by such sidewalk power supplies, and same are a Trespass, and an Unlawful Taking of Property, in violation of Due Process due to its absence.

8. CLAIM FOR LOSS OF PROPERTY VALUE: It is asserted and thereupon Appealed, Claimed, and Objected that the value of real property in Palo Alto is and will be diminished by the close proximity of such radiation generating devices.

9. NOTICE OF ADA VIOLATIONS: The proposed installations as above discussed will immediately injury those people in our community who are electromagnetically sensitive. The City faces great liability on that basis, and we and individually Object, Claim, and Appeal against allowance of said here-described radiation generators is stated upon the basis of the ADA liability of the City, and the ADA liability which may be imposed on us and others as homeowners from said installations.

WHEREFORE, we claim, as a married couple and individually, as set forth above, and Appeal for reversal of any allowance from the City of Palo Alto of the use of its utility poles, or the use of utility poles that collaboratively uses with other entities, for the installation of telecommunication radiation broadcasting devices, including but not limited to the so-called Small Cell installations. I, Russell Targ, sign here below on behalf of myself individually, for my wife and myself as a married couple, and for Patricia at her direction.

Russell Targ 4/9/18
1010 Harvard St Palo Alto CA

City of Palo Alto Revenue Collections

Received From: Russell Farg

Date: 4/9/18

In Payment Of: Appeal

By: _____

ITEM

() Certified Mail Fee	40050009	18990	\$	_____
() False Alarm Late Fee	70020002	13110	\$	_____
() Miscellaneous Revenue	10200000	18990	\$	_____
() Transient Occupancy Tax	10200000	11850	\$	_____
() Sales Tax	10200000	60050	\$	_____
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() Univ Ave Parking	23600000	14510	\$	_____
() Calif Ave Parking	23700000	14520	\$	_____
() Lot S Parking	23600000	14500	\$	_____
() Other <u>Appeal 01020402</u>		<u>13290</u>	\$	<u>500</u>
		Total	\$	<u>280</u>

Copies to: _____

22-37 REV 10/03

Cash () Check (☒)

Customer Copy

City of Palo Alto
City of Palo Alto
Revenue Collection


Reference Number: 2018099001-64
Date/Time: 04/09/2018 3:53:10 PM

Miscellaneous
2018099001-64-1
Reference: russell farg hearing
Allocation 29
GL #: 60020402..13290...
Total: \$280.00

1 ITEM TOTAL: \$280.00

TOTAL: \$280.00

Check
Check Nbr: 002328 \$280.00
Total Received: \$280.00


CE2018099001-64

Submitted as rush comment as in support
of Tars Approval of April 9, 2018

Harry Vere Lehmann,
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Via facsimile of even date and Federal Express.

July 19, 2017

Ms. Jennifer Galehouse, Deputy Chief Consultant
Assembly Appropriations Committee
State Capitol, Room 2114
Sacramento, CA 95814
Via 10 page fax: 916-319-2181
& Federal Express overnight

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- Re: 1. Incorrect data given in Telecom testimony regarding
Liability: The State faces liability exposure from SB 649
2. Whether exquisitely planned for this inevitable result, or
'just lucky' for Telecom, SB 649 once deployed will have the
effect of shifting massive Industry liability to the State of
California.

Dear Ms. Galehouse -

The liability-shift component of the SB 649 issue set has not been previously addressed. I didn't see the underlying liability-shift until after the testimony last Wednesday. The liability-shift consequence of SB 649 is a difficult point to see, but essential to be recognized. This letter is divided into two sections, the **GENERAL OVERVIEW** which appears next below presents the gist in three pages, and then a larger section titled **IN GREATER DETAIL**. Because the liability shifting aspect of this analysis was not seen by the undersigned until after the close of testimony on July 12th, and because the Appropriations Committee hearing on SB 649 is only a week away, and because this analysis implies possible billions in losses to the State, an Appropriations issue, this is an initial overview of the situation in the expectation that seasoned and competent unbiased legal analysis will be made of the most startling of the two issues here addressed, before passage of this Bill: In-depth legal analysis is encouraged.

GENERAL OVERVIEW

This letter reaches the conclusions stated through several vectors of analysis but bottom line this boils down to two core points: 1. During the hearings on SB 649, assurances were given by industry that the telecom companies would be the only entities affected by liability from radiation injuries. That is not true. Rather and instead, through SB 649 California faces potential liability for any injuries claimed to have resulted from the allegedly 'small cell,' antennas delivered to our residents from SB 649. 2. More profound in implication if true, and difficult to see, **there is a heretofore non-disclosed sequella from SB 649; the potential transfer all financial liability for cellular injury cases from the telecom corporations to the State.**

The State of California faces liability for damages sustained from Senate Bill 649

Typically any very serious or catastrophic injury case will be handled by experienced counsel - I believe any experienced lawyer who has been long engaged in plaintiffs work with governmental entities would agree with the following points, not one involves rocket science:

1) The defendants in a lawsuit do not get to choose whether to be sued. That choice is made by plaintiffs' counsel. There is no way for any industry representative to honestly claim that the State will not be sued for such injuries.

2) Once the involved cellular antenna box is attached to the involved governmental utility pole, for several reasons including the Doctrine of Fixtures as often used in tenancy situations, a melding takes place, and plaintiffs counsel will allege, as is consistent with the law, that the melded unit as a whole is Public Property.

3) Though plaintiffs can't sue the State for negligence or other Common Law causes of action, under our Government Code suit can be brought for Dangerous Condition of Public Property.

4) These *public* utility poles are demonstrably 'Dangerous' within the meaning of Government Code 835, because the radiation they emit has been scientifically proven to be carcinogenic, and the radiation is damaging to the human biological system. This is most dramatically proven by the \$25 million NIH study released on May 27, 2016, showing that cellular radiation causes the malignant cancer cell glioma, which is what causes the deadly brain cancer: glioblastoma.

5) The State of California, as a result of the Firefighters's Exemption, or Firehouse Exemption as it is alternatively called, is, a unique development, *admitting the dangerous nature of the about-to-be-built 'small cell,' system, because, as a matter of provable Legislative Intent, the firehouses were exempted due to health concerns*. So our Legislature is poised to create at least 30,000 different pieces of Public Property while in one fell swoop also branding each one as Dangerous. Other examples supportive of this point will appear below, in the discussion of the liability-shifting aspects of SB 649.

Senate Bill 649 can shift liability exposure from the telecom industry to the State of California.

The most important purpose of this letter is to alert Assemblymembers of previously undisclosed economic consequences which to the undersigned appear legally very likely to ensue from the passage of SB 649. State lawyers with extensive trial experience should evaluate what is said here and advise Appropriations and the Assembly whether the warnings here represent real issues. The consequence of greatest concern is that passage of SB 649, contrary to appearances, *will result in the mass transfer of*

liability for cellular microwave injury from the telecom industry to State government, with \$Billions involved. Whether this here-disclosed consequence is the result of a brilliant and intricate multiple-stage legal stratagem by the best lawyers that Telecom could retain, or whether the industry just got lucky, the result for the State of California will be the same, financial ruin. Consider the following factors:

1. The State can't be sued for 'negligence' or other basic common-law theories of relief, and Claimants can only sue as allowed in the Government Code.
2. The main CA Government Code section which is virtually always pled by all experienced public entity lawyers is Dangerous Condition of Public Property, Government Code 835. .
3. If the 'taking,' of county and city properties in SB 649 is allowed, then what next follows when the cell tower is affixed to the publicly-owned utility pole, due to the 'fixtures,' doctrine and other legal reasons, is the merger of antenna and pole into Public Property. This is a complex issue with other criteria supporting the same Public Property finding.
4. Through the 'Firefighters Exemption' to SB 649, prohibiting cellular antenna construction near where firefighters sleep, based on health grounds as pushed by their unions, ***the State is acknowledging that its new melded-exposure property is Dangerous.***
5. As a result of the above the enabling legislation makes the resulting Public Property Dangerous in character in the light of Government Code 835, which in turn makes lawsuits against the State much easier.
6. There is now overwhelming evidence of DNA and cellular damage from radio-frequency EMF as emitted by cellular phones and towers. If you have doubt about this, set up a debate between me and the best they've got. See prior letters, notably of May 23rd to Senate Appropriations, with integrated sworn Declaration of McGavin.
7. It is a matter of well-established public record that the international re-insurance industry has long refused to insure any aspect of the telecom industry for injuries caused by cellular devices or installations. There is no net.
8. ***The only avenue left to the cellular industry, other than just honestly facing up to this mess and helping us solve it, is to shift the legal responsibility to government.***
9. Though good challenge may be on the horizon, the current stance of federal law under the Telecommunications Reform Act of 1996 it is not possible to prevail against a cellular company for liability for a phone made in roughly the last two decades.

10. Seasoned and competent counsel, where injuries occur of a sort consistent with EMF injury to DNA, including glioblastoma as indicated by glioma from the NIH study, will file suit against responsible corporate entities, broadly, and also sue the State of California. Right now many serious lawyers avoid this area due to the 1996 Telecommunications Reform Act. However the practical immunity offered to telecom under the act is conditional upon compliance with FCC standards, and there are now material means available to show that none of the currently marketed smart phones meet FCC standards when measured *as actually used in the field*, namely up against the face.
11. In the instance of the successful bar to civil prosecution which is currently provided by said industry-inspired 1996 Act, and in a State where 'joint and several liability' means that a 5% liability contributor has 100% of financial responsibility from a loss, *the result of the combination of the factors stated above is that in the instance of suit, including 'friendly,' all financial burdens from cellular injury are shifted to the State of California, under the results from SB 649 as here-projected, through exercise of the federal regulatory bar to such prosecution of cases against the telecom industry.*

I assert no position as to whether the stream of results capsulized above will arise from the prior formation of an intricate plan from very smart lawyers, or whether the industry just 'got lucky,' in regard to the seemingly inevitable consequences of signing SB 649 into law. It doesn't matter, but when you look five or six moguls down this hill, the financial crash is inevitable. The above introductory language has provided the essential elements. A more detailed section below will provide related details.

IN GREATER DETAIL

Below is described in numerical sub-sections is the financial burden-shifting hidden in SB-649, which exists regardless of whether that liability-shifting aspect is inherent in the Bill from actual intention or lucky accident: The effect of S-649 being signed into law and then the antennas deployed thereunder, will shift liability for massive numbers of cellular device injuries from industry to Government.

1. Under SB 649 and as a result of the corporate 'taking' of municipal, county, and State property, in the form of forced corporate seizure of previously publicly owned utility poles, the cellular antenna placed thereupon by such installation, including in real estate law, become an integrated 'fixture,' of said public property, in several ways legally indivisible therefrom. Other examples to the point of shared conduct imbuing with Public character arise from joint venture, etc. *Once industry puts these antennas up on public poles, all risks and injuries from such antennas will be from a Dangerous Condition of Public Property, as defined in Government Code 835.* The resulting Jury Instructions can be seen at CACI 1100.
2. In California law, state, regional and local governments cannot be sued for 'negligence.' Rather, the basis for which a suit may go forward against the State or an element thereof will, and must, be grounded in a statutorily prescribed Cause of

Action. Most commonly in these governmental tort situations, seasoned counsel will file, first, a Governmental Tort Claim alleging **Dangerous Condition of Public Property**, and thereafter, post-denial of the claim, the central plead liability theory of most such cases is just that, **Dangerous Condition of Public Property**, as provided for in Government Code 835.

3. It is established by clear and convincing evidence that cellular microwave broadcasts have adverse health consequences. The recent positive demonstration of the causation of malignant glioma (thus glioblastoma) cells from cellular energy in perfectly Faraday protected environments from our National Institutes of Health was only the most recent of similar and earlier findings. Much of these data and citations thereto have been provided to all Senators and Assemblymembers, including from my own letters. There can be arguments about varying danger of differing exposure routines, *but the fact that the danger exists is overwhelmingly demonstrated*, including by exposure standards for technicians engaged in cellular tower work. The epidemiological proof of non-thermal effect on the human biological system is now beyond reasonable dispute, as shown for just one example in the work of DeKun Li, the senior epidemiologist from Kaiser, Oakland, showing statistically significant increases in asthma and obesity in children of mothers who experienced higher level of EMF exposure during pregnancy. The data are readily accessible to all legislators. ***With the Firefighters Exemption, the Bill itself is stating that the installation of small cell antennas on poles is "Dangerous,"*** else no reason for the Exemption.
4. It is well established in publicly available records and news reports that the re-insurance industry has refused, for decades, to insure or even defend manufacturers or carriers or others in telecom against lawsuits on behalf of persons claiming to have been injured by cellular radiation exposure. Therefore, the Telecom industry, now the largest dollar industry in the world, is on the high wire without a net. **The industry likely has no insurance for injuries from cellular radiation, and it is not the proper job of the People of the great State of California to insure industry for that exposure.**
5. ***In this situation, lawyers for the industry have almost certainly been tasked with examining ways through which the burden of this possible cellular injury exposure could be deflected onto other entities.*** These people are too smart not to have seen this far down the road.
6. Recent news reports have speculated that SB 649 may result in as many as 50,000 new cellular towers in California; in his recent correspondence Dr. Joel Moskowitz has indicated a range of between 30,000 and 50,000: The total may not reach 50K in the near term, as there are no provisions in SB 649 to truly extend past the Divide in rural areas. If for illustration we assume the lower number, it becomes a simple math problem: **LEGISLATIVELY CONFESSED DANGER x 30,000 PUBLIC POLES = 30, 000 SEPARATE INSTANCES OF DANGEROUS PIECES OF PUBLIC PROPERTY.**

We have all heard allegations of people jumping on municipal transit buses immediately post crash, seeking to participate in recoveries. I think that is actually very uncommon, but recognition of tort opportunity will be easier here as these are stationary Dangerous Public Properties, which conveniently bring the carcinogenic radiation right into your living room, especially if you live in a crowded building, which with 5G exponentially expands the field density to which residents are exposed, the broadcasts not being cohesive EMF, each neighbor is affected by his or her neighbor's use of 5G.

7. Our Assembly should insist upon detailed legal analysis before passing SB 649: Under current constructions of The Telecommunications Reform Act of 1996, the companies are protected from liability, whereas it appears that the State is unlikely to benefit from the liability avoidance aspects of the 1996 Act. This is a complex area, to be further litigated, hopefully to correction for the benefit of the consumer, but there is a widely prevailing current legal view that current constructions of the Act protect the companies from any injury claims stemming from radio-frequency exposure. *After the SB 649 cellular towers are up, and claims come forward, in any such resulting suits, until the law is more to the benefit of consumers than is currently the apparent case, where manufacturers and Telecom companies and the governmental body are all sued, and telecom can dodge out, there is a substantial legal argument the government entity involved cannot.* This Bill sets up the State for massive losses by putting it in the place of an insurance company insuring against losses based on cellular exposure.
8. Causation will be a core issue of proof in the wave of Claims and then Complaints on this issue that is inevitable to come, given the science. Ultimate adjudication may be by Court, which is all we have at this point, or perhaps as some now visualize, something akin to the National Vaccine Injury Program, which has dispensed billions of dollars to injured claimants since its inception. Given that with the Firefighter's Exemption the State is acknowledging that its conduct of putting these antennas on every block is intentional conduct being pursued despite clear repeated science-based Notice of the risk. Here, if SB 649 goes forward, despite the repeated clear warnings of harm that have been given in submitted written records, a Court may also reasonably conclude that such further engagement in such State activity is an Extra-Hazardous Activity. The legal point that derives from this is that in Extra-Hazardous Activity the scope of Proximate Cause will be allowed to expand, a factor which puts the State at risk.

If the Assembly goes forward despite this risk, bankruptcy of the State of California can be reasonably expected to result. Just think of the testimony that we've recently heard, on July 12th, from residents who have suffered from and are still fighting brain cancer, which they attribute, with science-based cause, to extensive long term up close exposure to cellular telephony. Thus, if there is a phone-based lawsuit, where the claim derives from an area of SB 649 saturation, the lawyers involved, in order to meet the ordinary standards of care of the work, will be compelled to sue the State. It is further noted that the effective immunities enjoyed by mobile telecom service providers and manufacturers under the 1996 Act are conditional upon the device(s) involved radiating

within the FCC designated range of radiation values, yet our measurements in Palo Alto, for example, show that the strength of the allegedly 'small' cellular devices on poles there are in some instances *multiples* of the approved safety standards for human tissue saturation. In the urban context, with many households, including children, using 5G where cable used to work, most residents of dense apartment buildings will receive radiation saturation not only from what people (multiple TV's) in *their* apartment, but also from broadcast, which is not a cohesive signal, as received by nearby neighbors.

With wide-spread increasing rates of long term use, the inevitable will be put forward based upon alleged injury from a cell phone: Because of the cumulative nature of DNA damage, even with only episodic breakage increases, an upward numerical trend of DNA strand breakage percentage over time appears inevitable if SB 649 is allowed to pass. In normal balance against damaging influences, our bodies rely upon the abilities of the human biological system to self-repair, including at a DNA level, but where the capacity for repair is exceeded by direct exposure (*as distinguished from environmental exposure*) from a carcinogenic radio source, the potential for increased levels and rates of mutagenic process can reasonably be expected to occur as a result of the overwhelm of such repair capacities: Once the entire urban and suburban areas are densely saturated with so-called 'small cell' 5G (+ ?) cellular signal, and additionally given the overlapping EMF factors involved, seasoned counsel would always name the telecommunications company, the manufacturer, the seller, the service provider, and now the State, based on SB 649-rooted liability exposure. The State will be permanently exposed to liabilities so numerous and great that all other California state government programs will suffer, from roads to good policing, to schools, to public safety, to pensions.

Our laws recognize both concurrent cause, and joint and several liability where the injury resulted from multiple entities acting in concert. Joint and several liability also results in the instance of the concurring negligence of independent tortfeasors, such as in the classic Summers v. Tice context. As is not uncommon in civil lawsuits, an entity with only a tiny factual contribution to the occurrence of the liability inducing event, say 5% of the negligence pie, under Joint and Several Liability is liable for the whole quantum of the injury involved in the instance of legal unavailability of the other defendants. Therefore, if, post SB 649, there is a cellular device based lawsuit, and 5G radio-frequency saturation was present during time of injury recognition, then normal standard of care obligations, in most instances, would require the naming of that entity by name, if known, as a defendant. Due to the admitted Dangerous Condition of Public Property recognized as dangerous by the Firefighter's exemption) inherent in the melded 'small cell' 5G antenna/pole Public Property, if SB 649 passes, given Joint and Several Liability, if the companies are excluded from liability by federal law, then the State will be the full-paying defendant in such suits. Next discussed below is the question of causation, forced upon us by the looming nightmare of SB 649.

On the Subject of Causation

A science-compliant discussion of non-thermal causation of damage to people by cellular devices is forced upon us here by the incomplete physics analysis which industry lobbyists attempt to repeat in their rebuttal to claims of injury. After the Senate

Appropriations hearing which included SB 649, I was approached in the corridor by a lead lobbyist from a very major telecom company. He said to me, I paraphrase ". . .you know, Mr. Lehmann, in order to affect tissue molecules without heat, you have to move the neutrons . . .and there's not enough energy in cellular signal to affect those neutrons."

The above-described exchange with this lobbyist is described in the 14 page letter and sworn Declaration that Mr. McGavin and I presented to the Senate Appropriations Committee. That kindly lobbyist was actually mis-stating the company line: Contrary to the above lobbyist's remarks, the long-stated industry position has not been about 'neutrons,' but rather that: 1) Cellular non-ionizing radiation doesn't have enough energy to directly modify an electron's shell position in an atom, *so that the valence of that atom cannot by such cellular radiation be directly changed*, and: 2) Therefore direct, non-thermal DNA damage to human tissue is not possible from cellular radiation because the energy involved is not sufficient to occasion molecular re-combination except via heat.

The industry position on the disclosed part of their physics to chemistry argument makes sense: That there is not enough energy in current or anticipated civilian cellular radiation to cause an electron to jump a shell position. However, this electron-shell-no-can-go routine is defective in its predicate: The industry position, choir sung by most industry engineers (not the late great Robert C. Kane), is predicated upon the incorrect assumption that the only mechanism of non-thermal damage is ionic forced change, meaning situations in which so much energy is by radiation placed into the molecules involved that over-loading of charge forces electron migration resulting in molecular re-combination, experienced as tissue damage.

Ionic-forced-immediate-direct chemical change, which *does* occur with ionizing radiation, does not occur with less powerful non-ionizing radiation from cellular devices. However, clear science shows that DNA strand breakage is occurring from the non-ionizing radiation from these sources. As you likely know, it is well proven scientifically that high frequency sound can, for example, shatter glass. The data indicate that DNA breakage is resulting from mechanical vibration of the DNA molecule as DNA molecules dissipate the energy which is undeniably pumped into them via radio-frequency EMF. In this regard, the 1983 interferometer findings of Swicord and Brown at the University of Maryland were mentioned in the 14 page compendium which submitted to Senate Appropriations, containing my 7 page letter and Mr. McGavin's Declaration, under Penalty of Perjury, which was also 7 pages, and which 14 page letter to Senator Lara, dated May 23rd, is integrated herein by this reference as though more fully set forth herein. It was found by Swicord/Brown's work that the addition of DNA salts to plain water, to a 7.43 percentage in the resulting fluid, *caused a twenty-four fold increase in Specific Absorption Rate, and that this massive 24X change was non-ionic*, but rather 'acoustic,' meaning as a result of the mechanical receipt of vibration energy from the cellular frequency by the DNA molecular structure.

Swicord and Brown, as stated in their paper on their interferometer testing of SAR levels, were verifying prior peer-reviewed projections that this level of SAR change in DNA would result. It is my current understanding that Dr. Swicord was at FDA when that agency, which usually passes judgement on radiation-generating consumer products,

exempted cell phones, and then, as I understand it as informed opinion, Dr. Swicord lived out his remaining career at Motorola. So, bottom line, we have extreme vibrational change in DNA from cellular range radiation, namely a drastic 24 fold increase in Specific Absorption Rate. The importance of this repeated finding is best illustrated by the work of Dr. Henry Lai, when this work was published he was with the University of Washington School of Medicine I heard Dr. Lai's presentation of his experimental findings at the International EMF Conference in Stavanger, Norway, in late 2009, and later in Norway was honored to travel to and reside for a while in the mountains over Bergen with the world's top scientists in this field, including people at the level of Dr. Martin Blank of Columbia and Dr. Olle Johansson of the Karolinska Institute, Stockholm.

Dr. Lai's experiments unequivocally proved the fact of DNA strand breakage from cellular telephone radiation. So, once the reader understands that: 1) Through the interferometer work of Swicord and Brown at Maryland, 1983, that DNA change occurs via acoustic means, while also understanding that: 2) The work of Dr. Lai, showing that such cellular signal causes DNA breakage, then it may be responsibly suggested that the occurrence of DNA breakage, not by ionic means, but via acoustic receipt of the vibrational energy. That's how people are getting hurt. Plus the calcium ion findings, noted, supra, from the elegant work of Dr. Pall at the Washington State University, and propriety requires the mention of the ground breaking work of Dr. Andrew Galsworthy of Imperial College London, whose pioneering work regarding the stripping action of cellular and other microwave on intra-cellular calcium is forth in Dr. Galsworthy's March 2012 paper The Biological Effects of Weak Electromagnetic Fields - Problems and Solutions. As to vibrational fracture of the DNA molecule, see also *Electrosmog and autoimmune disease*, by scientists Trevor G. Marshall and Trudy J. Rumann Heil. The core point sought to be communicated here is that the industry dirge; 'it can't be us, cause non-ionizing radiation can't force an ionic change,' is an incomplete as an analysis of cell damage causation, because it is a red herring of belief that has distracted the busy from seeing the actual causation.

Many environmental influences can contribute to the formation of the more serious illnesses. The book *The Secret History of the War On Cancer*, by epidemiologist Dr. Devra Davis is the best available professional source towards an understanding of the relationships between industrial toxins and health patterns in the population. This section on Causation is here only because the industry excuse sheds less light than smoke. By background, I have practiced trial based law for four decades, specializing in engineering and scientific proof cases since 1983. After the deaths of four friends and colleagues from brain cancer, I became a student of the EMF issues, to which issues myself and many others are dedicated to public education, including through our ongoing work at Green Swan, Inc.

SB 649 Seeks to Keep Cellular Telecom Off The Ropes at California's Expense.


Telecom is giant and powerful, but the truth, science, ethics and the law are far more important than the \$1.43 trillion that industry has poured into lobby efforts since 1998 (www.opensecrets.org). But even with all its massive funding, the industry has not been able to buy insurance for this industry regarding potential mobile phone casualties.

The re-insurance industry, giants like Zurich, Lloyds, long ago announced that they would not insure for personal injuries caused by cellular devices. As a result the telecom companies are at this point on their own. If they don't shift liability responsibility to another entity or entities, they face massive and potentially ruinous. Perhaps this led to a multiple stage, difficult to see legal tactic of risk shifting to the public. If something like this were going on, it would all of a sudden make a lot of sense if there were an *extreme rush* placed on this legislation. Senate Bill 649 mimics legislation that the industry tried to get through the federal Senate (S-19), which didn't work out for them, it was placed on Hold at the end of March, where it now remains, *and directly thereafter commenced this massive hard push to get California on board with the same 'seize the light poles' effort, to which obviously immense professional lobby effort is being devoted to an ongoing ongoing push for fast passage.* Normally, we could say, 'well, that's life, sometimes you've got to let the big dog eat.' But this situation is very different from ordinary because lives and souls are at stake here. This isn't a game or a hobby, this is serious.

Whether planned or not, after infrastructure is established resulting from SB 649, one crucial result *is to transfer the financial burden of impending severe liability exposure from the industry to the government.* In the instance of S-19, a substantially duplicate Bill now sensibly remaining on Hold at the federal Senate, the transference of liability exposure would have been to the federal government. With the failure of S-19 at the federal level the telecom industry went immediately to work in California. With the telecom industry having consumed a great feast at the restaurant of commerce, the effect of signing SB-649 into law would be to stick California with the tab for that very feast.

Lawmakers in California to insure that any legislation which is passed will not harm the public. Any member of our Legislature who, *knowing that there is scientific evidence of harm*, votes for SB 649 will be no different than those in power over Flint Michigan, who knew of the health hazards in the water, and yet allowed that public health hazard to continue. However, in terms of the number of people to be severely harmed, the situation with SB 649 is far more severe even than what tragically happened in Flint.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Harry V. Lehmann', with a long horizontal flourish extending to the right.

Harry V. Lehmann

Transmission Log

LEHMANN LAW OFFICE

Wednesday, 2017-07-19 09:52

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Date	Time	Type	Job #	Length	Speed	Station Name/Number	Pgs	Status
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July 19, 2017

Ms. Jennifer Galehouse, Deputy Chief Consultant
Assembly Appropriations Committee
State Capitol, Room 2114
Sacramento, CA 95814
Via 10 page fax: 916-319-2181
& Federal Express overnight

- Re:
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Submitted as public comment supporting Taras Appeal
April 9, 2018

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August 18, 2017

To whom it may concern,

I urge in the strongest terms that you vigorously oppose California SB 649.

If this bill passes, many people will suffer greatly, and needlessly, as a direct result.

This sounds like hyperbole. It is not.

My research group at UC San Diego alone has received hundreds of communications from people who have developed serious health problems from electromagnetic radiation, following introduction of new technologies. Others with whom I am in communication, have independently received hundreds of similar reports. Most likely these are a tip of an iceberg of tens or perhaps hundreds of thousands of affected person. As each new technology leading to further exposure to electromagnetic radiation is introduced – and particularly introduced in a fashion that prevents vulnerable individuals from avoiding it – a new group become sensitized to health effects. This is particularly true for pulsed signals in the radiowave and microwave portion of the spectrum, the type for which the proposed bill SB 640 will bypass local control.

Mechanisms by which health effects are exerted have been shown to include oxidative stress (the type of injury against which antioxidants protect, see optional section below), damage to mitochondria (the energy producing parts of cells), damage to cell membranes^{1, 21}, and via these mechanisms, an impaired “blood brain barrier”³⁻⁵ (the blood brain barrier defends the brain against introduction of foreign substances and toxins; additionally, disruption can lead to brain edema⁶), constriction of blood vessels and impaired blood flow to the brain⁷, and triggering of autoimmune reactions^{8, 9}. Following a large exposure, that depresses antioxidant defenses, magnifying vulnerability to future exposures, some persons no longer tolerate many other forms and intensities of electromagnetic radiation that previously caused them no problem, and that currently cause others no problem. But this group deserves – nay needs -- the right to be able to avoid these exposures.

Affected individuals not only experience “symptoms” that “merely” cause them distress and suffering, when they are exposed – symptoms like headaches^{10, 11}, ringing ears^{10, 11} and chest pain¹⁰ from impaired blood flow, heart rhythm abnormalities^{10, 11}, and inability to sleep^{10, 11}. These symptoms arise from physiological injury. Moreover, **many experience significant health problems that can include seizures¹¹, heart failure, hearing loss¹²⁻¹⁴ and severe cognitive impairment^{11, 15}.** The mechanisms involved are those also involved in development and progression of neurodegenerative conditions including Alzheimer’s disease¹⁶.



Fully half who were employed when their problems developed lost their job because of the problem, among participants of a survey we conducted. They reported that their condition had cost them up to 2 million dollars to date. Many had lost their homes. A number became homeless, and have swelled the ranks of so-called "EMF refugees"¹⁷⁻¹⁹. Among those affected, many were previously high functioning individuals – engineers, doctors, lawyers. The best and the brightest are among those whose lives – and ability to contribute to society – will be destroyed. High profile individuals with acknowledged electrohypersensitivity include, for instance, Gro Harlem Brundtland – the former 3-time Prime Minister of Norway and former Director General of the World Health Organization²⁰; Matti Niemela, former Nokia Technology chief²¹; as well as the wife of Frank Clegg²², who formerly headed Microsoft Canada and is current head of Canadians for Safe Technology²³.

Each new roll-out of electromagnetic technology for which exposure is obligatory, swells the ranks of those who develop problems with electromagnetic fields (EMF). – particularly following a significant exposure to pulsed radiowave-microwave radiation, and particularly when people have no ability to avoid it.

Many state that they didn't give credence to the problem (if they had heard of it at all) **until they themselves fell prey to it.**

This is not a psychologically driven condition. Multiple objective physiological changes reflecting mechanisms of injury have been shown in persons with this condition^{24, 25}.

The role for oxidative stress, that has been shown in innumerable studies (below), is affirmed by evidence of a link of this condition to genetic variants in antioxidant defenses, that are less avid in defending against oxidative stress³⁰⁷. People cannot manipulate their genes, to produce such an outcome by suggestibility.

An analysis by a University of Washington researcher showed that most studies funded by industry reported failure to show physiological effects. However, most studies without such industry bias affirmed effects. This is redolent of findings shown in medicine²⁶, regarding which the former editor in chief of the BMJ (the British Medical Journal), Richard Smith, noted, based on findings of a study, "This {result} suggests that, far from conflict of interest being unimportant in the objective and pure world of science where method and the quality of data is everything, it is the main factor determining the result of studies."²⁷. So where articles deny injury from nonionizing radiowave-microwave radiation, there is commonly a stake aligned with financial benefit from such denial.

Those who are affected are in desperate need of protection by our elected officials. They need creation of safe spaces and housing, and roadways to allow travel, not removal of any prospect of one; protection of local rights to make decisions - **not removal of any recourse or ability to avoid what injures them.** They are far more strongly in need of protections than a great many protected classes – their problems arose due to actions of others, against which they were given no control – *and can be reversed*, in most cases, if the assault on them is rolled back. Through no fault of their own, and in some cases against their will (e.g. before opt out was permitted with smart meters), they were subjected to an



exposure that has altered their lives as they knew them, and forced them – needlessly - to the margins of society.

Let our focus be on safer, wired and well shielded technology – not more wireless.

This legislation, if passed, and the resulting unrestricted roll-out of this technology, will predictably and directly injure and disable a new group, and add depth of suffering to those already affected.

In other spheres we abridge freedoms to protect the vulnerable few. We require that every schoolchild be vaccinated, supposedly to protect the vulnerable few who may not respond effectively to a vaccine. The need to protect the vulnerable group is deemed to be so great that it justifies the decision to abridge individual rights.

In contrast, this bill seeks to abridge individual freedoms, and local rights, in the service of harming a vulnerable group, and creating a new one.

(The common factor appears to be that in both cases, the direction is aligned with a powerful industry that influences political decisions.)

Luckily, no abridgment of individual rights and freedoms is required to protect, here.

If any group can opt out (such as, I understand, firefighters*)²⁸; **then every group deserves that equal right.** Others should not be second class citizens, subject to fewer protections.

It would go far to helping this cause if anyone complicit in promoting or passing the legislation (and then after that, *their* families) were required to be the first subjected, for a substantial test period, to the *greatest* amount of exposure that anyone *else* (and their families) may be subjected to, when new policies of this type are rolled out. It will still not do them equal damage; because they may not represent the vulnerabilities that others will have; but such a policy might help them to think twice. *That* is a bill I would strongly endorse.

Most who are now affected – were not, until they were. This may become you – or your child or grandchild. Moreover, if you have a child, or a grandchild, his sperm, or her eggs (all of which she will already have by the time she is a fetus in utero), will be affected by the oxidative stress damage created by the electromagnetic radiation, in a fashion that may affect your future generations irreparably.

It was noted above that, among survey completers, fully half of those who were employed at the time they developed electrosensitivity, lost employment *due to* this problem. (This may understate the scope of the tragedy, since this most-affected group may be least likely to be able to respond to an online survey.) **Many who previously had no problem navigating in the world are now restricted from access to basic services** like hospital care, post offices and libraries because of these problems. With each new introduction of technology that exposes many to yet a new nondiscretionary source of electromagnetic radiation, particularly (but not exclusively) that which emits pulsed radiation in the radiowave-microwave part of the spectrum, a new group of people are affected; and the suffering of those who are already affected increases greatly.



Please, defend the public and our future. Protect the rights of the individual and the locality, against a form of incursion that will lead to serious harm to some – and set a terrible precedent. **Vote no on California SB 649**, and urge that everyone else do the same.

Sincerely,

Beatrice Alexandra Golomb, MD, PhD
Professor of Medicine
UC San Diego School of Medicine

*Comment on the fire fighter exemption: "The legislature granted an exemption from SB 649 to the firefighters who requested it for health reasons. Throughout California firefighters have long complained of often disabling symptoms from cell towers on their stations. Cities frequently rent out space on fire stations to add to city revenue. ...Symptoms experienced by the firefighters have included neurological impairment including severe headache, confusion, inability to focus, lethargy, inability to sleep, and inability to wake up for 911 emergency calls. Firefighters have reported getting lost on 911 calls in the same community they grew up in, and one veteran medic forgot where he was in the midst of basic CPR on a cardiac victim and couldn't recall how to start the procedure over again...Prior to the installation of the tower on his station, this medic had not made a single mistake in 20 years. A pilot study (2004) of California firefighters showed brain abnormalities, cognitive impairment, delayed reaction time, and lack of impulse control in all 6 firefighters tested (<https://ecfsapi.fcc.gov/file/7022117660.pdf>). This study led to the overwhelming passage of Resolution 15 by the International Association of Firefighters in Boston in August 2004. Res. 15 called for further study and was amended to impose a moratorium on the placement of cell towers on fire stations throughout the US and Canada."^{15 28} Clearly, others who experience similar problems also deserve protections.

Optional – More on the Science

There is a robust literature showing that electromagnetic radiation, including in nonionizing frequencies, and at levels^{29, 30} below those that are cause thermal effects (heating) – causes physiological effects, injury, and cell death –not only in humans but many animals and plants^{3, 7, 31-49}. Unsurprisingly, industry has sought – against the tide of evidence to the contrary - to maintain that radiation must be ionizing or heating to cause injury.

Scores or hundreds of studies show that radiation, including specifically radiowave-microwave spectrum radiation, and including low-level exposure, can impair antioxidant defenses, increase “oxidative stress” (free radical injury) and damage mitochondria, the energy producing parts of cells^{1, 2, 34, 50-6930, 70-104105-13646, 137-171}. These effects occur with ionizing and nonionizing radiation, at thermal and subthermal levels. (Indeed, much or most of the damage by ionizing radiation, and radiation above the thermal limit, occurs by mechanisms also documented to occur without ionization, and below the thermal limit.) These



mechanisms cohere with the mechanisms documented to play a role in symptoms and health conditions that are reported in those who are electrosensitive – extending to seizures¹⁷²⁻¹⁷⁶, heart failure¹⁷⁷⁻¹⁸⁴ and cognitive decline^{5, 32, 57, 108, 185-195}.

These mechanisms have known involvement in induction of brain cancer, metabolic diseases like obesity and diabetes, autism, autoimmune disease, and neurodegenerative conditions, conditions that have exploded. In each case these have been linked, or presumptively linked, in some studies to electromagnetic radiation^{8, 9, 16, 34, 196-219}.

Such radiation also has effects on sperm^{33, 100, 220-228}, and the DNA of sperm²²⁹ (consistent with recent news reports of marked recent declines in sperm counts and function)..

Such radiation also has toxic effects in pregnancy²³⁰, **to the fetus and subsequent offspring**²³¹⁻²³⁵ **including at low levels**²³⁶, **and is tied to developmental problems in later life, including attention deficit and hyperactivity**^{31, 235-241}. It is critical to defend pregnant women (and eggs of girls who may at a later time become pregnant) from exposures with such toxicity.

Electromagnetic radiation across much or most of the spectrum (not excluding visible light) has been shown to depress levels of melatonin^{40, 72, 242-252}, which is best known for its role in sleep (and indeed, impaired sleep is the most consistent symptom in affected individuals^{10, 11}).

Melatonin is in fact a critical antioxidant that defends the body against harm from many toxic exposures²⁵³⁻²⁶⁶ **including electromagnetic radiation itself**^{61, 66, 67, 82, 101, 107, 118, 121, 138, 144, 151, 204, 249, 267-284} - **reducing the oxidative stress** that is implicated in cancer, metabolic diseases like obesity and diabetes, autism, autoimmune disease, bipolar disorder and neurodegenerative conditions, and that also plays a role in heart attack and stroke^{9, 285-329, 330-343}.

Radiation, and specifically radiation in the radiowave-microwave portion of the spectrum can also depress levels of other critical antioxidant systems that also defend the body against chemical, radiation, and other sources of injury. These other antioxidant systems include the glutathione system, superoxide dismutase and catalase^{81, 102, 115, 116, 233, 344-358} - which are also involved in defending against health problems.

This suggests that depression of antioxidant defenses due to electromagnetic radiation may magnify risk of chemically induced health effects (and depression of antioxidant systems due to some chemicals may amplify risk of harm from electromagnetic radiation). Indeed just such effects have been reported^{359, 360}.



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18-AP-8

Amrutha Kattamuri and Susan Downs

All eleven (11) nodes

Total: 58 - Apr/09/2018
Pages
+ 3 - Appendix D
added on Apr/10/2018
+ 1 - Susan's signature
added on Apr/10/2018

CITY OF PALO ALTO
Office of the City Clerk
**APPEAL FROM THE DECISION OF DIRECTOR OF PLANNING
AND COMMUNITY ENVIRONMENT***

For appeals of final decisions on Architectural Review Board and Home Improvement Exception applications (rendered after public hearing), this appeal form shall be completed and submitted by appellant within fourteen days from date of the Director's decision. Appeals of final decisions on Individual Review applications (rendered after public hearing) must be submitted within ten days of the Director's decision. Complete form, the current fee and a letter stating reasons for the appeal shall be submitted to front desk staff of the Planning Division, 5th floor, City Hall, 250 Hamilton Avenue, except for 980 Fridays when City Hall is closed, when these items shall be submitted to Planning staff at the Development Center, 285 Hamilton Avenue (glass storefront across from City Hall on the corner of Bryant and Hamilton).

* Director of Planning includes his designees, which are Planning Managers or the Chief Planning Official

Appeal Application No. 18-AP-8 Receipt No. 2018099001-79
Name of Appellant AMIRUTHA KATTAMURI Phone (408) 226 - 8821
Address 3189 Berryessa St, Unit #1, Palo Alto, CA, 94303
Street City ZIP

LOCATION OF PROPERTY SUBJECT TO APPEAL: Node #129: CPAU Pole # 3121, Node #130: CPAU Pole #24
Street Address Node #131: CPAU Pole # 3315, Node #133E: CPAU Pole # 2856, Node #134:
CPAU POLE # 2964, Node #135: CPAU Pole # 3610, Node #137: CPAU Pole # 3351, Node #138: CPAU Pole #247
Name of Property Owner (if other than appellant) NA | Node #143: CPAU Pole # 3867,
Property Owner's Address -NA - | Node #144: CPAU Pole # 1506
Street City ZIP Node #145: CPAU Pole # 3288

The decision of the Director of Planning and Community Environment dated March 26th, 2018

whereby the application 17 PLN-00169 by Verizon wireless
(file number) (original project applicant)

was approved, is hereby appealed for the reasons stated in the attached letter (in duplicate)
(approved/denied)

Date: Apr/9/2018 Signature of Appellant K. Amruthavelli

PLANNING COMMISSION RECOMMENDATION TO THE CITY COUNCIL (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

CITY COUNCIL DECISION (TO BE FILLED OUT BY STAFF):

Date _____ Approved _____ Denied _____

Remarks and/or Conditions:

SUBMITTAL REQUIREMENTS SATISFIED:

1. Letter stating reasons for appeal 4/4/18
2. Fee (currently \$280.00) 4/4/18

Received by: Kim Hunt
Received by: Kim Hunt

Department of Planning
& Community Environment

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10:00 - 3 PM 2001
OFFICE
CITY OF NEW YORK



**CITY OF
PALO
ALTO**

PLANNING & COMMUNITY ENVIRONMENT

250 Hamilton Avenue, 5th Floor
Palo Alto, CA 94301
650.329.2441

March 26, 2018

Mary Diesch, Site Acquisition Manager, Small Cells
Vinculums Services
575 Lennon Lane
Walnut Creek CA 94598

Subject: 250 Hamilton Avenue [17PLN-00169]; Tier 3 Wireless Communication Facility Permit Applications for 11 Small Cell Nodes – Vinculums/Verizon Cluster 1

Dear Mary Diesch:

On March 26, 2018 the Director of Planning and Community Environment (Director) approved 11 small cell nodes referenced below, under file 17PLN-00169.

These Director's approvals (known as Tier 3 Wireless Communication Facility (WCF) permits) were granted pursuant to the Palo Alto Municipal Code (PAMC) Sections 18.42.110 (c)(3), 18.42.110 (h)(1), 18.42.110 (h)(2), 18.42.110 (i), and 18.42.110 (j). These decisions were based on the review of all information contained within the project file, all public comments received to date, and the review of the proposal in comparison to applicable Comprehensive Plan goals and policies, as well as zoning and other municipal code requirements. These Director's approvals correspond with the recommendations of the Architectural Review Board from March 15, 2018.

APPROVED PROJECT LOCATIONS: Tier 3 Wireless Communication Facilities (small cell wireless communication equipment) are hereby approved on eleven utility poles in the public right of way within the Mid-Town, Palo Verde, St. Claire Gardens, and South of Mid-Town neighborhoods, as follows:

- Node #129: CPAU Pole# 3121 (near 2490 Louis Road APN 127-30-062)
- Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046)
- Node #131: CPAU Pole #3315 (near 891 Elbridge Way APN 127-26-067)
- Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-23-009)
- Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028)
- Node #135: CPAU Pole # 3610 (near 795 Stone Ln APN 127-47-001)
- Node #137: CPAU Pole #3351 (near 3090 Ross Rd APN 127-52-031)
- Node #138: CPAU Pole #2479 (near 836 Colorado Av APN 127-27-063)
- Node #143: CPAU Pole #3867 (near 419 El Verano Av APN 132-15-017)
- Node #144: CPAU Pole #1506 (near 201 Loma Verde Av APN 132-48-015) and
- Node #145: CPAU Pole #3288 (near 737 Loma Verde Av APN 127-64-039).



Pursuant to the California Environmental Quality Act (CEQA), the Director determined that each WCF is Categorically Exempt under CEQA Class 3, Guidelines Section 15303 (New Construction or Conversion of Small Structures).

The Director's decision on each of the 11 nodes shall become final and effective fourteen (14) calendar days from the postmark date of the March 26, 2018 mailing (or on the next business day if it falls on a weekend or holiday), unless appeal(s) are filed pursuant to PAMC Section 18.77.070(e). Any appeal(s) shall be in writing and submitted to the Planning Division prior to the end of the business day of the fourteenth day. The Director's decisions for nodes that are not appealed within this time shall become final, notwithstanding any timely appeal of one or more of the other nodes included in this letter.

Any appeal(s) shall be placed on the City Council consent calendar within 45 days pursuant to PAMC Section 18.77.070(f). The appeal form, which contains brief instructions, can be found on the City website (<https://www.cityofpaloalto.org/civicax/filebank/documents/61907>). Each appealed node should be specifically listed by node number on the appeal form and in the letter stating the reason(s) for the appeal.

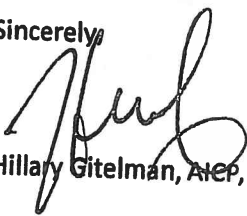
As outlined in the Fiscal Year 2018 Municipal Fee Schedule found on the City's website (<https://www.cityofpaloalto.org/civicax/filebank/documents/61512>), the total fee to file an appeal for one or more nodes is two-hundred and eighty dollars (\$280.00). The fee is refunded if the City Council chooses not to hear an appeal.

Approvals shall be effective for one year from the date they become final, within which time construction of the project shall have commenced. Applications for extensions may be made prior to approval expiration.

According to PAMC Section 18.42.110(l), the Director may revoke any WCF permit if the permit holder fails to comply with any conditions of approval.

Should you have any questions regarding this approval, please do not hesitate to contact Rebecca Atkinson, at (650) 329-2596, or e-mail Rebecca.Atkinson@CityofPaloAlto.org.

Sincerely,



Hillary Gitelman, AICP, Director of Planning and Community Environment

Cc:

Jennifer Haas, Verizon Wireless, 2785 Mitchell Drive, Building 9, Walnut Creek, CA 94598
Paul Albritton, Esq. Mackenzie & Albritton LLP, 155 Sansome St., Ste. 800, San Francisco, CA 94104
Hamid Ghaemmaghani, Manager Real Property for Administrative Services, City of Palo Alto
Jim Fleming, Senior Management Analyst for Utilities Department, City of Palo Alto

Attachment:

Findings and Conditions of Approval

17PLN-00169

Page 2 of 2

City of Palo Alto

April 9, 2018

City of Palo Alto
Office of the City Clerk
City Hall, 250 Hamilton Avenue
Planning Division, 5th floor
Palo Alto, CA 94301

Appeal and Claim re: Director of Planning and Community Environment's Decision to Approve — in Residential Zones — the Installation of 11 Small Cell Nodes, called Vinculums/Verizon Cluster 1

Ref: 250 Hamilton Avenue [17PLN-00169]; Tier 3 Wireless Communication Facility Permit Applications

Appellants and Claimants

Amrutha Kattamuri	Dr. Susan Downs
3189 Berryessa St, Unit #1	228 Ramona Street
Palo Alto, CA 94303	Palo Alto, CA 94301
408-226-8821	510-847-7157
vkattamuri@yahoo.com	susanrdowns@hotmail.com

Amrutha Kattamuri and Susan Downs live in Palo Alto, in Cluster 1 or not far from the locations where Vinculums/Verizon is applying to install 11 so-called "Small Cell" nodes, which are Close Proximity Microwave Radiation-emitting Antennas, including the bulky, intrusive ancillary equipment each installation requires for power and radio services (CPMRA). This first group of 11 CPMRAs in Cluster 1's residential zones represent just a small part of a large planned network of hundreds of CPMRAs that would have a cumulative CEQA impact throughout Palo Alto's residential neighborhoods.

These CPMRA installations are unnecessary because they are not needed to close a significant gap in Verizon coverage. The substantial evidence in the public record from the 12/7/17 and 3/15/18 Palo Alto Architectural Review Board (ARB) hearings shows that there is **no significant gap in Verizon coverage** in Cluster 1. In addition, if installed, as approved, these CPMRAs will create multiple instances of **dangerous conditions of public property** as they would create significant fire and other hazards and nuisances in residential neighborhoods that would effectively incommode the public's use of the public rights-of-way in Cluster 1.

California Government Code - GOV

- TITLE 1. GENERAL [100 - 7914]
 - DIVISION 3.6. CLAIMS AND ACTIONS AGAINST PUBLIC ENTITIES AND PUBLIC EMPLOYEES [§ 810 - 998.3]
 - PART 2. LIABILITY OF PUBLIC ENTITIES AND PUBLIC EMPLOYEES [§ 814 - 895.8]
 - CHAPTER 2. Dangerous Conditions of Public Property [§ 830 - 840.6]
 - ARTICLE 1. General [830 - 831.8]

§ 830.

(a) **"Dangerous condition"** means a condition of property that creates a substantial (as distinguished from a minor, trivial or insignificant) risk of injury when such property or adjacent property is used with due care in a manner in which it is reasonably foreseeable that it will be used.

(b) **"Protect against"** includes repairing, remedying or correcting a dangerous condition, providing safeguards

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against a dangerous condition, or warning of a dangerous condition.

(c) "Property of a public entity" and "public property" mean real or personal property owned or controlled by the public entity, but do not include easements, encroachments and other property that are located on the property of the public entity but are not owned or controlled by the public entity.

Appellants/Claimants Oppose the Installation of any CPMRAs in Residential Zones and Ask the City of Palo Alto to do the following:

1. Not allow in, or within 1500 feet of, residential zones — the installation of privately-owned Close Proximity Microwave Radiation-emitting Antennas (CPMRA) and ancillary equipment, on or adjacent to city-owned utility poles, light poles and other street furniture because doing so would create a **dangerous condition of public property**. In addition, melding private telecommunications equipment onto public property would **transfer massive liability for injuries from this equipment to the city of Palo Alto and its tax payers** as explained in Attorney Harry Lehmann's 7/19/17 letter to the CA Senate Appropriations Committee, included in Appendix A.
2. Amend the Palo Alto Municipal Code to allow the installation of CPMRAs only in commercial and industrial zones -- not in or within 1,500 feet of residential zones.
3. Amend the Palo Alto Municipal Code to establish an effective setback for the installation of CPMRAs in commercial and industrial zones -- **a 1,500-foot setback** from any of the following:
 - o Residential Zones
 - o Firefighter facilities (protections guaranteed by CA AB.57)
 - o Police facilities
 - o Medical facilities
 - o Schools
 - o Day care facilities
 - o Parks and sports fields
4. Allow the installation of a Wireless Communications Facility (WCF) in commercial and industrial zones **only if there is a significant gap in coverage**, as proven by substantial evidence in the public record. To address a proven significant gap in coverage, direct all Wireless Carriers and their subcontractors to propose and install WCFs that represent the **least intrusive means** that will close a proven significant gap in coverage.

Background

Substantial information from the public opposing this 11 CPMRA project and the full build-out of hundreds of CPMRAs in Palo Alto's residential neighborhoods was entered into the public record in preparation for and at the two Architectural Review Board (ARB) Hearings for this project on 12/7/17 and on 3/15/18.

Appendices B and C below highlight excerpts from and contain the full text of emails from Paul McGavin from *Scientists for Wired Technology*, who has asked important, relevant questions about the existing and planned CPMRA installations in Palo Alto. Unfortunately, Palo Alto's Planning staff did not adequately answer these questions, despite having four months to do so (from 12/7/17 to 4/6/18). All of the information referenced to by the links in this appeal/complaint and in all of the emails from Paul McGavin are considered to be part of the Palo Alto public record for this 11 CPMRA Cluster 1 project in Palo Alto.

In addition, all information contained within the project file, all public comments received to date, and the various reviews of the proposal are also considered to be part of the Palo Alto public record for this 11 CPMRA Cluster 1 project in Palo Alto.

On March 26, 2018, Tier 3 WCFs/CPMRAs were approved by Palo Alto's Director of Planning and Community Environment for 11 utility poles in the public-rights-of way within the Mid-Town, Palo Verde, St. Claire Gardens, and South of Mid-Town neighborhoods, as follows:

1. Node #129: CPAU Pole #3121 (near 2490 Louis Road APN 127-30-062)

2. Node #130: CPAU Pole #2461 (near 2802 Louis Road APN 127-28-046)
3. Node #131: CPAU Pole #3315 (near 891 Elbridge way APN 127-26-067)
4. Node #133E: CPAU Pole #2856 (near 949 Loma Verde APN 127-23-009)
5. Node #134: CPAU Pole #2964 (near 3409 Kenneth Drive APN 127-09-028)
6. Node #135: CPAU Pole #3610 (near 795 Stone Ln APN 127-47-001)
7. Node #137: CPAU Pole #3351 (near 3090 Ross Rd APN 127-52-031)
8. Node #138: CPAU Pole #2479 (near 836 Colorado Av APN 127-27-063)
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10. Node #144: CPAU Pole #1506 (near 201 Loma Verde Av APN 132-48-015)
11. Node #145: CPAU Pole #3288 (near 737 Loma Verde Av APN 127-64-039)

We are asking the City Council to reverse Director of Planning and Community Environment's decision and deny the installation of all 11 of these CPMRA installations.

Basis of Appeal/Claim

The reasons to deny all 11 CPMRA installations, listed above, are the following:

1. Substantial evidence in the public record establishes that **there is no significant gap in Verizon coverage** in Cluster 1, which is the legal test for preemption of local authority over the placement, construction and modification of personal wireless facilities. With no significant gap in coverage and no prohibition of Wireless Service in Cluster 1, there is no basis for the preemption clauses listed in Section 704 of the 1996 Telecommunications Act (1996-TCA).
2. Even if a significant gap in Verizon coverage had been proven by the applicant (which it had not), then these bulky, ugly CPMRA installations are **not the least intrusive means** to provide additional Verizon Wireless coverage to Palo Alto neighborhoods. Importantly, and other less intrusive means, such as co-location on existing macro towers, were not considered by the applicant, the ARB or the City of Palo Alto Planning staff.
3. Comparing the penultimate and ultimate versions of the 1996-TCA, shows Congressional intent for municipalities to retain authority over regulating the **operations** of personal wireless facilities, since the word "operations" was dropped from the list of preemptions in the ultimate version of the 1996-TCA.
 - Read the **penultimate** version of the 1996-TCA here: <http://scientists4wiredtech.com/legislation/1995-federal-communications-act-hr-1555/>
 - Read the **ultimate** version of the 1996-TCA here: <http://scientists4wiredtech.com/legislation/1996-federal-telecommunications-act-s-652/>
 - The duty to **regulate the operations** of cell phone towers falls squarely on the City of Palo Alto which must protect their residents' inalienable, constitutional rights to safety and privacy (as guaranteed by the CA Constitution's Article I, Section 1). Palo Alto can use any relevant RF Microwave radiation exposure guideline it wishes -- such as signal strength from all frequencies to collectively **not exceed -75 dBm** — the signal strength needed for five bars on a cell phone.
4. Palo Alto homeowners, Amrutha Kattamuri and her spouse may face real estate devaluation of \$200,000 or more due to the installation of these unnecessary CPMRA installations in Cluster 1. These are significant financial damages caused by the City of Palo Alto **not adequately exploring less intrusive means** to address any alleged Verizon significant gaps in coverage.
5. Palo Alto homeowner, Dr. Susan Downs may face real estate devaluation of \$500,000 or more due to the installation of unnecessary CPMRA installations in Palo Alto. These are significant financial damages caused by the City of Palo Alto **not adequately exploring less intrusive means** to address any alleged Verizon significant gaps in coverage.
6. Palo Alto resident and medical doctor, Susan Downs, MD, has been diagnosed with a brain tumor (acoustic neuroma) and has **disability rights due to her diagnosis. Her rights are protected by the Federal Americans with Disabilities Act**. Palo Alto cannot create an access-barrier to her home or to her community by installing these unnecessary CPMRA installations. Cancer survivors like Dr. Downs, Palo Alto residents and visitors with medical implants that contain metal or batteries, and other Palo Alto residents who are Electromagnetically Sensitive (EMS) have medical conditions which are exacerbated by RF microwave radiation exposure levels that are millions of times lower than the irrelevant FCC RF

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microwave radiation maximum public exposure guideline (see <http://scientists4wiredtech.com/regulation/rf-microwave-exposure-guidelines/>).

7. EMS Californians testified at the California Public Utilities Commission (CPUC) hearings and eventually achieved an opt-out program in response to the forced installation of so-called "Smart Meters" on people's homes. The City of Palo Alto must respect the reasons why EMS-Californians and others have exercised their rights to opt out of "Smart Meter" program (to reduce RF microwave radiation exposures in one's home). The City of Palo Alto, therefore, **cannot force 24/7/365 RF microwave radiation exposures into one's home from the public rights-of-way** — effectively canceling the benefit of such an opt out, for which Californians have already paid. Fiber optic to the premises (FTTP) avoids all of these problems as described here: <http://mystreetmychoice.com/press.html>
8. Amrutha Kattamuri is raising two children in Palo Alto and walks/drives to various school, shopping and recreation areas (parks, sports fields et al.) in and around Cluster 1 with her children. She is well-aware that her children absorb RF microwave radiation more deeply into their brains and bodies because her children are smaller and have thinner skulls and bones when compared to that of adults. She does not want her children to develop the environmentally-induced illness, microwave sickness, which can create permanent EMS-symptoms similar to those already affecting other children in Palo Alto today.
9. The 11 CPMRAs in Cluster 1 are not designed to automatically shut down in the event of a fire. Any ancillary equipment cabinets or vaults must be environmentally controlled and watertight. The equipment cabinets and vaults must also be able to temporarily contain any fire.
10. The 11 CPMRAs in Cluster 1 are not consistent with the City's undergrounded equipment requirements.
11. The 11 CPMRAs in Cluster 1 are not necessary, desirable for or compatible with the neighborhood or community because the record does not demonstrate substantial evidence of a significant gap in Verizon coverage.
12. Any exception is not warranted because the record reflects that there is no significant gap in Verizon coverage and there are less intrusive alternatives, such as undergrounded equipment and locating CPMRAs in commercial zones, nearby, with 1500 foot setbacks from residential and sensitive areas, listed above.
13. There has been **no independent assessment of technical information related to RF microwave radiation exposures** from these 11 CPMRAs in Cluster 1. PAMC code authorizes the Planning Director to employ, at his/her discretion, an **independent** technical expert to review any technical materials submitted, at the applicant's expense. No independent expert has been retained by the City to examine the accuracy of Verizon's FCC Compliance Assessment and Radio Frequency assessment. **William Hammett from Hammett & Edison has a specific conflict of interest in this role** because he and his employees are a front-men for Verizon in many Bay Area communities. In addition, Hammett & Edison has produced sub-standard work on behalf of Cities and School Districts in California, as described in Appendix D.
14. The City of Palo Alto, working as an agency of the State of California has taken specific action to enter into a Master License Agreement approved by the City Council in June 2016 — a joint-venture with Verizon Wireless and its various subcontractors. **This action has opened up the city and its taxpayers to massive liability** from the melding of private telecommunications equipment onto public property (city-owned light poles, utility poles and other street furniture) as explained in the 7/19/17 letter from Attorney Harry Lehmann, included in Appendix A. Due to the City's contract with Verizon, an agreement which can be canceled due to fraud in the inducement, **many significant harms can be tied to this City action**. The action is forcing Palo Alto residents to give up property rights and forcing them to endure lowered property values, resulting from the installation of CPMRAs in residential zones. **Many CPMRAs are just 15-50 feet from homes in Palo Alto**. Finally, this agreement has opened up the City to a **series of costly and unavoidable ADA claims from EMS-Californians**, who have rights to non-discrimination and rights to be free from access-barriers to their homes and their community — which CPMRAs in residential zones create.

Signatures

K. Amrutha Kattamuri
Apr 10 9 2018

Amrutha Kattamuri — Date

AMRUTHA KATTAMURI

Print name here

Dr. Susan Downs — Date

Print name here

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with Susan's signature

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Subject: Unre.
From: Paul McC
Date: Tue, 17
To: 1

microwave radiation maximum public exposure guideline (see <http://scientists4wiredtech.com/regulation/rf-microwave-exposure-guidelines/>).

7. EMS Californians testified at the California Public Utilities Commission (CPUC) hearings and eventually achieved an opt-out program in response to the forced installation of so-called "Smart Meters" on people's homes. The City of Palo Alto must respect the reasons why EMS-Californians and others have exercised their rights to opt out of "Smart Meter" program (to reduce RF microwave radiation exposures in one's home). The City of Palo Alto, therefore, **cannot force 24/7/365 RF microwave radiation exposures into one's home from the public rights-of-way** — effectively canceling the benefit of such an opt out, for which Californians have already paid. Fiber optic to the premises (FTTP) avoids all of these problems as described here: <http://mystreetmychoice.com/press.html>
8. Amrutha Kattamuri is raising two children in Palo Alto and walks/drives to various school, shopping and recreation areas (parks, sports fields et al.) in and around Cluster 1 with her children. She is well-aware that her children absorb RF microwave radiation more deeply into their brains and bodies because her children are smaller and have thinner skulls and bones when compared to that of adults. She does not want her children to develop the environmentally-induced illness, microwave sickness, which can create permanent EMS-symptoms similar to those already affecting other children in Palo Alto today.
9. The 11 CPMRAs in Cluster 1 are not designed to automatically shut down in the event of a fire. Any ancillary equipment cabinets or vaults must be environmentally controlled and watertight. The equipment cabinets and vaults must also be able to temporarily contain any fire.
10. The 11 CPMRAs in Cluster 1 are not consistent with the City's undergrounded equipment requirements.
11. The 11 CPMRAs in Cluster 1 are not necessary, desirable for or compatible with the neighborhood or community because the record does not demonstrate substantial evidence of a significant gap in Verizon coverage.
12. Any exception is not warranted because the record reflects that there is no significant gap in Verizon coverage and there are less intrusive alternatives, such as undergrounded equipment and locating CPMRAs in commercial zones, nearby, with 1500 foot setbacks from residential and sensitive areas, listed above.
13. There has been **no independent assessment of technical information related to RF microwave radiation exposures** from these 11 CPMRAs in Cluster 1. PAMC code authorizes the Planning Director to employ, at his/her discretion, an **independent** technical expert to review any technical materials submitted, at the applicant's expense. No independent expert has been retained by the City to examine the accuracy of Verizon's FCC Compliance Assessment and Radio Frequency assessment. **William Hammett from Hammett & Edison has a specific conflict of interest in this role** because he and his employees are a front-men for Verizon in many Bay Area communities. In addition, Hammett & Edison has produced sub-standard work on behalf of Cities and School Districts in California, as described in Appendix D.
14. The City of Palo Alto, working as an agency of the State of California has taken specific action to enter into a Master License Agreement approved by the City Council in June 2016 — a joint-venture with Verizon Wireless and its various subcontractors. **This action has opened up the city and its taxpayers to massive liability** from the melding of private telecommunications equipment onto public property (city-owned light poles, utility poles and other street furniture) as explained in the 7/19/17 letter from Attorney Harry Lehmann, included in Appendix A. Due to the City's contract with Verizon, an agreement which can be canceled due to fraud in the inducement, **many significant harms can be tied to this City action**. The action is forcing Palo Alto residents to give up property rights and forcing them to endure lowered property values, resulting from the installation of CPMRAs in residential zones. **Many CPMRAs are just 15-50 feet from homes in Palo Alto**. Finally, this agreement has opened up the City to a **series of costly and unavoidable ADA claims from EMS-Californians**, who have rights to non-discrimination and rights to be free from access-barriers to their homes and their community — which CPMRAs in residential zones create.

Signatures

K. Amrutha Kattamuri
Apr 10 9/2018

Amrutha Kattamuri — Date

AMRUTHA KATTAMURI

Print name here

Dr. Susan Downs — Date

SUSAN DOWNS, MD

Print name here

Received

APR 10 2018

Department of Planning
& Community Environment

university of London

Unreasonable Failure to Respond

- Subject: Unreasonable Failure to Respond
From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>
Date: Tue, 12 Dec 2017 17:17:28 -0800
To: Amy French <amy.french@cityofpaloalto.org>
CC: Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>

December 12, 2017

Ms. Amy French <amy.french@cityofpaloalto.org>
Planning Manager
City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301-2531
650-329-2336

cc: Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>
Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>
Jim Fleming <jim.fleming@cityofpaloalto.org>

Re: Wireless 17PLN-0016: Unreasonable Failure to Respond

Will you please place this email/letter into the public record (both in the paper file and on the Palo Alto web site) for the current Small Cell applications for Palo Alto's residential zones (Wireless 17PLN-00169)?

From our telephone conversation on Fri 12/8/17, it is clear that you were unwilling to give me any estimate of when I might get the list of unanswered questions, listed below, adequately answered by the City of Palo Alto planning staff. Today, Tue 12/12/17 **marks ten days** since I asked the original 12 unanswered questions, listed below, and **seven days**, since I asked an additional four questions, also listed below.

I am dismayed that your staff continues to stonewall and communicate nothing of substance that could qualify as answers to these questions. We received one email from Jodie Gerhardt on 12/6/17: she forwarded a 12/6/17 email from Hammett & Edison, which, unfortunately, **did not answer any of the questions. I therefore, consider that the City of Palo Alto has not adequately addressed any of the 16 questions**, listed below.

Please respond to this email with either:

- **A.** Your staff intends to answer the questions and we can expect answers by a specific date (please provide the date), **OR**
- **B.** Your staff intends to never answer these questions.

As your staff has returned no calls or emails since 12/6/17, I can only assume that with no

response from you or your staff (either **A** or **B**, above) by the close of business on Wed 12/13/17 that the City of Palo Alto's choice is **B**.

I will then take the next steps to address the City of Palo Alto's negligence in completing its required due diligence in processing this Wireless 17PLN-0016 application.

A. I am still waiting for answers to the **following ten questions** that we understand from Amy French that **Jodie Gerhardt** will be answering:

>>> On 12/5/17 @ 4:02 pm, Paul McGavin wrote to Palo Alto City Planning Officials:

Q1: When can I expect the answers to the questions about the Hammett & Edison (H/E) postmortem analysis of the pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposures from the 19 Small Cells that were powered on in November, 2016? **No answer, as of 12/6/17 @ 10:30 am**

Q2: If these antennas were run at max power, what is the ERP coming out of the antennas and how much higher are the resulting RF Microwave Radiation exposures?

Q3: What keeps Crown Castle/Verizon from turning up the power at will from 6 Watts to some higher setting between 6 and 2,400 Watts of input power?

Q4: Is the City of Palo Alto currently monitoring and regulating the operations of these antennas to ensure that they don't run hotter than the specs communicated to the public?

>>> On 12/2/17 @ 7:40 am, Paul McGavin wrote to Palo Alto Planning Officials:

Before we consider Mr. Hammett's 6/8/17 RF Microwave radiation exposure analysis and letter a misleading whitewash, will the City of Palo Alto please answer the following questions?

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?
- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation exposure measurements?
- **Q3:** Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period?
- **Q4:** Did you compare RF/MW radiation levels during different activities and at different times of day? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities:
 - **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole
 - **b:** While making a Verizon call
 - **c:** When sending/receiving a Verizon text
 - **d:** When streaming a video from the Verizon antenna
 - **e:** When downloading a software update from the Verizon antenna

- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading (a configuration option available on the NBM-520 Broadband Field Meter)?
- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings and compare to the average readings?

B. I am still waiting for answers to the **following six questions** that we understand from Amy French that **Rebecca Atkinson** will be answering:

>>> On 12/5/17 @ 4:02 pm, Paul McGavin wrote to Palo Alto City Planning Officials:

Q1: I read that appeals require a form and \$280 fee, but am not clear: would \$280 appeal all 15 towers or will it require \$280 x 15 towers = \$3,750, which seems like a **very high cost** for public due process?

French: The form and fee are required for each location, because each location will receive a separate decision letter. It may be some locations are appealed and others are not appealed.

McGavin: This can get pretty costly. This fee seems like an unnecessary barrier to due process, **Rebecca**, will you please provide the citation in Palo Alto Municipal code that provides a justification for this fee?

Q2: What RF Microwave radiation exposure data did the City of Palo Alto request from Hammet & Edison for the report/letter H/E completed on 6/8/17 about the 19-Small Cell project completed and turned on in downtown Palo Alto in November 2016?

French: I did not request this report you refer to and have not seen the report. Jodie was overseeing the project you refer to in this question. **Rebecca** may have a response on this question.

McGavin: As you took over for Jodie, it makes sense you may not be familiar with the Hammet and Edison report, but Jodie is familiar because I spoke to Jodie about the data the City of Palo Alto needed before she started the project with Hammett and Edison. From **Rebecca**, Jodie and/or Hammett and Edison, I am still seeking an answer to this question.

Q3: What is the City of Palo Alto's commitment to getting sufficient data from any RF Microwave radiation contractor to be able to accurately characterize the pre and post construction RF Microwave radiation exposure environment in Palo Alto where densified "Small Cells" have been or are planned to be installed? Having sufficient RF Microwave Radiation exposure data (**simple averages are not sufficient**) placed in the public record is critically important **before** any new "Small Cell" towers are approved for Palo Alto's residential zones.

French: I do not have an answer for this question. **Rebecca** may be able to respond to this question - or Jim Fleming if City Council had made past statements about City commitments.

McGavin: From **Rebecca**, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.

Q4: The 17PLN-00169 document reports "Environmental Assessment: Pending . . . The project is under review in accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the environmental

regulations of the City.". Will you please describe the scope and timing required to complete this Environmental Assessment? What's the plan to complete this?

French: Basically, the City's consultants for this project are reviewing the submittal for compliance with the applicable codes, policies, requirements and regulations, to assist staff in making a CEQA determination. The consultants will also assist staff for additional submittals following the ARB meeting this Thursday. **Rebecca** may have more to add.

McGavin: What are the name of the consultants who are responsible for doing this work to ensure CEQA determination? **Rebecca**, will we be able to review this work before the 12/7/17 ARB meeting? Rebecca, do you have more to add?

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French: This is a question for **Rebecca**.

McGavin: Do you have an answer, **Rebecca**?

Q6: What specific real-life evidence (not projections/calculations) has the applicant provided to prove that there is a significant gap in Verizon coverage? Verizon coverage maps from Verizon's web site are not sufficient for this purpose.

French: This is a question for **Rebecca**.

McGavin: Do you have an answer, **Rebecca**?

Thank you for your prompt attention to this matter.

--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Subject: Re: Palo Alto Wireless 17PLN-00169: Questions and Solutions
From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>
Date: Thu, 07 Dec 2017 14:15:15 -0800
To: Amy French <amy.french@cityofpaloalto.org>
CC: Tom DuBois <tom.dubois@cityofpaloalto.org>, Eric Filseth <eric.filseth@cityofpaloalto.org>, Adrian Fine <adrian.fine@cityofpaloalto.org>, Karen Holman <karen.holman@cityofpaloalto.org>, Liz Kniss <liz.kniss@cityofpaloalto.org>, Lydia Kou <lydia.kou@cityofpaloalto.org>, Greg Tanaka <greg.tanaka@cityofpaloalto.org>, Cory Wolbach <cory.wolbach@cityofpaloalto.org>, arb@cityofpaloalto.org, Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, Jim Fleming <jim.fleming@cityofpaloalto.org>, Gregory Scharff <greg.scharff@cityofpaloalto.org>, gregscharff@aol.com

December 7, 2017

Ms. Amy French <amy.french@cityofpaloalto.org>
Planning Manager
City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301-2531
650-329-2336

cc: Mayor Gregory Scharff <greg.scharff@cityofpaloalto.org>
Council Member Tom DuBois <tom.dubois@cityofpaloalto.org>
Council Member Eric Filseth <eric.filseth@cityofpaloalto.org>
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Jim Fleming <jim.fleming@cityofpaloalto.org>

Re: Palo Alto Wireless 17PLN-00169: Questions and Solutions

Dear Ms. French,

Will you please place this email/letter into the public record (both in the paper file and on the Palo Alto web site) for the current Small Cell applications for Palo Alto's residential zones (Wireless 17PLN-00169)?

As a member of the public, I was disadvantaged by not being able to prepare the most relevant and accurate public testimony for this morning's Architectural Review Board Meeting because I am **still lacking reasonable answers** to the important questions that I asked the City of Palo Alto on 12/2/17, summarized in Sections **A** and **B**, below. I did not get answers from the City of Palo Alto in time for 12/7/17 ARB meeting from either Jodie Gerhardt or from Rebecca Atkinson; I hope to get more thorough, accurate and thoughtful answers to our questions from the City of Palo Alto in the next week or so.

I am following up to get your estimate, Ms. French, of **when** I can expect such answers from the City of Palo Alto. As detailed at this web page, <http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>, Hammett and Edison wrote an email on 12/6/17, but the email **did not answer a single question**.

>>> On 12/6/17 @ 1:24 pm, Paul McGavin wrote:

The obvious follow up questions from your 12/6/17 email are these:

1. **When** can I expect answers to my important and as-yet-unanswered questions, listed below?
2. **Why should the City of Palo Alto continue** with its review of the Wireless 17PLN-0016 application in the 12/7/17 ARB meeting if the City of Palo Alto does not provide answers before the 12/7/17 ARB meeting?

I would appreciate your answers to **these two questions today, 12/6/17**.

I will look forward to hearing the timing estimate from you after you have checked in with your staff and directed your team's resources. I would also like to be alerted by email when the next ARB meeting is scheduled. The ARB vote today (5-0) was for a time-uncertain continuance.

This morning, I chose not to attend the ARB Hearing and watched the live stream on Channel 26, and heard the Verizon attorney say that Crown Castle -- the firm that proposed nine Crown Castle/Verizon so-called "Small Cell" cell towers in Piedmont, CA in and around Piedmont park and in residential zones -- is suing the City of Piedmont. I immediately fact-checked this and found the following :

Plaintiff: Crown Castle NG West LLC

Defendant: City of Piedmont and City Council of the City of Piedmont

Case Number: 4:2017cv06595

Filed: November 15, 2017

Court: California Northern District Court

Office: Oakland Office

Case assigned to Federal Court, to

Magistrate Judge Donna M. Ryu

Oakland Courthouse, Courtroom 4 - 3rd Floor

1301 Clay Street, Oakland, CA 94612

Apparently Crown Castle is suing Piedmont over eight of the nine proposed cell towers:

- The five cell towers that were denied
- Three of the four cell towers that were approved because these three were approved with conditions-of-approval: undergrounding the ancillary (non-antenna) equipment.

Not only does this seem like an extreme bullying tactic by Crown Castle for what was very much a "compromise": the City approved four of the nine applications with conditions of approval for undergrounding the ancillary (non-antenna) equipment for three of the cell towers.

This is relevant to Palo Alto because this morning the ARB voted 4-1 to require undergrounding of all ancillary (non-antenna) equipment. The key issue referenced by the Verizon attorney was that undergrounding in Piedmont caused so much noise (from cooling fans) that it violated the City's Noise ordinance -- which is, actually a **very easily-addressable issue**.

Check with any geek that you know who has ever built his/her own gaming PC with one of the latest graphics cards -- a rig that must address overheating. The geek has a choice to stick with smaller, high-rpm fans (**low cost, high noise**), larger, low-rpm fans (**mid-cost, mid-noise**) or liquid cooling/heat sinks (**high cost, no noise**), just like your car's radiator.

Liquid cooling and heat sinks is a simple noise solution for undergrounding ancillary equipment. Trust me. Verizon can afford it.

Solving the noise problem, however, doesn't solve the following remaining problems:

1. **Problem: Hazardous exposures** to pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation from these antennas which are unnecessarily too close to where people live and sleep. **Solution:** effective vertical and horizontal setbacks.
2. **Problem:** Allowing **24/7/365 operation** of antennas in residential zones. **Solution:** The City **can regulate** that the antennas operate only from 6:00 am to 6:00 pm, leaving residential neighborhoods free of RF/MW radiation during evening time and sleep time because it has been scientifically established that Radiofrequency Microwave (RF/MW) Radiation exposures cause sleep/healing problems by suppressing melatonin production in humans.
3. **Problem: Not monitoring in real-time** the power levels of these antennas. Over 15% of current cell towers operate at power levels that exceed FCC pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposure guidelines -- and there is no effective policing of these violations. **Solution:** The City **can regulate and monitor in real-time** that power density, measured as peak or instantaneous maximum does not

exceed what modern science is showing causes adverse biological reactions (i.e. no higher than 10 microwatts per square meter; 1 microwatt per square meter is sufficient to make a call/text). This can be achieved by requiring both vertical and horizontal setbacks and setting up real-time Radiofrequency Microwave (RF/MW) Radiation "thermometers-of-sorts" that report the results to a 24-hour-manned dashboard at the City of Palo Alto, equipped with City-controlled kill switches that are engaged whenever RF Microwave Radiation exceeds what Science determines are safe levels. This can be required as a condition for approval.

All of these effective solutions are allowed by the 1996 Telecommunications Act and the 2012 Spectrum Act. With all ancillary equipment undergrounded, Palo Alto would be better served by fewer antennas installed only in commercial areas **with antennas much higher -- at least 100 feet higher** than the highest floor where people live. Please consider these solutions in your next ARB hearing. Doing this would have the added benefit of not impeding Palo Alto's current program to underground all utilities and rid their streets of these unsightly utility poles.

Finally, Crown Castle and companies like them (who lease Wireless installations to Verizon, AT&T, T-Mobile and Sprint) are not acting as public utilities, because they are not serving all communities -- only the wealthy communities like Piedmont and Palo Alto. Therefore, these firms should not be offered the benefits of public utilities and should have their public utility status revoked, based on their current practices, such as suing Piedmont over their unwillingness to compromise or to solve simple noise and other engineering problems.

12/2/17 Questions Still Need Answers

A. I am still waiting for answers to the **following ten questions** that we understand from Amy French that **Jodie Gerhardt** will be answering:

>>> On 12/5/17 @ 4:02 pm, Paul McGavin wrote to Palo Alto City Planning Officials:

Q1: When can I expect the answers to the questions about the Hammett & Edison (H/E) postmortem analysis of the pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposures from the 19 Small Cells that were powered on in November, 2016? **No answer, as of 12/6/17 @ 10:30 am**

Q2: If these antennas were run at max power, what is the ERP coming out of the antennas and how much higher are the resulting RF Microwave Radiation exposures?

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French: The form and fee are required for each location, because each location will receive a separate decision letter. It may be some locations are appealed and others are not appealed.

McGavin: This can get pretty costly. This fee seems like an unnecessary barrier to due process, **Rebecca**, will you please provide the citation in Palo Alto Municipal code that provides a justification for this fee?

Q2: What RF Microwave radiation exposure data did the City of Palo Alto request from Hammet & Edison for the report/letter H/E completed on 6/8/17 about the 19-Small Cell project completed and turned on in downtown Palo Alto in November 2016?

French: I did not request this report you refer to and have not seen the report. Jodie was overseeing the project you refer to in this question. **Rebecca** may have a response on this question.

McGavin: As you took over for Jodie, it makes sense you may not be familiar with the Hammet and Edison report, but Jodie is familiar because I spoke to Jodie about the data the

City of Palo Alto needed before she started the project with Hammett and Edison. From **Rebecca**, Jodie and/or Hammett and Edison, I am still seeking an answer to this question.

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McGavin: Do you have an answer, **Rebecca**?

--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Subject: Wireless 17PLN-00169: Palo Alto Whitewashes RF Microwave Radiation Exposure Hazards -- Updated

From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>

Date: Thu, 07 Dec 2017 08:03:04 -0800

To: Gregory Scharff <greg.scharff@cityofpaloalto.org>, gregscharff@aol.com

CC: Tom DuBois <tom.dubois@cityofpaloalto.org>, Eric Filseth <eric.filseth@cityofpaloalto.org>, Adrian Fine <adrian.fine@cityofpaloalto.org>, Karen Holman <karen.holman@cityofpaloalto.org>, Liz Kniss <liz.kniss@cityofpaloalto.org>, Lydia Kou <lydia.kou@cityofpaloalto.org>, Greg Tanaka <greg.tanaka@cityofpaloalto.org>, Cory Wolbach <cory.wolbach@cityofpaloalto.org>, arb@cityofpaloalto.org, Amy French <amy.french@cityofpaloalto.org>, Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, Jim Fleming <jim.fleming@cityofpaloalto.org>

December 7, 2017

Mr. Gregory Scharff

Mayor, City of Palo Alto

250 Hamilton Avenue

Palo Alto, California 94301-2531

cc: Council Member Tom DuBois <tom.dubois@cityofpaloalto.org>

Council Member Eric Filseth <eric.filseth@cityofpaloalto.org>

Council Member Adrian Fine <adrian.fine@cityofpaloalto.org>

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ARB member Robert Gooyer <arb@cityofpaloalto.org>

ARB member Kim Kyu <arb@cityofpaloalto.org>

Amy French <amy.french@cityofpaloalto.org>

Ms. Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>

Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>

Jim Fleming <jim.fleming@cityofpaloalto.org>

Dear Mayor Scharff,

The following web page was updated with the 12/6/17 (lack of) answers provided by the City of Palo Alto.

Broadband Fail: Palo Alto Whitewashes RF Microwave Radiation Exposure Hazards

<http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

What appears on the web page, above and on this one

Palo Alto 4G Small Cells: An Extreme Health Hazard

<http://scientists4wiredtech.com/2017/04/palo-alto-4g-small-cells/>

... communicates critically important information for the Architectural Review Board and the Palo Alto City Council members to review **before** the ARB considers any design issues with respect to the so-called "Small Cell" cell towers in Palo Alto residential neighborhoods (Wireless 17PLN-00169).

Please also find attached Attorney 7/19/17 letter from attorney Harry Lehmann to the CA Assembly members that explains how melding private Wireless antennas onto public utility poles and light poles creates a **dangerous condition of public property** and **transfers the huge financial and uninsured liabilities** from Verizon Wireless to the local communities: the City of Palo Alto and its residents -- a potential financial catastrophe the City must consider

- <http://scientists4wiredtech.com/wp-content/uploads/2017/10/2017-0719-SB649-CA-Liability-Lehmann-to-Galehouse.pdf>
- <http://scientists4wiredtech.com/2017/10/gov-brown-be-smart-veto-sb649/#lehmann>
- 2017-0719-SB649-CA-Liability-Lehmann-to-Galehouse.pdf also attached to this email

Finally, the City Council and the ARB must realize that **nothing** in the 1996 Telecommunications Act limits or affects the authority of a State or local government from regulating the **operations** of personal communications services, including power output and hours of operation of these Wireless antennas (Wireless 17PLN-00169). When regulating the operations of personal communications services, the State or local government or instrumentality **can** consider environmental effects, including health effects. Read the law here:

<http://scientists4wiredtech.com/legislation/1996-federal-telecommunications-act-s-652/>

--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

— Attachments: —

2017-0719-SB649-CA-Liability-Lehmann-to-Galehouse.pdf

134 KB

Subject: Palo Alto Wireless 17PLN-00169: Questions and Solutions
From: Paul McGavin <paul.mcgvain@scientists4wiredtech.com>
Date: Thu, 07 Dec 2017 16:49:01 -0800
To: "French, Amy" <Amy.French@CityofPaloAlto.org>
CC: Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>

December 7, 2017

Dear Ms. French,

>>> On 12/7/17 @ 4:40 pm, Amy French wrote to Paul McGavin:

| I have forwarded the below email to Rebecca Atkinson for inclusion in the public file.

Do you usually treat members of the public this disrespectfully? Would you please address the timing for the answers to the questions?

>>> On 12/6/17 @ 1:24 pm, Paul McGavin wrote:

The obvious follow up questions from your 12/6/17 email:

1. **When** can I expect answers to my important and as-yet-unanswered questions, listed below?

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Paul McGavin

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skype: paulmcgavin

Subject: Re: Wireless 17PLN-0016: Unanswered Questions and Conflicts in Due Process/Due Diligence

From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>

Date: Wed, 06 Dec 2017 13:24:01 -0800

To: Amy French <amy.french@cityofpaloalto.org>

CC: Gregory Scharff <greg.scharff@cityofpaloalto.org>, gregscharff@aol.com, Tom DuBois <tom.dubois@cityofpaloalto.org>, Eric Filseth <eric.filseth@cityofpaloalto.org>, Adrian Fine <adrian.fine@cityofpaloalto.org>, Karen Holman <karen.holman@cityofpaloalto.org>, Liz Kniss <liz.kniss@cityofpaloalto.org>, Lydia Kou <lydia.kou@cityofpaloalto.org>, Greg Tanaka <greg.tanaka@cityofpaloalto.org>, Cory Wolbach <cory.wolbach@cityofpaloalto.org>, arb@cityofpaloalto.org, Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, Jim Fleming <jim.fleming@cityofpaloalto.org>

December 6, 2017

Ms. Amy French <amy.french@cityofpaloalto.org>

Planning Manager

City of Palo Alto

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Palo Alto, California 94301-2531

650-329-2336

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Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>

Jim Fleming <jim.fleming@cityofpaloalto.org>

Re: Wireless 17PLN-0016: Unanswered Questions and Conflicts in Due Process/Due Diligence

Will you please place this email/letter into the public record (both in the paper file and on the Palo Alto web site) for the current Small Cell applications for Palo Alto's residential zones (Wireless 17PLN-00169)?

I am writing following a 9:45 am call this morning with Rebecca Atkinson. While writing this, I

received your email, quoted below. I am asking you for your clarification about the due process and due diligence that the City of Palo Alto will follow with respect to the Wireless 17PLN-0016 application.

It seems that in addition to our Federal/State laws currently being in conflict, well-described by Dr. Ron Powell at the following link:

So-Called Small Cell Towers Are About Life and Death

<http://scientists4wiredtech.com/2017/11/dr-ron-powell-opposes-small-cell-towers/>

... the City of Palo Alto's due process and due diligence procedures with regards to the review of the Wireless 17PLN-0016 application also seem to be in conflict, as communicated in your email today, Ms. French, quoted below.

RF Microwave Radiation Exposures

It is one thing to agree to endure voluntary exposures to pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation, such as when one turns on a cell phone antenna, makes a call and then turns that antenna back off. When one does this, they experience an event that is a discrete, often short RF Microwave radiation exposure.

It is wholly a different thing to endure RF Microwave radiation exposures from the Wireless infrastructure far too close to homes -- from these so-called "Small Cell" cell towers installed on publicly-owned utility and light poles -- **which represents involuntary, forced RF Microwave radiation exposures 24/7/365 from the curb** -- where one lives, sleeps and heals, even if one is not a Verizon customer.

Melding private Wireless antennas on public property creates a **dangerous condition of public property** and **transfers the huge financial and uninsured liabilities** from Verizon Wireless to the local communities: the City of Palo Alto and its residents -- as fully explained here:

- <http://scientists4wiredtech.com/wp-content/uploads/2017/10/2017-0719-SB649-CA-Liability-Lehmann-to-Galehouse.pdf>
- <http://scientists4wiredtech.com/2017/10/gov-brown-be-smart-veto-sb649/#lehmann>

Conflicts in Due Process/Due Diligence

Therefore, it is a real problem that the City of Palo Alto's due process and due diligence procedures with regards to the review of the Wireless 17PLN-0016 application also **seems to be in conflict**, as communicated in your email today, Ms. French. Your email is another volley of **bureaucratic ping pong**: nice sounding responses with no real information.

>>> On 12/6/17 @ 10:15 am, French, Amy wrote to Paul McGavin:

Mr. McGavin,

City staff cannot answer your questions by tomorrow, because we have other pressing work. As Rebecca noted to you, we appreciate your comments and hope you will participate tomorrow at the ARB meeting. We'll look into your questions as our staff resources allow.

The obvious follow up questions from your email are these:

1. **When** can I expect answers to my important and as-yet-unanswered questions, listed below?
2. **Why should the City of Palo Alto continue** with its review of the Wireless 17PLN-0016 application in the 12/7/17 ARB meeting if the City of Palo Alto does not provide answers before the 12/7/17 ARB meeting?

I would appreciate your answers to **these two questions today**.

I am working politely and diligently to attempt to engage in a dialogue with the City of Palo Alto to provide the Palo Alto City Planning Officials, the Architectural Review Board and the City Council members with thorough and accurate data and analysis that will provide sufficient evidence for the City of Palo Alto to deny all so-called "Small Cell" cell tower applications in residential zones. This is similar evidence to the evidence that proved effective at changing the Senate vote on SB.649 in the CA Senate from 32-1 in May, 2017 to just **22-18** in September, 2017. It was this division in the Senate that gave Governor Brown the comfort to veto SB.649 in October, 2017.

<http://scientists4wiredtech.com/2017/10/gov-brown-be-smart-veto-sb649/>

We appreciate the professionalism of the Palo Alto City Planning Officials, but **we are stuck less** than 24 hours from the first of two ARB meetings without answers to the questions we posed over the weekend. We understand that it takes time for thorough answers and we would be happy to wait for the time needed, **if the review process of the Wireless 17PLN-00169** application **also stops**, until we get answers to the as-yet-unanswered questions.

Here are some problems:

1. Simultaneously, the City asks for more time to respond to questions and **still insists** on holding one of only two ARB Reviews of the Wireless 17PLN-0016 application on 12/7/17. Doing so disadvantages the public to be able to prepare the best testimony and bring the best evidence to the table, so the **City of Palo Alto can make the wisest decisions for its residents**.
2. It is also difficult for the residents of Palo Alto and others to appear at **8:30 am meetings**, which are scheduled during the work day. In Petaluma, where I live, all Planning Review meetings, and City Council meetings and School Board meetings are scheduled in the evenings, after the work day ends, to encourage and maximize the opportunities for public participation. Holding **only morning meetings** on the Wireless 17PLN-0016 application, will ensure that many members of the public will not be able to address their

government face-to-face on an issue which violates the Palo Alto residents' **inalienable rights to both privacy and safety**, as guaranteed by the CA Constitution and the US Constitution.

3. Finally, it seems inexplicable that the City of Palo Alto is requiring citizens to **pay \$280 x 15 towers = \$3,750** just to get this issue before the City Council, where it belongs. This policy discourages many Palo Alto residents' ability to face their government over an issue that violates their constitutional rights.

Here are some solutions:

I am making the following reasonable suggestions to align the stated intent of the City of Palo Alto (to encourage the public's participation in the review of the Wireless 17PLN-0016 application) with its actions.

1. **Postpone/continue** the planned 12/7/17 @ 8:30 am review of the Wireless 17PLN-0016 application **to 1/16/18 @ 7:00 pm**, which will give the City of Palo Alto sufficient time to address the important questions, listed below, and will enable more Palo Alto residents to participate in the review of this project.
2. Alternatively, direct your department's resources to answer the questions listed below by 5:00 pm on 12/6/17.
3. **Waive all fees** for appeal and send every application for So-Called "Small Cell" Cell Towers to the City Council to enable all Palo Alto residents (even those who cannot afford \$280 per proposed tower) to address their government face-to-face regarding projects that violate their constitutional rights

Ms. French, will you please respond today with your recommendations for either supporting or opposing these three reasonable solutions and your rationale for your position? Thank you.

I am also respectfully asking for answers to the following questions by the close of business today or asking for the City of Palo Alto to postpone/continue the Wireless 17PLN-0016 application until 1/16/18.

A. I am still waiting for answers to the **following ten questions** that we understand from Amy French that **Jodie Gerhardt** will be answering:

>>> On 12/5/17 @ 4:02 pm, Paul McGavin wrote to Palo Alto City Planning Officials:

Q1: When can I expect the answers to the questions about the Hammett & Edison (H/E) postmortem analysis of the pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposures from the 19 Small Cells that were powered on in November, 2016? **No answer, as of 12/6/17 @ 10:30 am**

Q2: If these antennas were run at max power, what is the ERP coming out of the antennas and how much higher are the resulting RF Microwave Radiation exposures?

Q3: What keeps Crown Castle/Verizon from turning up the power at will from 6 Watts to some higher setting between 6 and 2,400 Watts of input power?

Q4: Is the City of Palo Alto currently monitoring and regulating the operations of these antennas to ensure that they don't run hotter than the specs communicated to the public?

>>> On 12/2/17 @ 7:40 am, Paul McGavin wrote to Palo Alto Planning Officials:

Before we consider Mr. Hammett's 6/8/17 RF Microwave radiation exposure analysis and letter a misleading whitewash, will the City of Palo Alto please answer the following questions?

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?
- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation exposure measurements?
- **Q3:** Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period?
- **Q4:** Did you compare RF/MW radiation levels during different activities and at different times of day? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities:
 - **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole
 - **b:** While making a Verizon call
 - **c:** When sending/receiving a Verizon text
 - **d:** When streaming a video from the Verizon antenna
 - **e:** When downloading a software update from the Verizon antenna
- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading (a configuration option available on the NBM-520 Broadband Field Meter)?
- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings and compare to the average readings?

B. I am still waiting for answers to the **following six questions** that we understand from Amy French that **Rebecca Atkinson** will be answering:

>>> On 12/5/17 @ 4:02 pm, Paul McGavin wrote to Palo Alto City Planning Officials:

Q1: I read that appeals require a form and \$280 fee, but am not clear: would \$280 appeal all 15 towers or will it require \$280 x 15 towers = \$3,750, which seems like a **very high cost** for public due process?

French: The form and fee are required for each location, because each location will receive a separate decision letter. It may be some locations are appealed and others are not appealed.

McGavin: This can get pretty costly. This fee seems like an unnecessary barrier to due process, **Rebecca**, will you please provide the citation in Palo Alto Municipal code that provides a justification for this fee?

Q2: What RF Microwave radiation exposure data did the City of Palo Alto request from Hammet & Edison for the report/letter H/E completed on 6/8/17 about the 19-Small Cell project completed and turned on in downtown Palo Alto in November 2016?

French: I did not request this report you refer to and have not seen the report. Jodie was overseeing the project you refer to in this question. **Rebecca** may have a response on this question.

McGavin: As you took over for Jodie, it makes sense you may not be familiar with the Hammet and Edison report, but Jodie is familiar because I spoke to Jodie about the data the City of Palo Alto needed before she started the project with Hammett and Edison. From **Rebecca**, Jodie and/or Hammett and Edison, I am still seeking an answer to this question.

Q3: What is the City of Palo Alto's commitment to getting sufficient data from any RF Microwave radiation contractor to be able to accurately characterize the pre and post construction RF Microwave radiation exposure environment in Palo Alto where densified "Small Cells" have been or are planned to be installed? Having sufficient RF Microwave Radiation exposure data (**simple averages are not sufficient**) placed in the public record is critically important **before** any new "Small Cell" towers are approved for Palo Alto's residential zones.

French: I do not have an answer for this question. **Rebecca** may be able to respond to this question - or Jim Fleming if City Council had made past statements about City commitments.

McGavin: From **Rebecca**, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.

Q4: The 17PLN-00169 document reports "Environmental Assessment: Pending . . . The project is under review in accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the environmental regulations of the City.". Will you please describe the scope and timing required to complete this Environmental Assessment? What's the plan to complete this?

French: Basically, the City's consultants for this project are reviewing the submittal for compliance with the applicable codes, policies, requirements and regulations, to assist staff in making a CEQA determination. The consultants will also assist staff for additional submittals following the ARB meeting this Thursday. **Rebecca** may have more to add.

McGavin: What are the name of the consultants who are responsible for doing this work to ensure CEQA determination? **Rebecca**, will we be able to review this work before the 12/7/17 ARB meeting? Rebecca, do you have more to add?

Q5: The 17PLN-00169 document says "The applicant submitted a statement on maximum buildout within their project description, which is still under analysis." Is this complete? If not, when is the City of Palo Alto expecting this?

French: This is a question for **Rebecca**.

McGavin: Do you have an answer, **Rebecca**?

Q6: What specific real-life evidence (not projections/calculations) has the applicant provided to prove that there is a significant gap in Verizon coverage? Verizon coverage maps from

Verizon's web site are not sufficient for this purpose.

French: This is a question for **Rebecca**.

McGavin: Do you have an answer, **Rebecca**?

Thank your for your prompt attention to this matter.

--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Subject: Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis Were NOT Answered
From: Paul McGavin <paul.mcgvain@scientists4wiredtech.com>
Date: Wed, 06 Dec 2017 20:32:03 -0800
To: "Gerhardt, Jodie" <Jodie.Gerhardt@CityofPaloAlto.org>
CC: Gregory Scharff <greg.scharff@cityofpaloalto.org>, Tom DuBois <tom.dubois@cityofpaloalto.org>, Eric Filseth <eric.filseth@cityofpaloalto.org>, Adrian Fine <adrian.fine@cityofpaloalto.org>, Karen Holman <karen.holman@cityofpaloalto.org>, Liz Kniss <liz.kniss@cityofpaloalto.org>, Lydia Kou <lydia.kou@cityofpaloalto.org>, Greg Tanaka <greg.tanaka@cityofpaloalto.org>, Cory Wolbach <cory.wolbach@cityofpaloalto.org>, arb@cityofpaloalto.org, Amy French <amy.french@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, Jim Fleming <jim.fleming@cityofpaloalto.org>

December 6, 2017

Ms. Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>

Manager of Current Planning

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Palo Alto, California 94301-2531

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Jim Fleming <jim.fleming@cityofpaloalto.org>

Re: Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis Were NOT Answered

Dear Ms. Gerhardt,

Will you please place this email/letter into the public record (both in the paper file and on the Palo Alto web site) for the current Small Cell applications for Palo Alto's residential zones (Wireless 17PLN-00169)?

How is what Bill Hammett from Hammett & Edison (H/E) writes at all an answer to the following questions? Does he think this is a joke?

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?

McGavin: Not answered.

- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation exposure measurements?

McGavin: Not answered. I can only assume H/Ed did not measure for the full 30 minutes required by the FCC for each antenna.

- **Q3:** Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period?

McGavin: Not answered. I can only assume H/Ed did not take a datalog for any of the current 19 small cells which was an error either on H/E's part for not doing so or on the City of Palo Alto's part for not asking H/E to do so.

- **Q4:** Did you compare RF/MW radiation levels during different activities and at different times of day? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities:

McGavin: Not answered. I can only assume that H/E made only one average measurement for each antenna based on a nominally-short (how short?) and **non-FCC compliant** period of time. The data the City of Palo Alto received from Hammett & Edison are insufficient to accurately characterize the RF Microwave Radiation exposure environment in downtown Palo Alto.

- **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole **McGavin:** Not answered.
- **b:** While making a Verizon call **McGavin:** Not answered.
- **c:** When sending/receiving a Verizon text **McGavin:** Not answered.
- **d:** When streaming a video from the Verizon antenna **McGavin:** Not answered.
- **e:** When downloading a software update from the Verizon antenna **McGavin:** Not answered.

- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading (a configuration option available on the NBM-520 Broadband Field Meter)?

McGavin: Not answered. I can only assume H/E did not take any maximum instantaneous power/density RF/MW radiation readings, which was an error either on H/E's part for not doing so or on the City of Palo Alto's part for not asking H/E to do so.

- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings and compare to the average readings?

McGavin: Not answered. I can only assume H/E did not take any maximum instantaneous

power/density RF/MW radiation readings, so these comparisons are not possible with the insufficient data provided by H/E.

I would strongly suggest that the City of Palo Alto ask a different firm repeat the work, so they are able to answer the important questions, above.

This is not the first time we have encountered Hammett and Edison declining to provide reasonable answers to clarifying questions about their work. We will enter substantial information into the public record about previous substandard work performed by Hammett and Edison in 2016 -- and H/E's refusal to answer any clarifying questions about this work, which you can hear about here, which is already in the public record.

<https://youtu.be/CgldhZiA7jc>

I strongly suggest that the City of Palo Alto needs to look carefully at the methodology and the veracity of Hammett and Edison's work that was performed on behalf of the City of Palo Alto.

It is clear that we did not get answers in time for 12/7/17 ARB meeting from either you, Jodie, or from Rebecca Atkinson; we hope to get more thorough, accurate and thoughtful answers to our questions from the City of Palo Alto in the next week or so.

Please see my other comments below.

>>> On 12/6/17, Jodie Gerhardt wrote:

Mr. McGavin,

Given the quick turn around, below is the response H&E is able to give at this time.

Jodie

From: Bill Hammett [mailto:bhammett@h-e.com]

Sent: Wednesday, December 06, 2017 2:47 PM

To: Gerhardt, Jodie

Cc: Mail; French, Amy

Subject: Re: Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis

Jodie -

Thanks for sending along certain questions from Paul McGavin regarding the compliance certification we had prepared for the City of Palo Alto, dated June 9, 2017, for the network of low-power antennas on light poles constructed by Crown Castle. Mr. McGavin and I have already discussed these questions about our measurements.

McGavin: This is not true. I have never discussed with Bill Hammett the actual RF Microwave Radiation exposure measurements H/E made on behalf of the City of Palo Alto.

It is important to put this issue into proper context, since Mr. McGavin does not take

exception to our conclusion that the Verizon operations from these antennas are in compliance with the FCC standard limiting human exposure.

McGavin: The perspective is that Hammett is merely avoiding answering the questions. The important point is that there is much more to consider than "compliance with the FCC standard limiting human exposure" to accurately understand and evaluate the pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposures on the streets, sidewalks, parks and front yards in Palo Alto.

Instead, he argues that the federal standard itself is inadequate and that therefore permitting jurisdictions should use some other criteria for evaluating possible human health risk from such facilities.

McGavin: I am saying that the truth matters, regardless of which RF Microwave Radiation exposure guideline one chooses to follow.

However, as you know, federal law would prohibit that, as local jurisdictions are pre-empted from applying any standard tighter than what the FCC has adopted.

McGavin: This statement by Hammett is false. The 1996 Telecommunications act, the Federal law to which he is referring, says the following (my emphases in red):

<http://scientists4wiredtech.com/legislation/1996-federal-telecommunications-act-s-652/>

SEC. 704. FACILITIES SITING; RADIO FREQUENCY EMISSION STANDARDS.

(a) National Wireless Telecommunications Siting Policy. — Section 332(c) (47 U.S.C. 332(c)) is amended by adding at the end the following new paragraph:

(7) Preservation of local zoning authority. —

*(A) General authority. — Except as provided in this paragraph, nothing in this Act shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the **placement, construction, and modification** of personal wireless service facilities.*

(B) Limitations. —

(i) The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof —

(I) shall not unreasonably discriminate among providers of functionally equivalent services;
and

(II) shall not prohibit or have the effect of prohibiting the provision of personal wireless

services.

(ii) *A State or local government or instrumentality thereof shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time after the request is duly filed with such government or instrumentality, taking into account the nature and scope of such request.*

(iii) *<<NOTE: Records.>Any decision by a State or local government or instrumentality thereof to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.*

(iv) *No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.*

(v) *Any person adversely affected by any final action or failure to act by a State or local government or any instrumentality thereof that is inconsistent with this subparagraph may, within 30 days after such action or failure to act, commence an action in any court of competent jurisdiction. <<NOTE: Courts.>The court shall hear and decide such action on an expedited basis. Any person adversely affected by an act or failure to act by a State or local government or any instrumentality thereof that is inconsistent with clause (iv) may petition the Commission for relief.*

(C) *Definitions. — For purposes of this paragraph —*

(i) *the term 'personal wireless services' means commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services;*

(ii) *the term 'personal wireless service facilities' means facilities for the provision of personal wireless services; and*

(iii) *the term 'unlicensed wireless service' means the offering of telecommunications services using duly authorized devices which do not require individual licenses, but does not mean the provision of direct-to-home satellite services (as defined in section 303(v))."*

McGavin: Nothing in this 1996 TCA limits or affects the authority of a State or local government or instrumentality for regulating the **operations** of personal communications services, including power output and hours of operation of these Wireless antennas. When regulating the operations of personal communications services, the State or local government or instrumentality **can** consider environmental effects, including health effects. Read the law.

I hope that this is helpful information, should the Architectural Review Board consider this issue at its meeting tomorrow morning.

Regards,

Bill

Hammett & Edison, Inc. • Consulting Engineers
Regulatory Compliance Services for Wireless Telecommunications
RF Exposure, Noise, Interference & Coverage Studies
707/996-5200 office • 707/953-5200 cell

--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Subject: Re: Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis
From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>
Date: Wed, 06 Dec 2017 13:43:20 -0800
To: "Gerhardt, Jodie" <Jodie.Gerhardt@CityofPaloAlto.org>
CC: Amy French <amy.french@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>

Thank you. I am looking forward to receiving the answers.

Gerhardt, Jodie wrote:

Mr. McGavin,

I just spoke with Bill Hammett. He is working on answers to your questions, which we should have by the end of the day.



Jodie Gerhardt, AICP | Manager of Current Planning | P&CE Department
250 Hamilton Avenue | Palo Alto, CA 94301
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--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Attachments:

image.jpg

0 bytes

Subject: Wireless 17PLN-0016: Will You Please Provide Answers to These Questions Today?

From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>

Date: Tue, 05 Dec 2017 09:09:37 -0800

To: Amy French <amy.french@cityofpaloalto.org>

CC: Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, Russ Reich <russreich@cityofpaloalto.org>, Jim Fleming <jim.fleming@cityofpaloalto.org>, Amrutha Kattamuri <vkattamuri@yahoo.com>, Ann Yeawon <annyeawon@gmail.com>

December 5, 2017

Ms. Amy French <amy.french@cityofpaloalto.org>

Planning Manager

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cc: Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>

Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>

Russ Reich <russreich@cityofpaloalto.org>

Jim Fleming <jim.fleming@cityofpaloalto.org>

Amrutha Kattamuri <vkattamuri@yahoo.com>

Ann Yeawon <annyeawon@gmail.com>

Dear Ms. French,

Will you please place this email/letter into the public record for the current Small Cell applications for Palo Alto's residential zones (Wireless 17PLN-00169)?

I am following up with you at the request of Jodie Gerhardt with whom I spoke briefly last night. I am working with Palo Alto residents to prepare testimony and documents that we wish to enter into the public record at the 12/7/17 Palo Alto ARB meeting regarding the first phase of the 120+ so-called "Small Cell" cell towers planned for residential zones in Palo Alto.

I have a few procedural questions about this process from my first review of the project documents. I assume Rebecca Atkinson can answer most of the immediately following questions but I understand from Jodie that you, Ms. French, are the right person to answer the questions (highlighted in red, below): questions about the information needed to accurately characterize the pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposures from the 19-Small Cells project completed and turned on in downtown Palo Alto in November, 2016.

Questions for Rebecca Atkinson

1. With the following Architectural Review Board (ARB) Recommendations in the 2017-1207-Wireless 17PLN-00169.pdf (Tier 3 WCF - Vinculums/Verizon - Cluster 1 -- 1st Formal) I am confused about the **minimum process** needed to approve these cell towers

- "(1) conduct a public hearing and provide comments to the applicant
(2) continue the public hearing to January 18, 2018"
- Could the towers be approved, as is, after the 12/7/18 meeting, if there are no appeals?
 - Or, is a second ARB meeting on 1/18/18 **required** before approval, assuming no appeals?
 - I read that appeals require a form and \$280 fee, but am not clear: would \$280 appeal all 15 towers or will it require \$280 x 15 towers = \$3,750, which seems like a **very high cost** for public due process?
2. What RF Microwave radiation exposure data did the City of Palo Alto request from Hammet & Edison for the report/letter H/E completed on 6/8/17 about the 19-Small Cell project completed and turned on in downtown Palo Alto in November 2016?
3. What is the City of Palo Alto's commitment to getting sufficient data from any RF Microwave radiation contractor to be able to accurately characterize the pre and post construction RF Microwave radiation exposure environment in Palo Alto where densified "Small Cells" have been or are planned to be installed? Having sufficient RF Microwave Radiation exposure data (**simple averages are not sufficient**) placed in the public record is critically important **before** any new "Small Cell" towers are approved for Palo Alto's residential zones.
4. The 17PLN-00169 document reports "Environmental Assessment: Pending . . . The project is under review in accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the environmental regulations of the City.". Will you please describe the scope and timing required to complete this Environmental Assessment? What's the plan to complete this?
5. What is the best way for Palo Alto residents to enter into the public record substantial evidence that refutes the false statements in the 17PLN-00169 document? We have identified multiple significant false statements in the 17PLN-00169 document.
6. Does Palo Alto have/use a municipal code definition for "Colocation" that differs from Federal law? It seems that the term is being used differently in the 17PLN-00169 document than in the 1996 TCA or 2012 Spectrum Act.
7. Do you have any documents/video/public comment from the meeting described in the 17PLN-00169 document: "Verizon Wireless sent notices to owners and occupants within over six hundred feet (600') for a March 30, 2017 community meeting*, held at the Palo Alto Art Center. Community feedback was obtained and incorporated into the project prior to application submittal"?
8. The 17PLN-00169 document says "The applicant submitted a statement on maximum buildout within their project description, which is still under analysis." Is this complete? If not, when is the City of Palo Alto expecting this?

9. What specific real-life evidence (not projections/calculations) has the applicant provided to prove that there is a significant gap in Verizon coverage? Verizon coverage maps from Verizon's web site are not sufficient for this purpose.
10. How many minutes will each public speaker be given on 12/7/17? Is there a limit to how many can speak? Are there any restrictions for who can speak?

Questions for Amy French

Ms. French, I published the following analysis over the weekend after reviewing the 6/8/17 letter/RF Microwave Radiation exposure analysis by Hammett and Edison that Jodie sent me on Friday, last week.

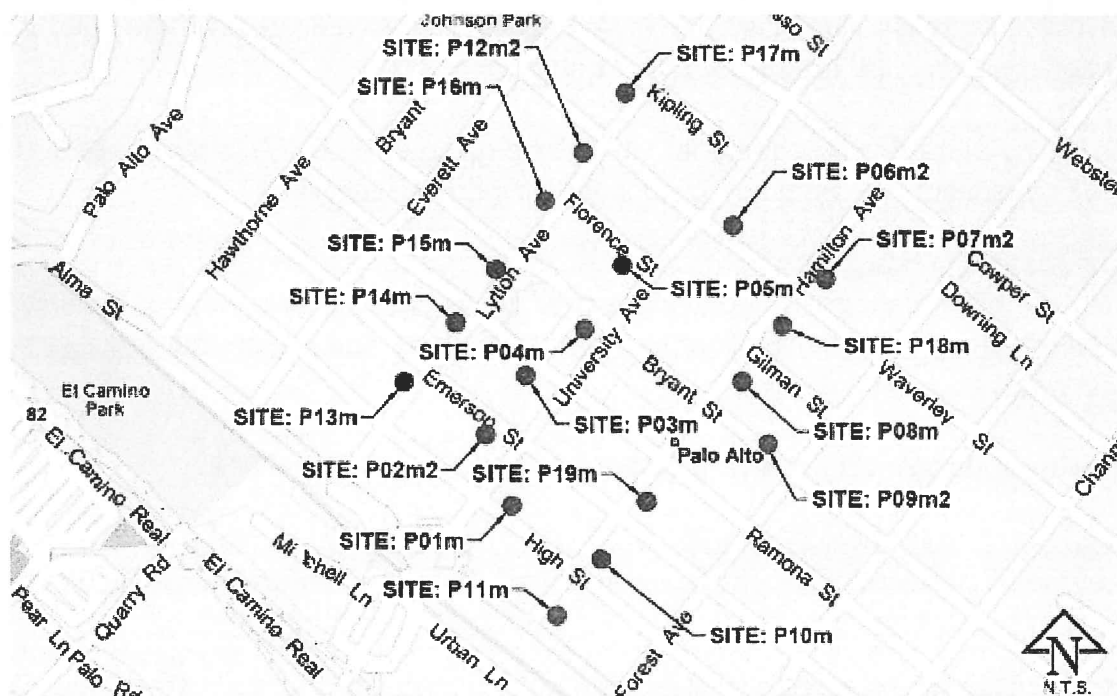
The following links are very relevant to Palo Alto project 17PLN-0016:

- <http://scientists4wiredtech.com/2017/12/nasa-engineer-letter-to-editor/>
- <http://scientists4wiredtech.com/regulation/rf-microwave-exposure-guidelines/>
- <http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

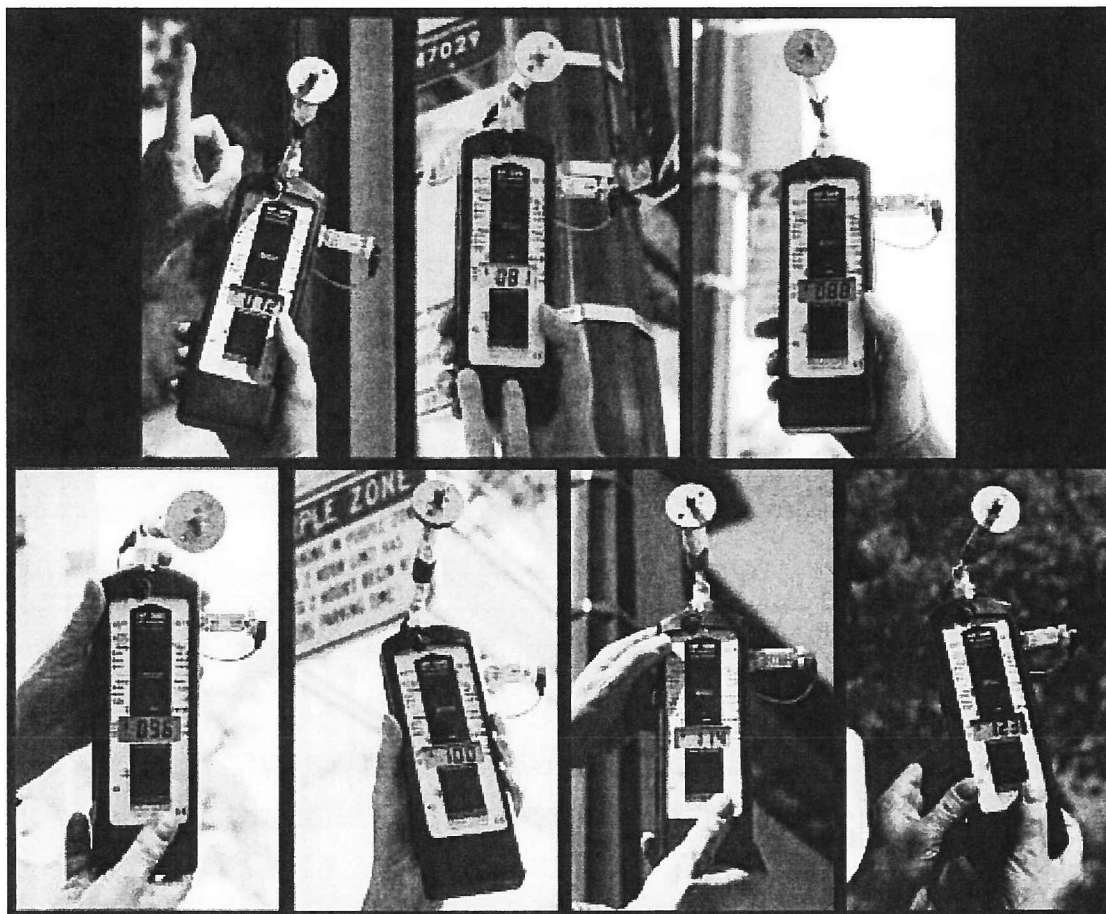
Before we consider Mr. Hammett's analysis and letter a misleading whitewash, will the City of Palo Alto please answer the following questions?

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?
- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation measurements?
- **Q3:** Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period?
- **Q4:** Did you compare RF/MW radiation levels during different activities and at different times of day? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities:
 - **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole
 - **b:** While making a Verizon call
 - **c:** When sending/receiving a Verizon text
 - **d:** When streaming a video from the Verizon antenna
 - **e:** When downloading a software update from the Verizon antenna
- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading (a configuration option available on the NBM-520 Broadband Field Meter)?
- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings compare to the average readings?

Comparison of Average vs. Peak RF Microwave Radiation Exposure Readings



The red dots on this map represent locations of 19 so-called "small cell" antennas that are **forcibly exposing** Palo Alto residents, workers and visitors to extremely hazardous levels of Radio-Frequency Microwave Radiation (RF/MW radiation) 24/7/365



The screen of the HF-59B meter (equipped with a DG20_G10 -20 dB attenuator) shows peak RF/MW radiation readings of 72,000 to 123,000 microwatts per square meter ($\mu\text{W}/\text{m}^2$) when standing on the sidewalk below the "Small Cells". Applying the correction factor for the high-speed, pulsed, digital signals of 4G/LTE, the peak levels of 4G/LTE RF/MW radiation are actually over 720,000 to 1,230,000 $\mu\text{W}/\text{m}^2$, per the GigaHertz Solutions' product manual and product video.

Tower	Address	Average by H/E	Peak on meter screen*	Peak is x higher
P01m	Across from 514 High Street	1,200 $\mu\text{W}/\text{m}^2$	123,000 $\mu\text{W}/\text{m}^2$	103x
P02m2	Across from 471 Emerson Street	900 $\mu\text{W}/\text{m}^2$	N/A	N/A
P03m	Across from 470 Ramona Street	540 $\mu\text{W}/\text{m}^2$	N/A	N/A
P04m	Across from 450 Bryant Street	960 $\mu\text{W}/\text{m}^2$	88,000 $\mu\text{W}/\text{m}^2$	92x
P05m	Across from 461 Florence Street	1,600 $\mu\text{W}/\text{m}^2$	96,000 $\mu\text{W}/\text{m}^2$	60x
P06m2	Across from 502 Waverley Street	1,900 $\mu\text{W}/\text{m}^2$	N/A	N/A
P07m2	400 Hamilton Avenue	5,000 $\mu\text{W}/\text{m}^2$	N/A	N/A
P08m	300 Hamilton Avenue	2,200 $\mu\text{W}/\text{m}^2$	N/A	N/A
P09m2	635 Bryant Street	4,000 $\mu\text{W}/\text{m}^2$	72,000 $\mu\text{W}/\text{m}^2$	18x
P10m	158 Hamilton Avenue	2,400 $\mu\text{W}/\text{m}^2$	N/A	N/A
P11m	100 Hamilton Avenue	2,600 $\mu\text{W}/\text{m}^2$	N/A	N/A
P12m2	379 Lytton Avenue	4,000 $\mu\text{W}/\text{m}^2$	N/A	N/A
P13m	181 Lytton Avenue	2,200 $\mu\text{W}/\text{m}^2$	81,000 $\mu\text{W}/\text{m}^2$	37x
P14m	245 Lytton Avenue	1,500 $\mu\text{W}/\text{m}^2$	N/A	N/A
P15m	265 Lytton Avenue	1,600 $\mu\text{W}/\text{m}^2$	114,000 $\mu\text{W}/\text{m}^2$	71x

Tower	Address	Average by H/E	Peak on meter screen*	Peak is x higher
P16m	325 Lytton Avenue	2,800 $\mu\text{W}/\text{m}^2$	N/A	N/A
P17m	437 Lytton Avenue	7,000 $\mu\text{W}/\text{m}^2$	N/A	N/A
P18m	380 Hamilton Avenue	1,700 $\mu\text{W}/\text{m}^2$	N/A	N/A
P19m	220 Hamilton Avenue	2,200 $\mu\text{W}/\text{m}^2$	100,000 $\mu\text{W}/\text{m}^2$	46x

- H/E = Hammett and Edison, RF Microwave Radiation readings reported on 6/8/17; read original here.
- $\mu\text{W}/\text{m}^2$ = microWatts per square meter; a microWatt is a millionth of a Watt and represents a **rate of exposure**, not total exposure over time.
- * Applying the correction factor for the high-speed, pulsed, digital signals of 4G/LTE, **the peak levels of 4G/LTE RF/MW radiation are 10x higher than what appears on screen**, per the GigaHertz Solutions' product manual and product video. The RF meter and the RF/MW Radiation specialist that completed these readings are detailed here.

In April 2017, a certified RF Microwave Radiation specialist completed accurate measurements of peak RF Microwave Radiation exposure levels using a precision instrument with a current certificate of calibration for the 19-Small-Cell Verizon/Crown Castle installation in downtown Palo Alto.

This work, we understand, resulted in the City of Palo Alto hiring Hammet and Edison (H/E) to complete a postmortem RF Microwave Radiation exposure assessment of these 19-Small-Cell Verizon/Crown Castle antennas.

Before the City embarked on this project, I spoke to Jodie Gerhardt, I believe, by phone and I encouraged her or someone else on the City of Palo Alto staff to get the following raw data from H/E, so the City could **accurately characterize the RF Microwave Radiation exposures in downtown Palo Alto**:

- **A data log** and plot of the power density of peak pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation, showing the actual peaks of RF/MW radiation over a 30 minute exposure for each so-called "Small Cell" antenna where people live and sleep near these microwave transmitters.
- **Both the peak and average readings** of the RF/MW Radiation emitting from these antennas during **different times of day**: 9:00 am, Noon, 3:00 pm, 6:00 pm, 9:00 am and 3:00 am
- RF/MW Radiation power density readings taken **both outdoors and indoors** where people walk, live and sleep.

Please read the following response to William Hammett's 6/8/17 letter, quoted below.

William Hammett Letter Begins

| June 8, 2017

Ms. Jodie Gerhardt
Manager of Current Planning
City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301-2531

Dear Jodie:

Thanks for accompanying me on the recent visit to the offices at 635 Bryant Street in Palo Alto, across the street from City Hall. As you requested, our visit on May 25 was to assess the actual RF exposure conditions in those offices from operation of the Crown Castle directional antenna mounted on the light pole on the sidewalk in front of the two-story office building.

We met there with two people, Mr. David Saul [the owner of the building] and Ms. Ellen Ehrenpreis [the tenant on the second floor], whose office was on the second floor and at the front of the building, closest to the antenna. Using our Narda Type NBM-520 Broadband Field Meter with Type EF-0391 Isotropic Broadband Electric Field Probe (Serial No. D-0454), under current calibration by the manufacturer, we measured a maximum level of 0.0001 mW/cm² attributed to the Crown Castle operation

Comment:

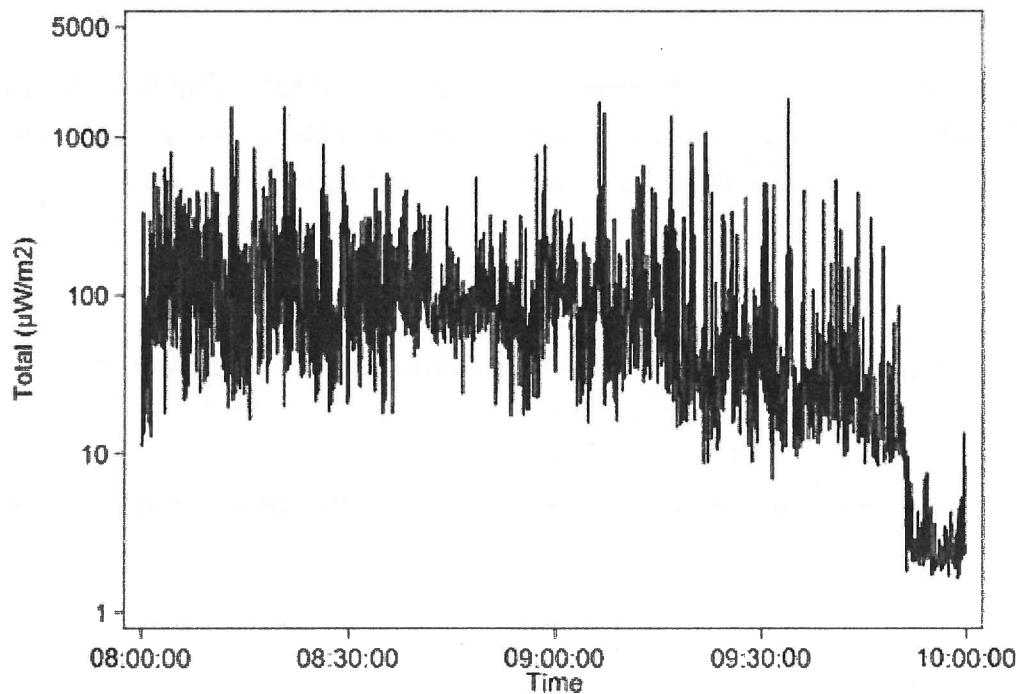
Google the following phrase: "**mW/cm² to μ W/m²**" and use the calculator that appears to convert the Wireless industry-speak RF Microwave Radiation unit, **mW/cm²** — to the unit most often used by scientists who do active research in this field, **μ W/m²**. Mr. Hammett, therefore, reports an **average of 1,000 μ W/m²**, which could be comprised of a series of RF Microwave Radiation micro-second peaks as high as **100,000 μ W/m²**, as demonstrated here:

- <http://responsibleipad.com/urgent.html>
- <http://responsibleipad.com/truth.html#truth>
- <https://www.frontiersin.org/articles/10.3389/fpubh.2017.00279/full>

Next, let's compare a range of **1,000 μ W/m² – 100,000 μ W/m²** to RF Microwave Radiation exposure guidelines that are based on current scientific research:

- <http://scientists4wiredtech.com/regulation/rf-microwave-exposure-guidelines/>
- **2016:** \$25 million, 16-year US Government NIEHS study: National Toxicology Program Carcinogenesis Studies of Radiofrequency Microwave Radiation
<http://biorxiv.org/content/biorxiv/early/2016/05/26/055699.full.pdf>
- **2016:** a study by Dr. Trevor Marshall, Electrosmog and Autoimmune Disease <https://link.springer.com/article/10.1007/s12026-016-8825-7>

- **2012:** BioInitiative Report <http://www.bioinitiative.org/conclusions/>
- **2011:** review by Yakymenko et al, Long-Term Exposure To Microwave Radiation Provokes Cancer Growth: Evidence From Radars And Mobile Communication Systems <http://exp-oncology.com.ua/wp/wp-content/uploads/2011/11/110.pdf>
- Measurements of Radiofrequency Radiation with a Body-Borne Exposimeter in Swedish Schools with Wi-Fi



BioInitiative, 2012: "A scientific benchmark of **30 µW/m²** for lowest observed effect level for RFR is based on mobile phone base station-level studies. Applying a ten-fold reduction to compensate for the lack of long-term exposure (to provide a safety buffer for chronic exposure) or for children as a sensitive subpopulation yields **a 3 to 6 µW/m² RF Microwave Radiation exposure guideline**"

Similar scientifically-based RF Microwave Radiation Exposure Guidelines are published by the **International Institute for Building-Biology & Ecology**

- <http://www.createhealthyhomes.com/richtwerte-2015-englisch.pdf>

No Hazard	Slight Hazard	Severe Hazard	Extreme Hazard
< 0.1 µW/m²	0.1 µW/m² to 10 µW/m²	10 µW/m² to 1000 µW/m²	> 1000 µW/m²

William Hammett Letter, Continues

this is some 10,000 times below the 1 mW/cm2 FCC public limit applying for exposures of unlimited duration. Therefore, compliance with the FCC standard is ensured for this location from the Crown

Castle antenna, as installed and operating at the time of our visit.

As you will recall, Ms. Ehrenpreis described an earlier visit by a third party, who used bulky equipment

Comment:

The bulky equipment to which Mr. Hammett refers is the following professional RF/MW Radiation precision instrument **with current calibration certificate**: Gigahertz HFW-58B RF Meter, which was also specified on the original page that reports the irrefutable results: <http://scientists4wiredtech.com/2017/04/palo-alto-4g-small-cells/>

William Hammett Letter, Continues

and reported levels as high as "1,230,000 microwatts per square meter ($\mu\text{W}/\text{m}^2$)," which would be 0.123 mW/cm² in the more standard nomenclature. That figure is more than 1,000 times higher than what our calibrated meter indicated, though that, too, would comply with the FCC limit.

Comment:

This is nonsense. Mr. Hammett is implying the GigaHertz Solutions meter was not calibrated and was used by a person who lacked the training to properly operate it. **Both of his implications are false.** Hammett then proceeds to compare Apples to Oranges, in an apparent attempt to mislead. A careful reading of

- <http://scientists4wiredtech.com/2017/04/palo-alto-4g-small-cells/>
- <http://scientists4wiredtech.com/2017/03/rfr-hazards/>

... clearly explains the following readings taken on 4/21/17 in Palo Alto at specific locations, with photos to document the careful work:

- **Site P09m2: Bryant/Hamilton Streets, across from City Hall**
- The screen of the HF-59B meter shows a peak RF/MW radiation reading of **38,000 $\mu\text{W}/\text{m}^2$** , while standing across the street, about 75 feet away from the "Small Cell". Applying the correction factor for high-speed pulsed digital signals (explained [here](#)), **the peak levels of 4G/LTE RF/MW radiation are actually over 380,000 $\mu\text{W}/\text{m}^2$** . This is an extreme health hazard.
- **Site P09m2: Bryant/Hamilton Streets, under the antenna**
- The screen of the HF-59B meter shows a peak RF/MW radiation reading of **72,000 $\mu\text{W}/\text{m}^2$** , while standing on the sidewalk beneath the "Small Cell". Applying the correction factor for high-speed pulsed digital signals (explained [here](#)), **the peak levels of 4G/LTE RF/MW radiation are actually over 720,000 $\mu\text{W}/\text{m}^2$** . This is an extreme health hazard.

- **Site P01m: High Street/University Avenue**

- The screen of the HF-59B meter shows a peak RF/MW radiation reading of **123,000 $\mu\text{W}/\text{m}^2$** , while standing on the sidewalk beneath the "Small Cell". Applying the correction factor for high-speed pulsed digital signals (explained [here](#)), **the peak levels of 4G/LTE RF/MW radiation are actually over 1,230,000 $\mu\text{W}/\text{m}^2$** . This is an extreme health hazard.

... no measurements are reported inside the second floor office, to accommodate Mr. David Saul's request. The web pages also clearly explain the following conclusions:

- <https://youtu.be/owCeCC6B69k?t=4m8s>
- **Dr. Paul Dart @ 5:35:** "From 1953 to 1978, the Russians beamed microwave radiation into the US Embassy and researchers found that the US embassy personnel had a statistically significant increase in depression, irritability, concentration problems, memory loss, ear problems, skin problems, vascular problems and other health problems. The longer they worked there, the worse these problems were likely to be . . . the exposure levels inside the building were measured at between **20,000 to 280,000 $\mu\text{W}/\text{m}^2$** "
- **Dr. Neil Cherry:** "A highly remarkable result is the dose-response relationship for a range of illnesses. Despite the small numbers, the lack of long latency period and dilutionary factors, the Lilienfeld data shows **significant increases in:**
 - Cardiac problems
 - Neurological and psychological symptoms
 - Altered blood cell counts
 - Increased chromosome aberrations, and
 - Elevated cancer in children and adults
 - Sickness increasing in a dose-response manner with years of residence"
- This irrefutable data in the public record and the scientifically-based RF/WM exposure guidelines from BioInitiative and the HBELC form the basis for concluding that peak RF/MW radiation levels measured on the streets of Palo Alto of **38,000 $\mu\text{W}/\text{m}^2$ to 1,230,000 $\mu\text{W}/\text{m}^2$** are an extreme health hazard. It is immaterial how these power density levels compare to any existing commercial/procedural guideline that the FCC adopted in August, 1996. **The damages continue no matter what the FCC adopted as a guideline.**

Think about it. Why, in 2017, are we still relying on a RF/MW radiation exposure guideline that was selected in 1996 and that is based on a scientifically invalidated and obviously outdated [1986 Review](#) of only declassified research through 1982? **This makes no sense.**

The world has learned a great deal about the hazards of RF Microwave radiation exposures since 1982 and we have troves of now-declassified military research upon which to rely. **The Wireless industry and the FCC are clinging to this "Emperor has no Clothes" RF/MW radiation exposure guideline because it leads to more profits for all in the Wireless industry, including Mr. Hammett.**

William Hammett Letter, Continues

I did speak on the phone with that person on my drive home that afternoon; he is not an engineer and, while he promised to provide the specifications for the equipment he used, has not yet done so.

The specifications for the equipment that the certified RF/MW radiation specialist used have been published at the following web page for all to read, long before Mr. Hammett completed his work and reported it on 6/8/17. Did Mr. Hammett not do his research?

- <http://scientists4wiredtech.com/2017/04/palo-alto-4g-small-cells/>

In any case, he discounts the FCC standard entirely, especially its measurement protocols.

Comment:

For the solid reasons, cited above, the measurements made and conclusions reached on 4/21/17 are accurate, despite what Mr. Hammett might be implying.

William Hammett Letter, Continues

Please let me know if any questions arise on the visit, our measurements, or the analysis.

Sincerely yours,

William F. Hammett

--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Attachments:

das-palo-alto-map.jpg	0 bytes
00-2017-0421.jpg	0 bytes
fig-04-fpubh-05-00279-g004.jpg	0 bytes

Subject: Re: Wireless 17PLN-0016: When Will You Please Provide Answers to These Questions?

From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>

Date: Tue, 05 Dec 2017 16:02:47 -0800

To: "Gerhardt, Jodie" <Jodie.Gerhardt@CityofPaloAlto.org>

CC: "French, Amy" <Amy.French@CityofPaloAlto.org>, "Atkinson, Rebecca" <Rebecca.Atkinson@CityofPaloAlto.org>, "Reich, Russ" <Russ.Reich@CityofPaloAlto.org>, "Fleming, Jim" <Jim.Fleming@CityofPaloAlto.org>, Amrutha Kattamuri <vkattamuri@yahoo.com>, Ann Yeawon <annyeawon@gmail.com>

Ms. Gerhardt,

>>> On 12/5/17, Jodie Gerhardt wrote to Paul McGavin:

Mr. McGavin,

Amy and I spoke and I will answer any questions you have regarding the two H&E reports on the existing/installed Crown Castle project. Amy and Rebecca will answer any questions you have about currently pending wireless projects.



Jodie Gerhardt, AICP | Manager of Current Planning | P&CE Department

250 Hamilton Avenue | Palo Alto, CA 94301

T: 650.329.2575 | E: jodie.gerhardt@cityofpaloalto.org

This sounds good to me. Please see my additional questions, below.

Q1: When can I expect the answers to the questions about the Hammett & Edison (H/E) postmortem analysis of the pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposures from the 19 Small Cells that were powered on in November, 2016?

One aspect of that project, which which I would like addressed by H/E or your other RF consultant is the **disconnect** about the power specs for these small cell antennas. ased on the Palo Alto planning docs <https://www.cityofpaloalto.org/civicax/filebank/documents/49415> ... the R/F analysis was completed based on just **6.3 watts of input** power which yields **97 Watts of Effective Radiated Power (ERP)** for each frequency (1,900 MHz and 2,100 MHz).

Each antenna is to be driven with a power input of 6.32 watts for an effective radiated power (ERP) of 97 watts in each of the two bands of operation. A summary of the main operations parameters is provided below in Table 1.

Transmitter Frequency Band	Maximum Power Input	Antenna Gain	Effective Radiated Power (ERP)	Horizontal Beamwidth	Vertical Beamwidth
1,900 MHz	6.32 watts	11.86 dBd (14 dBi)	97 watts	63 deg	18 deg
2,100 MHz	6.32 watts	11.86 dBd (14 dBi)	97 watts	61 deg	18 deg

Table 2 – Antenna Operating Parameters

... but the antennas used in these small cells can accept **much higher input powers** -- Why?

- 3 connectors x 500 Watts of input power for 700 MHz = **1500 Watts of input power**
- 3 connectors x 300 Watts of input power for 2100 MHz = **900 Watts of input power**
- **Total = 2,400 Watts of input power, outputs how much ERP?**

Q2: If these antennas were run at **max power**, what is the ERP coming out of the antennas and how much higher are the resulting RF Microwave Radiation exposures?

Q3: What keeps Crown Castle/Verizon from turning up the power at will from 6 Watts to some higher setting between 6 and 2,400 Watts of input power?

Q4: Is the City of Palo Alto currently monitoring and regulating the operations of these antennas to ensure that they don't run hotter than the specs communicated to the public?

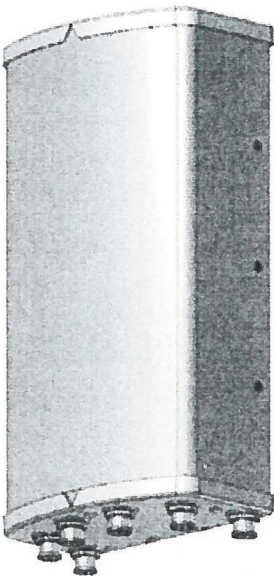
Antenna Spec for Palo Alto Antennas

HTXCWW63111414Fx00

Replace "x" with desired electrical downtilt

XXX-Pol | Tri Band FET Panel | 63° | 11.0 / 14.0 / 14.0 dBi

Electrical Characteristics	696-960 MHz		2 x 1710-2170 MHz		
Frequency bands (MHz)	696-806	806-960	1710-1880	1850-1990	1900-2170
Polarization	±45°		±45°		
Horizontal beamwidth	70°	65°	65°	63°	61°
Vertical beamwidth	37°	35°	18°	18°	18°
Gain	10.5 dBi	11.0 dBi	13.5 dBi	14.0 dBi	14.0 dBi
Electrical downtilt (x)	0		0		
Impedance	50Ω		50Ω		
VSWR	≤1.5:1		≤1.5:1		
Front-to-back ratio	> 25 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Isolation between ports	25 dB		> 25 dB		
Input power	500 W		300 W		
IM3 (2x20W carriers)	< -153 dBc		< -153 dBc		
Lightning protection	Direct Ground				
Connector(s)	6 Ports / 7/16 DIN / Female / Bottom				
Mechanical Characteristics					
Dimensions Length x Width x Depth	589 x 305 x 180 mm			23.2 x 12.0 x 7.1 in	
Weight without mounting brackets	5.9 kg			13 lbs	



--

Regards,

Paul McGavin
Scientists For Wired Technology
415-382-4040
skype: paulmcgavin

Attachments:

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Subject: Wireless 17PLN-0016: Will You Please Provide Answers to These Questions Today?

From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>

Date: Tue, 05 Dec 2017 12:17:46 -0800

To: "French, Amy" <Amy.French@CityofPaloAlto.org>, "Gerhardt, Jodie" <Jodie.Gerhardt@CityofPaloAlto.org>

CC: "Atkinson, Rebecca" <Rebecca.Atkinson@CityofPaloAlto.org>, "Reich, Russ" <Russ.Reich@CityofPaloAlto.org>, "Fleming, Jim" <Jim.Fleming@CityofPaloAlto.org>

December 5, 2017

Ms. Amy French <amy.french@cityofpaloalto.org>

Planning Manager

City of Palo Alto

250 Hamilton Avenue

Palo Alto, California 94301-2531

650-329-2336

Dear Ms. French,

Will you please place this email/letter into the public record (both in the paper file and on the Palo Alto web site) for the current Small Cell applications for Palo Alto's residential zones (Wireless 17PLN-00169)?

Thank you for your responses below. In response to your answers in red, I have provided additional comments, responses and questions in green and request that the **City of Palo Alto engage whichever parties are necessary to get answers to these important questions before the 12/7/17 ARB meeting**, which is less than 48 hours from now.

French: answer, such as "I do not know."

McGavin: additional response/question

I would hope that it is not the City of Palo Alto's intention to play **bureaucratic ping pong** with members of the public, including residents of Palo Alto. On Fri 12/1/17, Rebecca Atkinson responded to me at the end of the business day; she referred me to Jodie Gerhardt. I then wrote to Ms. Gerhardt on 12/2/17 and followed up by phone and email throughout the day on Mon 12/4/17. Ms. Gerhardt didn't return my emails or phone call on Monday, but I caught her by phone in her office at 5:30 pm; she referred me to you. . You now writing me that you are not familiar with the material, will not get the questions answered, so **will the City of Palo Alto please identify the responsible parties** and get them to answer these important questions today or tomorrow?

My suggestion would be for Jodie Gerhardt to contact Hammett & Edison, so they can provide thorough and accurate answers to these questions. At the moment, there is not sufficient evidence to know if H/E followed the proper procedures to accurately characterize the RF Microwave radiation exposure environment on the streets of Palo Alto. Knowing this information is critically important to determine if the City of Palo Alto has completed its due

diligence to discharge its duties to its residents with respect to previous so-called "Small Cell" projects in Palo Alto.

Thank you for following up and letting me know which parties will be answering the questions that you were not able to answer. See my other comments, responses and questions in green, below.

>>> On 12/5/17, Amy French, wrote to Paul McGavin:

Paul, thank you for the email. Please see my responses to your questions below in red. I have answered some of the questions you targeted for Rebecca. The questions you targeted for me I cannot answer as noted.

From: Paul McGavin [mailto:paul.mcgavin@scientists4wiredtech.com]

Sent: Tuesday, December 05, 2017 9:10 AM

To: French, Amy

Cc: Gerhardt, Jodie; Atkinson, Rebecca; Russ Reich; Fleming, Jim; Amrutha Kattamuri; Ann Yeawon

Subject: Wireless 17PLN-0016: Will You Please Provide Answers to These Questions Today?

December 5, 2017

Ms. Amy French <amy.french@cityofpaloalto.org>

Planning Manager

City of Palo Alto

250 Hamilton Avenue

Palo Alto, California 94301-2531

650-329-2336

cc: Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>

Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>

Russ Reich <russreich@cityofpaloalto.org>

Jim Fleming <jim.fleming@cityofpaloalto.org>

Amrutha Kattamuri <vkattamuri@yahoo.com>

Ann Yeawon <annyeawon@gmail.com>

Dear Ms. French,

Will you please place this email/letter into the public record for the current Small Cell applications for Palo Alto's residential zones (Wireless 17PLN-00169)?

French: Yes - I printed your email and placed the hard copy in the public file folder, which can be examined by the public at City Hall during business hours.

McGavin: Will you also ensure that all of my correspondence is also included in the online record. The easy way to do that is "print as pdf" and upload the email to the appropriate public comment spots on the City of Palo Alto web site.

I am following up with you at the request of Jodie Gerhardt with whom I spoke briefly last night. I am working with Palo Alto residents to prepare testimony and documents that we

wish to enter into the public record at the 12/7/17 Palo Alto ARB meeting regarding the first phase of the 120+ so-called "Small Cell" cell towers planned for residential zones in Palo Alto.

I have a few procedural questions about this process from my first review of the project documents. I assume Rebecca Atkinson can answer most of the immediately following questions but I understand from Jodie that you, Ms. French, are the right person to answer the questions (highlighted in red, below): questions about the information needed to accurately characterize the pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposures from the 19-Small Cells project completed and turned on in downtown Palo Alto in November, 2016.

Questions for Rebecca Atkinson

1. With the following Architectural Review Board (ARB) Recommendations in the 2017-1207-Wireless 17PLN-00169.pdf (Tier 3 WCF - Vinculums/Verizon - Cluster 1 -- 1st Formal) I am confused about the **minimum process** needed to approve these cell towers

"(1) conduct a public hearing and provide comments to the applicant

(2) continue the public hearing to January 18, 2018"

- o Could the towers be approved, as is, after the 12/7/18 meeting, if there are no appeals?

French: No - the project application cannot be acted on until after the second public ARB hearing. The continuance to January 18 (or to a date thereafter) will allow the applicant to modify the proposal based upon direction from the ARB this Thursday and to respond to public comments, and will allow staff to prepare draft findings for the ARB to review and for Director action following the second ARB hearing.

McGavin: Thank you. This is clear.

- o Or, is a second ARB meeting on 1/18/18 **required** before approval, assuming no appeals?

French: The second hearing on January 18 (or thereafter) **is required** for this first application by Vinculums; the application is not ready for action following the first hearing, given modifications under consideration and environmental review that is still underway.

McGavin: Thank you. This is clear.

- o I read that appeals require a form and \$280 fee, but am not clear: would \$280 appeal all 15 towers or will it require \$280 x 15 towers = \$3,750, which seems like a **very high cost** for public due process?

French: The form and fee are required for each location, because each location will receive a separate decision letter. It may be some locations are appealed and others are not appealed.

McGavin: This can get pretty costly. This fee seems like an unnecessary barrier to

due process, Rebecca, will you please provide the citation in Palo Alto Municipal code that provides a justification for this fee?

2. What RF Microwave radiation exposure data did the City of Palo Alto request from Hammet & Edison for the report/letter H/E completed on 6/8/17 about the 19-Small Cell project completed and turned on in downtown Palo Alto in November 2016?

French: I did not request this report you refer to and have not seen the report. Jodie was overseeing the project you refer to in this question. Rebecca may have a response on this question.

McGavin: As you took over for Jodie, it makes sense you may not be familiar with the Hammet and Edison report, but **Jodie is familiar** because I spoke to Jodie about the data the City of Palo Alto needed **before she started the project with Hammett and Edison**. From Rebecca, Jodie and/or Hammett and Edison, I am still seeking an answer to this question.

3. What is the City of Palo Alto's commitment to getting sufficient data from any RF Microwave radiation contractor to be able to accurately characterize the pre and post construction RF Microwave radiation exposure environment in Palo Alto where densified "Small Cells" have been or are planned to be installed? Having sufficient RF Microwave Radiation exposure data (**simple averages are not sufficient**) placed in the public record is critically important **before** any new "Small Cell" towers are approved for Palo Alto's residential zones.

French: I do not have an answer for this question. Rebecca may be able to respond to this question - or Jim Fleming if City Council had made past statements about City commitments.

McGavin: From Rebecca, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.

4. The 17PLN-00169 document reports "Environmental Assessment: Pending . . . The project is under review in accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the environmental regulations of the City.". Will you please describe the scope and timing required to complete this Environmental Assessment? What's the plan to complete this?

French: Basically, the City's consultants for this project are reviewing the submittal for compliance with the applicable codes, policies, requirements and regulations, to assist staff in making a CEQA determination. The consultants will also assist staff for additional submittals following the ARB meeting this Thursday. Rebecca may have more to add.

McGavin: What are the name of the consultants who are responsible for doing this work to ensure CEQA determination? Rebecca, will we be able to review this work before the 12/7/17 ARB meeting? Rebecca, do you have more to add?

5. What is the best way for Palo Alto residents to enter into the public record substantial evidence that refutes the false statements in the 17PLN-00169 document? We have identified multiple significant false statements in the 17PLN-00169 document.

French: You can provide comments by email or mail or in person, to include in the

public file.

McGavin: We will do both email and in-person public comments. Thank you for placing all of these communications in the public record, both in the paper file and online at the City of Palo Alto web site.

6. Does Palo Alto have/use a municipal code definition for "Colocation" that differs from Federal law? It seems that the term is being used differently in the 17PLN-00169 document than in the 1996 TCA or 2012 Spectrum Act.

French: The Palo Alto Municipal Code Chapter 18.42 Section 18.42.110 provides the definition for collocation (item 4). I have not compared the definition to the definition in the law to which you refer.

McGavin: I will make the comparison and point out the confusion so we are all working from the same definition for co-location.

7. Do you have any documents/video/public comment from the meeting described in the 17PLN-00169 document: "Verizon Wireless sent notices to owners and occupants within over six hundred feet (600') for a March 30, 2017 community meeting*, held at the Palo Alto Art Center. Community feedback was obtained and incorporated into the project prior to application submittal"?

French: The community meeting the applicant held was not a public hearing held by the City of Palo Alto, so there is no video documentation or minutes of the meeting.

McGavin: Too bad. So this was a private Verizon pre-sell/propaganda delivery meeting and, at this time, the public has no visibility into what was communicated at this meeting.

8. The 17PLN-00169 document says "The applicant submitted a statement on maximum buildout within their project description, which is still under analysis." Is this complete? If not, when is the City of Palo Alto expecting this?

French: This is a question for Rebecca.

McGavin: Do you have an answer, Rebecca?

9. What specific real-life evidence (not projections/calculations) has the applicant provided to prove that there is a significant gap in Verizon coverage? Verizon coverage maps from Verizon's web site are not sufficient for this purpose.

French: This is a question for Rebecca.

McGavin: Do you have an answer, Rebecca?

10. How many minutes will each public speaker be given on 12/7/17?

French: Typically, speakers have 3 minutes to speak. Depending upon the number of speakers, the ARB can reduce the time per speaker.

McGavin: Thank you. This is clear.

Is there a limit to how many can speak?

French: There is no limit to the number of people who can speak.

McGavin: Thank you. This is clear.

Are there any restrictions for who can speak?

French: There are no restrictions as to who can speak, just that the speaker addresses the ARB for the same project that is being heard (and not for an item that is not being heard at that time - so speakers should not speak to this item during the hearing of another item).

McGavin: Thank you. This is clear.

Questions for Amy French

Ms. French, I published the following analysis over the weekend after reviewing the 6/8/17 letter/RF Microwave Radiation exposure analysis by Hammett and Edison that Jodie sent me on Friday, last week.

The following links are very relevant to Palo Alto project 17PLN-0016:

- <http://scientists4wiredtech.com/2017/12/nasa-engineer-letter-to-editor/>
- <http://scientists4wiredtech.com/regulation/rf-microwave-exposure-guidelines/>
- <http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

Before we consider Mr. Hammett's analysis and letter a misleading whitewash, will the City of Palo Alto please answer the following questions?

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?

French: I do not know the answer to this question. I have not reviewed the report you refer to, which was prepared for a previous project for which Jodie provided management oversight. I became Rebecca's manager during the summer this year.

McGavin: From Rebecca, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.

- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation measurements?

French: I do not know.

McGavin: From Rebecca, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.

- **Q3:** Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period?

French: I do not know.

McGavin: From Rebecca, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.

- **Q4:** Did you compare RF/MW radiation levels during different activities and at different times of day? **French:** As above, I have not been involved in the above report.

McGavin: From Rebecca, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.

We all know that network traffic varies by activity and throughout the day. Specifically,

how did the average and peak readings compare during the following activities:

- **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole
 - **b:** While making a Verizon call
 - **c:** When sending/receiving a Verizon text
 - **d:** When streaming a video from the Verizon antenna
 - **e:** When downloading a software update from the Verizon antenna
- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading (a configuration option available on the NBM-520 Broadband Field Meter)?
French: As above, I have not been involved in the above report.
McGavin: From Rebecca, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.
- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings compare to the average readings?
French: As above, I have not been involved in the above report.
McGavin: From Rebecca, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.

--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Subject: Re: Wireless 17PLN-0016: Unanswered Questions and Conflicts in Due Process/Due Diligence

From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>

Date: Wed, 06 Dec 2017 13:24:01 -0800

To: Amy French <amy.french@cityofpaloalto.org>

CC: Gregory Scharff <greg.scharff@cityofpaloalto.org>, gregscharff@aol.com, Tom DuBois <tom.dubois@cityofpaloalto.org>, Eric Filseth <eric.filseth@cityofpaloalto.org>, Adrian Fine <adrian.fine@cityofpaloalto.org>, Karen Holman <karen.holman@cityofpaloalto.org>, Liz Kniss <liz.kniss@cityofpaloalto.org>, Lydia Kou <lydia.kou@cityofpaloalto.org>, Greg Tanaka <greg.tanaka@cityofpaloalto.org>, Cory Wolbach <cory.wolbach@cityofpaloalto.org>, arb@cityofpaloalto.org, Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, Jim Fleming <jim.fleming@cityofpaloalto.org>

December 6, 2017

Ms. Amy French <amy.french@cityofpaloalto.org>

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City of Palo Alto

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650-329-2336

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Council Member Lydia Kou <lydia.kou@cityofpaloalto.org>

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Council Member Cory Wolbach <cory.wolbach@cityofpaloalto.org>

ARB member Alexander Lew <arb@cityofpaloalto.org>

ARB member Peter Baltay <arb@cityofpaloalto.org>

ARB member Wynne Furth <arb@cityofpaloalto.org>

ARB member Robert Gooyer <arb@cityofpaloalto.org>

ARB member Kim Kyu <arb@cityofpaloalto.org>

Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>

Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>

Jim Fleming <jim.fleming@cityofpaloalto.org>

Re: Wireless 17PLN-0016: Unanswered Questions and Conflicts in Due Process/Due Diligence

Will you please place this email/letter into the public record (both in the paper file and on the Palo Alto web site) for the current Small Cell applications for Palo Alto's residential zones (Wireless 17PLN-00169)?

I am writing following a 9:45 am call this morning with Rebecca Atkinson. While writing this, I

received your email, quoted below. I am asking you for your clarification about the due process and due diligence that the City of Palo Alto will follow with respect to the Wireless 17PLN-0016 application.

It seems that in addition to our Federal/State laws currently being in conflict, well-described by Dr. Ron Powell at the following link:

So-Called Small Cell Towers Are About Life and Death

<http://scientists4wiredtech.com/2017/11/dr-ron-powell-opposes-small-cell-towers/>

... the City of Palo Alto's due process and due diligence procedures with regards to the review of the Wireless 17PLN-0016 application also seem to be in conflict, as communicated in your email today, Ms. French, quoted below.

RF Microwave Radiation Exposures

It is one thing to agree to endure voluntary exposures to pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation, such as when one turns on a cell phone antenna, makes a call and then turns that antenna back off. When one does this, they experience an event that is a discrete, often short RF Microwave radiation exposure.

It is wholly a different thing to endure RF Microwave radiation exposures from the Wireless infrastructure far too close to homes -- from these so-called "Small Cell" cell towers installed on publicly-owned utility and light poles -- **which represents involuntary, forced RF Microwave radiation exposures 24/7/365 from the curb** -- where one lives, sleeps and heals, even if one is not a Verizon customer.

Melding private Wireless antennas on public property creates a **dangerous condition of public property** and **transfers the huge financial and uninsured liabilities** from Verizon Wireless to the local communities: the City of Palo Alto and its residents -- as fully explained here:

- <http://scientists4wiredtech.com/wp-content/uploads/2017/10/2017-0719-SB649-CA-Liability-Lehmann-to-Galehouse.pdf>
- <http://scientists4wiredtech.com/2017/10/gov-brown-be-smart-veto-sb649/#lehmann>

Conflicts in Due Process/Due Diligence

Therefore, it is a real problem that the City of Palo Alto's due process and due diligence procedures with regards to the review of the Wireless 17PLN-0016 application also **seems to be in conflict**, as communicated in your email today, Ms. French. Your email is another volley of **bureaucratic ping pong**: nice sounding responses with no real information.

>>> On 12/6/17 @ 10:15 am, French, Amy wrote to Paul McGavin:

Mr. McGavin,

City staff cannot answer your questions by tomorrow, because we have other pressing work. As Rebecca noted to you, we appreciate your comments and hope you will participate tomorrow at the ARB meeting. We'll look into your questions as our staff resources allow.

The obvious follow up questions from your email are these:

1. **When** can I expect answers to my important and as-yet-unanswered questions, listed below?
2. **Why should the City of Palo Alto continue** with its review of the Wireless 17PLN-0016 application in the 12/7/17 ARB meeting if the City of Palo Alto does not provide answers before the 12/7/17 ARB meeting?

I would appreciate your answers to **these two questions today**.

I am working politely and diligently to attempt to engage in a dialogue with the City of Palo Alto to provide the Palo Alto City Planning Officials, the Architectural Review Board and the City Council members with thorough and accurate data and analysis that will provide sufficient evidence for the City of Palo Alto to deny all so-called "Small Cell" cell tower applications in residential zones. This is similar evidence to the evidence that proved effective at changing the Senate vote on SB.649 in the CA Senate from 32-1 in May, 2017 to just **22-18** in September, 2017. It was this division in the Senate that gave Governor Brown the comfort to veto SB.649 in October, 2017.

<http://scientists4wiredtech.com/2017/10/gov-brown-be-smart-veto-sb649/>

We appreciate the professionalism of the Palo Alto City Planning Officials, but **we are stuck less** than 24 hours from the first of two ARB meetings without answers to the questions we posed over the weekend. We understand that it takes time for thorough answers and we would be happy to wait for the time needed, **if the review process of the** Wireless 17PLN-00169 application **also stops**, until we get answers to the as-yet-unanswered questions.

Here are some problems:

1. Simultaneously, the City asks for more time to respond to questions and **still insists** on holding one of only two ARB Reviews of the Wireless 17PLN-0016 application on 12/7/17. Doing so disadvantages the public to be able to prepare the best testimony and bring the best evidence to the table, so the **City of Palo Alto can make the wisest decisions for its residents**.
2. It is also difficult for the residents of Palo Alto and others to appear at **8:30 am meetings**, which are scheduled during the work day. In Petaluma, where I live, all Planning Review meetings, and City Council meetings and School Board meetings are scheduled in the evenings, after the work day ends, to encourage and maximize the opportunities for public participation. Holding **only morning meetings** on the Wireless 17PLN-0016 application, will ensure that many members of the public will not be able to address their

government face-to-face on an issue which violates the Palo Alto residents' **inalienable rights to both privacy and safety**, as guaranteed by the CA Constitution and the US Constitution.

3. Finally, it seems inexplicable that the City of Palo Alto is requiring citizens to **pay \$280 x 15 towers = \$3,750** just to get this issue before the City Council, where it belongs. This policy discourages many Palo Alto residents' ability to face their government over an issue that violates their constitutional rights.

Here are some solutions:

I am making the following reasonable suggestions to align the stated intent of the City of Palo Alto (to encourage the public's participation in the review of the Wireless 17PLN-0016 application) with its actions.

1. **Postpone/continue** the planned 12/7/17 @ 8:30 am review of the Wireless 17PLN-0016 application **to 1/16/18 @ 7:00 pm**, which will give the City of Palo Alto sufficient time to address the important questions, listed below, and will enable more Palo Alto residents to participate in the review of this project.
2. Alternatively, direct your department's resources to answer the questions listed below by 5:00 pm on 12/6/17.
3. **Waive all fees** for appeal and send every application for So-Called "Small Cell" Cell Towers to the City Council to enable all Palo Alto residents (even those who cannot afford \$280 per proposed tower) to address their government face-to-face regarding projects that violate their constitutional rights

Ms. French, will you please respond today with your recommendations for either supporting or opposing these three reasonable solutions and your rationale for your position? Thank you.

I am also respectfully asking for answers to the following questions by the close of business today or asking for the City of Palo Alto to postpone/continue the Wireless 17PLN-0016 application until 1/16/18.

A. I am still waiting for answers to the **following ten questions** that we understand from Amy French that **Jodie Gerhardt** will be answering:

>>> On 12/5/17 @ 4:02 pm, Paul McGavin wrote to Palo Alto City Planning Officials:

Q1: When can I expect the answers to the questions about the Hammett & Edison (H/E) postmortem analysis of the pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposures from the 19 Small Cells that were powered on in November, 2016? **No answer, as of 12/6/17 @ 10:30 am**

Q2: If these antennas were run at max power, what is the ERP coming out of the antennas and how much higher are the resulting RF Microwave Radiation exposures?

Q3: What keeps Crown Castle/Verizon from turning up the power at will from 6 Watts to some higher setting between 6 and 2,400 Watts of input power?

Q4: Is the City of Palo Alto currently monitoring and regulating the operations of these antennas to ensure that they don't run hotter than the specs communicated to the public?

>>> On 12/2/17 @ 7:40 am, Paul McGavin wrote to Palo Alto Planning Officials:

Before we consider Mr. Hammett's 6/8/17 RF Microwave radiation exposure analysis and letter a misleading whitewash, will the City of Palo Alto please answer the following questions?

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?
- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation exposure measurements?
- **Q3:** Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period?
- **Q4:** Did you compare RF/MW radiation levels during different activities and at different times of day? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities:
 - **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole
 - **b:** While making a Verizon call
 - **c:** When sending/receiving a Verizon text
 - **d:** When streaming a video from the Verizon antenna
 - **e:** When downloading a software update from the Verizon antenna
- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading (a configuration option available on the NBM-520 Broadband Field Meter)?
- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings and compare to the average readings?

B. I am still waiting for answers to the **following six questions** that we understand from Amy French that **Rebecca Atkinson** will be answering:

>>> On 12/5/17 @ 4:02 pm, Paul McGavin wrote to Palo Alto City Planning Officials:

Q1: I read that appeals require a form and \$280 fee, but am not clear: would \$280 appeal all 15 towers or will it require \$280 x 15 towers = \$3,750, which seems like a **very high cost** for public due process?

French: The form and fee are required for each location, because each location will receive a separate decision letter. It may be some locations are appealed and others are not appealed.

McGavin: This can get pretty costly. This fee seems like an unnecessary barrier to due process, **Rebecca**, will you please provide the citation in Palo Alto Municipal code that provides a justification for this fee?

Q2: What RF Microwave radiation exposure data did the City of Palo Alto request from Hammet & Edison for the report/letter H/E completed on 6/8/17 about the 19-Small Cell project completed and turned on in downtown Palo Alto in November 2016?

French: I did not request this report you refer to and have not seen the report. Jodie was overseeing the project you refer to in this question. **Rebecca** may have a response on this question.

McGavin: As you took over for Jodie, it makes sense you may not be familiar with the Hammet and Edison report, but Jodie is familiar because I spoke to Jodie about the data the City of Palo Alto needed before she started the project with Hammett and Edison. From **Rebecca**, Jodie and/or Hammett and Edison, I am still seeking an answer to this question.

Q3: What is the City of Palo Alto's commitment to getting sufficient data from any RF Microwave radiation contractor to be able to accurately characterize the pre and post construction RF Microwave radiation exposure environment in Palo Alto where densified "Small Cells" have been or are planned to be installed? Having sufficient RF Microwave Radiation exposure data (**simple averages are not sufficient**) placed in the public record is critically important **before** any new "Small Cell" towers are approved for Palo Alto's residential zones.

French: I do not have an answer for this question. **Rebecca** may be able to respond to this question - or Jim Fleming if City Council had made past statements about City commitments.

McGavin: From **Rebecca**, Jodie, Jim and/or Hammett and Edison, I am still seeking an answer to this question.

Q4: The 17PLN-00169 document reports "Environmental Assessment: Pending . . . The project is under review in accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the environmental regulations of the City.". Will you please describe the scope and timing required to complete this Environmental Assessment? What's the plan to complete this?

French: Basically, the City's consultants for this project are reviewing the submittal for compliance with the applicable codes, policies, requirements and regulations, to assist staff in making a CEQA determination. The consultants will also assist staff for additional submittals following the ARB meeting this Thursday. **Rebecca** may have more to add.

McGavin: What are the name of the consultants who are responsible for doing this work to ensure CEQA determination? **Rebecca**, will we be able to review this work before the 12/7/17 ARB meeting? Rebecca, do you have more to add?

Q5: The 17PLN-00169 document says "The applicant submitted a statement on maximum buildout within their project description, which is still under analysis." Is this complete? If not, when is the City of Palo Alto expecting this?

French: This is a question for **Rebecca**.

McGavin: Do you have an answer, **Rebecca**?

Q6: What specific real-life evidence (not projections/calculations) has the applicant provided to prove that there is a significant gap in Verizon coverage? Verizon coverage maps from

Verizon's web site are not sufficient for this purpose.

French: This is a question for **Rebecca**.

McGavin: Do you have an answer, **Rebecca**?

Thank your for your prompt attention to this matter.

--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Subject: Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis
From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>
Date: Sat, 02 Dec 2017 07:40:43 -0800
To: Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>
CC: Amrutha Kattamuri <vkattamuri@yahoo.com>, Ann Yeawon <annyeawon@gmail.com>, Russ Reich <russreich@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, Jim Fleming <jim.fleming@cityofpaloalto.org>

December 2, 2017

Ms. Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>
Manager of Current Planning
City of Palo Alto
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Palo Alto, California 94301-2531

cc: Russ Reich <russreich@cityofpaloalto.org>
Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>
Jim Fleming <jim.fleming@cityofpaloalto.org>
Amrutha Kattamuri <vkattamuri@yahoo.com>
Ann Yeawon <annyeawon@gmail.com>

Will you please place this email/letter into the public record for the current Verizon and AT&T Small Cell applications for Palo Alto's residential zones?

I received the two documents yesterday (both attached) from Ms. Gerhardt and read them. Before we consider Mr. Hammett's 6/8/17 RF Microwave radiation exposure analysis and letter a misleading whitewash, will the City of Palo Alto please answer the following questions?

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?
- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation exposure measurements?
- **Q3:** Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period?
- **Q4:** Did you compare RF/MW radiation levels during different activities and at different times of day? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities:
 - **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole
 - **b:** While making a Verizon call
 - **c:** When sending/receiving a Verizon text
 - **d:** When streaming a video from the Verizon antenna
 - **e:** When downloading a software update from the Verizon antenna
- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading (a

configuration option available on the NBM-520 Broadband Field Meter)?

- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings and compare to the average readings?

I will follow up with you on Monday morning. The rest of my response is here:

<http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

--

Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Attachments:

2017-0608-HE-Palo-Alto-Small-Cell-Compliance-Report.pdf

2.5 MB

2017-0608-HE-to-Gerhardt-Letter.pdf

199 KB

Subject: Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis
From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>
Date: Sat, 02 Dec 2017 07:40:43 -0800
To: Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>
CC: Amrutha Kattamuri <vkattamuri@yahoo.com>, Ann Yeawon <annyeawon@gmail.com>, Russ Reich <russreich@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, Jim Fleming <jim.fleming@cityofpaloalto.org>

December 2, 2017

Ms. Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>
Manager of Current Planning
City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301-2531

cc: Russ Reich <russreich@cityofpaloalto.org>
Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>
Jim Fleming <jim.fleming@cityofpaloalto.org>
Amrutha Kattamuri <vkattamuri@yahoo.com>
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Regards,

Paul McGavin

Scientists For Wired Technology

415-382-4040

skype: paulmcgavin

Attachments: _____

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2017-0608-HE-to-Gerhardt-Letter.pdf	199 KB

Subject: RF Microwave Radiation Exposures From So-Called "Small Cell" Antennas in Palo Alto

From: Paul McGavin <paul.mcgavin@scientists4wiredtech.com>

Date: Fri, 01 Dec 2017 09:38:50 -0800

To: Russ Reich <"Russ Reich"@cityofpaloalto.org>, Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>, Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, Jim Fleming <jim.fleming@cityofpaloalto.org>

CC: Amrutha Kattamuri <vkattamuri@yahoo.com>, Ann Yeawon <annyeawon@gmail.com>

December 1, 2017

To: Russ Reich <russreich@cityofpaloalto.org>, 650.617.3119

Jodie Gerhardt <jodie.gerhardt@cityofpaloalto.org>, 650.617.3xxx

Rebecca Atkinson <rebecca.atkinson@cityofpaloalto.org>, 650.617.3xxx

Jim Fleming <jim.fleming@cityofpaloalto.org>, 650.617.3xxx

Re: RF Microwave Radiation Exposures From So-Called "Small Cell" Antennas in Palo Alto

Russ Reich and I spoke about a year ago and I was able to speak to Rebecca Atkinson last evening. Thank you, Rebecca for all of the helpful links, I have reviewed many of the links and want to read more about these applications.

Rebecca told me that Jodie Gerhardt managed Hammet and Edison's postmortem analysis of pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation exposures from the 19-Small Cell installation that was powered on on November 2016. It is this report that I seek to review.

>>> On 11/30/16, Paul McGavin wrote:

Yesterday late in the day, **Russ Reich**, Planning Manager, City of Palo Alto Development Services (285 Hamilton Avenue, Palo Alto, CA 94301) returned my call me from his landline. We talked for 30 minutes or so about access to public records at Palo Alto City Hall, about the hazards of Microwave Radio-Frequency Radiation (RFR) and about how so called "Small Cells" make things worse by bringing antennas closer to people. He listened to me and provided some good information:

- There is no need for a CA Public Records Act requests from Palo Alto, according to Russ, because the application records are open for public inspection at City Hall: either in paper form or in digital form, once the applications have been scanned into their document system (there is a computer there for people to search for the records)
- The Crown Castle application for the 19-Small-Cell **Verizon/Crown Castle** installation -- a project that started in April 2015; the work has now been completed and the final construction permit was approved by Palo Alto on 11/10/16. He says Crown Castle is planning another large DAS application for Palo Alto right now
- Similar applications for AT&T DAS systems have already been approved and construction completed in the Palo Alto residential neighborhoods in 2014-2016. Therefore, one

need to inspect these applications from 11/1/2014 to the present.

I read last night on the City of Palo Alto web site:

"The City wrote a letter urging the Governor to veto SB 649, which attempted to further limit local government discretion over such installations"

As background, I worked six months full-time for and was instrumental in opposing SB.649 and securing Governor Brown's veto to SB.649: <http://scientists4wiredtech.com/2017/10/gov-brown-be-smart-veto-sb649/>

- The Governor heard opposition from many groups that were very dedicated to defeating this bill, including from over 300 CA Cities and a majority of CA counties
- His staff was made well-aware of the downsides of SB.649 for six months
- I was able to speak directly with Governor Brown at the Community meeting in Santa Rosa on 10/14/17 (about the CA Fires) 24 hours before he made his veto decision; we discussed how Small Cells would be a fire hazard and how the Wireless alert systems failed to warn Californians, while the Wireline reverse-911 calls worked on traditional copper landlines to warn Californians (we have about 250 dead/missing in Sonoma County alone)

In addition, both your **State Senator Jerry Hill** and Governor Jerry Brown evaluated the evidence at the links below and voted against SB.649

- <http://scientists4wiredtech.com/2017/03/rfr-hazards/>
- <http://scientists4wiredtech.com/2017/04/palo-alto-4g-small-cells/>

As detailed at this last link, in April 2017, I worked with a certified RF Microwave Radiation specialist to document his accurate measurements of peak RF Microwave Radiation exposure levels from the 19-Small-Cell **Verizon/Crown Castle** installation in downtown Palo Alto.

This work, I understand, resulted in the City of Palo Alto hiring Hammet and Edison (H/E) to complete a post-construction RF Microwave Radiation exposure assessment of these 19-Small-Cell Verizon/Crown Castle antennas. Before the City embarked on this project, I spoke to Jodie Gerhardt, I believe, and I encouraged her or someone else on the City of Palo Alto staff to get the following raw data from H/E, so you could accurately characterize the RF Microwave Radiation exposures in downtown Palo Alto:

- **A data log** and plot of the power density of peak pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation, showing the actual peaks of RF/MW radiation over a 30 minute exposure **for each** so-called "Small Cell" antenna where people live and sleep near these microwave transmitters.
- **Both the peak and average levels** of the RF/MW Radiation emitting from these antennas

during different times of day: 9:00 am, Noon, 3:00 pm, 6:00 pm, 9:00 am and 3:00 am

- RF/MW Radiation power density readings taken **both outdoors and indoors** where people walk, live and sleep.

Immediate Requests

1. I wish to review the Hammet and Edison report to assess its accuracy and completeness. If the H/E report is on the City's web site, will you please provide the link to the report? After searching, I could not find it.
2. If the H/E report is not on the web site, will you please email it and publish the report on the City's web site?

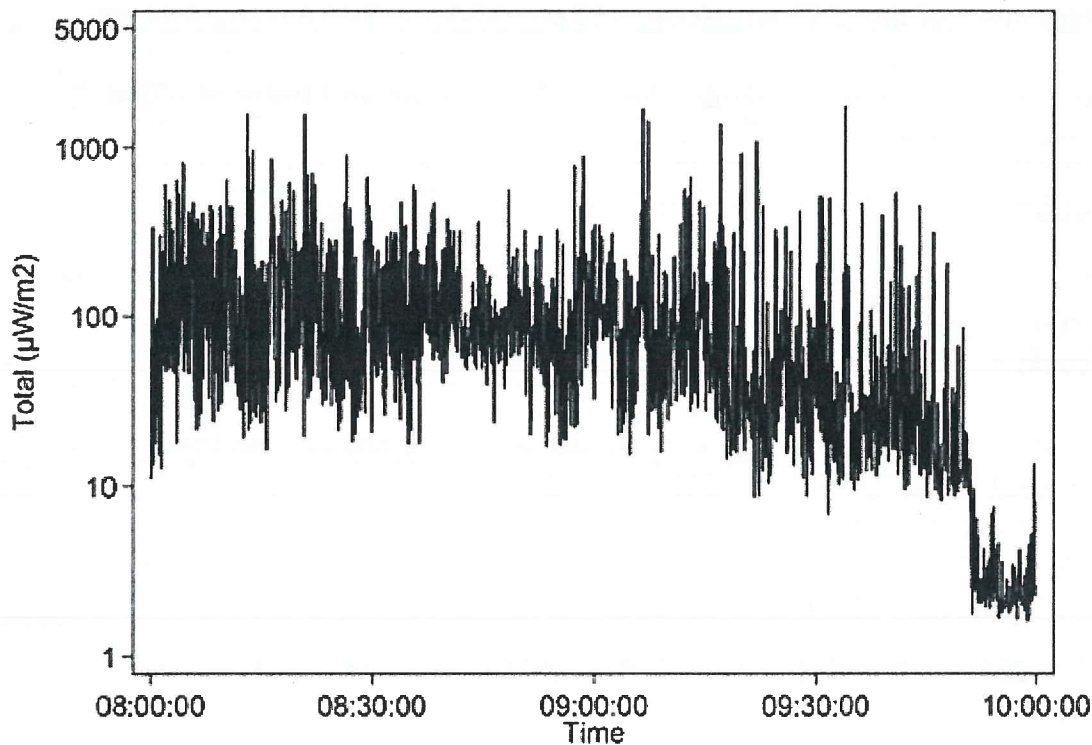
Why this is Important

As you can learn from this recently study published by:

- Lennart Hardell, Department of Oncology, Faculty of Medicine and Health, University Hospital, Örebro, Sweden
- Michael Carlberg, Department of Oncology, Faculty of Medicine and Health, University Hospital, Örebro, Sweden
- Tarmo Koppel, Department of Work Environment and Safety, Tallinn University of Technology, Tallinn, Estonia
- Lena K. Hedendahl, Independent Environment and Health Research Lulea, Sweden

Measurements of Radiofrequency Radiation with a Body-Borne Exposimeter in Swedish Schools with Wi-Fi

<https://www.frontiersin.org/articles/10.3389/fpubh.2017.00279/full>



"The often short duty cycle in [Wireless] networks can give **low-average** measured values but **still consist of high peaks** . . . The different modulations result in signals with different spectral characteristics within the channel for the device. If these modulations would be shown to be important variables in accessing risk, the need for RF radiation protection would probably change.

The **maximum values could be high** when connecting to mobile phone base stations outside of the school building, up to 82,857.3 μW/m² usually from uplink from GSM 1800, 3G or 4G.

. . . Downloading large files and stream videos . . . will give high exposure to RF Microwave radiation. In contrast, surfing on the Internet or working mostly on already downloaded programs gives lower exposure. The RF Microwave radiation could be **minimized by using wired connections**.

Reducing children's exposure to RF radiation [at home or school] would require **removing mobile phone base station antennas from adjacent buildings [or rights of way]**. In case of finding locations for new schools, these should be located away from the mobile phone base stations."

Next, Learn about modulation and RF/MW Microwave Radiation Exposures

LTE Architecture Basics (4G) - Introduction

<https://www.youtube.com/watch?v=1j4UwsdD9Qs>

Fundamentals of 4G/LTE: OFDM/ OFDMA

<https://www.youtube.com/watch?v=rKy5dOI3Et4>

Please understand that the Federal RF/MW radiation guidelines are only commercial/procedural guidelines, **not safety guidelines**, as often described by the Wireless industry

- <http://scientists4wiredtech.com/regulation/rf-microwave-exposure-guidelines/>

I need to review the H/E report as soon as possible in order to prepare my substantial evidence/testimony in opposition to the current applications for additional, unnecessary So-Called "Small Cell" Antennas in Palo Alto's residential zones.

Thank you for your attention to this time-sensitive matter.

--

Regards,

Paul McGavin

InterSight, Inc.

415-382-4040

skype: paulmcgavin

Attachments:

fig-04-fpubh-05-00279-g004.jpg

0 bytes

Harry Vere Lehmann
Principal Attorney

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Novato, California 94947

Area Code 415
Telephone: 897-2121
Facsimile: 898-6959

Via fax: 916-319-2181

August 24, 2017

The Hon. Assemblymember Lorena Gonzalez-Fletcher, District 80
Chair, Assembly Appropriations Committee,

Care Of: Ms. Jennifer Galehouse, Deputy Chief Consultant
Assembly Appropriations Committee

RE: Due to multi-axial EMF crossfire, SB 649 will disproportionately injure
the poor, in District 80, and in the rest of urban and suburban California.

Dear Assemblymember Gonzalez-Fletcher:

Due to multi-axial overlapping signal saturation, if SB 649 is enacted as intended, the negative health consequences will fall disproportionately upon the poor. Below are relevant factors supporting this fact:

1. One goal of installing 50,000 new cellular distribution antennas is that 5G customers will be able to receive the digital entertainment now provided by cable through the 5G network.
2. The cellular broadcast signals from these incorrectly-labeled 'small cell,' microwave transmitters are not cohesive, but rather spherical; not like a laser, more like a lightbulb.
3. With the 5G approach a single local microwave broadcast antenna can carry many different programs simultaneously.
4. When non-coherent broadcasts are from the same or nearby towers, their signals will overlap, think of overlapping 3D Venn Diagrams, or like a yard lit by lights of many different colors from the same pole.
5. It is therefore unavoidable that such differing signals from the same (or separate and nearby local) 'small cell' 5G antennas will overlap.
6. The result of overlapping of non-coherent radio-frequency broadcasts is expanded signal concentration, **with an increase in received signal density proportional to the proximity of recipient sites to each other.**

7. Anyone familiar with the lives of our more recently arrived Hispanic residents knows that their living situations tend to be more dense than the density experienced by financially secure residents. People of all races who live in assisted circumstances are in the same situation: The square footage in apartment units is proportional to what can be afforded.
8. For example, if on any given evening at 8 p.m. there are 16 units in an apartment building, and each one is viewing 5G digital entertainment, ***then all 16 units will be saturated from each of the non-coherent broadcasts being made from the 'small cell' antenna(s) involved.***
9. While there will also be increased signal density in apartments occupied by well-to-do residents, the radiation saturation experienced by the poor will be greater, because the units are closer together.
10. Poorer residents, in addition to living in more tightly packed units, due to financial circumstance will sometimes live with more people in each unit than the well-to-do. With 5G entertainment, an increase in people using tablets in any given also increases saturation density.
11. Well established science already supplied to Appropriations shows that cellular radiofrequency non-ionizing radiation causes harm to the human biological system, including glioblastoma, and that this harm is caused in part by breakage of the DNA molecule strands as well as disruption of cellular calcium ion utilization. Even 'ordinary' single unit cellular phones will cause a kill-off of 50% of the sperm in a male who keeps a cellular device in his front pants pocket. A recent Israeli study showed a kill-rate at 47%. The poor will be hurt worse than people who live in single family homes far from the streets.

The above noted effects are not tied to race but they ***are*** tied to money and resulting density of occupation. People who are living in the most congested circumstances will experience far greater levels of signal density. My father was a truly great man who worked as a school custodian in his later years and I was working full time in a restaurant while a freshman in high school. I am glad to still see the world in many ways with the eyes of a person from the serving classes. This is a time when each of us, regardless of background, should recognize that the deployment of so-called 'small cell' 5-G will hurt the poor more than the rich. As a lawyer and as CEO of Green Swan, our advocacy company, I volunteer to debate this with whatever lawyer the telecom industry wishes to sacrifice for that process.

Very truly yours,



Harry V. Lehmann, as a lawyer
and as CEO of Green Swan, Inc.

Harry Vere Lehmann
Principal Attorney

Law Offices of Harry V. Lehmann PC
4 Vineyard Court
Novato, California 94947

Area Code 415
Telephone: 897-2121
Facsimile: 898-6959

August 10, 2017

Ms. Jennifer Galehouse, Deputy Chief Consultant
Assembly Appropriations Committee
State Capitol, Room 2114
Sacramento, CA 95814
Via fax: 916-319-2181 &
Original via Federal Express

Dear Ms. Galehouse-

I was recently asked to comment on the following issue: "Assuming the liability of the subordinate agencies such as the counties and cities has been established, does this mean that the State of California will have liability for damages resulting from the installation of the same antennas which led to the county and municipal liability?" I would gladly meet with you and answer, to the best of my ability, any question that you might have, without any limitation. In the meantime this will letter will provide a skeletal overview of the many reasons why California will remain liable for injuries and damages, including to the cities themselves, if SB-649 were to be signed into law.

I decided in 2009 to devote a substantial portion of my days time to wherever my skills could do the most good for the largest number of people. Having been invited to attend by the epidemiologist Dr. Devra Davis, I attended the International EMF Conference in Stavanger, Norway, in late November of 2009. As a result of my background and request, at Stavanger I was allowed credentialed access at will to the presenting scientists, and later allowed to travel by sea ferry with them and lodge in mountains over Bergen. From scientific insights received from this experience, I concluded that my remaining time would be most efficiently spent fighting against the irradiation of the human population with cellular non-ionizing radiation. As a result I have worked primarily in that regard with most of my time for the past seven years, having closed my law office in very late 2015. This led to the formation Green Swan Inc. in 2010, for which I serve as CEO, and which is not focused on radiation from the wireless telecommunications base stations that SB 649 seeks to install statewide, but rather focused education and tools relating to radiation coming from the smartphones themselves. However, when the severity of risk presented by S-19 in the federal Senate was explained to me and later SB-649 I was morally compelled to oppose those Bills. I have utter confidence that the best lawyers the State has or can retain will agree with the seriousness of each issue treated here and in my letter of July 19th, but this is a skeletal overview based on the materials I have on hand, without the tools of active practice at hand: Several times in this presentation the position is urged that SB-649 should not go further forward in the Legislature without the prior obtainment of a comprehensive analysis by serious and trial-hardened State lawyers, or sufficiently experienced retained counsel.
Joint Venture Liability

Although the cities object to the installation of these cancer-generators onto the their utility poles, often on property rights grounds, it nonetheless remains certain that the State and the municipal entities under SB-649 will be engaged in a cooperative endeavor. There are many indicators of the cooperative nature of this endeavor, including the provisions of the Bill which provide mechanisms through which the pricing shall be established. As to Dangerous Condition of Public Property, there is no question at all but that the State of California has been given far more than ample Notice of the dangers which SB-649 will rain down upon us all.

In essence, although the cities and counties are in the position of being married in this endeavor as a result of a shotgun wedding, nonetheless they are wed. The State has given the order, and the municipalities in the instance of passage will be cooperatively engaged with the State and the execution of this *Industry-contrived process*. It is well established that when individuals, or public entities, set out to do an act intentionally together, and injury results from that endeavor, Joint and Several liability will attach to both entities. Therefore as a result of Joint Venture, from a liability standpoint like any other Joint Venture, the State will be held liable for the actions of its co-venturer, the individual cities and counties involved. A lawyers' holiday !

Therefore the State will be found liable on the basis of it's engagement in a Joint Venture with the cities. It is pertinent to keep in mind that under the rules of Joint and Several Liability, if the State is found to have contributed by even 1% to the liability pie chart, the State is responsible financially for the entire damages resulting therefrom from this Joint Venture.

It is an inevitable procedural development that each of these local entities, once sued by a party claiming damage (including via Inverse Condemnation from a private party, such as an apartment building owner for diminution of value), will file and serve a Cross-Complaint For Indemnification against the State of California.

Joint Liability for the Concurring Acts of Independent Tortfeasors.

An agreed Joint Venture is not the sole method upon which two parties may be found responsible, even when they did not set out together in a common plan. The classic example of this, *Summers v. Tice* 33 Cal.2d 80, 199 P.2d 1 (1948), is still taught in Torts classes and modernly still cited in Law & Motion pleadings. *Summers v. Tice* is well known, even to first year law students, as 'the shotgun case.' In that case, the plaintiff was out in the middle of a field when two independent hunters shot at game birds from different sides of that field. The hunters discharged their respective shotguns at the same time, neither one of them, independently, being careful enough to take into account that the plaintiff Tice was out in the middle of that very same field, hunting himself. Tice caught a shotgun pellet in the eye and another in the face, causing serious injury. ***The Court held that the concurring negligent acts of independent tortfeasors will result in the joint liability of each such defendant for the entire damages involved.*** Thus for example, if one of these shotgun-wielding hunters was without funds, then the other tortfeasor is left to pay for the entire damages resultant from the concurring negligent actions of each and both.

Here, the State, despite overwhelming evidence showing that the microwaves involved are carcinogenic, nonetheless forces a multi-axial saturation by radiation upon the citizenry, and the county and municipal entities. Here, as in *Summers V. Tice*, both the state and the municipal entities will be found jointly and severally liable. However, the practical reality is that the State has a lot more money than any of these municipalities, which are likely enough to be bankrupted in some, many, or all instances as a result of the magnitude of harm which is to be inflicted as result of the passage of SB – 649.

The State's Exposure via Inverse Condemnation

CA SB-649 is opposed by more than 210 cities. Each public entity, in some instances independently, and in other instances through retained advocates, has by repeated objection to SB-649, preserved the position that the local entities involved have 'exhausted administrative remedies.' So, for example, when the League of Cities comes before Committee(s), and even in short words expresses its objection on behalf of its members, this is enough to show that the entities involved tried in good faith to stop the Bill - those brief objections in Committee provide pitons for the cities as they climb into action against S-19. Through such exhaustion of remedies, rights are preserved, including for Dangerous Condition of Public Property. These local entities have properly protected *all* of their rights.

Inverse Condemnation is typically where *private property* is wrongfully damaged in the course of a governmental undertaking and the constitutional eminent domain provisions allows a recovery from the responsible governmental entity. Here, as they relate to the State regarding their ownership of the poles, the municipalities are in the exact role of a separate owner of private property, the city testimony illustrates this in the repeated focus on property rights. Additionally, many poles are in private ownership, such as poles owned by PG&E. So as not to ignore this 'private property,' issue: *The State cannot argue that the cities do not have this separate and independent stature to privately own property vis a vis the State, because to so would acknowledge the cities as mere subordinate creatures of the State itself, which would by itself prove State liability on every theory.* It is noted in passing that Inverse Condemnation can even be brought where the person or entity involved has not even previously filed a Claim, an exception to the generally prevailing law. Even a late claim will not stop an Inverse Condemnation suit, unless the governmental entity can prove prejudice.

We all have a general understanding of Condemnation: The government, or more recently a corporation having governmental friends and a project of supposed public good, can seize property, like Mr. Bush's group seized the stadium grounds in Texas for the Rangers baseball team. Here in California we have a substantial compensation system for Condemnation *which provides for the award of attorneys fees and engineering fees and professional appraisal fees, to the person or entity whose property was seized by the Condemnation involved.* The law provides reimbursement, as a practical matter often near the higher end of market values, for entities whose property is taken by the State.

There is no serious legal or Constitutional question but that the operation of SB-649, when implemented, is a 'Taking,' within the meaning of the Constitutions of both California and the federal government. Just consider the "Before and After," situation: **Before:** The

cities and counties and/or service districts *own* their poles, albeit very heavily regulated by the CPUC, a point of importance mentioned later. Each such entity, as compensation for the use of the pole(s) involved can 'charge what the market will bear.' **After:** The cities and counties affected by SB-649 no longer 'own,' their poles, because *they can no longer insist upon their own valuation standards for what used to be their property*. This is so clearly a Taking that no serious experienced governmental claim lawyer will dispute that conclusion, and anybody who does is toying with you. It is noted as a matter of fairness that the limited protections from the installation of these devices in historical zones will tend to protect the well-to-do, as there is little chance that public housing facilities will be viewed as historical.

Inverse Condemnation is the alternative provided in our legal system for situations where the Taking by government occurs prior to any formal Condemnation procedures. There are situations where this come up where the operation of a governmental program or project damages the property of another. One handy way for you to test the accuracy of an ultimate position taken here is simply to ask a deeply experienced trial lawyer with a lot of governmental litigation experience whether I am right or not.

Here, as illustrated best by the universal opposition of cities and counties, there is no serious question but that the deployment of the antennas contemplated in SB-649 is a mandatory California State program. That this is a mandatory compliance mandate of the State of California is self-evident in SB-649, underlined by the cities' opposition. This utility pole Taking is a State of California program on its face and California acts from a position of considerable regulatory control over utility poles, see for example A Brief Introduction to Utility Poles, a 27-page outline produced under the auspices the California Public Utilities Commission.

http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/About_Us/Organization/Divisions/Policy_and_Planning/PPD_Work/PPDUtilityPole.pdf

Further, the fact that the under SB-649 State has gone so far into control of the financial details by itself demonstrates further that this is a situation of direct State liability in Inverse, see for example the testimony below from the SF-PUC, emphasis in red is mine:

1:24:16 in the 7/12/17 Assembly Communications and Conveyance Video:

"Don Gilbert for San Francisco PUC: We have no quarrell with the industry or the technology. We hold both in high regard. This is not about that. One thing that hasn't come up is the fact that under this Bill, SF-PUC negotiated in 2014 a master license agreement with the Carriers that covers all the issues in the bill: design, fee, etcetera. Like almost every agreement like this in the state, it has a termination provision so that the elegant way this bill is going to work is: the Carriers on January 1 2018 will terminate the agreement and they will superimpose the terms of this legislation, which they are allowed to do, in place of this agreement. That doesn't seem right to us. We negotiated an agreement with

the carriers. They rely on contracts to conduct their business. We have a contract here that will be blown up and the terms, if passed by this body, this body will decide what those terms are. We just don't think that's right. Also, I have read all of the analyses of every committee of this Bill, including this one and I may be mistaken and I don't recall any third party validation for the proposition that 5G cannot be successfully rolled out without this Bill because that's the implicit argument for the bill: we have to have this Bill to roll out 5G, to get all of those economic benefits. We agree there are economic benefits. We don't agree that you need this bill to get there. Lastly, Mr. Chair, I just want to thank you and the Committee for a very fair process. Much appreciated."

The State of California will lose the many Inverse Condemnation cases filed on behalf of the municipalities, etc., however severally consolidated, and not: Where cities, counties and service districts sue the State for lost revenue or diminution of value from the Inverse Condemnation of their poles by the State of California, they will win. However, long before the final decisions awarding damages, the State will experience hemorrhagic financial bleeds for the many teams of lawyers and experts that California will be forced to field. There will be *massive defense expenses* even before the ultimate award of damages, attorneys fees, appraisal fees, and expert witness fees for scientific & engineering testimony.

Whereas it would be normal for the State to fight Certification of Classes in this situation, the State might well not fight hard on that this time, in the hope that the resulting consolidation(s) will save fees. Also, a Coordinated Action, as was the case in the Yuba Flood Cases is possible. However even the extent to which consolidation of suits will occur, will itself involve protracted litigation at massive expense; considering, for one example, that the proper venue for a matter involving a real estate property claim is normally the county in which the subject property is located, just one of the several barriers to statewide consolidation of these suits.

Ask Your Lawyers, including about preemption under the new U. S. Senate passage of S-19

One way of getting a good feel for the State's liability in this instance of the passage of SB-649 is for you to ask three separate lawyers from separate institutions or firms, the following question: "Here is Mr. Lehmann's letter of July 19th, along with his letter of August 10th, please send me a report on your letterhead explaining why the State has no liability." Have trial-seasoned lawyers provide their views. Don't listen, on this, to lawyers who do not have major trial experience. The reasons that actually experienced trial lawyers should be found and/or retained to advise on this Bill is due to the tendency of the more purely academic to mistake idealistic intention for likely result.

In compliance with even a minimum standard of legislative care, that this Bill and its legal and financial consequences should be examined by your best trial-seasoned lawyers

prior to passage. An in-depth fully researched legal analysis would be a week-long project for a team made up of a trial-experienced lawyer, an solid Associate, and supported by a fine paralegal. ***SB-649 should be thoroughly examined by retained and State professionals prior to any passage, due to the previously hidden seriousness of the legal an health issues.***

As a sudden example of a new legal element urgently requiring legal analysis prior to any vote by the Assembly: We've had very bad news on August 4th, and the news is deadly serious. Federal Senate Bill, S-19, which had been on Hold since late March, was just suddenly passed, by Unanimous Consent in the Senate ***without a hearing***. The argument will be made that this will result in total federal preemption, rendering the SB-649 fight moot. I elect not to take a position on that issue here, but S-19 will be argued to contain 'occupy the field,' preemptive language. ***It would be foolhardy at great legal expense to send this Bill to the Governor without, in addition to legal-financial liability analysis, an analysis of this suddenly-pertinent preemption question.*** For this unfortunate ***and sudden*** reason alone, claimed federal preemption, this Bill should not be passed by the Assembly this term.

Respondeat Superior: Liability based on Agency relationship.

The municipal and county governments of the State of California appear to be uniform in their objection to the passage of SB – 649. The opposition of the municipal and county governments to this Bill has been evident at every hearing so far on this, growing in scope, both in the Senate and in the Assembly committee hearings that have so far taken place. Therefore, it is obvious that the counties and cities, if they are forced to comply with the provisions of SB – 649, will be doing so involuntarily. This will be correctly noted by plaintiff's counsel in these cases to show the existence of an Agency relationship, and which the State is the Principal, and the local entities are the mirror Agents of the state. While doubtless many hundreds of pages could be recited to demonstrate the core legal principle that a principal is responsible for the acts of its Agent, suffice to say that ordinary common sense ideas also apply: for example, if a plaintiff is injured as the result of negligent driving by the driver of a truck owned by a large company, in course and scope of the driver's employment, it is exceedingly well established in the law that the principal (in that instance the company) the company is responsible for the negligence of the driver. The same thing clearly applies here, the municipalities are acting, albeit involuntarily, as agents of the State, and because of that ***Agency*** the State is responsible for the damages caused by the Stat –ordered melding of cellular antennas into the public utility poles.

The State has indirect liability for Inverse Condemnation in the instance of a third party claim against a municipality: The State has direct Joint Venture liability: The State has Joint and Several Liability because the concurring acts of separate negligent tortfeasors results in Joint liability for both: The State has direct liability for Inverse Condemnation: The State has liability based on Agency. In addition, there are Non-Delegable Duty issues here which, while beyond the scope of this letter for me to treat fully, in summary mean that the State cannot delegate away its responsibility to avoid injury to its residents from its activities.

Cordially,



Harry V. Lehmann

Harry Vere Lehmann,
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July 19, 2017

Ms. Jennifer Galehouse, Deputy Chief Consultant
Assembly Appropriations Committee
State Capitol, Room 2114
Sacramento, CA 95814
Via 10 page fax: 916-319-2181
& Federal Express overnight

- Re: 1. Incorrect data given in Telecom testimony regarding
Liability: The State faces liability exposure from SB 649
2. Whether exquisitely planned for this inevitable result, or
'just lucky' for Telecom, SB 649 once deployed will have the
effect of shifting massive Industry liability to the State of
California.

Dear Ms. Galehouse -

The liability-shift component of the SB 649 issue set has not been previously addressed. I didn't see the underlying liability-shift until after the testimony last Wednesday. The liability-shift consequence of SB 649 is a difficult point to see, but essential to be recognized. This letter is divided into two sections, the **GENERAL OVERVIEW** which appears next below presents the gist in three pages, and then a larger section titled **IN GREATER DETAIL**. Because the liability shifting aspect of this analysis was not seen by the undersigned until after the close of testimony on July 12th, and because the Appropriations Committee hearing on SB 649 is only a week away, and because this analysis implies possible billions in losses to the State, an Appropriations issue, this is an initial overview of the situation in the expectation that seasoned and competent unbiased legal analysis will be made of the most startling of the two issues here addressed, before passage of this Bill: In-depth legal analysis is encouraged.

GENERAL OVERVIEW

This letter reaches the conclusions stated through several vectors of analysis but bottom line this boils down to two core points: 1. During the hearings on SB 649, assurances were given by industry that the telecom companies would be the only entities affected by liability from radiation injuries. That is not true. Rather and instead, through SB 649 California faces potential liability for any injuries claimed to have resulted from the allegedly 'small cell,' antennas delivered to our residents from SB 649. 2. More profound in implication if true, and difficult to see, **there is a heretofore non-disclosed sequella from SB 649; the potential transfer all financial liability for cellular injury cases from the telecom corporations to the State.**

The State of California faces liability for damages sustained from Senate Bill 649

Typically any very serious or catastrophic injury case will be handled by experienced counsel - I believe any experienced lawyer who has been long engaged in plaintiffs work with governmental entities would agree with the following points, not one involves rocket science:

- 1) The defendants in a lawsuit do not get to choose whether to be sued. That choice is made by plaintiffs' counsel. There is no way for any industry representative to honestly claim that the State will not be sued for such injuries.
- 2) Once the involved cellular antenna box is attached to the involved governmental utility pole, for several reasons including the Doctrine of Fixtures as often used in tenancy situations, a melding takes place, and plaintiffs counsel will allege, as is consistent with the law, that the melded unit as a whole is Public Property.
- 3) Though plaintiffs can't sue the State for negligence or other Common Law causes of action, under our Government Code suit can be brought for Dangerous Condition of Public Property.
- 4) These *public* utility poles are demonstrably 'Dangerous' within the meaning of Government Code 835, because the radiation they emit has been scientifically proven to be carcinogenic, and the radiation is damaging to the human biological system. This is most dramatically proven by the \$25 million NIH study released on May 27, 2016, showing that cellular radiation causes the malignant cancer cell glioma, which is what causes the deadly brain cancer: glioblastoma.
- 5) The State of California, as a result of the Firefighters's Exemption, or Firehouse Exemption as it is alternatively called, is, a unique development, ***admitting the dangerous nature of the about-to-be-built 'small cell,' system, because, as a matter of provable Legislative Intent, the firehouses were exempted due to health concerns.*** So our Legislature is poised to create at least 30,000 different pieces of Public Property while in one fell swoop also branding each one as Dangerous. Other examples supportive of this point will appear below, in the discussion of the liability-shifting aspects of SB 649.

Senate Bill 649 can shift liability exposure from the telecom industry to the State of California.

The most important purpose of this letter is to alert Assemblymembers of previously undisclosed economic consequences which to the undersigned appear legally very likely to ensue from the passage of SB 649. State lawyers with extensive trial experience should evaluate what is said here and advise Appropriations and the Assembly whether the warnings here represent real issues. The consequence of greatest concern is that passage of SB 649, contrary to appearances, ***will result in the mass transfer of***

liability for cellular microwave injury from the telecom industry to State government, with \$Billions involved. Whether this here-disclosed consequence is the result of a brilliant and intricate multiple-stage legal stratagem by the best lawyers that Telecom could retain, or whether the industry just got lucky, the result for the State of California will be the same, financial ruin. Consider the following factors:

1. The State can't be sued for 'negligence' or other basic common-law theories of relief, and Claimants can only sue as allowed in the Government Code.
2. The main CA Government Code section which is virtually always pled by all experienced public entity lawyers is Dangerous Condition of Public Property, Government Code 835. .
3. If the 'taking,' of county and city properties in SB 649 is allowed, then what next follows when the cell tower is affixed to the publicly-owned utility pole, due to the 'fixtures,' doctrine and other legal reasons, is the merger of antenna and pole into Public Property. This is a complex issue with other criteria supporting the same Public Property finding.
4. Through the 'Firefighters Exemption' to SB 649, prohibiting cellular antenna construction near where firefighters sleep, based on health grounds as pushed by their unions, ***the State is acknowledging that its new melded-exposure property is Dangerous.***
5. As a result of the above the enabling legislation makes the resulting Public Property Dangerous in character in the light of Government Code 835, which in turn makes lawsuits against the State much easier.
6. There is now overwhelming evidence of DNA and cellular damage from radio-frequency EMF as emitted by cellular phones and towers. If you have doubt about this, set up a debate between me and the best they've got. See prior letters, notably of May 23rd to Senate Appropriations, with integrated sworn Declaration of McGavin.
7. It is a matter of well-established public record that the international re-insurance industry has long refused to insure any aspect of the telecom industry for injuries caused by cellular devices or installations. There is no net.
8. ***The only avenue left to the cellular industry, other than just honestly facing up to this mess and helping us solve it, is to shift the legal responsibility to government.***
9. Though good challenge may be on the horizon, the current stance of federal law under the Telecommunications Reform Act of 1996 it is not possible to prevail against a cellular company for liability for a phone made in roughly the last two decades.

10. Seasoned and competent counsel, where injuries occur of a sort consistent with EMF injury to DNA, including glioblastoma as indicated by glioma from the NIH study, will file suit against responsible corporate entities, broadly, and also sue the State of California. Right now many serious lawyers avoid this area due to the 1996 Telecommunications Reform Act. However the practical immunity offered to telecom under the act is conditional upon compliance with FCC standards, and there are now material means available to show that none of the currently marketed smart phones meet FCC standards when measured *as actually used in the field*, namely up against the face.
11. In the instance of the successful bar to civil prosecution which is currently provided by said industry-inspired 1996 Act, and in a State where 'joint and several liability' means that a 5% liability contributor has 100% of financial responsibility from a loss, ***the result of the combination of the factors stated above is that in the instance of suit, including 'friendly,' all financial burdens from cellular injury are shifted to the State of California, under the results from SB 649 as here-projected, through exercise of the federal regulatory bar to such prosecution of cases against the telecom industry.***

I assert no position as to whether the stream of results capsulized above will arise from the prior formation of an intricate plan from very smart lawyers, or whether the industry just 'got lucky,' in regard to the seemingly inevitable consequences of signing SB 649 into law. It doesn't matter, but when you look five or six moguls down this hill, the financial crash is inevitable. The above introductory language has provided the essential elements. A more detailed section below will provide related details.

IN GREATER DETAIL

Below is described in numerical sub-sections is the financial burden-shifting hidden in SB-649, which exists regardless of whether that liability-shifting aspect is inherent in the Bill from actual intention or lucky accident: The effect of S-649 being signed into law and then the antennas deployed thereunder, will shift liability for massive numbers of cellular device injuries from industry to Government.

1. Under SB 649 and as a result of the corporate 'taking' of municipal, county, and State property, in the form of forced corporate seizure of previously publicly owned utility poles, the cellular antenna placed thereupon by such installation, including in real estate law, become an integrated 'fixture,' of said public property, in several ways legally indivisible therefrom. Other examples to the point of shared conduct imbuing with Public character arise from joint venture, etc. ***Once industry puts these antennas up on public poles, all risks and injuries from such antennas will be from a Dangerous Condition of Public Property, as defined in Government Code 835.*** The resulting Jury Instructions can be seen at CACI 1100.
2. In California law, state, regional and local governments cannot be sued for 'negligence.' Rather, the basis for which a suit may go forward against the State or an element thereof will, and must, be grounded in a statutorily prescribed Cause of

Action. Most commonly in these governmental tort situations, seasoned counsel will file, first, a Governmental Tort Claim alleging **Dangerous Condition of Public Property**, and thereafter, post-denial of the claim, the central plead liability theory of most such cases is just that, **Dangerous Condition of Public Property**, as provided for in Government Code 835.

3. It is established by clear and convincing evidence that cellular microwave broadcasts have adverse health consequences. The recent positive demonstration of the causation of malignant glioma (thus glioblastoma) cells from cellular energy in perfectly Faraday protected environments from our National Institutes of Health was only the most recent of similar and earlier findings. Much of these data and citations thereto have been provided to all Senators and Assemblymembers, including from my own letters. There can be arguments about varying danger of differing exposure routines, *but the fact that the danger exists is overwhelmingly demonstrated*, including by exposure standards for technicians engaged in cellular tower work. The epidemiological proof of non-thermal effect on the human biological system is now beyond reasonable dispute, as shown for just one example in the work of DeKun Li, the senior epidemiologist from Kaiser, Oakland, showing statistically significant increases in asthma and obesity in children of mothers who experienced higher level of EMF exposure during pregnancy. The data are readily accessible to all legislators. *With the Firefighters Exemption, the Bill itself is stating that the installation of small cell antennas on poles is "Dangerous,"* else no reason for the Exemption.
4. It is well established in publicly available records and news reports that the re-insurance industry has refused, for decades, to insure or even defend manufacturers or carriers or others in telecom against lawsuits on behalf of persons claiming to have been injured by cellular radiation exposure. Therefore, the Telecom industry, now the largest dollar industry in the world, is on the high wire without a net. **The industry likely has no insurance for injuries from cellular radiation, and it is not the proper job of the People of the great State of California to insure industry for that exposure.**
5. *In this situation, lawyers for the industry have almost certainly been tasked with examining ways through which the burden of this possible cellular injury exposure could be deflected onto other entities.* These people are too smart not to have seen this far down the road.
6. Recent news reports have speculated that SB 649 may result in as many as 50,000 new cellular towers in California; in his recent correspondence Dr. Joel Moskowitz has indicated a range of between 30,000 and 50,000: The total may not reach 50K in the near term, as there are no provisions in SB 649 to truly extend past the Divide in rural areas. If for illustration we assume the lower number, it becomes a simple math problem: **LEGISLATIVELY CONFESSED DANGER x 30,000 PUBLIC POLES = 30, 000 SEPARATE INSTANCES OF DANGEROUS PIECES OF PUBLIC PROPERTY.**

We have all heard allegations of people jumping on municipal transit buses immediately post crash, seeking to participate in recoveries. I think that is actually very uncommon, but recognition of tort opportunity will be easier here as these are stationary Dangerous Public Properties, which conveniently bring the carcinogenic radiation right into your living room, especially if you live in a crowded building, which with 5G exponentially expands the field density to which residents are exposed, the broadcasts not being cohesive EMF, each neighbor is affected by his or her neighbor's use of 5G.

7. Our Assembly should insist upon detailed legal analysis before passing SB 649: Under current constructions of The Telecommunications Reform Act of 1996, the companies are protected from liability, whereas it appears that the State is unlikely to benefit from the liability avoidance aspects of the 1996 Act. This is a complex area, to be further litigated, hopefully to correction for the benefit of the consumer, but there is a widely prevailing current legal view that current constructions of the Act protect the companies from any injury claims stemming from radio-frequency exposure. *After the SB 649 cellular towers are up, and claims come forward, in any such resulting suits, until the law is more to the benefit of consumers than is currently the apparent case, where manufacturers and Telecom companies and the governmental body are all sued, and telecom can dodge out, there is a substantial legal argument the government entity involved cannot.* This Bill sets up the State for massive losses by putting it in the place of an insurance company insuring against losses based on cellular exposure.
8. Causation will be a core issue of proof in the wave of Claims and then Complaints on this issue that is inevitable to come, given the science. Ultimate adjudication may be by Court, which is all we have at this point, or perhaps as some now visualize, something akin to the National Vaccine Injury Program, which has dispensed billions of dollars to injured claimants since its inception. Given that with the Firefighter's Exemption the State is acknowledging that its conduct of putting these antennas on every block is intentional conduct being pursued despite clear repeated science-based Notice of the risk. Here, if SB 649 goes forward, despite the repeated clear warnings of harm that have been given in submitted written records, a Court may also reasonably conclude that such further engagement in such State activity is an Extra-Hazardous Activity. The legal point that derives from this is that in Extra-Hazardous Activity the scope of Proximate Cause will be allowed to expand, a factor which puts the State at risk.

If the Assembly goes forward despite this risk, bankruptcy of the State of California can be reasonably expected to result. Just think of the testimony that we've recently heard, on July 12th, from residents who have suffered from and are still fighting brain cancer, which they attribute, with science-based cause, to extensive long term up close exposure to cellular telephony. Thus, if there is a phone-based lawsuit, where the claim derives from an area of SB 649 saturation, the lawyers involved, in order to meet the ordinary standards of care of the work, will be compelled to sue the State. It is further noted that the effective immunities enjoyed by mobile telecom service providers and manufacturers under the 1996 Act are conditional upon the device(s) involved radiating

within the FCC designated range of radiation values, yet our measurements in Palo Alto, for example, show that the strength of the allegedly 'small' cellular devices on poles there are in some instances *multiples* of the approved safety standards for human tissue saturation. In the urban context, with many households, including children, using 5G where cable used to work, most residents of dense apartment buildings will receive radiation saturation not only from what people (multiple TV's) in *their* apartment, but also from broadcast, which is not a cohesive signal, as received by nearby neighbors.

With wide-spread increasing rates of long term use, the inevitable will be put forward based upon alleged injury from a cell phone: Because of the cumulative nature of DNA damage, even with only episodic breakage increases, an upward numerical trend of DNA strand breakage percentage over time appears inevitable if SB 649 is allowed to pass. In normal balance against damaging influences, our bodies rely upon the abilities of the human biological system to self-repair, including at a DNA level, but where the capacity for repair is exceeded by direct exposure (*as distinguished from environmental exposure*) from a carcinogenic radio source, the potential for increased levels and rates of mutagenic process can reasonably be expected to occur as a result of the overwhelm of such repair capacities: Once the entire urban and suburban areas are densely saturated with so-called 'small cell' 5G (+ ?) cellular signal, and additionally given the overlapping EMF factors involved, seasoned counsel would always name the telecommunications company, the manufacturer, the seller, the service provider, and now the State, based on SB 649-rooted liability exposure. The State will be permanently exposed to liabilities so numerous and great that all other California state government programs will suffer, from roads to good policing, to schools, to public safety, to pensions.

Our laws recognize both concurrent cause, and joint and several liability where the injury resulted from multiple entities acting in concert. Joint and several liability also results in the instance of the concurring negligence of independent tortfeasors, such as in the classic Summers v. Tice context. As is not uncommon in civil lawsuits, an entity with only a tiny factual contribution to the occurrence of the liability inducing event, say 5% of the negligence pie, under Joint and Several Liability is liable for the whole quantum of the injury involved in the instance of legal unavailability of the other defendants. Therefore, if, post SB 649, there is a cellular device based lawsuit, and 5G radio-frequency saturation was present during time of injury recognition, then normal standard of care obligations, in most instances, would require the naming of that entity by name, if known, as a defendant. Due to the admitted Dangerous Condition of Public Property recognized as dangerous by the Firefighter's exemption) inherent in the melded 'small cell' 5G antenna/pole Public Property, if SB 649 passes, given Joint and Several Liability, if the companies are excluded from liability by federal law, then the State will be the full-paying defendant in such suits. Next discussed below is the question of causation, forced upon us by the looming nightmare of SB 649.

On the Subject of Causation

A science-compliant discussion of non-thermal causation of damage to people by cellular devices is forced upon us here by the incomplete physics analysis which industry lobbyists attempt to repeat in their rebuttal to claims of injury. After the Senate

Appropriations hearing which included SB 649, I was approached in the corridor by a lead lobbyist from a very major telecom company. He said to me, I paraphrase "...you know, Mr. Lehmann, in order to affect tissue molecules without heat, you have to move the neutrons . .and there's not enough energy in cellular signal to affect those neutrons."

The above-described exchange with this lobbyist is described in the 14 page letter and sworn Declaration that Mr. McGavin and I presented to the Senate Appropriations Committee. That kindly lobbyist was actually mis-stating the company line: Contrary to the above lobbyist's remarks, the long-stated industry position has not been about 'neutrons,' but rather that: 1) Cellular non-ionizing radiation doesn't have enough energy to directly modify an electron's shell position in an atom, *so that the valence of that atom cannot by such cellular radiation be directly changed*, and: 2) Therefore direct, non-thermal DNA damage to human tissue is not possible from cellular radiation because the energy involved is not sufficient to occasion molecular re-combination except via heat.

The industry position on the disclosed part of their physics to chemistry argument makes sense: That there is not enough energy in current or anticipated civilian cellular radiation to cause an electron to jump a shell position. However, this electron-shell-no-can-go routine is defective in its predicate: The industry position, choir sung by most industry engineers (not the late great Robert C. Kane), is predicated upon the incorrect assumption that the only mechanism of non-thermal damage is ionic forced change, meaning situations in which so much energy is by radiation placed into the molecules involved that over-loading of charge forces electron migration resulting in molecular re-combination, experienced as tissue damage.

Ionic-forced-immediate-direct chemical change, which *does* occur with ionizing radiation, does not occur with less powerful non-ionizing radiation from cellular devices. However, clear science shows that DNA strand breakage is occurring from the non-ionizing radiation from these sources. As you likely know, it is well proven scientifically that high frequency sound can, for example, shatter glass. The data indicate that DNA breakage is resulting from mechanical vibration of the DNA molecule as DNA molecules dissipate the energy which is undeniably pumped into them via radio-frequency EMF. In this regard, the 1983 interferometer findings of Swicord and Brown at the University of Maryland were mentioned in the 14 page compendium which submitted to Senate Appropriations, containing my 7 page letter and Mr. McGavin's Declaration, under Penalty of Perjury, which was also 7 pages, and which 14 page letter to Senator Lara, dated May 23rd, is integrated herein by this reference as though more fully set forth herein. It was found by Swicord/Brown's work that the addition of DNA salts to plain water, to a 7.43 percentage in the resulting fluid, **caused a twenty-four fold increase in Specific Absorption Rate, and that this massive 24X change was non-ionic**, but rather 'acoustic,' meaning as a result of the mechanical receipt of vibration energy from the cellular frequency by the DNA molecular structure.

Swicord and Brown, as stated in their paper on their interferometer testing of SAR levels, were verifying prior peer-reviewed projections that this level of SAR change in DNA would result. It is my current understanding that Dr. Swicord was at FDA when that agency, which usually passes judgement on radiation-generating consumer products,

exempted cell phones, and then, as I understand it as informed opinion, Dr. Swicord lived out his remaining career at Motorola. So, bottom line, we have extreme vibrational change in DNA from cellular range radiation, namely a drastic 24 fold increase in Specific Absorption Rate. The importance of this repeated finding is best illustrated by the work of Dr. Henry Lai, when this work was published he was with the University of Washington School of Medicine I heard Dr. Lai's presentation of his experimental findings at the International EMF Conference in Stavanger, Norway, in late 2009, and later in Norway was honored to travel to and reside for a while in the mountains over Bergen with the world's top scientists in this field, including people at the level of Dr. Martin Blank of Columbia and Dr. Olle Johansson of the Karolinska Institute, Stockholm.

Dr. Lai's experiments unequivocally proved the fact of DNA strand breakage from cellular telephone radiation. So, once the reader understands that: 1) Through the interferometer work of Swicord and Brown at Maryland, 1983, that DNA change occurs via acoustic means, while also understanding that: 2) The work of Dr. Lai, showing that such cellular signal causes DNA breakage, then it may be responsibly suggested that the occurrence of DNA breakage, not by ionic means, but via acoustic receipt of the vibrational energy. That's how people are getting hurt. Plus the calcium ion findings, noted, supra, from the elegant work of Dr. Pall at the Washington State University, and propriety requires the mention of the ground breaking work of Dr. Andrew Galsworthy of Imperial College London, whose pioneering work regarding the stripping action of cellular and other microwave on intra-cellular calcium is forth in Dr. Galsworthy's March 2012 paper The Biological Effects of Weak Electromagnetic Fields - Problems and Solutions. As to vibrational fracture of the DNA molecule, see also *Electrosmog and autoimmune disease*, by scientists Trevor G. Marshall and Trudy J. Rumann Heil. The core point sought to be communicated here is that the industry dirge; 'it can't be us, cause non-ionizing radiation can't force an ionic change,' is an incomplete as an analysis of cell damage causation, because it is a red herring of belief that has distracted the busy from seeing the actual causation.

Many environmental influences can contribute to the formation of the more serious illnesses. The book *The Secret History of the War On Cancer*, by epidemiologist Dr. Devra Davis is the best available professional source towards an understanding of the relationships between industrial toxins and health patterns in the population. This section on Causation is here only because the industry excuse sheds less light than smoke. By background, I have practiced trial based law for four decades, specializing in engineering and scientific proof cases since 1983. After the deaths of four friends and colleagues from brain cancer, I became a student of the EMF issues, to which issues myself and many others are dedicated to public education, including through our ongoing work at Green Swan, Inc.

SB 649 Seeks to Keep Cellular Telecom Off The Ropes at California's Expense.


Telecom is giant and powerful, but the truth, science, ethics and the law are far more important than the \$1.43 trillion that industry has poured into lobby efforts since 1998 (www.opensecrets.org). But even with all its massive funding, the industry has not been able to buy insurance for this industry regarding potential mobile phone casualties.

The re-insurance industry, giants like Zurich, Lloyds, long ago announced that they would not insure for personal injuries caused by cellular devices. As a result the telecom companies are at this point on their own. If they don't shift liability responsibility to another entity or entities, they face massive and potentially ruinous. Perhaps this led to a multiple stage, difficult to see legal tactic of risk shifting to the public. If something like this were going on, it would all of a sudden make a lot of sense if there were an *extreme rush* placed on this legislation. Senate Bill 649 mimics legislation that the industry tried to get through the federal Senate (S-19), which didn't work out for them, it was placed on Hold at the end of March, where it now remains, *and directly thereafter commenced this massive hard push to get California on board with the same 'seize the light poles' effort, to which obviously immense professional lobby effort is being devoted to an ongoing ongoing push for fast passage.* Normally, we could say, 'well, that's life, sometimes you've got to let the big dog eat.' But this situation is very different from ordinary because lives and souls are at stake here. This isn't a game or a hobby, this is serious.

Whether planned or not, after infrastructure is established resulting from SB 649, one crucial result *is to transfer the financial burden of impending severe liability exposure from the industry to the government.* In the instance of S-19, a substantially duplicate Bill now sensibly remaining on Hold at the federal Senate, the transference of liability exposure would have been to the federal government. With the failure of S-19 at the federal level the telecom industry went immediately to work in California. With the telecom industry having consumed a great feast at the restaurant of commerce, the effect of signing SB-649 into law would be to stick California with the tab for that very feast.

Lawmakers in California to insure that any legislation which is passed will not harm the public. Any member of our Legislature who, *knowing that there is scientific evidence of harm*, votes for SB 649 will be no different than those in power over Flint Michigan, who knew of the health hazards in the water, and yet allowed that public health hazard to continue. However, in terms of the number of people to be severely harmed, the situation with SB 649 is far more severe even than what tragically happened in Flint.

Very truly yours,



Harry V. Lehmann

ARB Dec 7th 2018

Hello, my name is Amrutha Kattamuri and I am a Palo Alto resident. My background is in computer science and mathematics.

After doing some research into cell tower technology, I request the ARB to reject the Wireless 17PLN-00169 application for installation of **privately owned** cellular equipment on **public** poles and facilities for the following reasons :

1. Cell tower antennas with the associated cabling can weigh up to hundreds of pounds. The board needs to consider what could happen when a teenager or drunk driver should run into one of these poles that has a hundred pound weight on the top and how much of a life threatening risk this would be when the tower falls, not to mention literally millions of dollars in property damage it could cause to the surrounding residential areas.
2. When these **private** companies install their **privately-owned** equipment on **publically-owned** facilities, there is no legal safeguard protecting the public from liability due to any hazard that could be caused by this equipment, including fires. According to Harry Lehmann, attorney at law in the state of California, defendants in a lawsuit do not get to choose whether to be sued. That choice is made by the plaintiff's counsel and there is no way for Verizon or the telecom industry representative to honestly claim that the City will not be sued for such injuries. Once the involved cellular antenna box is attached to the governmental utility pole, for several reasons including the Doctrine of Fixtures as often used in tenancy situations, a melding takes place, and plaintiff's counsel will allege, as is consistent with the law, that the melded unit as a whole is Public Property.
If they want to install these heavy, potential fire hazards on poles in our residential neighborhoods right in front of our homes, they need to build durable structures themselves that they can ensure will be safe and for which they will be responsible if the structure should collapse or become damaged in any way.
3. According to the Center for Responsive Politics, the telecom industry poured \$1.43 trillion dollars into lobbying efforts since 1998. But even with all its massive funding, the industry has not been able to buy insurance for

itself to cover for any potential health hazard caused by wireless technology. Wireless technology being a health hazard is established by law in the Firefighter's Exemption which prohibits the installation of cell towers on fire stations due to adverse health effects experienced by California fire fighters. For some reason, the telecom industry is avoiding installation of cell towers on fire stations but think it is okay to install them in front of our homes with children. Re-insurance industry giants like Zurich and Lloyds announced long ago that they would not insure for personal injuries caused by cellular devices. As a result, the telecom companies shift the responsibility of liability to another entity or entities, otherwise they could face massive and potentially ruinous risk. If this application is approved, that liability would shift to the Palo Alto public. It is appalling that the residents of Palo Alto are not made aware of this potentially significant fiscal responsibility or, because of Verizon's Master License Agreement, not even given the opportunity to bring up these issues to the council without paying a stiff fee.

ARB, Mar 15th 2018

Hello, my name is Amrutha Kattamuri and I am a Palo Alto resident. My background is in computer science and mathematics.

I am here to request the ARB to reject the placement of these privately owned, extremely powerful, Close Proximity microwave radiation emitting Antennas, the so-called "small cells" on public utility poles and facilities.

It is unconstitutional for these close proximity microwave radiation emitting antennas to be erected in residential zones close to 15 to 50 feet away from homes where people sleep, live and heal. Because doing so would be a health, safety and liability hazard.

I will list the reasons why the ARB must deny these applications:

1. According to the 1996 Telecommunications Act, local governments have the authority and duty to regulate the operations of these antennas including power levels and hours of operation to protect its residents' privacy and safety -- because operations of cell phone towers were not pre-empted by the 1996 TCA - only placement, construction, and modification were preempted.
2. Because operations were not pre-empted, consideration of environmental effects (and health effects) is squarely on the City's shoulders for how much power these antennas output and for what hours of the day.
3. It is obvious that the 1996 Telecommunications Act confers a great favor on the **Wireless** industry, by bestowing the power to surmount any opposition to their plans of erecting an indiscriminate number of cell towers in utter disregard of the health hazards these antennas pose to the public, **especially to children**
4. This provision of the **1996 TCA** threatens the **rights to life, safety and privacy** guaranteed by **US and CA** constitutions.
5. Re-insurance industry giants like Zurich, **Swiss Re and Lloyds of London** announced in **2015** that they would not **re-insure** for personal injuries caused by RF Microwave radiation exposures. As a result, the Telecom companies **are acting to transfer their massive liability** to another entity or entities. If this application is approved, that liability would shift to the Palo Alto public because the melding of private microwave radiating antennas onto public property creates a **dangerous condition of public property**. It is appalling that

the residents of Palo Alto have not been made aware of this significant fiscal liability.

6. **It is also appalling that the residents of Palo Alto have to pay a stiff fee to appeal the ARB's decision in order to discuss these financial issues with the City council.**

I have been entering into the public record **many** independent, peer-reviewed and non-industry funded scientific studies, about the extreme health hazards of pulsed, data-modulated, RadioFrequency Microwave Radiation, especially on developing children and the most vulnerable population. **The ARB and the City Council have the duties to examine this substantial evidence that has been placed in the public record.**

The city of Palo Alto **refused for months** to provide answers to the following questions about microwave radiation levels at the already existing Close Proximity Microwave Radiation Antennas installed in a three-block area of downtown and turned on in November 2016.

I don't have time to read all of these questions, but they have been emailed to all of the City staff and City Council members and have been published online for months (<http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>).

Hammett and Edison wrote a report about these Antennas (CPMRAs):

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?
- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes?
- **Q3:** Is there a data log for all of the measurements during this time period, if these measurements were taken?
- **Q4:** Were the radiation levels during different activities and at different times of day compared? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities:
 - o **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the utility pole
 - o **b:** While making a Verizon call

- o **c:** When sending/receiving a Verizon text
- o **d:** When streaming a video from the Verizon antenna
- o **e:** When downloading a software update from the Verizon antenna
- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading?
- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings compare to the average readings?
- **Q6:** What is the City of Palo Alto's commitment to getting sufficient data from any RF Microwave radiation contractor to be able to accurately characterize the pre and post construction RF Microwave radiation exposure environment in Palo Alto where densified "Small Cells" have been or are planned to be installed? Having sufficient RF Microwave Radiation exposure data at peak levels (simple averages are not sufficient) placed in the public record is critically important before any new "Small Cell" towers are approved for Palo Alto's residential zones.

Therefore, keeping these close proximity microwave radiation emitting antennas away from residential areas and erecting them in commercial areas, would clearly be in the best interest of warding off liability and protecting health, safety, and well-being of all the residents of Palo Alto.

Thank You!!

Appendix B

List of and excerpts from email communications from Paul McGavin, Scientists for Wired Technology, to Palo Alto's Planning Staff and City Council

1. **12/1/17 @ 9:38 am** re: *RF Microwave Radiation Exposures From So-Called "Small Cell" Antennas in Palo Alto* to Gerhardt, Reich, Atkinson, Fleming, Kattamuri, Yeawon
 2. **12/2/17 @ 7:40 am** re: *Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis* to Gerhardt, Reich, Atkinson, Fleming, Kattamuri, Yeawon
 3. **12/4/17 @ 2:09 pm** re: *Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis, Round 2* to Gerhardt, Reich, Atkinson, Fleming, Kattamuri, Yeawon
 4. **12/5/17 @ 9:09 am** re: *Wireless 17PLN-0016: Will You Please Provide Answers to These Questions Today?* to French, Gerhardt, Reich, Atkinson, Fleming, Kattamuri, Yeawon
 5. **12/5/17 @ 12:17 pm** re: *Wireless 17PLN-0016: Will You Please Provide Answers to These Questions Today?, Round 2* to French, Gerhardt, Reich, Atkinson, Fleming
 6. **12/5/17 @ 4:02 pm** re: *Wireless 17PLN-0016: When Will You Please Provide Answers to These Questions?* to Gerhardt, French, Reich, Atkinson, Fleming, Kattamuri, Yeawon
 7. **12/6/17 @ 1:24 pm** re: *17PLN-0016: Unanswered Questions and Conflicts in Due Process/Due Diligence* to French, Scharff, DuBois, Filseth, Fine, Holman, Kniss, Kou, Tanaka, Wolbach, Lew, Baltay, Furth, Gooyer, Kyu, Gerhardt, Atkinson, Fleming
 8. **12/6/17 @ 1:43 pm** re: *Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis* to Gerhardt
 9. **12/6/17 @ 8:32 pm** re: *Follow Up Questions to Hammett and Edison RF Microwave Radiation Exposure Analysis Were NOT Answered* to Gerhardt, Scharff, DuBois, Filseth, Fine, Holman, Kniss, Kou, Tanaka, Wolbach, Lew, Baltay, Furth, Gooyer, Kyu, French, Atkinson, Fleming
 10. **12/7/17 @ 8:03 am** re: *Wireless 17PLN-00169: Palo Alto Whitewashes RF Microwave Radiation Exposure Hazards -- Updated* to Scharff, DuBois, Filseth, Fine, Holman, Kniss, Kou, Tanaka, Wolbach, Lew, Baltay, Furth, Gooyer, Kyu, French, Gerhardt, Atkinson, Fleming
 11. **12/7/17 @ 2:15 pm** re: *Palo Alto Wireless 17PLN-00169: Questions and Solutions* to Scharff, DuBois, Filseth, Fine, Holman, Kniss, Kou, Tanaka, Wolbach, Lew, Baltay, Furth, Gooyer, Kyu, French, Gerhardt, Atkinson, Fleming
 12. **12/7/17 @ 4:49 pm** re: *Palo Alto Wireless 17PLN-00169: Questions and Solutions* to French, Atkinson
 13. **12/12/17 @ 9:38 am** re: *Unreasonable Failure to Respond* to French, Atkinson
-

12/1/17 @ 9:38 am email:

Both State Senator Jerry Hill and Governor Jerry Brown evaluated the evidence at the links below and voted against SB.649

- <http://scientists4wiredtech.com/2017/03/rfr-hazards/>
- <http://scientists4wiredtech.com/2017/04/palo-alto-4g-small-cells/>

As detailed at this last link, in April 2017, I worked with a certified RF Microwave Radiation specialist to document his accurate measurements of peak RF Microwave Radiation exposure levels from the 19-Small-Cell Verizon/Crown Castle installation in downtown Palo Alto.

This work, I understand, resulted in the City of Palo Alto hiring Hammett and Edison (H/E) to complete a post-construction RF Microwave Radiation exposure assessment of these 19-Small-Cell Verizon/Crown Castle antennas. Before the City embarked on this project, I spoke to Jodie Gerhardt and I encouraged her or someone else on the City of Palo Alto staff to get the following raw data from H/E, so you could accurately characterize

the RF Microwave Radiation exposures in downtown Palo Alto.

- **A data log and plot of the power density of peak pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation**, showing the actual peaks of RF/MW radiation over a 30 minute exposure for each so-called "Small Cell" antenna where people live, sleep and work near these microwave transmitters.
- **Both the peak and average levels of the RF/MW Radiation** emitting from these antennas during different times of day: 9:00 am, Noon, 3:00 pm, 6:00 pm, 9:00 am and 3:00 am
- **RF/MW Radiation power density readings taken both outdoors and indoors**

Please understand that the US Federal RF/MW radiation guidelines are only commercial/procedural guidelines, not safety guidelines, as often inaccurately described by the Wireless industry and William Hammett

- Radiofrequency Microwave Radiation Exposure Guidelines <http://scientists4wiredtech.com/regulation/rf-microwave-exposure-guidelines/>
- LTE Architecture Basics (4G) - Introduction <https://www.youtube.com/watch?v=1j4UwsdD9Qs>
- Fundamentals of 4G/LTE: OFDM/ OFDMA <https://www.youtube.com/watch?v=rKy5dOl3Et4>
- Dr. Lennart Hardell "The often short duty cycle in [Wireless] networks can give low-average measured values but still consist of high peaks . . . The different modulations result in signals with different spectral characteristics within the channel for the device. If these modulations would be shown to be important variables in accessing risk, the need for RF radiation protection would probably change." from Measurements of Radiofrequency Radiation with a Body-Borne Exposimeter in Swedish Schools with Wi-Fi <https://www.frontiersin.org/articles/10.3389/fpubh.2017.00279/full>

I need to review the H/E report as soon as possible in order to prepare my substantial evidence/testimony in opposition to the current applications for additional, unnecessary So-Called "Small Cell" Antennas in Palo Alto's residential zones

12/2/17 @ 7:40 am email:

I received the two documents yesterday (both attached) from Ms. Gerhardt and read them. Before we consider Mr. Hammett's 6/8/17 RF Microwave radiation exposure analysis and letter a misleading whitewash, will the City of Palo Alto please answer the following questions?

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?
- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation exposure measurements?
- **Q3:** Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period?
- **Q4:** Did you compare RF/MW radiation levels during different activities and at different times of day? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities:
 - **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole
 - **b:** While making a Verizon call
 - **c:** When sending/receiving a Verizon text
 - **d:** When streaming a video from the Verizon antenna e: When downloading a software update from the Verizon antenna
- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading (a configuration option available on the NBM-520 Broadband Field Meter)?
- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings and compare to the

average readings?

I will follow up with you on Monday morning. The rest of my response is here:

<http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

12/4/17 @ 2:09 pm email

Earlier today, I followed up by email and by phone with you, Rebecca Atkinson and Russ Reich. Will you please return my call at 415-382-4040 at your earliest convenience so we can discuss the following?

- What RF Microwave radiation exposure data the City of Palo Alto requested from Hammet & Edison for the report/letter H/E completed on 6/8/17?
- The City of Palo Alto's commitment to getting sufficient data from any RF Microwave radiation contractor that accurately characterizes the RF Microwave radiation exposure environment and consequences to Palo Alto residents -- exposures that result from installing so-called "Small Cell" cell phone towers in residential neighborhoods so close to homes and parks.
- Answers to the questions from my 12/2/17 email/letter.

12/5/17 @ 9:09 am email

- What is the City of Palo Alto's commitment to getting sufficient data from any RF Microwave radiation contractor to be able to accurately characterize the pre and post construction RF Microwave radiation exposure environment in Palo Alto where densified "Small Cells" have been or are planned to be installed? Having sufficient RF Microwave Radiation exposure data (simple averages are not sufficient) placed in the public record is critically important before any new "Small Cell" towers are approved for Palo Alto's residential zones.
- The 17PLN-00169 document reports "Environmental Assessment: Pending . . . The project is under review in accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the environmental regulations of the City." Will you please describe the scope and timing required to complete this Environmental Assessment? What's the plan to complete this?
- The 17PLN-00169 document says "The applicant submitted a statement on maximum buildout within their project description, which is still under analysis." Is this complete? If not, when is the City of Palo Alto expecting this?
- What specific real-life evidence (not projections/calculations) has the applicant provided to prove that there is a significant gap in Verizon coverage? Verizon coverage maps from Verizon's web site are not sufficient for this purpose.

Ms. French, I published the following analysis over the weekend after reviewing the 6/8/17 letter/RF Microwave Radiation exposure analysis by Hammett and Edison that Jodie sent me on Friday, last week.

The following links are very relevant to Palo Alto project 17PLN-0016:

- <http://scientists4wiredtech.com/2017/12/nasa-engineer-letter-to-editor/>
- <http://scientists4wiredtech.com/regulation/rf-microwave-exposure-guidelines/>
- <http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

12/5/17 @ 12:17 pm email

I request that the City of Palo Alto engage whichever parties are necessary to get answers to these important

[still unanswered] questions before the 12/7/17 ARB meeting, which is less than 48 hours from now.

I would hope that it is not the City of Palo Alto's intention to play bureaucratic ping pong with members of the public, including residents of Palo Alto. On Fri 12/1/17, Rebecca Atkinson responded to me at the end of the business day; she referred me to Jodie Gerhardt. I then wrote to Ms. Gerhardt on 12/2/17 and followed up by phone and email throughout the day on Mon 12/4/17. Ms. Gerhardt didn't return my emails or phone call on Monday, but I caught her by phone in her office at 5:30 pm; she referred me to you. . You now writing me that you are not familiar with the material, will not get the questions answered, so will the City of Palo Alto please identify the responsible parties and get them to answer these important questions today or tomorrow?

My suggestion would be for Jodie Gerhardt to contact Hammett & Edison, so they can provide thorough and accurate answers to these questions. **At the moment, there is not sufficient evidence to know if H/E followed the proper procedures to accurately characterize the RF Microwave radiation exposure environment on the streets of Palo Alto.** Knowing this information is critically important to determine if the City of Palo Alto has completed its due diligence to discharge its duties to its residents with respect to previous so-called "Small Cell" projects in Palo Alto.

12/5/17 @ 4:02 pm email

One aspect of that project, which which I would like addressed by H/E or your other RF consultant is the disconnect about the power specs for these small cell antennas. used on the Palo Alto planning docs <https://www.cityofpaloalto.org/civicax/filebank/documents/49415> . . . the R/F analysis was completed based on **just 6.3 watts of input power** which yields 97 Watts of Effective Radiated Power (ERP) for each frequency (1,900 MHz and 2,100 MHz).

. . . but the antennas used in these small cells can accept much higher input powers -- Why?

- 3 connectors x 500 Watts of input power for 700 MHz = 1500 Watts of input power
- 3 connectors x 300 Watts of input power for 2100 MHz = 900 Watts of input power
- Total = **2,400 Watts of input power**, which outputs how much ERP?

Q2: If these antennas were run at max power, what is the ERP coming out of the antennas and how much higher are the resulting RF Microwave Radiation exposures?

Q3: What keeps Crown Castle/Verizon from turning up the power at will from 6 Watts to some higher setting between 6 and 2,400 Watts of input power?

Q4: Is the City of Palo Alto currently monitoring and regulating the operations of these antennas to ensure that they don't run hotter than the specs communicated to the public?

12/6/17 @ 1:24 pm email

It seems that in addition to our Federal/State laws currently being in conflict, well-described by Dr. Ron Powell at the following link:

So-Called Small Cell Towers Are About Life and Death <http://scientists4wiredtech.com/2017/11/dr-ron-powell-opposes-small-cell-towers/>

. . . the City of Palo Alto's due process and due diligence procedures with regards to the review of the Wireless 17PLN-0016 application also seem to be in conflict, as communicated in your email today, Ms. French, quoted below.

It is one thing to agree to endure **voluntary exposures** to pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation, such as when one turns on a cell phone antenna, makes a call and then turns that antenna back off. When one does this, they experience an event that is a discrete, often short RF Microwave radiation exposure.

It is wholly a different thing to endure RF Microwave radiation exposures from the Wireless infrastructure far too close to homes -- from these so-called "Small Cell" cell towers installed on publicly-owned utility and light poles -- which represents **involuntary, forced RF Microwave radiation exposures 24/7/365 from the curb** -- where one lives, sleeps and heals, even if one is not a Verizon customer.

Melding private Wireless antennas on public property creates a dangerous condition of public property and transfers the huge financial and uninsured liabilities from Verizon Wireless to the local communities: the City of Palo Alto and its residents -- as fully explained here:

- <http://scientists4wiredtech.com/wp-content/uploads/2017/10/2017-0719-SB649CA-Liability-Lehmann-to-Galehouse.pdf>
- <http://scientists4wiredtech.com/2017/10/gov-brown-be-smart-veto-sb649/#lehmann>

12/6/17 @ 8:32 pm email

How is what Bill Hammett from Hammett & Edison (H/E) writes at all an answer to the following questions?

Q1: At what time of the day were Mr. Hammett's measurements taken? Result: **Not answered.**

Q2: For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation exposure measurements? Result: **Not answered.** I can only assume H/Ed did not measure for the full 30 minutes required by the FCC for each antenna.

Q3: Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period? Result: **Not answered.** I can only assume H/Ed did not take a datalog for any of the current 19 small cells which was an error either on H/E's part for not doing so or on the City of Palo Alto's part for not asking H/E to do so.

Q4: Did you compare RF/MW radiation levels during different activities and at different times of day? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities: Result: **Not answered.** I can only assume that H/E made only one average measurement for each antenna based on a nominally-short (how short?) and non-FCC compliant period of time. The data the City of Palo Alto received from Hammett & Edison are insufficient to accurately characterize the RF Microwave Radiation exposure environment in downtown Palo Alto.

- a: Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole? Result: **Not answered.**
- b: While making a Verizon call? Result: **Not answered.**
- c: When sending/receiving a Verizon text? Result: **Not answered.**
- d: When streaming a video from the Verizon antenna? Result: **Not answered.**
- e: When downloading a software update from the Verizon antenna? Result: **Not answered.**

Q5: What was the maximum instantaneous power/density RF/MW radiation reading (a configuration option available on the NBM-520 Broadband Field Meter)? Result: **Not answered.** I can only assume H/E did not take any maximum instantaneous power/density RF/MW radiation readings, which was an error either on H/E's part

for not doing so or on the City of Palo Alto's part for not asking H/E to do so.

Q6: How do the maximum instantaneous power/density RF/MW radiation readings and compare to the average readings? Result: **Not answered.** I can only assume H/E did not take any maximum instantaneous power/density RF/MW radiation readings, so these comparisons are not possible with the insufficient data provided by H/E.

I would strongly suggest that the City of Palo Alto ask a different firm repeat the work, so they are able to answer the important questions, above.

This is not the first time we have encountered Hammett and Edison declining to provide reasonable answers to clarifying questions about their work. We will enter substantial information into the public record about previous substandard work performed by Hammett and Edison in 2016 -- and H/E's refusal to answer any clarifying questions about this work, which you can hear about here, which is already in the public record.

<https://youtu.be/CgldhZiA7jc>

I strongly suggest that the City of Palo Alto needs to look carefully at the methodology and the veracity of Hammett and Edison's work that was performed on behalf of the City of Palo Alto.

It is clear that we did not get answers in time for 12/7/17 ARB meeting from either you, Jodie, or from Rebecca Atkinson; we hope to get more thorough, accurate and thoughtful answers to our questions from the City of Palo Alto in the next week or so.

12/7/17@ 8:03 am email:

The following web page was updated with the 12/6/17 (lack of) answers provided by the City of Palo Alto.

Broadband Fail: Palo Alto Whitewashes RF Microwave Radiation Exposure Hazards

<http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

What appears on the web page, above and on this one

Palo Alto 4G Small Cells: An Extreme Health Hazard

<http://scientists4wiredtech.com/2017/04/palo-alto-4g-small-cells/>

... communicates critically important information for the Architectural Review Board and the Palo Alto City Council members to review **before** the ARB considers any design issues with respect to the so-called "Small Cell" cell towers in Palo Alto residential neighborhoods (Wireless 17PLN-00169).

The [Palo Alto] City Council and the ARB must realize that **nothing** in the 1996 Telecommunications Act **limits or affects the authority** of a State or local government **from regulating the operations of personal communications services**, including power output and hours of operation of these Wireless antennas (Wireless 17PLN-00169). When regulating the operations of personal communications services, the State or local government or instrumentality can consider environmental effects, including health effects. Read the law here: <http://scientists4wiredtech.com/legislation/1996-federal-telecommunications-act-s-652/>.

12/7/17 @ 2:15 pm email:

As a member of the public, I was disadvantaged by not being able to prepare the most relevant and accurate public testimony for this morning's Architectural Review Board Meeting because I am still lacking reasonable answers to the important questions that I asked the City of Palo Alto on 12/2/17, summarized in Sections A and

Appendix C

B, below. I did not get answers from the City of Palo Alto in time for 12/7/17 ARB meeting from either Jodie Gerhardt or from Rebecca Atkinson; I hope to get more thorough, accurate and thoughtful answers to our questions from the City of Palo Alto in the next week or so.

This morning the ARB voted 4-1 to require undergrounding of all ancillary (non-antenna) equipment. The key issue referenced by the Verizon attorney was that undergrounding in Piedmont caused so much noise (from cooling fans) that it violated the City's Noise ordinance -- which is, actually a very easily-addressable issue.

Check with any geek that you know who has ever built his/her own gaming PC with one of the latest graphics cards -- a rig that must address overheating. The geek has a choice to stick with smaller, high-rpm fans (low cost, high noise), larger, low-rpm fans (mid-cost, mid-noise) or liquid cooling/heat sinks (high cost, no noise), just like your car's radiator.

Liquid cooling and heat sinks are simple noise solutions for undergrounding ancillary equipment. Trust me. Verizon can afford it

12/12/17 @ 9:38 am email:

Ms. French, I am dismayed that your staff continues to stonewall and communicate nothing of substance that could qualify as answers to these questions. We received one email from Jodie Gerhardt on 12/6/17: she forwarded a 12/6/17 email from Hammett & Edison, which, unfortunately, did not answer any of the questions. I therefore, consider that the City of Palo Alto has not adequately addressed any of the 16 questions, listed below.

Please respond to this email with either:

A. Your staff intends to answer the questions and we can expect answers by a specific date (please provide the date), OR

B. Your staff intends to never answer these questions.

As your staff has returned no calls or emails since 12/6/17, I can only assume that with no response from you or your staff (either A or B, above) by the close of business on Wed 12/13/17 that the City of Palo Alto's choice is B.

I will then take the next steps to address the City of Palo Alto's negligence in completing its required due diligence in processing this Wireless 17PLN-0016 application.

Appendix C

Email communications from Paul McGavin, Scientists for Wired Technology, to Palo Alto's Planning Staff and City Council

City of Palo Alto Revenue Collections

Received From: Amrutha

Date: 4/9/18

In Payment Of: Appeal

By: _____

ITEM

() Certified Mail Fee	40050009	18990	\$ _____
() False Alarm Late Fee	70020002	13110	\$ _____
() Miscellaneous Revenue	10200000	18990	\$ _____
() Transient Occupancy Tax	10200000	11850	\$ _____
() Sales Tax	10200000	60050	\$ _____
() Utility User Tax	10300000	11870	\$ _____
() ZoneMapSales	60020201	17030	\$ _____
() Univ Ave Parking	23600000	14510	\$ _____
() Calif Ave Parking	23700000	14520	\$ _____
() Lot S Parking	23600000	14500	\$ _____
<input checked="" type="checkbox"/> Other	<u>60020402</u>	<u>13290</u>	<u>\$ 280 -</u>
		Total	\$ _____

Copies to: _____

22-37 REV 10/03

Cash () Check ☒

Customer Copy



C E 2 0 1 8 0 9 9 0 0 1 - 7 9

Check

Check Nbr: 0921

Total Received: \$280.00

Check

\$280.00

TOTAL:

\$280.00

1 ITEM TOTAL:

\$280.00

Total:

\$280.00

GL #: 60020402..13290...

Allocation 29

1@ \$280.00

Reference: amrutha kattamuri appeal

2018099001-79-1

Miscellaneous

Date/Time: 04/09/2018 4:46:52 PM

Reference Number: 2018099001-79

Revenue Collection

City of Palo Alto

City of Palo Alto

City of Palo Alto

Appendix D

William F. Hammett of Hammett & Edison Inc. is a problem for many communities because he plays fast and loose with the term "safety", something the FCC RF microwave radiation exposure guideline has never and can never claim. He has made a career defending a fraudulent commercial guideline and misleading people into thinking it is a safety guideline. Like his book, his analysis is stuck in 1997 and he has not kept pace with the tens of thousands of biological studies that have concluded significant harm from RF microwave radiation exposures at levels far below the levels set by the **ludicrously-high FCC RF microwave radiation exposure guideline**.

Hammett is a Professional Engineer who signs all kinds of specious pulsed, data-modulated, Radiofrequency Microwave (RF/MW) Radiation Exposure reports based on his 'proprietary' methods of calculating RF Microwave Radiation exposures (a proprietary spreadsheet that allegedly takes reflection into account from buildings and topography). Hammett wrote a thin text book (172 pages) in 1997 and has never updated it: "*Radio Frequency Radiation: Issues & Standards*"

<https://www.amazon.com/Radio-Frequency-Radiation-Issues-Standards/dp/0070259291/>

He wrote the reports for RF microwave radiation exposure reports for Monterey and Piedmont and was called in to do a post-construction report for Palo Alto, CA after we posted Eric Windheim's professional RF microwave radiation exposure measurements at the link below. As an engineer, **Hammett has no expertise in biology, does not read/evaluate the biological literature with any expertise and is unqualified to make statements about RF microwave radiation safety, other than for preventing acute burns.**

Hammett & Edison In Palo Alto, CA

Take a look at the results from these two important analyses of existing Close Proximity Microwave Radiation Antennas (CPMRA) already installed in Palo Alto.

- **Palo Alto 4G Small Cells: An Extreme Health Hazard** <http://scientists4wiredtech.com/2017/04/palo-alto-4g-small-cells/>
- **Palo Alto Whitewashes RF Microwave Radiation Exposure Hazards** <http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

Received
APR 10 2018

Department of Planning
& Community Environment

From personal conversations with William Hammett in Santa Rosa, it is clear that Hammett does not even seem curious about the current science and **Hammett is unwilling to collect the data that would accurately characterize the reality of the pulsed, data-modulated, Radiofrequency Microwave Radiation exposure environment**: a data log of exposure over time that shows the peaks of the radiation, from which, one can calculate the misleading average. Hammett's Narda meters can collect such a log -- he simply refuses to collect the data -- which is a real sticking point in Palo Alto:

Before we consider Mr. Hammett's analysis and letter a misleading whitewash, will the City of Palo Alto please answer the following questions?

- **Q1:** At what time of the day were Mr. Hammett's measurements taken?
- **Q2:** For each location, how many minutes did Mr. Hammett take these measurements? More or less than 30 minutes, the standard for general public exposure RF Microwave radiation measurements?
- **Q3:** Once we know the answer to Q2, do you then have a data log for all of the measurements during this time period?
- **Q4:** Did you compare RF/MW radiation levels during different activities and at different times of day? We all know that network traffic varies by activity and throughout the day. Specifically, how did the average and peak readings compare during the following activities:
 - **a:** Beacon signals only, with no one in the office was connecting a device to the antenna on the light pole

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- **b:** While making a Verizon call
- **c:** When sending/receiving a Verizon text
- **d:** When streaming a video from the Verizon antenna
- **e:** When downloading a software update from the Verizon antenna
- **Q5:** What was the maximum instantaneous power/density RF/MW radiation reading (a configuration option available on the NBM-520 Broadband Field Meter)?
- **Q6:** How do the maximum instantaneous power/density RF/MW radiation readings compare to the average readings?

The City of Palo Alto and Hammett, so far, have refused to answer these reasonable questions. You can read more about my assessment about Hammett's incomplete and misleading responses on this web page:

<http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

Hammett & Edison In Elk Grove, CA

We also ran into Hammett & Edison at the Elk Grove school District. In this case, he signed an RF Microwave Radiation exposure report for the schools even though his employee used a meter/probe combo that measured only the 2.4 GHz portion of the Wi-Fi exposures, not the 5.8 GHz portion. We know from the schools Wireless Access Point (WAP) specs that the WAPS transmit at both 2.4 GHz and 5.8 GHz. **This was unprofessional and misleading work from Hammett & Edison** — which we got that into the public record:

- <https://www.youtube.com/watch?v=CgldhZiA7jc>
- <http://scientists4wiredtech.com/2017/12/broadband-fail-palo-alto-1/>

Hammett & Edison In Monterey, CA

In Monterey, Hammett was stumping for the Close Proximity Microwave Radiation Antennas (CPMRA) antennas, **which were denied**. Listen to what Hammett says in the following Monterey video (**view MPC 03-15-18 6 pm** (currently #11 on the list, as of 4/9/18).

<https://monterey.org/City-Hall/The-Monterey-Channel/Planning-Commission-Video-on-Demand>

William Hammett at 2:18:38:

"the issue of compliance with health standards is preempted by the FCC, as an act of Congress to the extent -- the issue of RF Exposure is off the table -- to the extent that it meets the Federal standards"

William Hammett at 4:26:38:

"It was an act of Congress that preempted local jurisdictions from applying anything tighter than the FCC standard. It wasn't just an FCC rulemaking, it was Congress . . . the underlying science has been updated with all the continuing research that happens, most of it concerns the actual phones themselves, rather than the plane wave fields that come from the towers, but the standard has been updated, without being tightened, as more and more science is done. They are voting now on a new standard -- uh IEEE standard -- uh we expect it out this year 2018, or early 2019. I've seen the early drafts of it. It's still the same standard. There is no change from the science that's been happening that would cause them to tighten the standard."

These statements are inaccurate in many ways. How does these statements square with the findings of actual PhD Biologists and Toxicologists? They don't. **Conclusion: Hammett is a Wireless Industry shill.**

- **International EMF Scientist Appeal** <https://emfscientist.org/>
- **FCC Review of RF Exposure Policies:** <https://www.fcc.gov/document/fcc-review-rf-exposure-policies>
- **2018 NTP Conclusions re: RF Microwave Radiation Studies in Rats:**

https://ntp.niehs.nih.gov/ntp/about_ntp/trpanel/2018/march/actions20180328_508.pdf

The topline results from the March, 2018 National Toxicology Program (NTP) Public Review of Cell Phone Radiofrequency Microwave Radiation Exposures, are summarized here: <http://scientists4wiredtech.com/2018/03/2018-ntp-conclusions-re-rf-microwave-radiation-studies-in-rats/> The National Toxicology Program (NTP) convened the NTP Technical Reports Peer Review Panel ("the Panel") on March 26-28, 2018, to peer review two Draft NTP Technical Reports on Cell Phone Radiofrequency Microwave Radiation. Meeting information, including the draft reports, is available at the NTP website (<https://ntp.niehs.nih.gov/go/36051>). A meeting report will be prepared and posted to the NTP website when completed.

Neoplastic Lesions: GSM Modulation

Male Hsd:Sprague Dawley SD rats, exposed to GSM-modulated cell phone RF Microwave Radiation at 900 MHz

Panel 2 voted to recommend (8 yes, 3 no, 0 abstentions) the conclusion,

- **Clear evidence of carcinogenic activity** of male Hsd:Sprague Dawley SD rats based on incidences of malignant schwannoma in the heart

Panel 2 voted to recommend (7 yes, 4 no, 0 abstentions) the conclusion,

- **Some evidence of carcinogenic activity** of male Hsd:Sprague Dawley SD rats based on incidences of malignant glioma in the brain.

Panel 2 voted to recommend (6 yes, 4 no, 1 abstention) the conclusion,

- **Some evidence of carcinogenic activity** of male Hsd:Sprague Dawley SD rats based on incidences of pheochromocytoma (benign, malignant, or complex combined) in the adrenal medulla

Nonneoplastic Lesions: GSM Modulation

Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written,

- **Increases in nonneoplastic lesions in the heart, brain, and prostate gland** of male rats occurred with exposures to GSM cell phone RF Microwave Radiation at 900 MHz.

Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written,

- **Increases in nonneoplastic lesions in the heart, thyroid gland, and adrenal gland** in female rats occurred with exposures to GSM cell phone RF Microwave Radiation at 900 MHz.

What Hammett reports is Wireless industry spin. It is part of a long con job perpetrated by Wireless industry lobbyists back in 1996 and perpetuated by close-minded City Councils, Planning Staff, ARB/Planning Commissioners, State and Federal legislators and many attorneys. These people are often "captured" by their education and are unable to think outside of the box. The best attorneys do think outside of the box. Hammett happily remains in the box -- it makes him a lot of money.

A **careful reading of the actual law**, the 1996 Telecommunications Act, proves that Palo Alto has clear duties to uphold the CA constitution and protect both the safety and privacy of their residents, regardless of what some lower court judge may have incorrectly decided. The only things that can preempt local officials' duties are Federal or State laws passed by our elected representatives. Case law cannot make preemption law or contradict our constitutions.

The Federal Telecommunications Law (with which all FCC rules and regulations must be consistent) says the following:

SEC. 704. (a) (7) (B) (iv) "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions."

As anyone can plainly read:

- Environmental effects **do not equal health effects**; any judge that may have previously made such an error, stating the two are equivalent, can be overturned.
- Only **placement, construction, and modification** were preempted — nothing else.

There has **never** been a prohibition of discussing or considering health impacts of pulsed, data-modulated, Radiofrequency Microwave Radiation on humans or other living organisms. There is full text to review at the following two links:

- **Penultimate** Version of TCA, Section 107 has the words operate and operation throughout
<http://scientists4wiredtech.com/legislation/1995-federal-communications-act-hr-1555/>
- **Ultimate** Version of TCA the words operate and operation have been removed, expressing Congressional intent
<http://scientists4wiredtech.com/legislation/1996-federal-telecommunications-act-s-652/>

In addition, **Hammett insists on looking only at average RF microwave radiation readings**. Looking at only averages is misleading and forces people to continue to play on a field defined by Telecom Lobbyists back in 1996 with the passage of the controversial 1996 Telecommunications Act in Feb 1996 and the acceptance of an existing RF Microwave radiation exposure guideline by the FCC in August, 1996 -- read the history on this page: <http://scientists4wiredtech.com/regulation/rf-microwave-exposure-guidelines/>.

Even the main paper the FCC based its standard on, <http://ncrponline.org/publications/reports/ncrp-report-86/>, discusses non-thermal effects. The paper just picked the "easier-to-measure" principle: heating-of-tissue. A lot happens to one's biology on-the-way to heating tissue. The body reacts negatively to the high crest peaks, as described well in laymen's terms by Dr. Andrew Marino in this short video.

<https://youtu.be/a2PNFEdmYok?t=1m36s>

Hammett & Edison In In San Francisco, CA

Here is some more dubious work from Hammett & Edison in San Francisco.

AT&T Mobility Proposed Base Station (Site No. CC2260)

577 Castro Street, San Francisco, California

The following is from page 37 of the 2014 87-page pdf, attached.

Hammett & Edison:

"4. Location (and number) of Applicant's antennas and back-up facilities per building and location (and number) of other WTS at site. AT&T proposes to install nine Andrew Model SBNHH-ID65A directional panel antennas behind view screens surrounding the elevator penthouse above the roof of the four-story mixed-use building located at 577 Castro Street. The antennas would be mounted with up to 40 down-tilt and would be oriented in groups of three toward 1300 T, 2250 T, and 3300 T. The antennas oriented toward 2250T and 3300T would be mounted an effective height of about 52 feet above ground, 101/2 feet above the roof, and the antennas oriented toward 1300T would be mounted at an effective height of about 54.5 feet above ground 13 feet above the roof.

5. Power rating (maximum and expected operating power) for all existing and proposed backup equipment subject to application. The expected operating power of the AT&T transmitters is reflected in the resulting effective radiated power given in Item 6 below; the transmitters may operate at a power below their maximum rating.

6. Total number of watts per installation and total number of watts for all installations at site. The maximum

effective radiated power proposed by AT&T in any direction is **9,910 watts**, representing simultaneous operation at

- **1,340 watts** for 700 MHz service [has 4,666,667 $\mu\text{W}/\text{m}^2$ limit]
- **800 watts** for cellular [850 MHz has 5,666,667 $\mu\text{W}/\text{m}^2$ limit]
- **5,030 watts** for PCS [1,900 MHz has 10,000,000 $\mu\text{W}/\text{m}^2$ limit]
- **2,740 watts** for WCS [2,300 MHz has 10,000,000 $\mu\text{W}/\text{m}^2$ limit]
- Estimated ambient RF levels for proposed site and identify three-dimensional perimeter where exposure standards are exceeded. For a person anywhere at ground, the maximum RF exposure level due to the proposed AT&T operation is calculated to be 0.022 mW/cm², which is 3.1% of the applicable public exposure limit."

Note: 24/7/365 Ground Exposure due to 9 new antennas

- 0.022 mW/cm² is average RF Microwave radiation
- 220,000 $\mu\text{W}/\text{m}^2$ is equal average RF Microwave radiation
- 22,000,000 $\mu\text{W}/\text{m}^2$ is corresponding peak RF Microwave radiation (100x average)

"Ambient RF levels at ground level near the site are therefore estimated to be below 4.1% of the limit."

Note: 24/7/365 Ground Exposure current levels plus 9 new antennas

- 0.041 mW/cm² is average RF Microwave radiation
- 410,000 $\mu\text{W}/\text{m}^2$ is equal average RF Microwave radiation
- 41,000,000 $\mu\text{W}/\text{m}^2$ is corresponding peak RF Microwave radiation (100x average)

Hammett & Edison: "The maximum calculated level at any nearby building is 92% of the public limit."

Note: 24/7/365 Neighbor exposure from 9 new antennas

- 0.920 mW/cm² is average RF Microwave radiation
- 920,000 $\mu\text{W}/\text{m}^2$ is equal average RF Microwave radiation
- 92,000,000 $\mu\text{W}/\text{m}^2$ is corresponding peak RF Microwave radiation (100x average)

Hammett & Edison: "Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by AT&T Mobility at 577 Castro Street in San Francisco, California, can comply with the prevailing standards for limiting human exposure to radio frequency energy and, therefore, need 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 base stations."

In reality, how safe are any of the people living near this cell tower installation in San Francisco?

William F. Hammett is a party that is aiding and abetting the Wireless industry to damage a large portion of the population with hazardous levels of pulsed, data-modulated, Radiofrequency Microwave Radiation — it matters little that these hazardous levels are far below the fraudulent FCC RF microwave radiation exposure guideline. One can't lie to one's biology — **the body reacts to the peaks of RF microwave radiation which gets worse when large data payloads (like HD/4k videos) are transmitted wirelessly.**

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APR 10 2018

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May 2, 2018

VIA EMAIL

Mayor Liz Kniss
Vice Mayor Eric Filseth
City Council Members Tom DuBois, Adrian Fine,
Karen Holman, Lydia Kou, Greg Scharff,
Greg Tanaka and Cory Wolbach
City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301

Re: Verizon Wireless Response to Appeals
Tier 3 Wireless Facility Permit 17PLN-00169
Eleven Small Cells in the Public Right-of-Way
Council Agenda May 21, 2018

Dear Mayor Kniss, Vice Mayor Filseth and Council Members:

We write on behalf of Verizon Wireless to urge you to uphold the recommendation of the Architectural Review Board (“ARB”) and approval by the Director of Planning and Community Environment of eleven small cells in the Palo Alto right-of-way (the “Approved Facilities”). Verizon Wireless has worked closely with the City to design small cells that will pose minimal impact while bringing improved network service to Palo Alto residents, workers and visitors. In addition to three hearings before the ARB, Verizon Wireless hosted community meetings and made several improvements to the small cell design based on the feedback received. The Approved Facilities comply with all requirements of the Palo Alto Municipal Code (“PAMC”) and meet all other requirements for approval. The appeals challenging the Director’s approval are without merit. We urge you to reject them and uphold the Director’s well-reasoned approval.

I. The Project.

The Approved Facilities, placed on existing utility poles, have been designed to pose minimal impact to the adjacent neighborhoods. Verizon Wireless will mount one four-foot tall cylindrical antenna on top of each of eleven wood utility poles. To comply

with State regulations, the antennas must be elevated six feet above electric supply lines.¹ The entire pole-top extension will be concealed by a narrow seven-foot “bayonet shroud” with a tapered design chosen by the ARB that provides a smooth transition from the pole to the antenna base. Two of the eleven poles require replacement due to insufficient structural capacity. In these cases, the replacement pole will be seven feet taller in order to meet required antenna separation from electrical lines.

For all eleven small cells, associated equipment will be placed on the side of each pole, stacked vertically between eight and nineteen feet. This equipment includes three small remote radio units (“RRUs”), three very small diplexers and a fiber demarcation box. To achieve better integration with the appearance of the pole, all of this equipment will be concealed within a single, slender vertical “box shroud.” A small cutoff switch box will be placed below the shroud. Visible components will be painted a color that matches the particular wood pole. At six locations with inadequate tree screening, Verizon Wireless will plant one or two new street trees.

Both the antenna bayonet shroud and the equipment box shroud were selected by the ARB, and Verizon Wireless has updated its mock-up facility at 1350 Newell Road to reflect the latest design for the Approved Facilities. Photographs of the mock-up facility are attached as Exhibit A. A map showing the locations of the eleven Approved Facilities is attached as Exhibit B.

Verizon Wireless hosted a community meeting to present preliminary small cell plans for this area on March 30, 2017. Community support for the Approved Facilities is clear in the 430 text messages of support received as documented in a letter from a Verizon Wireless Director attached as Exhibit C.

II. The Approved Facilities Meet All PAMC Standards and Findings for a Tier 3 Wireless Facility Permit.

As confirmed in the Director’s approval, all of the Approved Facilities comply with the PAMC’s wireless facility standards. All equipment is confined to a utility pole, height is increased by the minimum required to comply with state regulations, and Verizon Wireless has revised the design to include a new smaller RRU and eliminate battery backup power – all choices that enable the smallest footprint possible and minimize height, mass and size. PAMC §§ 18.42.110(i)(1), 18.42.110(i)(2). Placed on existing utility infrastructure with pole-top extensions and equipment concealed within shrouds, the Approved Facilities are screened from public view, compatible with the existing site, and camouflaged through screening techniques. PAMC §§ 18.42.110(i)(3), 18.42.110(i)(4), 18.42.110(i)(6). The pole-mounted small cells involve no impact to existing landscaping, and in fact, Verizon Wireless will plant new street trees at six locations. PAMC §§ 18.42.110(i)(5).

¹ See Public Utilities Commission General Order 95 Rule 94.4(C).

The Approved Facilities also meet relevant architectural review findings required for a Tier 3 wireless facility permit. By concealing pole-top extensions and equipment within shrouds selected by the ARB and painted to match the wood poles, the Approved Facilities provide harmonious transitions in scale and mass and pose no impact to adjacent uses. PAMC § 18.76.020(d)(2)(D). Shrouds are custom-manufactured to present an appearance consistent with other utility pole elements, with attention to high aesthetic quality and compatible materials. PAMC § 18.76.020(d)(3). Pole-mounted equipment poses no impact to pedestrians or bicyclists. PAMC § 18.76.020(d)(4). New drought-resistant street trees at six locations will enhance the surroundings. PAMC § 18.76.020(d)(5).

The Approved Facilities likewise meet required conditional use permit findings. Because each of the eleven small cells comply with Federal Communications Commission (“FCC”) guidelines for radio frequency (“RF”) exposure, emit no noise and pose no impact to pedestrian or vehicle circulation, there will be no detriment to public health, safety, welfare or convenience. PAMC § 18.76.010(c)(1). In fact, the Approved Facilities will provide an important public benefit through improved broadband wireless service for residents, visitors and emergency service personnel. The Approved Facilities are also consistent with the Palo Alto Comprehensive Plan and purposes of zoning regulations. PAMC § 18.76.010(c)(2). The PAMC allows wireless facilities in residential zones, and Verizon Wireless’s small cells will be placed on City-owned poles pursuant to a license agreement, as encouraged by Comprehensive Plan Program L9.11.2.

Because the Approved Facilities meet all PAMC standards and findings for approval of a Tier 3 wireless facility permit, the Council should uphold the Director’s approval.

III. Other Applicable Law.

While the City’s review of this project is governed primarily by the PAMC, it must also comply with federal and state law. This includes the federal Telecommunications Act and Section 7901 of the California Public Utilities Code. We explain below how these laws constrain the City’s discretion.

A. Federal Law

The federal Telecommunications Act generally preserves local land use authority over wireless facilities, but places significant limits on such local authority. Among other restrictions, denial of a wireless facility must be based on substantial evidence. 47 U.S.C. § 332(c)(7)(B)(iii). As interpreted under controlling federal court decisions, this means that a local government’s decision to deny a wireless facility application must be based on requirements set forth in the local code 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”). While a local government may regulate the

placement of wireless facilities based on aesthetics, mere generalized concerns or opinions about aesthetics or compatibility with a neighborhood do not constitute substantial evidence upon which a local government could deny a permit. *See City of Rancho Palos Verdes v. Abrams*, 101 Cal. App. 4th 367, 381 (2002).

Two other provisions of the Telecommunications Act are potentially relevant here. The Act also provides that local governments may not regulate wireless facilities based on their RF emissions, *see* 47 U.S.C. § 332(c)(7)(B)(iv), and may not discriminate unreasonably between providers of functionally equivalent services. *See* 47 U.S.C. § 332(c)(7)(B)(i)(I). As we explain below, granting the relief sought in the appeals would run afoul of one or more of these provisions.

B. State Law

Verizon Wireless is a telephone corporation under California law, and thus has a statewide franchise to place its equipment in the public rights-of-way pursuant to Section 7901 of the California Public Utilities Code. Section 7901 provides that:

Telegraph or telephone corporations may construct lines of telegraph or telephone lines along and upon any public road or highway, along or across any of the waters or lands within this State, and may erect poles, posts, piers, or abutments for supporting the insulators, wires, and other necessary fixtures of their lines, in such manner and at such points as not to incommode the public use of the road or highway or interrupt the navigation of the waters.

While the City retains authority to “exercise reasonable control as to the time, place, and manner in which roads, highways, and waterways are accessed,” such control must, “at a minimum, be applied to all entities in an equivalent manner.” Pub. Util. Code § 7901.1(a), (b). Under these provisions, the City may not require Verizon Wireless to prove the technical need for the small cells, or impose burdens – such as vaulting its equipment – not applied to other wireless carriers.

IV. The Appeals Have No Merit, and This Council Should Uphold the Director’s Approval.

Seven appeals were filed challenging the Director’s approval. As we explain, none of the appellants raise substantial evidence to warrant denial of the application or any other relief. For this reason and others, granting any of the relief requested in the appeals would violate the rights of Verizon Wireless under state and federal law.

A. Summary of the Appeals

Three of the seven appeals challenge all of the Approved Facilities. These include the appeals of Russell and Patricia Targ, Amrutha Kattamuri and Susan Downs,

and Jeanne Fleming. The Targ and Downs appeals are based primarily on concerns about the alleged dangers of RF emissions,² while the Fleming appeal argues that the City should require all of the equipment to be installed in underground vaults.

The other four appeals are limited to individual small cells. These include the appeals of Herc Kwan (node 129), Franchesca Lane Kautz (node 143), Christopher Linn (node 130), and RK Parthasarathy (node 134). The Kwan appeal argues that the equipment should be vaulted, that his house is not in a flood hazard zone, and that the small cell will lower his property values and may pose a fire risk. He also argues that there is no significant gap in Verizon Wireless coverage at his house, and that the small cell is unnecessary because Verizon Wireless plans to install a “macro” facility at 1082 Colorado Avenue, 0.8 miles away.

The Kautz and Linn appeals largely overlap, both focused on a desire for the City to move existing utilities underground, which they assert will be difficult or impossible if Verizon Wireless installs its equipment on utility poles. The Kautz appeal also questions the structural safety of the pole in a fire or earthquake, but the pole is over a block away and on a different street than the Kautz residence. Ms. Kautz also asserts that landscaping will not screen the pole-top antenna from view, and purports to state objections on behalf of neighbors who live much closer to the pole and supposedly have good Verizon Wireless service.

The Linn and Parthasarathy appeals also argue, like the Kwan appeal, that the new macro facility at 1082 Colorado Avenue renders the small cells closest to their residences unnecessary. The Parthasarathy appeal also argues that the City should require vaulting of the equipment, and raises concerns that the facility poses “potential physical and fire hazards” and expresses concern about the “potential implications to our property value.”

B. RF Emissions Comply with Federal Limits and Have No Bearing on the City’s Review of the Approved Facilities.

The Targ and Downs appeals are based on concerns over RF emissions and the alleged effects of such emissions on property values. Local governments are specifically precluded under federal statute from considering any alleged health or environmental effects of RF emissions of proposed wireless facilities “to the extent such facilities comply with the FCC’s regulations concerning such emissions.” 47 U.S.C. § 332(c)(7)(B)(iv). In this case, RF exposure reports prepared by Hammett & Edison, Inc., Consulting Engineers confirm that the maximum exposure level at ground level from any of the Approved Facilities will be 3.1 percent – or 32 times below – FCC exposure guidelines.

² The Targ appeal also complains of lack of notice, and both the Targ and Downs appeals raise certain other issues that are either proxies for their primary concern about RF emissions (such as the alleged impact on property values) or raised in other appeals.

Moreover, federal preemption goes beyond decisions that are explicitly based on RF emissions. It also bars efforts to circumvent such preemption through some proxy concern such as effects on property values. *See, e.g., AT&T Wireless Servs. of Cal. LLC v. City of Carlsbad*, 308 F. Supp. 2d 1148, 1159 (S.D. Cal. 2003) (in light of federal preemption, “concern over the decrease in property values may not be considered as substantial evidence if the fear of property value depreciation is based on concern over the health effects caused by RF emissions”); *Calif. RSA No. 4, d/b/a Verizon Wireless v. Madera County*, 332 F. Supp. 2d 1291, 1311 (E.D. Cal. 2003).

Where, as here, a wireless facility will comply with FCC guidelines, health concerns, or any proxy for health concerns, cannot justify denial of the Approved Facilities. These unfounded concerns³ are preempted by federal law because the Approved Facilities comply with FCC guidelines, and these grounds for appeal must be rejected.

C. Placing Equipment in Underground Vaults is Not Feasible and Requiring It Would be Unlawful.

The Fleming appeal is focused entirely on the argument that the City should require Verizon Wireless to place its radio equipment in underground vaults rather than mounting it on the pole, and several other appeals echo this argument. After review of extensive evidence on this issue, the ARB recommended against vaulting, and the Director agreed, expressly finding: “This approval does not include any vaulting of equipment listed to be pole mounted, as vaulting was found to be infeasible at the approved locations.” Approval letter from Director of Planning and Community Environment, March 26, 2018, p. 6. That finding was correct. As described in the eleven vaulting feasibility analyses submitted to the City, Verizon Wireless determined that due to location constraints unique to each site, vaults are not feasible for any of the Approved Facilities. These constraints include:

1. Physical Constraints

Placing the equipment underground would require very large vaults that would seldom if ever fit Palo Alto’s narrow sidewalks. To accommodate the required three RRUs and provide required space for workers to service the equipment, a vault 8 feet 2 inches long and 5 feet 8 inches wide is required. Intake and exhaust vents must be placed at both ends, each 2.5 feet long and 2.5 feet wide.

Additionally, to reduce the risk of water intrusion, two sump pumps must be placed below a vault along with a drywell. Sump pumps release water into the nearby gutter. The total excavation area required to install all of this equipment is 18 feet long,

³ A study of local cities including Palo Alto previously submitted to the City by Joint Venture Silicon Valley, working with local realtor associations, found that proximity to wireless facilities does not affect home values or sale prices. *See Wireless Facilities Impact on Property Values*, Joint Venture Silicon Valley Network, November 2012.

10 feet wide and 8 feet 1 inch deep. A photograph of a Verizon Wireless vault in the Santa Cruz right-of-way is attached as Exhibit D.

Numerous factors preclude placement of vaults involving such excavation in Palo Alto. To meet technical requirements,⁴ vaults must be within 30 feet of the pole that hosts the antenna, and cannot encroach on either the street or adjacent private property. This leaves only a narrow strip of right-of-way within 30 feet of the pole, but much of that is ruled out by a host of other constraints. Existing underground utilities, including water and sewer lines, pose a major impediment to excavation and permanent vaults. City of Palo Alto Utilities (“CPAU”) requires that vaults be located at least five feet away from its utility poles. Vaults cannot be placed near street light poles, in driveways or in storm drain channels. Near designated protected or street trees, excavation may not intrude on tree protection zones which extend at least to the tree dripline area, or 10 times the diameter of the trunk at 4.5 feet. *See* Palo Alto Tree Technical Manual §§ 1.13, 1.36, 1.39, 2.15. In addition, adjacent property owners often install landscaping, fences or other improvements in public rights-of-way, and required excavation may interfere with these private improvements. As one example, the Santa Cruz vault required partially relocating a private fence, as illustrated in Exhibit D.

Finally, even if there were sufficient space for such large vaults, the significant excavation required would pose a serious disruption for nearby residents. Citing this and other concerns, the staff report to the ARB stated that staff “remains unconvinced that vaulting is a preferential form of screening in residential areas.” *See* ARB Staff Report ID # 8632, March 15, 2018, p. 3.

2. Noise

In response to feedback from Palo Alto residents in a community meeting, whose overwhelming concern was potential noise from the equipment, Verizon eliminated proposed battery backup units which were the only source of noise. Consequently, the Approved Facilities will generate no noise. In contrast, vaults require air circulation through ventilation systems that generate noise. To date, Verizon Wireless has not been able to obtain assurances that the required ventilation equipment will comply with the stringent noise standard in Palo Alto’s Comprehensive Plan, Policy N-6.1.⁵

⁴ The relatively low-wattage RRUs must be mounted close to antennas to avoid excessive loss of signal strength due to long cable runs. The maximum distance between antennas and RRUs is 100 feet. Subtracting the pole height and required undergrounding depth results in a 30-foot radius. Distances in excess of 100 feet require oversize cable nearly twice as thick as standard cable (increasing diameter from 7/8 inches to 1 5/8 inches). There is generally inadequate space to run the six oversize cables mounted in two six-inch diameter conduits up the length of a utility pole.

⁵ This composite “day-night” average Ldn standard sets 60 dBA Ldn as the guideline for maximum outdoor noise levels in residential areas, with a 10 dBA penalty during nighttime hours. By definition, sound from a continuous noise source will be 6.4 dBA higher when expressed in Ldn.

3. Water

The six proposed small cells closest to the bay are within flood hazard zones designated by the Federal Emergency Management Agency, and underground radios would be submerged in a flood event. Several appeals argue that CPAU installs water meters and electrical cables underground, but this is comparing apples to oranges. Unlike some underground utility equipment and protected cables, RRUs that contain radios and other sensitive electronic equipment would be ruined if submerged. Verizon Wireless has received correspondence from Ericsson, the manufacturer of the radios used by Verizon Wireless, that the warranty would not cover Verizon Wireless in such circumstances.⁶

The Fleming appeal raised the prospect of using water-resistant Ericsson radio units that have recently been deployed in manholes in Switzerland. The waterproof radios are low-wattage with antennas that provide only a small bubble of coverage in public plaza areas. These low-powered radios are not appropriate for use by Verizon Wireless in its Palo Alto network. One reason is that their low power would significantly reduce the coverage “footprint” and require many more antennas in many more locations. Aside from the potentially greater impact on the community, any attempt to require Verizon Wireless to re-engineer its network in this manner would intrude on the exclusive federal authority over the technical and operational aspects of wireless technology. *See, e.g., New York SMSA Ltd. Partnership v. Town of Clarkstown*, 612 F.3d 97, 105-106 (2nd Cir. 2010) (invalidating town ordinance because “the provisions setting forth a preference for ‘alternate technologies’” were “preempted”).

The Kwan appeal alleges that the residence nearest the proposed small cell at 2490 Louis Road is not in a flood hazard zone. While that may be true of the appellant’s residence and the pole location, the area of the right-of-way otherwise available for vaulting of small cell equipment falls within a flood hazard zone, rendering vaulting infeasible for this small cell. Verizon Wireless is providing supplemental information with accurate flood zone maps demonstrating the issues with this location.

4. Requiring Vaulting Would Be Unlawful

In addition to its lack of feasibility, a vaulting requirement would violate the rights of Verizon Wireless for at least two reasons. First, there is no substantial evidence that would support a vaulting requirement. Appellants’ preference for vaulting does not raise any non-compliance with PAMC standards, and the Director correctly found that the Approved Facilities meet PAMC design standards.

In addition, none of the evidence cited by appellants suggests that vaulting is feasible. Appellants have cited two other Verizon Wireless facilities that have deployed vaults, installed and operated by Crown Castle in Santa Cruz and Santa Barbara Counties.

⁶ Correspondence from Ericsson representative Jian Shiou Yong and Song Sun dated April 19, 2018.

However, experience with those vaults simply confirms the practical barriers discussed above. As noted above, the large excavation required as illustrated in Exhibit D, as well as heat, noise and dewatering issues make the Santa Cruz vault infeasible for the Approved Facilities. The Montecito vault in Santa Barbara County is slightly smaller than the Santa Cruz vault, but only accommodates smaller low wattage distributed antenna system (DAS) radios that provide limited coverage and do not require active cooling. The Montecito vault does not provide adequate space for the radios and technology designed for the Verizon Wireless Palo Alto network. In addition, the Montecito facility referenced in the Fleming appeal has required repeated replacement of underground radios and related equipment in the two years it has been operational, with resulting service interruptions.

Second, a vaulting requirement would discriminate unreasonably against Verizon Wireless. The City approved over 90 wireless facilities in the rights-of-way for AT&T and did not require any of the equipment to be vaulted. Those facilities are more intrusive than the Verizon Wireless equipment proposed here in two respects. They include large, pole-mounted battery backup units that are more visually intrusive than Verizon Wireless's Approved Facilities, and they also generate noise. In fact, we understand the AT&T facilities have been the subject of noise complaints. If the City were to require Verizon Wireless to install its equipment underground, while allowing AT&T to install more intrusive equipment on utility poles, it would discriminate unreasonably against Verizon Wireless in violation of both the Telecommunications Act and State law (Sections 7901 and 7901.1).

For all of the foregoing reasons, this ground for the appeals must be rejected.

D. Other Issues

1. The Approved Facilities Will Provide Needed Network Capacity, But Such Need is Not a Required Finding.

Several appellants claim that there is no "significant gap" in Verizon Wireless service at their home and that a pending application for a new Verizon Wireless macro facility in Palo Alto will obviate the need for the Approved Facilities. This is factually erroneous, and in any event, accepting this argument would put the City in conflict with both federal and state law. Due to increasing demands from residents and motorists on local roadways, Verizon Wireless RF design engineers determined that both the Approved Facilities and a new macro facility proposed for 1082 Colorado Avenue will be required to provide reliable network capacity within the Mid-Town, Palo Verde and St. Claire Gardens neighborhoods. The appellants are not RF engineers, and their lay opinions about network design do not constitute substantial evidence.

But whether the Approved Facilities are needed is not an issue that this Council need (or should) address. No finding of need or significant gap is required under the PAMC. For this reason, a denial based on the claim that there is no need for one or more

of the Approved Facilities would not be based on substantial evidence, in violation of the Telecommunications Act.

It would also violate State law. As a telephone corporation, Verizon Wireless is entitled to place its telephone equipment the public right-of-way by Public Utilities Code Section 7901. Because of this statewide franchise, Verizon Wireless is not required to demonstrate the need for its facilities, nor can the City deny a right-of-way application over questions of need. Further, the need for facilities is not relevant to findings for approval of a Tier 3 wireless facility permit.

2. The Approved Facilities Will Be Structurally Safe and Pose No Safety Risk.

Several appellants raise concerns over structural integrity of the small cells, citing safety and fire concerns. Verizon Wireless has evaluated the eleven proposed utility poles for structural integrity, and the two poles that cannot support small cell equipment will be replaced with poles that can. Structural capacity will be independently evaluated by Public Works Engineering during encroachment permit review. Additionally, CPAU reviews structural capacity in its role as pole owner. Condition 29 of the Director's approval, added by the Fire Department, requires compliance with state and local fire codes. These grounds for appeal are based on unfounded speculation and must be rejected.

3. The Approved Facilities Are Located and Designed to Pose Minimal Visual Impact.

The Kwan appeal objects to a small cell close to 2490 Louis Road based on visual impacts, and the Downs appeal questions whether the Approved Facilities are the "least intrusive means" to provide service. The Approved Facilities – located on existing utility infrastructure rather than new poles – present the most slender profile possible due to small equipment components and a custom shroud. The ARB itself selected the bayonet shroud to conceal pole-top extensions and the box shroud to conceal equipment. Verizon Wireless voluntarily chose to eliminate emergency battery backup cabinets to further minimize the size of the Approved Facilities and avoid any noise impacts. As set forth above, the Approved Facilities meet all PAMC standards for wireless facilities, all findings for architectural review, and all conditional use permit findings. As confirmed in the Director's approval, the Approved Facilities occupy the smallest footprint possible (and no ground space), and the design minimizes height, mass and size in compliance with PAMC standards. Generalized objections over visual impacts do not constitute substantial evidence or refute the Director's findings, and must be dismissed.

Verizon Wireless reviewed numerous alternatives for each of the eleven Approved Facilities. Because it is granted a statewide right to use any right-of-way under Public Utilities Code Section 7901, and because small cells have a limited coverage footprint, Verizon Wireless evaluated only nearby poles in the right-of-way. These

reviews are summarized in the eleven alternatives analyses provided to the City. In each case, the location approved by the Director represents a feasible pole location that poses as little impact as possible and complies with the PAMC.

The “least intrusive means” concept, drawn from federal case law, may be employed by wireless carriers claiming that denials of wireless facilities prohibit wireless service. It is not a PAMC finding, and it is not relevant to the Approved Facilities. Appellants claim that the Approved Facilities are not the least intrusive means is irrelevant and must be rejected.

In sum, appellants do not provide any evidence – let alone the substantial evidence required by federal law – to warrant denial of the Approved Facilities or a vaulting requirement.

4. The Approved Facilities Will Not Interfere With Future Undergrounding of Existing Utilities.

The Kautz and Linn appeals raise speculative future undergrounding of utilities in the vicinity. The master license agreement executed by Verizon Wireless and the City addresses the prospects of small cells in future underground utility districts. At the City’s request, Verizon Wireless must relocate facilities in such districts underground or may opt to relocate them to another available pole. *See Master License Agreement for Use of City-Controlled Space on Utility Poles and Streetlight Poles and in Conduits*, June 26, 2016, § 7.2.

5. Notice

Among other issues, the Targ appeal complains of lack of notice. The Targs were not entitled to receive notice because they do not live within 600 feet of any of the Approved Facilities. Their home at 1010 Harriet Street is over one mile from any of the Approved Facilities. As confirmed by staff, required notice of the ARB hearing was sent by postcard to addresses within 600 feet of the proposed small cells on February 28, 2018. *See* ARB Staff Report ID # 8632, March 15, 2018, p. 5.⁷

Conclusion

Verizon Wireless designed the Approved Facilities to pose minimal visual impact and no noise, while ensuring reliable network capacity for the Mid-Town, Palo Verde and St. Claire Gardens neighborhoods. The Director’s approval confirms compliance with all PAMC design standards and findings required for a Tier 3 wireless facility permit, while

⁷ Given the number of issues raised in the appeals, in the interest of brevity we have not addressed some of the more specious claims. These include, but are not limited to, the purported takings claim in the Targ appeal, the claim in the same appeal that the facilities will violate the ADA rights of the “electromagnetically sensitive,” and the argument in the Kautz appeal that even the antennas should be placed underground. This should not be construed as concurring with such claims.

Palo Alto City Council

May 2, 2018

Page 12 of 12

appellants raise no substantial evidence required by federal law to support denial or infeasible vaulting requirements. Reliable network service is essential for Palo Alto residents, visitors and emergency service personnel. We urge you to reject the appeals and uphold the Director's approval.

Very truly yours,

A handwritten signature in black ink, appearing to read "Paul Albritton", with a stylized flourish at the end.

Paul B. Albritton

cc: Albert Yang, Esq.
Rebecca Atkinson
Amy French
Jodie Gerhardt
Jonathan Lait

Schedule of Exhibits

- Exhibit A: Photographs of Verizon Wireless Mock-Up Small Cell at 1350 Newell Road
- Exhibit B: Map of Eleven Approved Facilities
- Exhibit C: Letter from Verizon Wireless Director regarding 430 Text Messages of Support
- Exhibit D: Photograph of Verizon Wireless Vault in City of Santa Cruz

Photograph showing the entire pole with a view of the face of the equipment.

Exhibit A



Cluster 4 • Node 052 • Pole 7423
SF Palo Alto Node 052

1350 Newell Road
Palo Alto, CA 94301

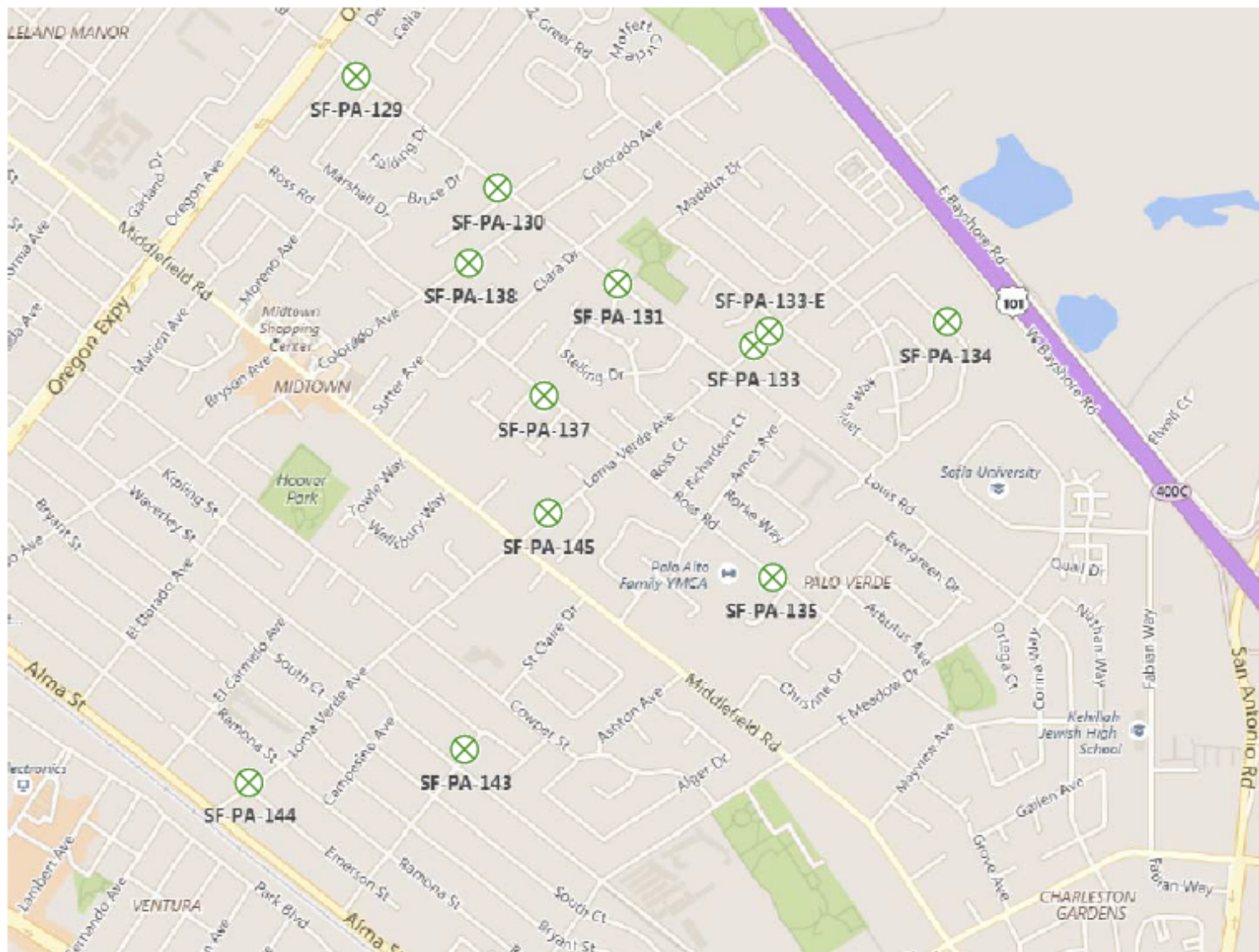
verizon✓

Photograph showing the entire pole with a profile view of the equipment.



Cluster 4 • Node 052 • Pole 7423
SF Palo Alto Node 052
1350 Newell Road
Palo Alto, CA 94301
verizon✓

Cluster 1 Node Locations





Verizon Wireless

15505 Sand Canyon Ave, Bldg. D
Irvine, CA 92618

October 5, 2017

Architectural Review Board
City of Palo Alto
250 Hamilton Avenue
Palo Alto, California 94301

Re: 430 Supporters for Improved Verizon Wireless Service
City of Palo Alto

Dear Board Members:

I am the Verizon Wireless Marketing Director over the team that maintains and manages all data and information messages that are sent to Verizon Wireless customers in California. In connection with the application referred to above, Verizon Wireless arranged for a text message to be sent to customers with billing addresses within the ZIP codes 94301, 94303, 94304 and 94306 in Palo Alto. The entire text message sent reads as follows:

Free message from Verizon: Reply YES to this text to show your support for improved Verizon Wireless service in Palo Alto. Add a message to tell the City you support small cells on select utility poles. Visit <http://improveyourwireless.com/paloalto/> to learn more and stay informed.

The text message above was sent to customers with billing ZIP codes 94301, 94303 and 94306 on March 9, 2017 and to customers with billing ZIP code 94304 on September 8, 2017. As of September 13, 2017, we have received 430 affirmative text message responses indicating support for improved Verizon Wireless service and six respondents opposed. Text messages received confirmed the need to provide improved Verizon Wireless service in Palo Alto. Samples of the text messages of support received from Verizon Wireless customers appear on the attached pages.

I am available to verify the above information as you may require.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeremy McCarty", written over a horizontal line.

Jeremy McCarty
Director
Customer Relationship Management

Attachment

**Sample Text Messages of Support
for Improved Verizon Wireless Service
in Palo Alto**

YES --- and please increase the number of small cells on utility poles. Thank you!

YES and SUPPORT for small cells on select utility poles

YES I Support Small cells on select utility poles.

Good idea

I definitely support SMALL Cells on select utility poles.

I fully support Verizon to install small cells on utility poles.

I support small cells on select utility poles

I support small cells on utility poles in Palo Alto!

Palo Alto has awful cell reception for Verizon users! Would love to have better service!
My phone only works at home on wifi.

Saw the sign of proposed transmitter...looks fine.,please proceed

Small cells on utility poles are a good idea

The cell coverage is awful in Palo Alto. I'm currently in Vail and the cell coverage on the mountain is significantly better than in my Palo Alto home.

We support small cells on select utility poles.

We support small cells on utility poles in Palo Alto.

YES I support additional small cell installations in Palo Alto, especially on Cowper Street where I live near Hoover park.

YES I support small cells in Palo Alto. My coverage is terrible. Thanks.

Yes it is needed badly

YES - my reception sucks in Palo Alto

YES ! Please! Even tiny out-of-the-way hamlets have better cell service than Palo Alto.

Yes give us more bars please.

Yes I support For improved Verizon Wireless service in Palo Alto

Yes! I support small cells in select utility poles in Palo Alto

YES. Almost every call gets dropped at some point.

Yes. City of Palo Alto: Please allow Verizon to install small cells on utility poles!!! We don't have service in our own home

YES. I support improvement of Verizon WIRELESS service in Palo Alto.

YES. I support small cells on certain poles.

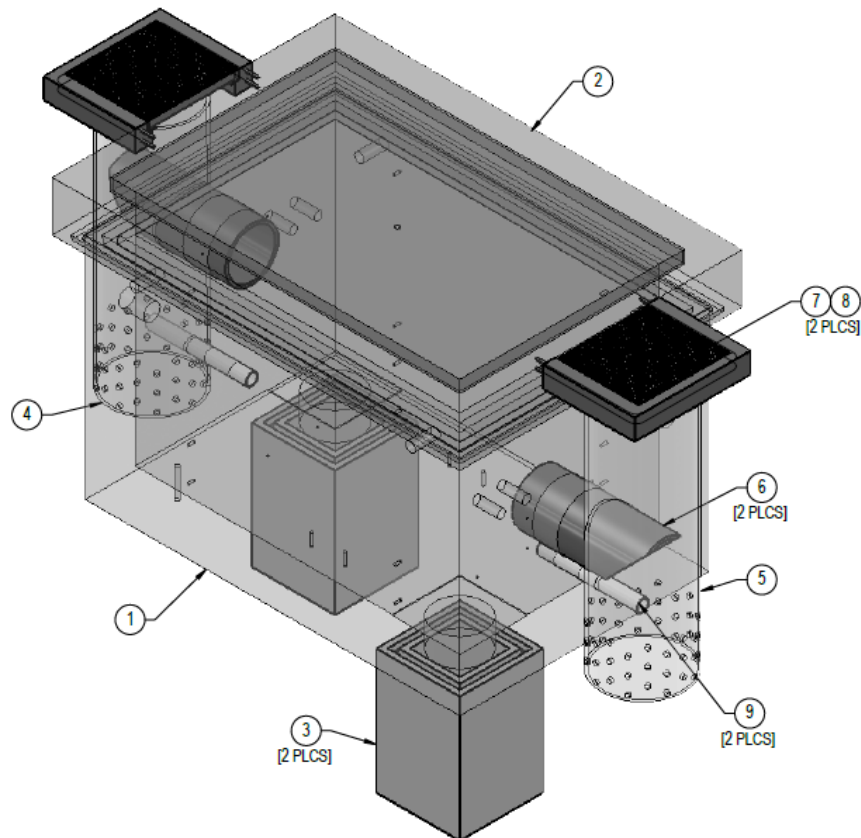
Yes. I support small cells on utility poles

YES. I SUPPORT THIS.

Yes. Only provider that works in most of the rooms of my house-better service and I will not have talk by a window!!

Yes....i.support cell phones on utility poles for improved reception.

Vaulting



WESTERN UTILITY / TELECOM, INC. 5032 SALEM DALLAS HWY SALEM, OR 97304 Ph: 503-587-0101 Fx: 503-316-1864 WesternUtilityTelecom.com	TITLE GROUND VAULT RADIO ENCLOSURE SANTA CRUZ, CA CROWN CASTLE PROJECT NUMBER 17-0395 SHEET S-1 DRAWING NUMBER ID-717
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Attachment I

Case Studies of Experiences of Other Jurisdictions

Palo Alto is not the only city receiving numerous applications from wireless carriers for installation of facilities in the rights of way. Throughout California, many cities are trying to balance the need and interest for expanded wireless service with community interests to have this equipment blend in better with the natural and built environment. Some recent case studies are provided below.

Town of Hillsborough – The wireless ordinance for the Town of Hillsborough (https://library.municode.com/ca/hillsborough/codes/code_of_ordinances?nodeId=TIT15BUCO_CH15.3_2WICOFA) clearly outlines low height limits and other design parameters for wireless projects. In its ordinance, Hillsborough directly relates the review of wireless applications to maintaining the rural character of the community, as well as proof of significant gap in coverage as an affirmative requirement, and other items.

The Hillsborough City Council recently adopted a resolution upholding the City Manager's denial of 16 DAS nodes proposed by Crown Castle, based on this ordinance, citing a variety of considerations including preserving the rural character of the town. On April 26, 2018, Crown Castle filed a complaint against the town in federal district court, alleging that the denial violated the Telecommunications Act of 1996. (<https://www.hillsborough.net/482/Wireless>).

City of Piedmont – The wireless ordinance for the City of Piedmont (DIVISION 17.46 WIRELESS COMMUNICATION FACILITIES; http://www.ci.piedmont.ca.us/html/city_code/pdf/chapter17.pdf) establishes a prioritization list for wireless facility locations, requires an affirmative finding that the facility is necessary to close a significant gap, and requires project compliance with City Design Guidelines. The City of Piedmont approved wireless facilities with radio equipment contained both in ground mounted equipment and in vaults. Mechanically generated noise sources are limited to a level not to exceed 50 decibels (A-weighted) beyond property perimeters per Chapter 5 of the City Code, regardless if equipment were in a cabinet, pole-mounted, or located in a vault. According to an October 2017 noise report evaluating an existing Crown Castle vault installed in Santa Cruz at 101 Tosca Terrace near High Street, (<http://www.ci.piedmont.ca.us/publicworks/docs/crowncastle/crown-castle-noise-study.pdf>), any vault proposed in Piedmont, if identical to the inspected one in Santa Cruz, would have to maintain a minimum distance of 16.75 feet to the next adjacent property line in order to not exceed the code limit on days that the temperature in the vault triggered the use of the fan. The report recommends that this opinion should be reviewed and certified by a qualified HVAC engineer if noise was an important criterion for obtaining a permit. The report suggested that noise emissions from the vault's exhaust fan could be further reduced (and the required minimum distance be decreased) by the following measures:

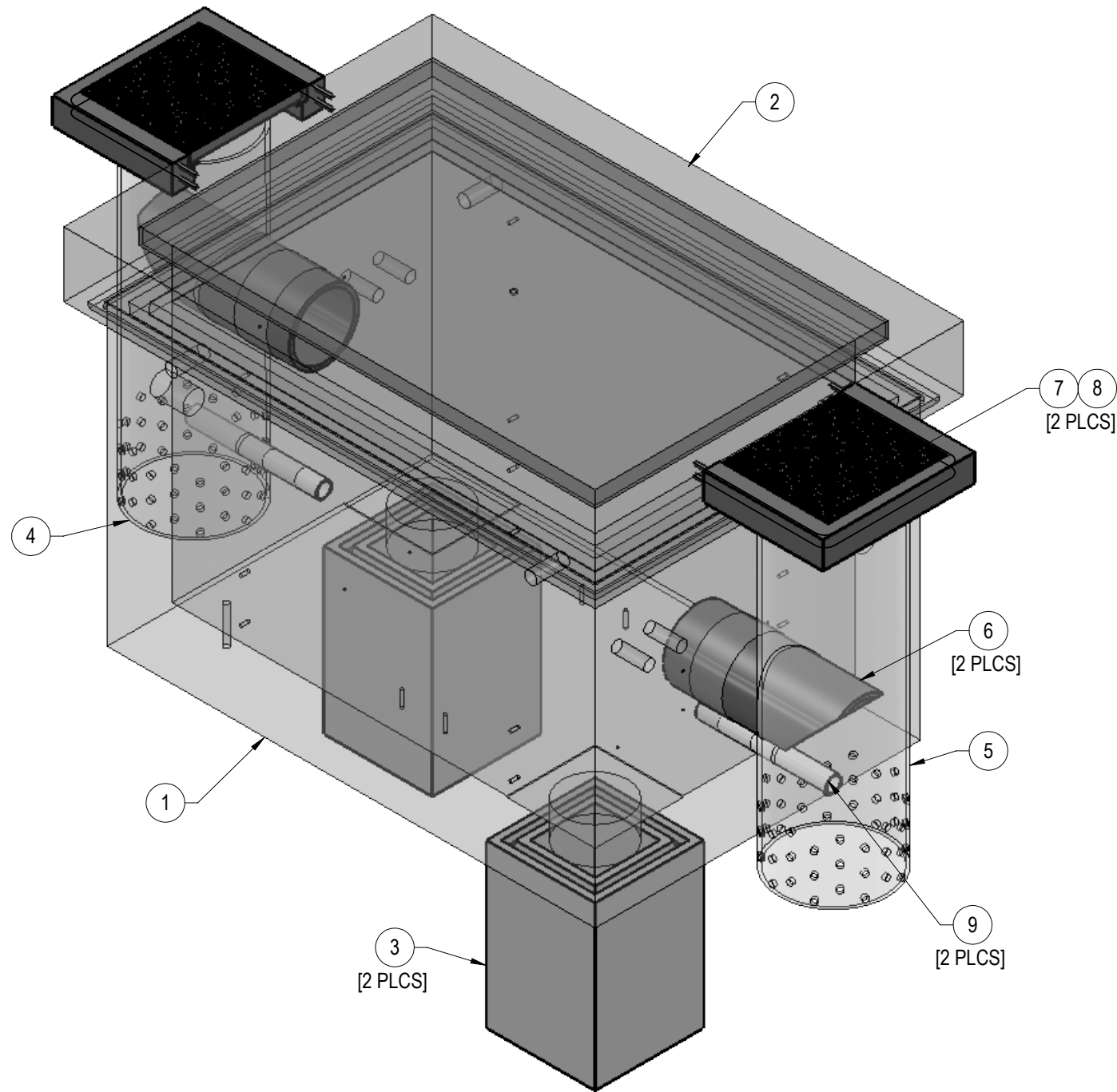
1. Insert a length of acoustically lined duct at the fan end and at the air intake end. Each foot length of this type duct will reduce noise levels by 3 to 5 dB.
2. Instead of an on/off thermostat, specify an electronic RPM control, at lower RPMs there will be less noise and the airflow might still be sufficient.
3. Specify a quieter in-line exhaust fan.
4. Line the vault walls and doors with Rockwool or ductliner.

In October 2017, the Piedmont City Council adopted resolutions denying five small cell applications and approving three others on the condition that radio equipment be placed underground. On November 15, 2017, Crown Castle filed a complaint against the city in federal district court, alleging that both the denials and the conditional approvals violated the Telecommunications Act of 1996. In particular, Crown Castle alleged that the conditional approvals were de facto denials, as the condition requiring that equipment be placed in underground vaults was technically infeasible and would result in violation of the City's noise ordinance.

City of Rancho Palos Verdes – The wireless ordinance for the City of Rancho Palos Verdes (<https://www.rpvca.gov/DocumentCenter/View/8488>), adopted in 2016, specifically requires all accessory equipment to be located underground, with the exception of the antenna and electric meter. Applicants may apply for an exception to placing equipment underground that includes extensive landscaping, screening, and/or camouflage, but that exception has a high standard to obtain and would be highly scrutinized by members of the public, reviewing bodies, and staff. Similar to Palo Alto, noise limits in Rancho Palos Verdes are low; node locations within 500 feet of residential zones or a residential use shall not exceed 45dBA three feet from the noise source and node locations in commercial or other areas shall not exceed 55 dBA three feet from the noise source.

The Rancho Palos Verdes City Council has recently approved WCF nodes for a variety of applicants, including approval on February 15, 2018, of nodes utilizing a 4'x6' vault similar to the vault design provided by Verizon. (See, e.g., ASG 32 and ASG 53, available at <https://www.rpvca.gov/916/Wireless-Telecommunications-Facilities>). All of the noise-related conditions of approval have been applied to the approved nodes and noise compliance does not appear to have been the subject of appeal by the applicant or public.

Santa Barbara County – Santa Barbara County's telecommunications ordinance is available at <http://sbcountyplanning.org/telecommunications/documents/Chapter35.44-TelecommunicationsFacilities.pdf>. As part of a multi-node Crown Castle/Verizon project review for inland and coastal areas in 2014, a Mitigated Negative Declaration for the project required that fans or air-cooling systems for those vaults incorporated into the project must operate at less than 65 dBA at all times.



ITEM #	PART #	DESCRIPTION	QTY.	UNIT WT. (lbs)
1	17126-1	4' x 6'-6" x 4' CONCR. GND VAULT	1	9443.6
2	17126-2	1'-0" x 5'-8" x 8'-2" CONCR. W/ HATCH	1	3013.2
3	17126-3	1'-8" x 1'-8" x 2'-6" DRYWELL,	2	708.1
4	17126-4	20" O.D. x .593" w x 5'-0" LONG PVC, PIPE	1	96.3
5	17126-5	20" O.D. x .593" w x 5'-0" LONG PVC, PIPE	1	96.3
6	17126-9	12 3/4" x .687" w x 2'-6" x PVC, PIPE	2	37.9
7	17395-12	W-19-4 3/16"x2" x 1'-7 3/16" x 1'-9" CARBON STEEL, GRATING	2	47.2
8	17395-13	5" x 1'-10" x 2'-4" CONCR. VAULT RISER	2	317.2
9	17126-10	2 7/8" O.D. x .203" w x 2'-0" PVC, PIPE	2	1.5

GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY SITE OR LAYOUT RESTRICTIONS, SITE CONDITIONS, DIMENSIONS, AND ELEVATIONS BEFORE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF WESTERN UTILITY TELECOM, INC. PRIOR TO BEGINNING PROJECT. ALL WORK SHALL BE PERFORMED USING ACCEPTED CONSTRUCTION PRACTICES.
2. NO FIELD MODIFICATIONS MAY BE MADE TO THE STRUCTURE WITHOUT THE EXPRESS WRITTEN CONSENT FROM THE ENGINEER OF RECORD. WESTERN UTILITY TELECOM, INC. AND ENGINEER OF RECORD ASSUME NO RESPONSIBILITY FOR THE STRUCTURE IF ALTERATIONS AND/OR ADDITIONS ARE MADE TO THE DESIGN AS SHOWN IN THESE DRAWINGS.
3. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL COMPLY WITH ALL LOCAL CODES, REGULATIONS, AND ORDINANCES AS WELL AS STATE DEPARTMENT OF INDUSTRIAL SAFETY (OSHA) REQUIREMENTS.
4. THE CONTRACTOR SHALL SUPERVISE AND DIRECT ALL WORK TO THE BEST OF HIS/HER ABILITY AND SKILL. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, AND SEQUENCES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
5. THE CONTRACTOR SHALL VERIFY, COORDINATE, AND PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS, OR OTHER SUPPORTS FOR ALL ITEMS REQUIRING SAME, WHETHER SHOWN OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, FORMWORK, ETC., AND SHALL CONFORM TO ALL NATIONAL, STATE, AND LOCAL ORDINANCES AND CODES IN ORDER TO SAFELY EXECUTE ALL STAGES OF WORK TO COMPLETE THIS PROJECT.
6. IT IS THE INTENT OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION OF THE STRUCTURE SHOWN.
7. CONTRACTOR ASSUMES RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES. THIS REQUIREMENT APPLIES CONTINUOUSLY, AND IS NOT LIMITED TO NORMAL WORKING HOURS.
8. CONTRACTOR TO HOLD ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN. THE CONTRACTOR IS FINANCIALLY RESPONSIBLE FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK ON THIS PROJECT.

REVISIONS				
REV	DESCRIPTION	DATE	DRW	CHK
-	INITIAL SUBMITTAL	25JUL17	TR	AM

MANUFACTURER

 **WESTERN**
UTILITY / TELECOM, INC.

5032 SALEM DALLAS HWY
SALEM, OR 97304
Ph: 503-587-0101 Fx: 503-316-1864
WesternUtilityTelecom.com

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TITLE

GROUND VAULT RADIO ENCLOSURE

SANTA CRUZ, CA

CROWN CASTLE

PROJECT NUMBER

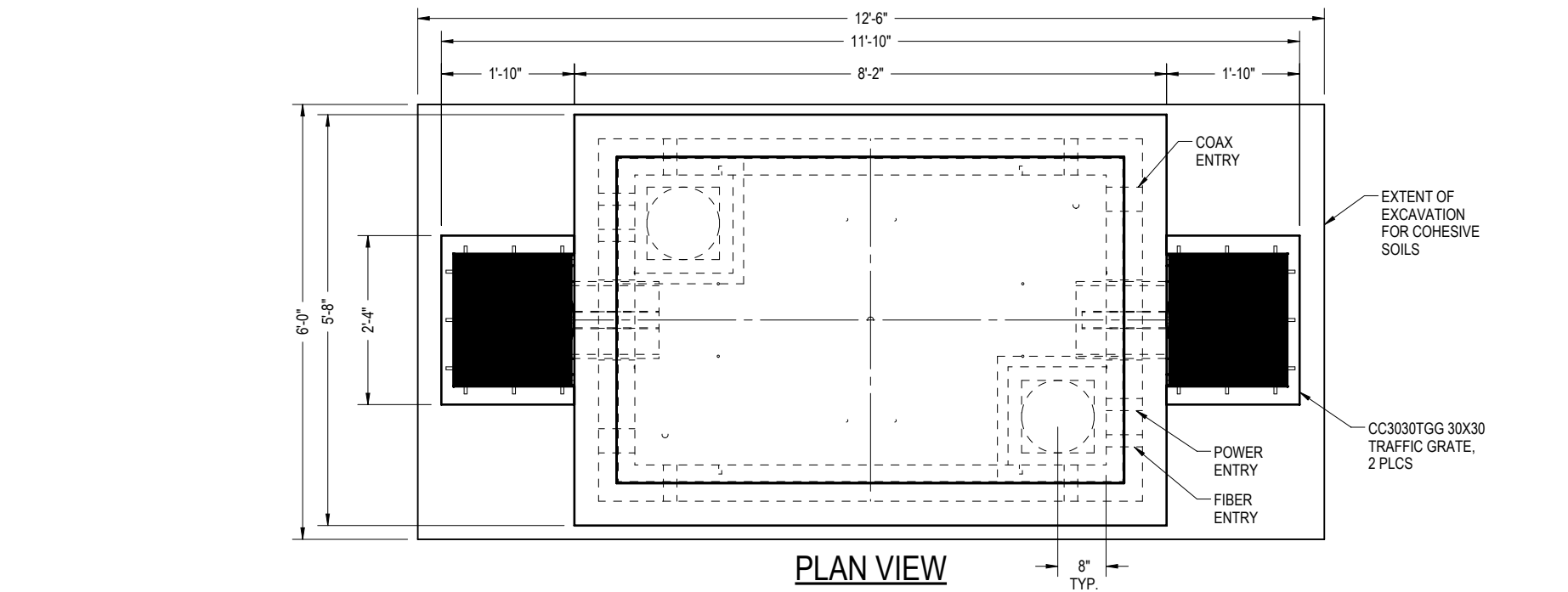
17-0395

SHEET

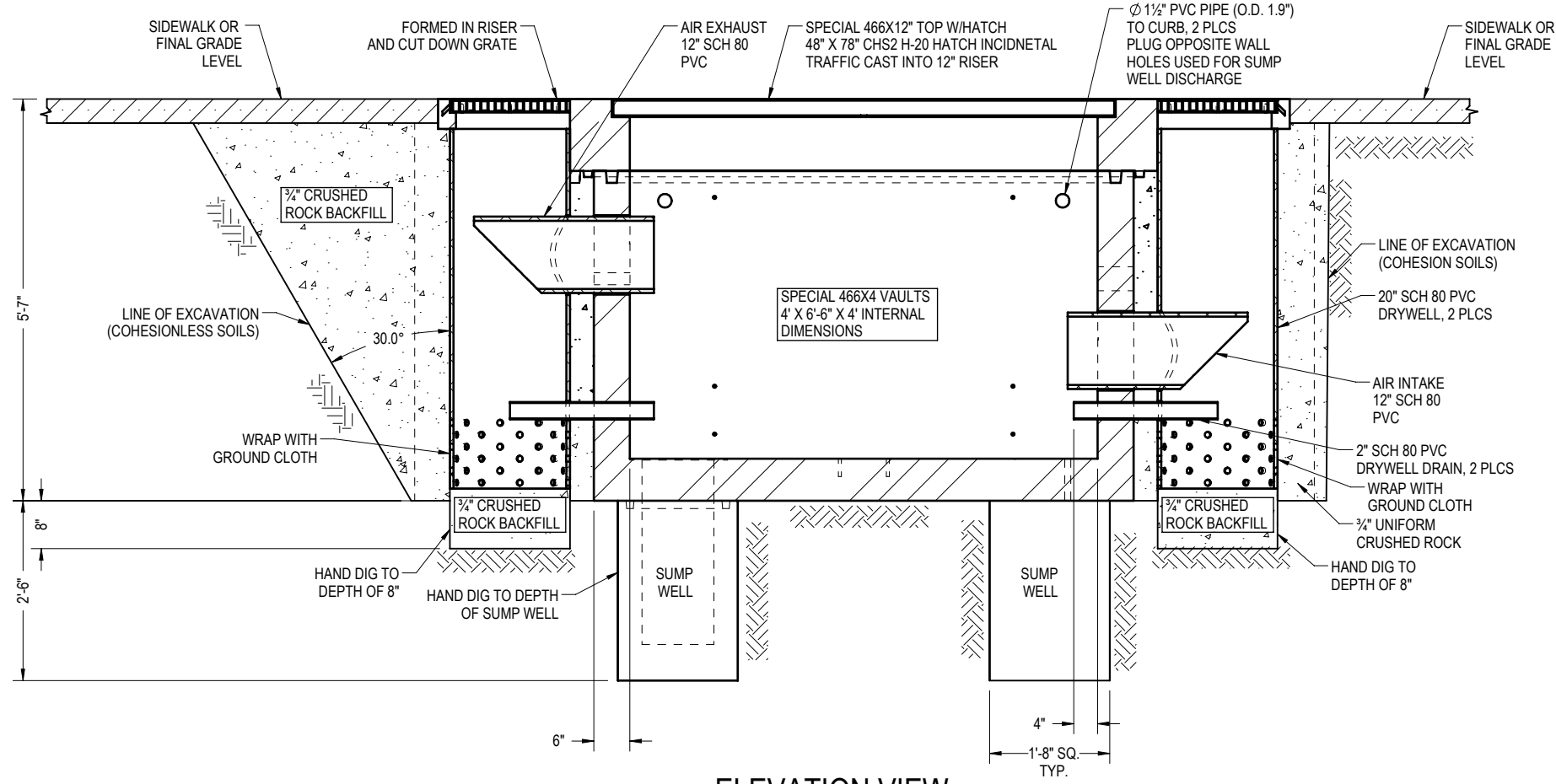
S-1

DRAWING NUMBER

ID-717



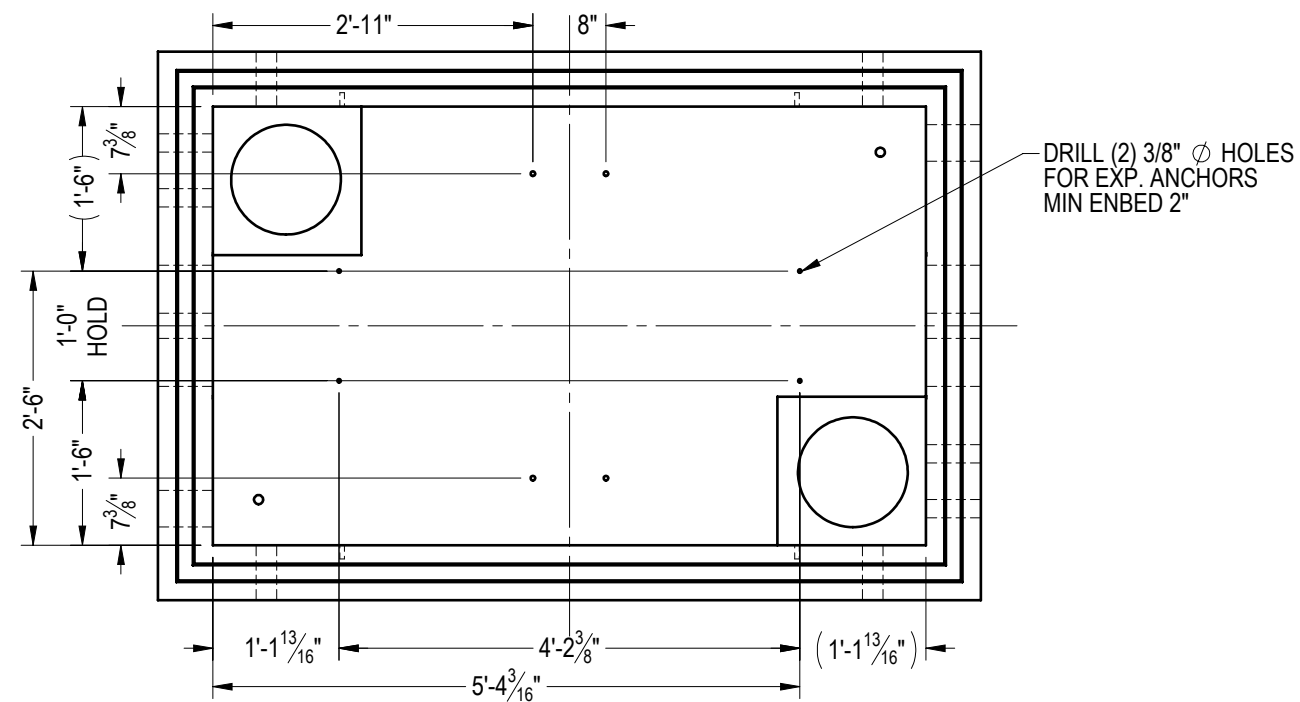
PLAN VIEW



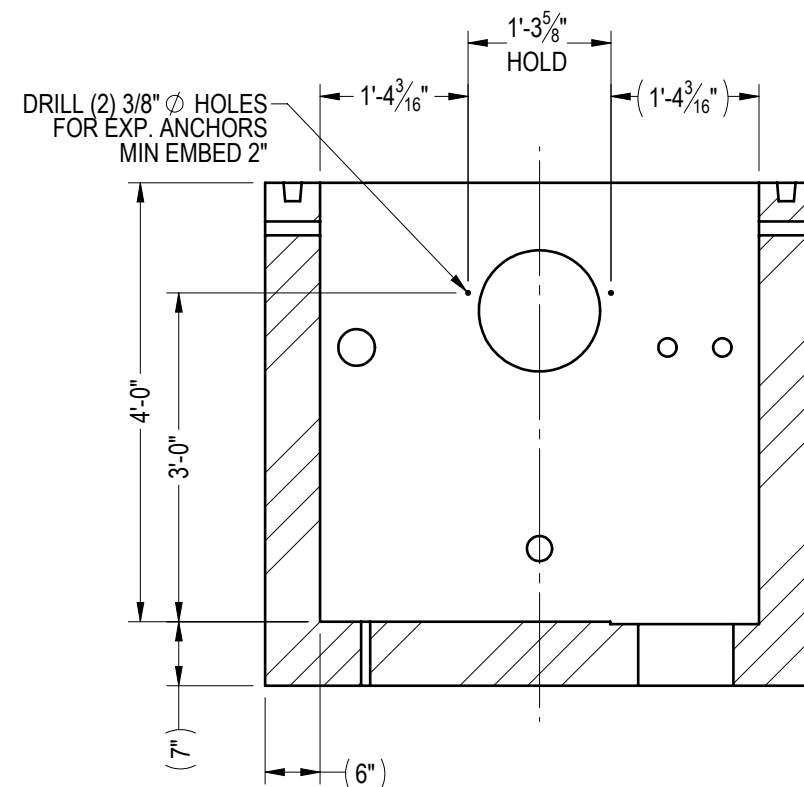
ELEVATION VIEW

REVISIONS				
REV	DESCRIPTION	DATE	DRW	CHK
-	INITIAL SUBMITTAL	25JUL17	TR	AM

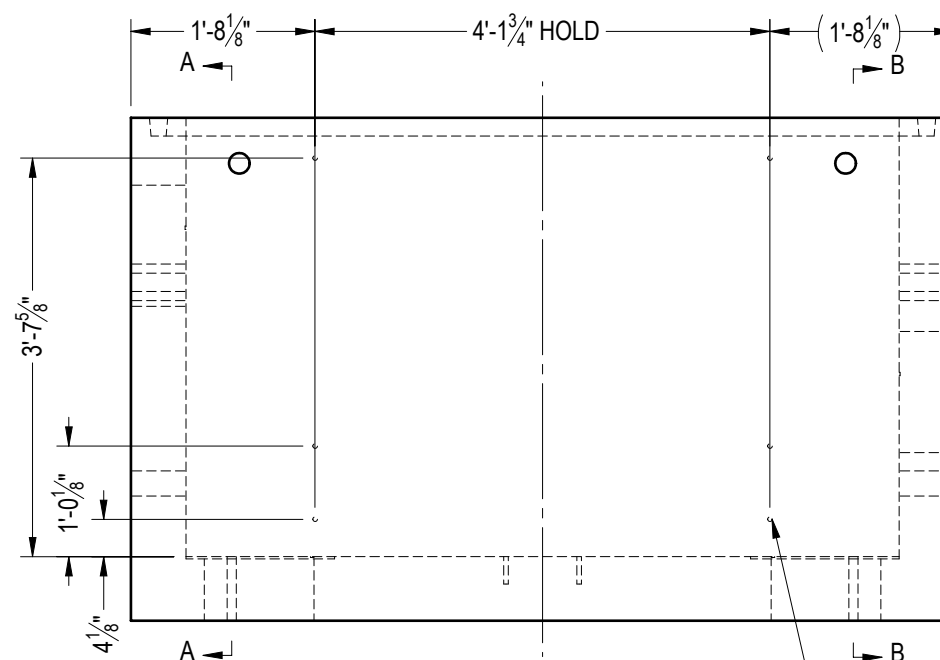
WESTERN UTILITY / TELECOM, INC.		TITLE GROUND VAULT RADIO ENCLOSURE	
5032 SALEM DALLAS HWY SALEM, OR 97304 Ph: 503-587-0101 Fx: 503-316-1864 WesternUtilityTelecom.com		SANTA CRUZ, CA CROWN CASTLE	
PROJECT NUMBER 17-0395	SHEET S-2	DRAWING NUMBER ID-717	



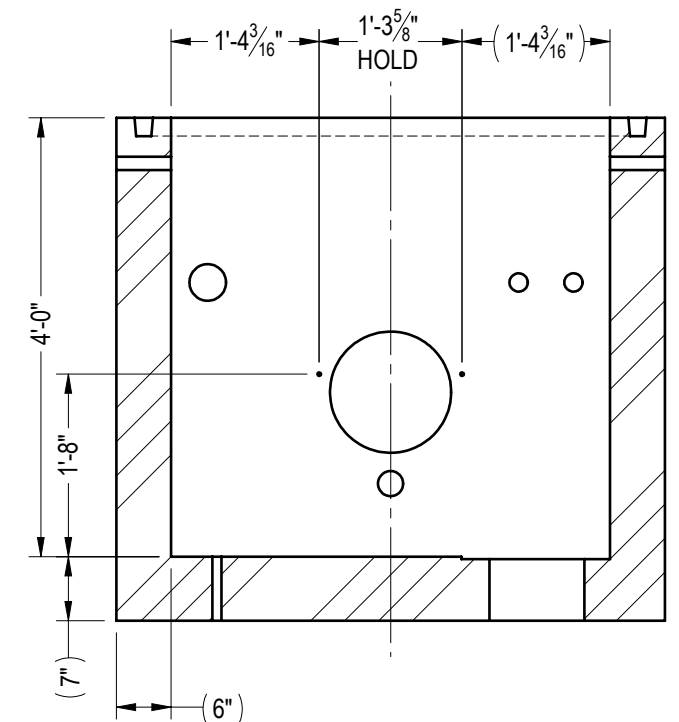
PLAN VIEW



SECTION A-A



ELEVATION VIEW



SECTION B-B

- NOTES:
1. NOMINAL VAULT WALL THICKNESS 6-INCHES, FLOOR 7-INCHES.
 2. SIZE HOLES APPROPRIATE FOR LOOSE (BUT SEALABLE) PIPE FITTING.

REVISIONS					
REV	DESCRIPTION	DATE	DRW	CHK	
-	INITIAL SUBMITTAL	26JUN17	TR	AM	
A	ADDED DRILLED HOLES FOR NEW ACTUATOR	15AUG17	TR	AM	

MANUFACTURER

WESTERN
UTILITY / TELECOM, INC.

5032 SALEM DALLAS HWY
SALEM, OR 97304
Ph: 503-587-0101 Fx: 503-316-1864
WesternUtilityTelecom.com

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TITLE

GROUND VAULT RADIO ENCLOSURE

SANTA CRUZ, CA

CROWN CASTLE

PROJECT NUMBER 17-0395

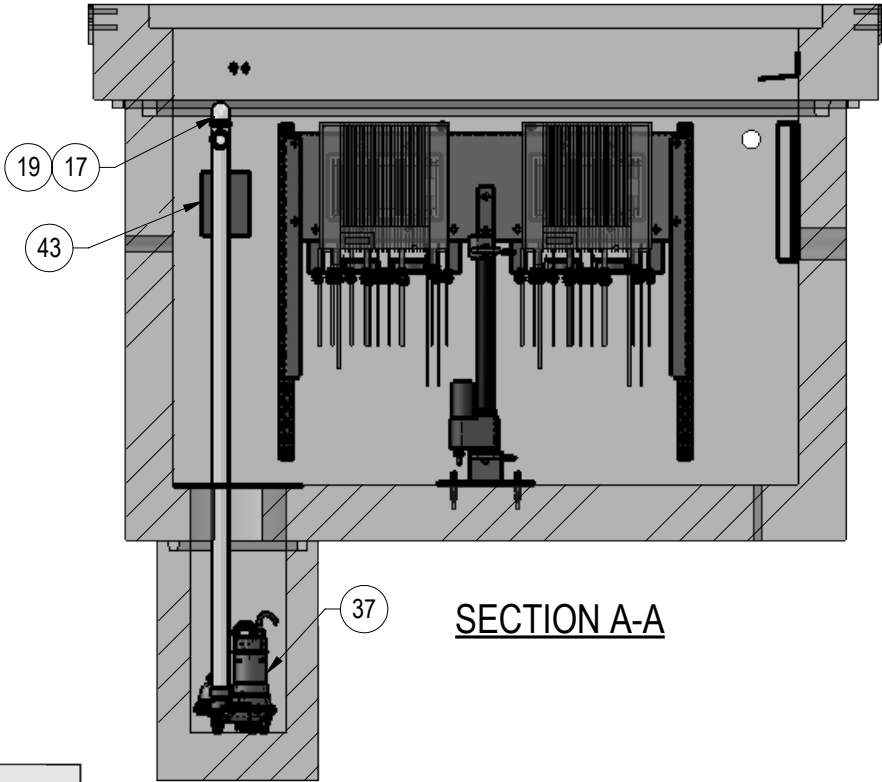
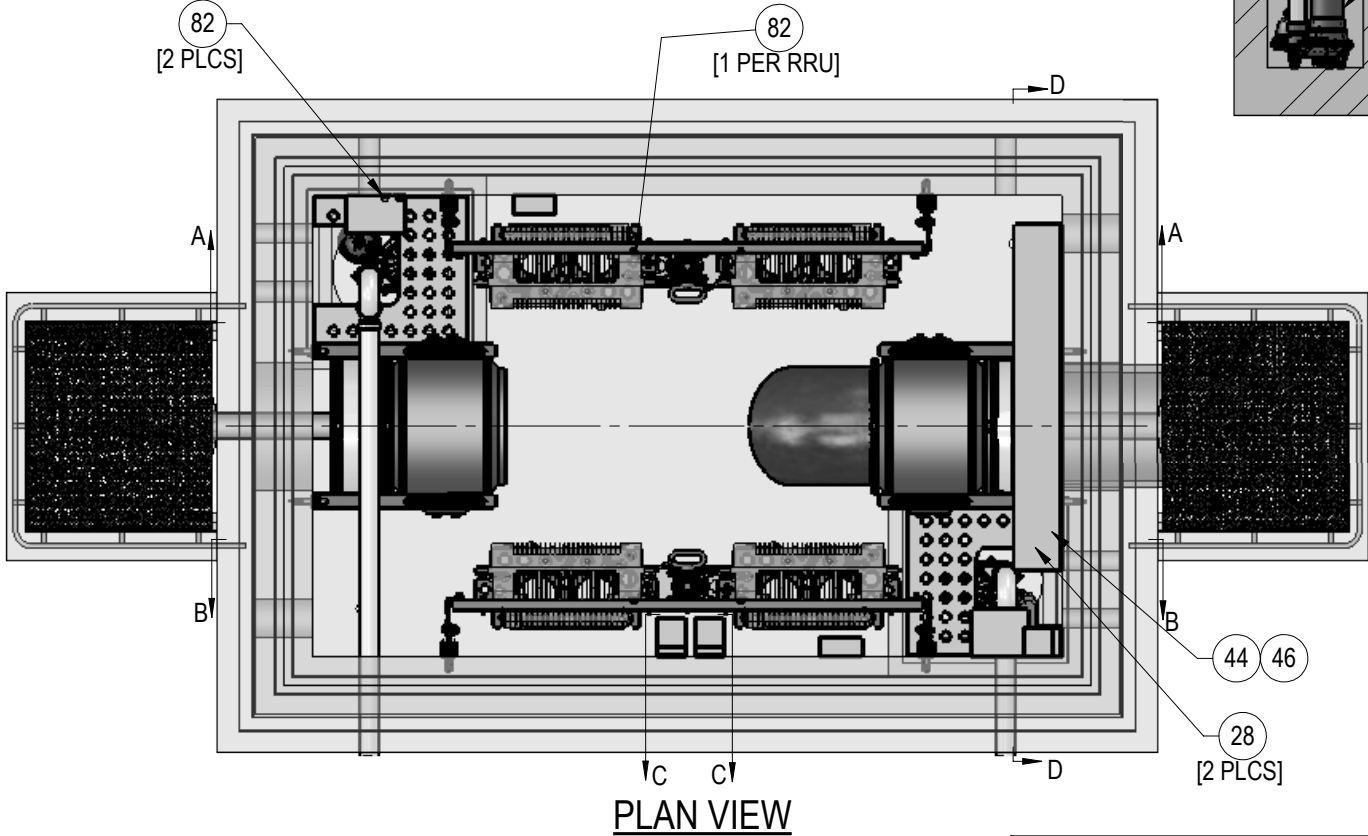
SHEET S-3


DRAWING NUMBER ID-717

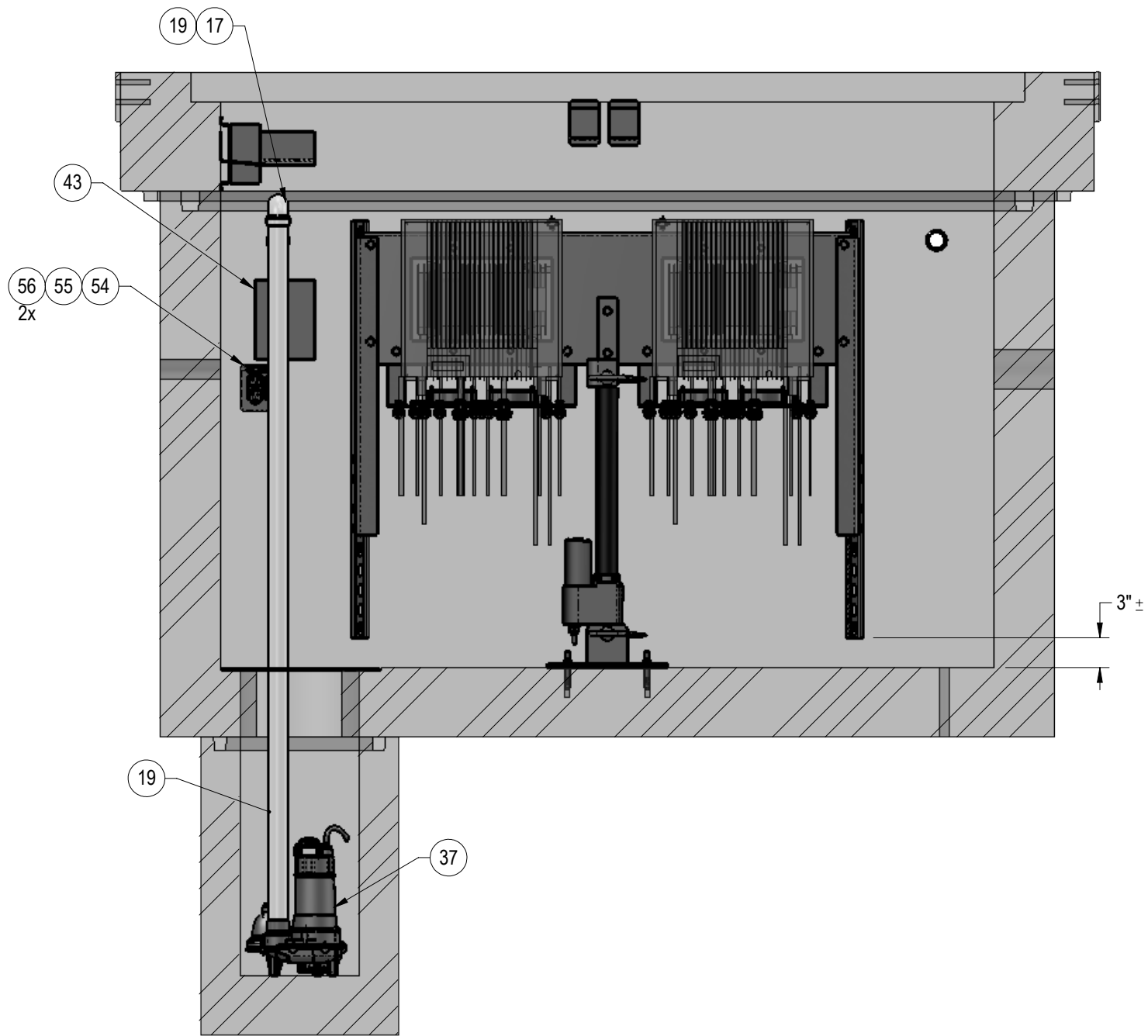
ITEM #	PART #	DESCRIPTION	QTY.	UNIT WT. (lbs)
1	17395-17	8GA 7 7/8" x 6" 5052-H32, ALUMINUM PLATE	1	0.8
2	17395-16	8GA 8" x 3'-0" 5052-H32, ALUMINUM PLATE	1	5
3	PL-2349	11GA. x 1'- 13/16" x 4'-1 1/4" A569, MOUNT PLATE	2	5.7
4	PL-2380	11GA. x 4 3/8" x 11 3/4" , A569, FORMED PLATE	4	0.6
5	PL-2381	3/16" x 1 1/2" x 1'-11 11/16" A36, FORMED PLATE	4	0.5
6	PL-2572	11GA. x 1'-4" SQ. A569, PLATE	2	5.7
7	PL-2573	11GA. x 4 3/8" x 3'-5" , A569, FORMED PLATE	1	2.2
8	PL-2574	11GA. x 4 3/8" x 6'-1" , A569, FORMED PLATE	1	4
9	PL-2604	11GA. x 1'- 9/16" x 1'-7", A569, FORMED PLATE	4	1.4
10	PL-2605	3/16" x 5 13/16" x 2'-6", A569, FORMED PLATE	2	2.4
11	PL-2606	3/16" x 5 13/16" x 2'-6", A569, FORMED PLATE	2	2.4
12	PL-2684	11GA. x 3" x 5 13/16" A569, SWITCH MOUNT	2	0.6
13	PL-2686	11GA. x 3" x 8 13/16" A569, TEMP. MOUNT	1	0.9
14	PL-2687	11GA. x 5 1/4" x 1'-9 15/16" A569, RMM MOUNT	1	4.1
15	PL-2852	PL 3/8" x 7 1/2" x 9" A36, MOUNTING BRACKET	2	3.5
16	WA-1353	3/8" x 4 3/8" x 1'-0" A36, MOUNTING BRACKET	2	8.7
17	ss-862	0.840" x 0.109"w x 1/2" 304/304L S.S., SPACER (MCMASTER-CARR P/N 44635K252)	8	0
18	94154	270° CONNECTOR, 1 1/2" SOCKET FEMALE, FOR PIPE DRAIN, WASTE & VENT(MCMASTER P/N 2389K83)	2	--
19	1.5C048	1.90" O.D. x .145" w x 4'-0" PVC, PIPE	1	0.8
20	1.5C072	1.90" O.D. x .145" w x 6'-0" PVC, PIPE	3	2.7
21	95204	1.5 FEMALE TO 1.5 THD'D PVC ADAPTOR	2	
22	94144	1/4" x 3 5/16" x 3 1/2" ASTM A1011 SS GR. 33, (P/N P2950S TROLLY)	8	1.32
23	94161	FKD-12 MIXED FLOW FAN	2	25
24	94164	120mm AC AXIAL FAN	8	0.8
25	94183	*PUMP CONTROLLER, ION ENDEAVOR, MODEL 100-20 Ion Endeavor Programmable Smart Sensing Sump Pump Controller (208/230V - Up To 12 Amps Total)	2	57
26	94186	LOAD CENTER P/N Q0816L100RB (STUSSERSALEM.SHOPCED.COM)	1	10.6
27	94187	REMOTE RMM-800 SYSTEM, WESTELL	1	4.2
28	94189	GROUND BAR, SCHNEIDER ELECTRIC, P/N PK7GTA	1	0.2
29	94198	MINI IP-LINXS, E_W OUTDOOR BOX, FIBER BOX, TELECT. P/N 055-7972-0000	1	3.1
30	94203	DOOR SWITCH, WESTELL, 18-130-101	2	1.6
31	94204	WESTELL, SITE BUSS TEMP & HUMIDITY, PART # 560-000-416	1	2.8
32	94205	45-DEG DIVERTER	1	5.5
33	94207	3'-6", A36, P1000HS UNISTRUT	4	26
34	94155	1 1/2"Ø x 1" TALL, 5/16-18, VIBRATION MOUNT	8	--
35	94163	12" AC-DI x 12" CI-PLASTIC, COUPLING	2	5.6
36	94206	9/16" HY-GEAR 63-4 S.S. 300 2 1/2" - 14 1/2" BAND CLAMP(IDEAL TRIDON P/N 63004-0224)	5	0.2
37	94175	1/2"Ø SNAP ACTION S.S. DISC THERMOSTAT	6	0
38	94191	HYCO: LTF 13 BLACKw/3171 NUT P/N 3216	48	0.2
39	94192	HYCO: LTF 21 BLACKw/3175 NUT P/N 3222	8	0.4
40	94218	PA-17-20-850 LINEAR ACTUATOR	2	46
41	94219	POWER SUPPLY - 120-220 VAC - 12 VDC - 25A (MODEL# PS-11)	2	2.9
42	95324	AIRFLOW MONITOR PADDLE SWITCH (540-000440)	1	0
43	95325	ROUTER(A90-SFP1G-C10611)	1	0
44	95326	INSTALL HW FOR REMOTE FAMILY(RMX-INSTKIT)	1	0
45	95327	WATER-IN-FUEL SENSOR W/ NEMA4X CABLE GLA (WIFSENSOR)	1	0
46	97301	0.22 CALIBER YELLOW SINGLE SHOT POWDER LOADS(100-COUNT) (HOME DEPOT MODEL # 00607)	1	--
47	97302	1IN DRIVE PINS(100-PACK) (HOME DEPOT MODEL # 00759)	1	--
48	97304	WEATHERPROOF OUTLET BOX (MCMASATER CARR P/N 7219K28)	1	--
49	97305	WEATHERPROOF OUTLET COVER (MCMASTER-CARR P/N 7219K410)	1	--
50	97306	STRAIGHT-BLADE RECEPTACLE (MCMASTER-CARR P/N 7159K930)	2	--
51	94308	4' x 50' COMMERCIAL WEED CONTROL FABRIC WITH TYPAR TECHNOLOGY (model # 2528RT (HOME DEPOT)	1	0
52	94309	1.89" x 50YD HVAC FOIL TAPE MODEL # 1207792 (HOME DEPOT)	1	0
53	94156	ION STORM X-ONEi (ION X-ONEi - 1/2 HP Cast Iron Sewage Pump (2") w/ ION Digital Level Control M5000A4107)	2	18.7
54	46005	#8 LOCK WASHER, S.S.	32	0.01

ITEM #	PART #	DESCRIPTION	QTY.	UNIT WT. (lbs)
55	59001	#8-32 MACHINE SCREW NUT, S.S.	32	0.01
56	70440	#8-32 x 2" HEX MACHINE SCREW, S.S.	32	0.01
57	40007	5/16"Ø FLATWASHER, S.S.	8	0.01
58	41007	5/16"Ø LOCKWASHER, S.S.	16	0.004
59	59999	5/16"Ø HEX NUT, S.S.	16	0.01
60	70222	3/8"Ø x 3/4" SS FLGD BUTTON-HD SCKT CAP SCRW	12	0.01
61	91219	3/8"Ø x 3 3/4" REDHEAD ANCHOR ASSY., S.S.	12	0.3
62	91223	3/8" FEMALE CONCRETE ANCHOR, S.S.	12	
63	10020	1/2"Ø x 1 1/2" A325 BOLT/NUT/LW, GALV.	4	0.2
64	15470	1/2"Ø x 1 1/2" A307 FULLY THD'D BOLT/NUT/LW, GALV.	9	0.2
65	15460	1/2"Ø x 1 1/4" A307 FULLY THD'D BOLT/NUT/LW, GALV.	34	0.2
66	40020	1/2"Ø FLAT WASHER, GALV.	26	0.04
67	44005	1/2"Ø FLAT WASHER, NYLON	8	0.01
68	97320	HEX WASHER HEAD Ø¼" x 2¼" S.S. SCREW (MCMASTER-CARR P/N 90950A103)	1	0
69	95328	Ø½" x 3 5/8" LOOP GRIP CLEVIS PIN (MCMASTER-CARR P/N 91594A310)	4	0.094
70	97321	¼" SCREW SIZE, .23"ID x .5" OD WEATHER-RESISTANT EPDM RUBBER WASHER (MCMASTER-CARR P/N 90130A029)	1	0
* 71	97322	ROLLER LEVEL SWITCH (GRAINGER ITEM # 3A095)	1	0
* 72	97323	BAB REMOTELY OPERATED BOLT-ON BREAKER 1P, 30A, PULSE(KSCDIRECT P/N CH BABRP1030)	1	0
* 73	97324	GROUND BUSS BAR KIT(COMMSCOPE P/N UGBKIT-0210)	1	0
TOTAL WT.			15419.7	

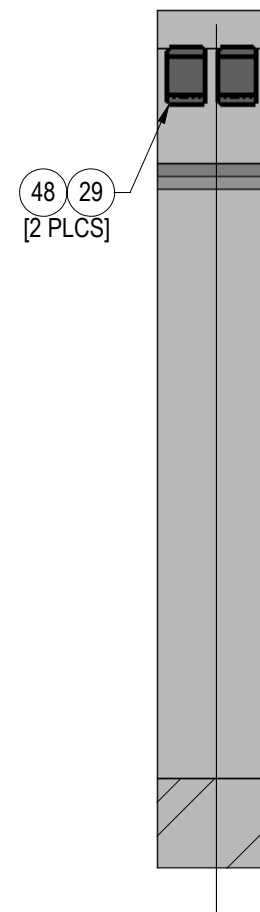
* ITEMS NOT SHOWN



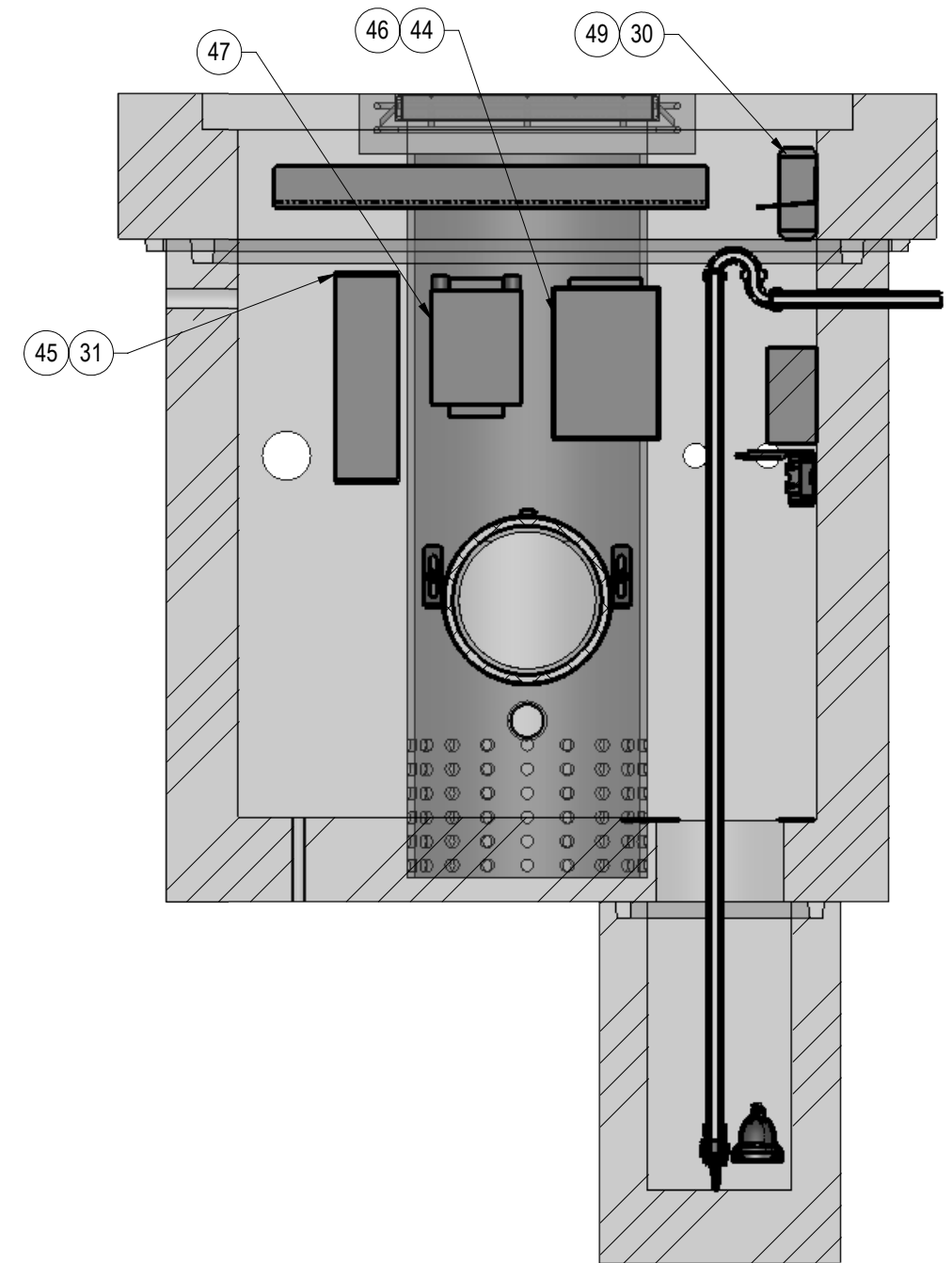
MANUFACTURER		TITLE	
 5032 SALEM DALLAS HWY SALEM, OR 97304 Ph: 503-587-0101 Fx: 503-316-1864 WesternUtilityTelecom.com		GROUND VAULT RADIO ENCLOSURE SANTA CRUZ, CA CROWN CASTLE	
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SECTION B-B



SECTION C-C



SECTION D-D

REVISIONS				
REV	DESCRIPTION	DATE	DRW	CHK
-	INITIAL SUBMITTAL	18AUG17	TR	AM

MANUFACTURER

WESTERN
UTILITY / TELECOM, INC.

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SALEM, OR 97304
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TITLE

GROUND VAULT RADIO ENCLOSURE

SANTA CRUZ, CA

CROWN CASTLE

PROJECT NUMBER

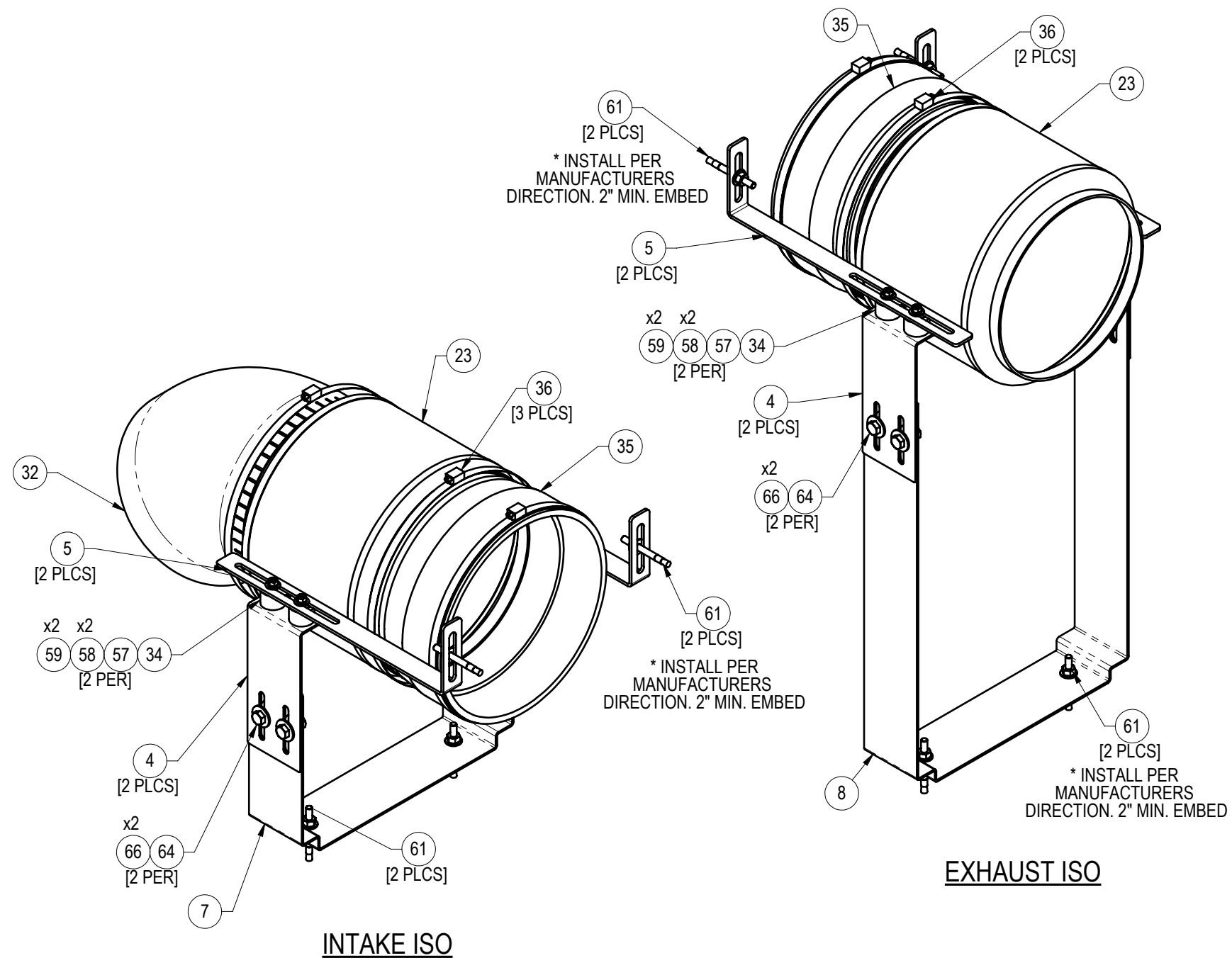
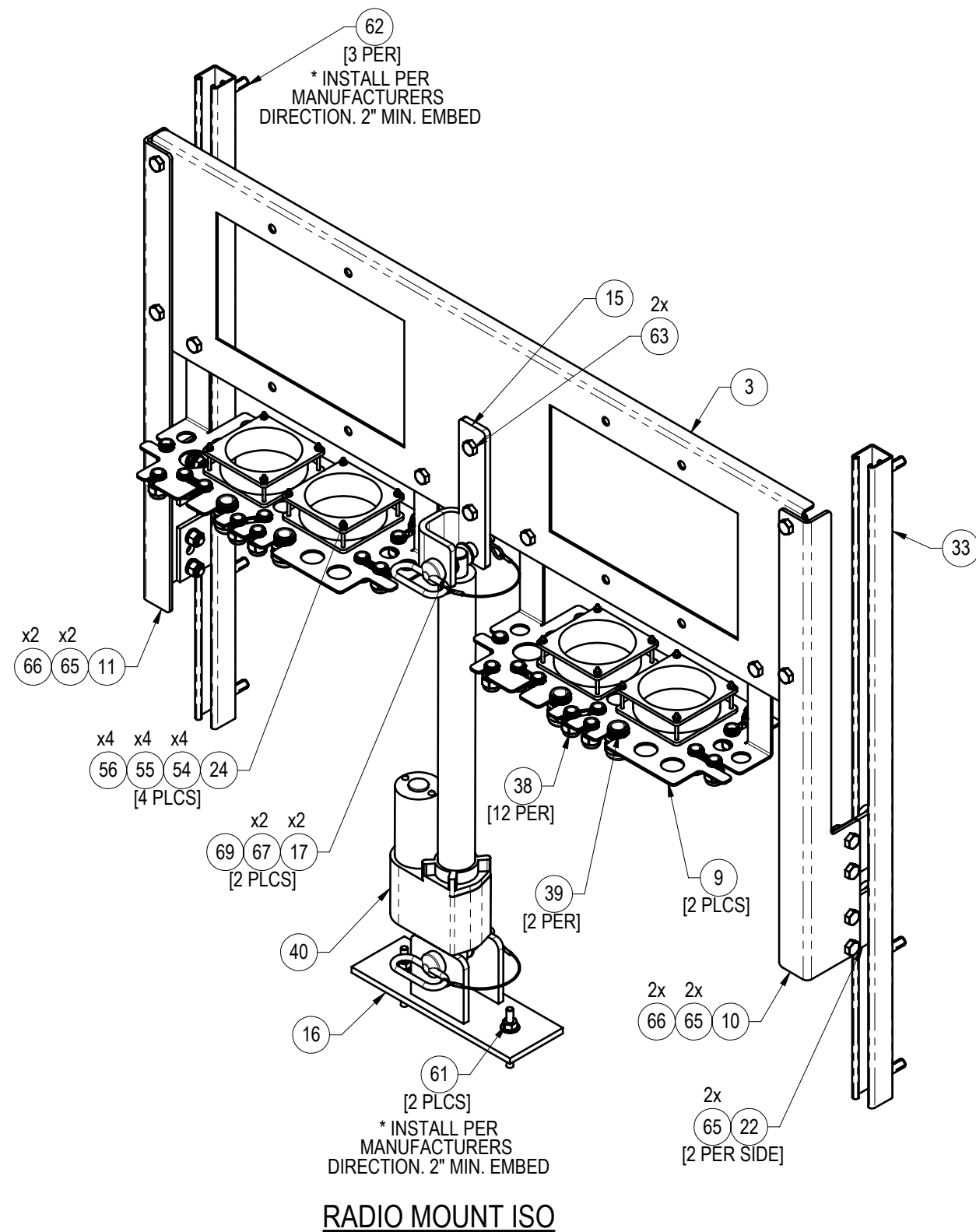
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SHEET

S-5

DRAWING NUMBER

ID-717



REVISIONS					
REV	DESCRIPTION	DATE	DRW	CHK	
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WESTERN UTILITY / TELECOM, INC. 5032 SALEM DALLAS HWY SALEM, OR 97304 Ph: 503-587-0101 Fx: 503-316-1864 WesternUtilityTelecom.com		TITLE GROUND VAULT RADIO ENCLOSURE SANTA CRUZ, CA CROWN CASTLE	
PROJECT NUMBER 17-0395		SHEET S-6	DRAWING NUMBER ID-717

Source: Photo Excerpted from 11/30/17 Applicant Letter

Exhibit F
Santa Cruz Vault Construction, 2017

