

Case File Number: PLN19-244

February 19, 2020

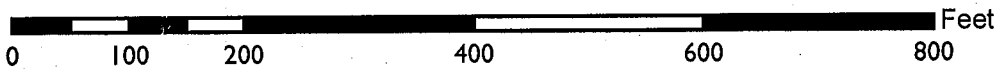
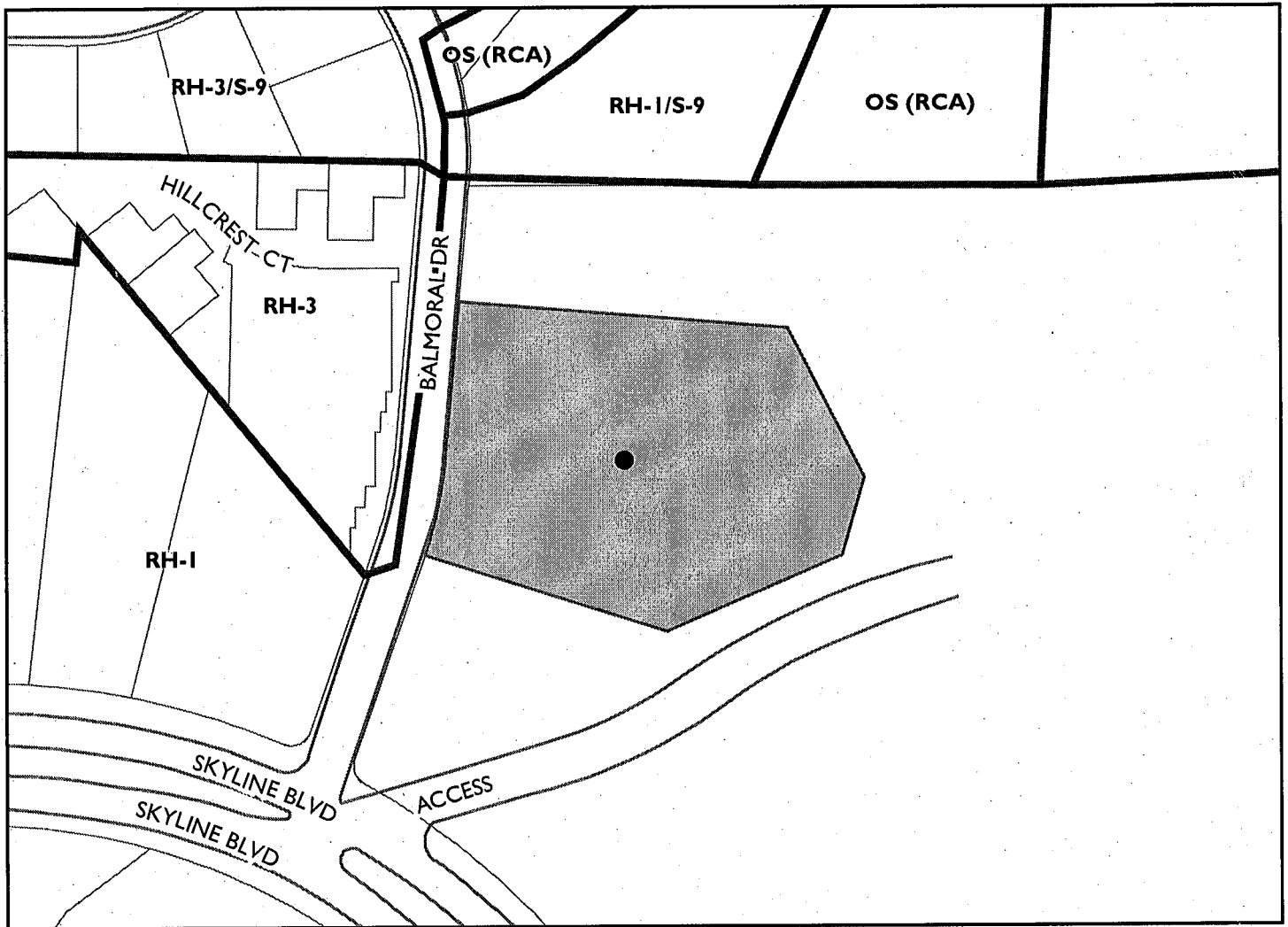
Location:	5650 Balmoral Drive (See map on reverse)
Assessor's Parcel Numbers:	085-0102-014-00
Proposal:	The project involves installation of a 75' tall Monopole Telecommunication Facility (monopole) located on an EBMUD Reservoir property adjacent to the existing water tank. The proposal will also include nine (9) antenna panels measuring 96 x 11.9 x 7.1 inches; six (6) Remote Radio Units (RRU) measuring 15 x 13.2 x 11.1 inches and Surge Suppression units mounted to the monopole; four (4) associated equipment cabinets and a backup generator / battery to be ground mounted on a new screened cement pad located next to the monopole.
Applicant:	Verizon Wireless by Ridge Communication
Contact Person/ Phone Number:	David Haddock 916-420-5802
Owner:	East Bay Municipal Utility District (EBMD)
Case File Number:	PLN19-244
Planning Permits Required:	Major Conditional Use Permit and Design Review to install a new Monopole Telecommunication Facility within a residential zone.
General Plan:	Hillside Residential
Zoning:	RH-1 Hillside Residential 1 Zone
Environmental Determination:	Exempt, Section 15303 of the State CEQA Guidelines: installation of a new telecommunication monopole and Section 15183: projects consistent with a community plan, General Plan or Zoning.
Historic Status:	Not a Potential Designated Historic Property; Survey rating: N/A
City Council District:	6
Date Filed:	September 26, 2019
Finality of Decision:	Appealable to City Council within 10 Days
For Further Information:	Contact case planner Jason Madani at (510) 238-4790 or jmadani@oaklandca.gov

SUMMARY

The project involves installation of a 75' tall Monopole Telecommunication Facility (monopole) for Verizon Wireless located on an EBMUD Reservoir property adjacent to the existing water tank. The proposal will also include nine (9) antenna panels measuring 96 x 11.9 x 7.1 inches; six (6) Remote Radio Units (RRU) measuring 15 x 13.2 x 11.1 inches and Surge Suppression units mounted to the monopole; four (4) associated equipment cabinets and a backup generator / battery to be ground mounted on a new screened cement pad located next to the monopole.

A Major Conditional Use Permit (CUP) and Design Review are required to install a new monopole Telecommunications Facility on the site which is located within a residential zone (RH-1). In addition, special CUP and Design Review findings are required as discussed further in the *Key Issues and Impacts* section of this report. One specific key issue is that the proposal is located on a parcel that contains an existing monopole for two other wireless carriers. Planning Code Section 17.128.80 (C)(2) describes the criteria for CUP approval

CITY OF OAKLAND PLANNING COMMISSION



Case File: PLN19244
Applicant: David Haddock for Verizon Wireless by Ridge Communications
Address: 5650 Balmoral Drive
Zone: RH-1

and notes that "Monopoles should not be located any closer than one thousand five hundred (1,500) feet from existing monopoles unless technologically required or visually preferable." Staff has determined that the proposed monopole is technically required due to existing coverage issues, the inability to locate the antennas on the existing pole or the top of the reservoir and is visually preferable due to the aesthetic drawbacks of replacing the existing pole with a taller pole. These issues are described in detail in the *Key Issues and Impacts* section of this report.

City of Oakland Planning staff, along with the applicant, completed an on-site site design analysis and conducted a community out-reach meeting at Skyline High School on January 23, 2020

Staff determined that the site selected conforms to all other telecommunication regulation requirements. In addition, as detailed below, the project meets all of the required Findings for approval. Therefore, staff recommends approval of the project subject to the attached Conditions of Approval.

TELECOMMUNICATIONS BACKGROUND

Limitations on Local Government Zoning Authority under the Telecommunications Act of 1996

Section 704 of the Telecommunications Act of 1996 (TCA) provides federal standards for the siting of "Personal Wireless Services Facilities." "Personal Wireless Services" include all commercial mobile services (including personal communications services (PCS), cellular radio mobile services, and paging); unlicensed wireless services; and common carrier wireless exchange access services. Under Section 704, local zoning authority over personal wireless services is preserved such that the FCC is prevented from preempting local land use decisions; however, local government zoning decisions are still restricted by several provisions of federal law. Specifically:

Under Section 253 of the TCA, no state or local regulation or other legal requirement can prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

Further, Section 704 of the TCA imposes limitations on what local and state governments can do. Section 704 prohibits any state and local government action which unreasonably discriminates among personal wireless providers. Local governments must ensure that its wireless ordinance does not contain requirements in the form of regulatory terms or fees which may have the "effect" of prohibiting the placement, construction, or modification of personal wireless services.

Section 704 also preempts any local zoning regulation purporting to regulate the placement, construction and modification of personal wireless service facilities on the basis, either directly or indirectly, on the environmental effects of radio frequency emissions (RF) of such facilities, which otherwise comply with FCC standards in this regard. See, 47 U.S.C. 332(c)(7)(B)(iv) (1996). This means that local authorities may not regulate the siting or construction of personal wireless facilities based on RF standards that are more stringent than those promulgated by the FCC.

Section 704 mandates that local governments act upon personal wireless service facility siting applications to place, construct, or modify a facility within a reasonable time. 47 U.S.C.332(c)(7)(B)(ii). See FCC Shot Clock ruling setting forth "reasonable time" standards for applications deemed complete.

Section 704 also mandates that the FCC provide technical support to local governments in order to encourage them to make property, rights-of-way, and easements under their jurisdiction available for the placement of new spectrum-based telecommunications services. This proceeding is currently at the comment stage.

For more information on the FCC's jurisdiction in this area, contact Steve Markendorff, Chief of the Broadband Branch, Commercial Wireless Division, Wireless Telecommunications Bureau, at (202) 418-0640 or e-mail "smarkend@fcc.gov".

PROPERTY DESCRIPTION

The subject site is a 2.4 acre parcel owned by EBMUD containing the Madrone Reservoir water tank. The site is adjacent to an EBMUD parking lot, across the driveway leading to Skyline High School, and approximately 350' away single-family dwellings across the street. AT&T and T-Mobile Wireless currently operate cell sites on a monopole on this parcel.

PROJECT DESCRIPTION

The applicant is proposing to install a Monopole Telecommunication Facility. Specifically, the proposal will include the following:

- A 75' tall monopole,
- Nine (9) antenna panels measuring 96 x 11.9 x 7.1 inches,
- Six (6) RRU's measuring 15 x 13.2 x 11.1 inches and surge suppression units mounted to the monopole,
- Four (4) associated equipment cabinets, and
- A backup generator / battery to be ground mounted on a new screened cement pad located next to the monopole.

The proposed antennas and associated equipment will be secured from the public. (*Attachment C*).

GENERAL PLAN ANALYSIS

The subject property is located within the Institutional land use classification of the Land Use and Transportation Element (LUTE) of the General Plan. The Institutional classification is intended "to create, maintain, and enhance areas appropriate for educational facilities, cultural and institutional uses, health services as well as other uses of similar character." The proposal will provide an essential telecommunication service to the community and the City of Oakland at large, including emergency services such as police, fire department and emergency response teams. Visual impacts will be mitigated since the proposed monopole is designed to simulate a pine tree. Antennas would be mounted over 50' above street level and will be camouflaged to blend in with the existing tall trees on the parcel. Therefore, the proposed unmanned wireless telecommunication facility will not adversely affect or detract from the Institutional or residential characteristics of the neighborhood. Furthermore, the proposed project meets LUTE Objective N2: Encourage adequate civic, institutional and educational facilities located within Oakland, appropriately designed and sited to serve the community.

Staff finds the proposal to be in conformance with the objectives of the General Plan by servicing the community with enhanced telecommunications capability.

ZONING ANALYSIS

The proposed project is located in the Hillside Residential -1 Zone (RH-1). The intent of the RH-1 Zone is: "to create, maintain, and enhance areas for single-family dwellings on lots of one acre or more, and is appropriate in portions of the Oakland Hills." The proposed project requires a Major CUP and Regular Design Review per Planning Code Sections 17.13.040, 17.134.50, 17.136.050 and 17.128.025. Furthermore, special findings are required for CUP and Design Review approval per Planning Code Section 17.128.80 to ensure that the facility is concealed to the extent possible.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines lists the projects that qualify as categorical exemptions from environmental review. Staff finds that the proposed project is categorically exempt from the environmental review requirements pursuant to Section 15303: installation of small new equipment and facilities in small structures and Section 15183: projects consistent with a General Plan or Zoning.

KEY ISSUES AND IMPACTS

1. Special CUP and Regular Design Review Findings

Planning Code Sections 17.128.080 and 17.136.050 requires Regular Design Review for Monopole Telecommunication Facilities located in the residential zones or within one hundred (100) feet of the boundary of any residential zone. Planning Code Section 17.128.080 also requires special CUP findings. The reasons this project meets them, are included the *Findings* section of this report.

However, one key issue is that the project site contains an existing monopole used for AT&T and T-Mobile. Planning Code Section 17.128.080(C)(2) describes the criteria for CUP approval and notes that "Monopoles should not be located any closer than one thousand five hundred (1,500) feet from existing monopoles unless technologically required or visually preferable."

In this case, staff has found that the installation of another monopole at this location is both technologically required and visually preferable for the following reasons:

1. Verizon's antennas cannot operate properly on the existing monopole due to interference from the adjacent water tank.: The reservoir, which is directly adjacent to the existing cell sites operated by AT&T and T-Mobile, has a domed roof that is at 44'-5" tall, approximately 16'.5" higher at very top, than the perimeter of the structure. The AT&T and T-Mobile antennas are just barely high enough to shoot across the top of the water tank without facing interference from the structure. If Verizon added antennas to this existing tower, the antennas would need to be mounted at a lower elevation than the existing AT&T and T-Mobile antennas, so the Verizon's antennas would be at approximately 42'-11" above ground level. Antennas mounted at this height would be lower than the top of the water tank and would not be able to cover the far side of the tank without interference. Furthermore, the antenna cannot be located on the top of the reservoir dome itself. Therefore, the conclusion is that there is no existing structure on this site that could accommodate the proposed Verizon antennas.
2. Replacing the existing tower with a taller tower would require a much taller Monopole and will cause it to stick up significantly above the tree line.: The existing tower is approximately as tall as the tallest trees in the immediate vicinity. In order to accommodate Verizon's antennas at an elevation that would avoid interference from the water tank, a replacement tower would need to be taller than the existing tower by at least 10' in order to provide sufficient vertical separation between antennas so that they would not interfere with each other. This would cause the tower to stick up significantly above the existing tree line, no longer blending in with the existing landscape and causing a significant visual impact.

As proposed, the new tower will resemble a pine tree, will blend in with the existing wooded landscape and avoid significant visual impacts.

2. Project Site

Section 17.128.110 of the City of Oakland Telecommunication Regulations indicate that new wireless facilities shall generally be located on designated properties or facilities in the following order of preference:

- A. Co-located on an existing structure or facility with existing wireless antennas.
- B. City-owned properties or other public or quasi-public facilities.
- C. Existing commercial or industrial structures in non-residential zones (excluding all HBX Zones and the D-CE-3 and D-CE-4 Zones).
- D. Existing commercial or industrial structures in residential zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.
- E. Other non-residential uses in residential zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.
- F. Residential uses in non-residential zones (excluding all HBX Zones and the D-CE-3 and D-CE-4 Zones).
- G. Residential uses in residential zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.

*Facilities located on an A, B or C ranked preferences do not require a site alternatives analysis.

Since the proposal is located on an EBMUD reservoir site (a quasi-public facility), the project meets preference B. Therefore, a site alternatives analysis was not required. However, Verizon Wireless did evaluate installation of this telecommunication cell site on the rooftop of the Skyline High School gymnasium or on a light pole on the School's athletic fields. These possibilities were ultimately rejected because the EBMUD candidate site is less visually intrusive given the large setback from the street and wooded nature of the parcel. The applicant has also provided a statement in the site alternative analysis indicating the public necessity for telecommunication services in the area.

3. Project Design

Section 17.128.120 of the City of Oakland Telecommunications Regulations indicates that new wireless facilities shall generally be designed in the following order of preference:

- A. Building or structure mounted antennas completely concealed from view.
- B. Building or structure mounted antennas set back from roof edge, not visible from public right- of way.
- C. Building or structure mounted antennas below roof line (facade mount, pole mount) visible from public right-of-way, painted to match existing structure.
- D. Building or structure mounted antennas above roof line visible from public right of-way.
- E. Monopoles.
- F. Towers.

* Facilities designed to meet an A & B ranked preference does not require a site design alternatives analysis. Facilities designed to meet a C through F ranked preference, inclusive, must submit a site design alternatives analysis as part of the required application materials. A site design alternatives analysis shall, at a minimum, consist of:

a. Written evidence indicating why each higher preference design alternative cannot be used. Such evidence shall be in sufficient detail that independent verification could be obtained if required by the City of Oakland Zoning Manager. Evidence should indicate if the reason an alternative was rejected was technical (e.g. incorrect height, interference from existing RF sources, inability to cover required area) or for other concerns (e.g. inability to provide utilities, construction or structural impediments).

The project meets design criteria C since the antennas will be mounted on a new monopole on EBMUD utility property. As such, a design alternatives analysis is required. The applicant conducted an extensive site design alternative analysis (*Attachment E*) noting that significant gaps in coverage exist in the area, and the proposed design was visually the least obtrusive. City of Oakland Planning staff, along with the applicant, also completed an on-site site design analysis and conducted a community out-reach meeting at Skyline High School on January 23, 2020. The new monopole will be designed as a pine tree to blend in with the existing mature tall trees on the site; the antennas will be mounted over 50' high and will be camouflaged to also blend in with the landscape. The ground mounted equipment cabinet will be screened by an enclosed fence to minimize potential visual impacts from public view.

4. Project Radio Frequency Emissions Standards

Section 17.128.130 of the City of Oakland Telecommunication Regulations require that the applicant submit the following verifications including requests for modifications to existing facilities:

- a. With the initial application, a RF emissions report, prepared by a licensed professional engineer or other expert, indicating that the proposed site will operate within the current acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.*
- b. Prior to commencement of construction, a RF emissions report indicating the baseline RF emissions condition at the proposed site.*
- c. Prior to final building permit sign off, an RF aggregate emissions report indicating that the site is actually operating within the acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.*

The RF-EME Electromagnetic Energy Compliance Report, prepared by Hammett & Edison Inc. Consulting Engineers (*Attachment F*), indicates that the proposed project meets the aggregate radio frequency (RF) emissions standards as required by the regulatory agency. The report states that the proposed project will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not cause a significant impact on the environment. Additionally, staff recommends as a Condition of Approval that, prior to the issuance of a final building permit, the applicant submits a certified RF emissions report stating that the facility is operating within acceptable thresholds established by the regulatory federal agency.

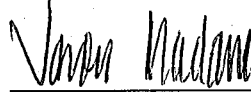
CONCLUSION

The proposal will provide an essential telecommunication service to the community and the City of Oakland at large. It will also be available to emergency services such as police, fire department and emergency response teams. The proposed project meets all of the required findings for approval. Therefore, staff recommends approval of the project subject to the attached Conditions.

RECOMMENDATIONS:

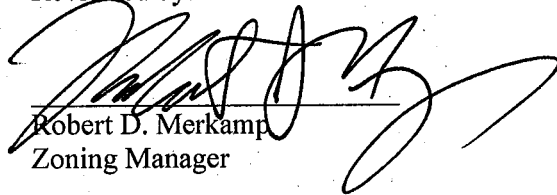
1. Affirm staff's environmental determination, and
2. Approve the Major Conditional Use Permit and Design Review application subject to the attached Findings and Conditions of Approval.

Prepared by:



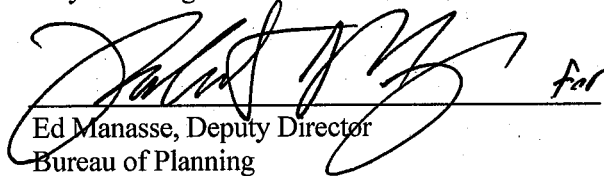
Jason Madani
Planner III

Reviewed by:



Robert D. Merkamp
Zoning Manager

Approved for forwarding to the
City Planning Commission:



Ed Manasse, Deputy Director
Bureau of Planning

ATTACHMENTS:

- A. Findings
- B. Conditions of Approval
- C. Plans
- D. Photo-simulations
- E. Site/Site Design Alternatives Analysis
- F. RF Emissions Report
- G. Proof of public notification posting
- H. Public comments received by date of packet preparation

FINDINGS FOR APPROVAL

This proposal meets all the required findings under Sections 17.134.050 (General Use Permit criteria); 17.136.050 (B) (Non-Residential Design Review) criteria and all the required findings under Section 17.128.080(B and C), of the telecommunication facilities (Monopole) CUP and Design Review criteria and as set forth below: Required findings are shown in bold type; reasons your proposal satisfies them are shown in normal type.

SECTION 17.134.050 – GENERAL USE PERMIT FINDINGS:

A. That the location, size, design, and operating characteristics of the proposed development will be compatible with, and will not adversely affect, the livability or appropriate development of abutting properties and the surrounding neighborhood, with consideration to be given to harmony in scale, bulk, coverage, and density; to the availability of civic facilities and utilities; to harmful effect, if any upon desirable neighborhood character; to the generation of traffic and the capacity of surrounding streets; and to any other relevant impact of the development.

The purpose of the project is to enhance wireless telecommunications service in the area. The installation of a monopole and antennas will not adversely affect the operating characteristics or livability of the existing area because the proposed pole is designed to simulate a pine tree and antennas will be camouflaged by the existing mature trees. Furthermore, the proposal is located on the EBMUD Reservoir property away from residents and over 230' from the Balmoral Drive. The facility will be unmanned and will not create additional vehicular traffic in the area.

B. That the location, design, and site planning of the proposed development will provide a convenient and functional living, working, shopping, or civic environment, and will be as attractive as the nature of the use and its location and setting warrant.

The location, design and site planning of the proposed development will provide enhanced telecommunication service for the area. The proposed project is sited to achieve maximum coverage but near the reservoir and away from residents and the road. The proposal is designed to resemble a pine tree and blend in with the wooded reservoir landscape. The proposal will maintain the use of public utility site and is not expected to negatively affect the general quality and character of the neighborhood.

C. That the proposed development will enhance the successful operation of the surrounding area in its basic community functions, or will provide an essential service to the community or region.

The proposed development will enhance the successful operation of the surrounding area in its basic community function and will provide an essential service to the community or region. This will be achieved providing a regional Telecommunications facility for the community, available to the police, fire services, and the public safety organizations and the general public.

D. That the proposal conforms to all applicable design review criteria set forth in the DESIGN REVIEW PROCEDURE of Chapter 17.136 of the Oakland Planning Code.

The proposal conforms with all significant aspects of the Design Review criteria set forth in Chapter 17.136 of the Oakland Planning Code, as outlined below.

E. That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable plan or development control map which has been adopted by the City Council.

The subject property is located within the Hillside Residential Area of the General Plan's Land Use & Transportation Element (LUTE). The Hillside Residential Classification is intended "to create, maintain, and enhance neighborhood residential areas that are characterized by detached, single unit structures on hillside lots". The proposed telecommunication facility will be mounted onto a new Monopole telecommunication facility that resembles a pine tree and is intended to blend in with the existing tall trees on the property. The proposed telecommunication facility will be located on a public utility site and will not detract from the hillside residential value of the neighborhood. Visual impacts will be minimized since the site is relatively wooded, with trees obscuring views of the pole and antennas. Furthermore, the equipment serving the facility will be ground mounted behind solid fence next to the pole to reduce visual clutter on the pole and antennas, equipment painted to match. The proposal meets LUTE Objective N2. Therefore, the Project conforms to the applicable General Plan criteria.

17.128.080(C) - Conditional Use Permit Criteria for Monopole Telecommunications Facilities.

1. The project must meet the special design review criteria listed in Subsection B. of this Section.

The proposal meets the special design review criteria in Planning Code Section 17.128.070(B) as described below.

2. Monopoles should not be located any closer than one thousand five hundred (1,500) feet from existing monopoles unless technologically required or visually preferable.

Staff has determined that although the project is closer than 1,500' from an existing monopole, that the facility is technologically required and visually preferable for the following reasons.

- a. Verizon's antennas cannot operate properly on the existing monopole due to interference from the adjacent water tank.: The reservoir, which is directly adjacent to the existing cell sites operated by AT&T and T-Mobile, has a domed roof that is at 44'-5" tall, approximately 16'.5" higher at very top, than the perimeter of the structure. The AT&T and T-Mobile antennas are just barely high enough to shoot across the top of the water tank without facing interference from the structure. If Verizon added antennas to this existing tower, the antennas would need to be mounted at a lower elevation than the existing AT&T and T-Mobile antennas, so the Verizon's antennas would be at approximately 42'-11" above ground level. Antennas mounted at this height would be lower than the top of the water tank and would not be able to cover the far side of the tank without interference. Furthermore, the antenna cannot be located on the top of the reservoir dome itself. Therefore, the conclusion is that there is no existing structure on this site that could accommodate the proposed Verizon antennas.
- b. Replacing the existing tower with a taller tower would require a much taller Monopole and will cause it to stick up significantly above the tree line.: The existing tower is approximately as tall as the tallest trees in the immediate vicinity. In order to accommodate Verizon's antennas at an elevation that would avoid interference from the water tank, a replacement tower would need to be taller than the existing tower by at least 10' in order to provide sufficient vertical separation between antennas so that they would not interfere with each other. This would cause the tower to stick up significantly above the existing tree line, no longer blending in with the existing landscape and causing a significant visual impact.

As proposed, the new tower will resemble a pine tree, will blend in with the existing wooded landscape and avoid significant visual impacts.

3. The proposed project must not disrupt the overall community character.

The proposed project will not disrupt community character. The monopole is designed to resemble a pine tree and is located approximately 230' away from the street near the reservoir and is surrounded by existing, tall mature trees.

4. If a major conditional use permit is required, the Planning Director or the Planning Commission may request independent expert review regarding site location, collocation and facility configuration. Any party may request that the Planning Commission consider making such request for independent expert review.

- a. If there is any objection to the appointment of an independent expert engineer, the applicant must notify the Planning Director within ten (10) days of the Commission request. The Commission will hear arguments regarding the need for the independent expert and the applicant's objection to having one appointed. The Commission will rule as to whether an independent expert should be appointed.
- b. Should the Commission appoint an independent expert, the Commission will direct the Planning Director to pick an expert from a panel of licensed engineers, a list of which will be compiled, updated and maintained by the Planning Department.
- c. No expert on the panel will be allowed to review any materials or investigate any application without first signing an agreement under penalty of perjury that the expert will keep confidential any and all information learned during the investigation of the application. No personnel currently employed by a telecommunication company are eligible for inclusion on the list.
- d. An applicant may elect to keep confidential any proprietary information during the expert's investigation. However, if an applicant does so elect to keep confidential various items of proprietary information, that applicant may not introduce the confidential proprietary information for the first time before the Commission in support of the application.
- e. The Commission shall require that the independent expert prepare the report in a timely fashion so that it will be available to the public prior to any public hearing on the application.
- f. Should the Commission appoint an independent expert, the expert's fees will be paid by the applicant through the application fee, imposed by the City.

The Planning Director or designee has not required independent expert review regarding site location, collocation and facility configuration. Staff has made the Findings in support of the site location, collocation and design.

17.136.050(B) – NONRESIDENTIAL DESIGN REVIEW CRITERIA:

1. That the proposal will help achieve or maintain a group of facilities which are well related to one another and which, when taken together, will result in a well-composed design, with consideration given to site, landscape, bulk, height, arrangement, texture, materials, colors, and appurtenances; the relation of these factors to other facilities in the vicinity; and the relation of the proposal to the total setting as seen from key points in the surrounding area. Only elements of design which have some significant relationship to outside appearance shall be considered, except as otherwise provided in Section 17.136.060;

The purpose of the project is to enhance wireless telecommunications in the area along Skyline Boulevard. The proposed monopole facility is designed as a pine tree to blend in with the existing landscape, and the antennas will be camouflaged by the existing mature trees. The facility will be unmanned, will not create additional vehicular traffic in the area, and will not adversely affect the operating characteristics or livability of the hillside area.

- 2. That the proposed design will be of a quality and character which harmonizes with, and serves to protect the value of, private and public investments in the area;**

The proposal improves wireless telecommunication service in the hillside residential area. The installation will be sited near other telecommunication facilities of similar height within the EBMUD Reservoir property to have minimal visual impacts on public views, thereby protecting the value of private and public investments in the area.

- 3. That the proposed design conforms in all significant respects with the Oakland General Plan and with any applicable design review guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council.**

See the General Use Permit Finding E.

17.128.070(B) DESIGN REVIEW CRITERIA FOR MACRO FACILITIES

- 1. Antennas should be painted and/or textured to match the existing structure:**

The proposed antennas will be painted green to match the existing trees and blend in with the surroundings wooded area.

- 2. Antennas mounted on architecturally significant structures or significant architectural details of the building should be covered by appropriate casings which are manufactured to match existing architectural features found on the building:**

The proposed antennas will not be mounted on any building or architecturally significant structure, but rather on a pole designed to resemble a pine tree.

- 3. Where feasible, antennas can be placed directly above, below or incorporated with vertical design elements of a building to help in camouflaging:**

The proposed antennas will be mounted on a new monopole and will be painted green to match existing trees and will be further camouflaged by surrounding mature trees.

- 4. Equipment shelters or cabinets shall be screened from the public view by using landscaping, or materials and colors consistent with surrounding backdrop:**

The associated equipment serving the facility will be ground mounted behind a solid fence next to the pole to reduce visual clutter on the pole and antennas. Equipment will be painted to blend in with the surroundings.

- 5. Equipment shelters or cabinets shall be consistent with the general character of the area.**

The proposed equipment cabinets will be screened behind a solid fence and is compatible with the existing telecommunication facilities and water facilities located on site.

- 6. For antennas attached to the roof, maintain a 1:1 ratio for equipment setback; screen the antennas to match existing air conditioning units, stairs, or elevator towers; avoid placing roof mounted antennas in direct line with significant view corridors.**

N/A.

7. That all reasonable means of reducing public access to the antennas and equipment has been made, including, but not limited to, placement in or on buildings or structures, fencing, anti-climbing measures and anti-tampering devices.

The equipment will be behind an 8' tall fence with a locked gate. The antennas will be mounted onto a new monopole approximately 50' above the ground. They will not be accessible to the public due to their location. The equipment will be secured to the greatest extent possible from the public and vehicles.

CONDITIONS OF APPROVAL PLN19-244

STANDARD CONDITIONS:

1. Approved Use

The project shall be constructed and operated in accordance with the authorized use as described in the approved application materials, **PLN19-244** and the approved plans dated **September 21, 2018**, as amended by the following conditions of approval and mitigation measures, if applicable (“Conditions of Approval” or “Conditions”).

2. Effective Date, Expiration, Extensions and Extinguishment

This Approval shall become effective immediately, unless the Approval is appealable, in which case the Approval shall become effective in ten calendar days unless an appeal is filed. Unless a different termination date is prescribed, this Approval shall expire **two years** from the Approval date, or from the date of the final decision in the event of an appeal, unless within such period all necessary permits for construction or alteration have been issued, or the authorized activities have commenced in the case of a permit not involving construction or alteration. Upon written request and payment of appropriate fees submitted no later than the expiration date of this Approval, the Director of City Planning or designee may grant a one-year extension of this date, with additional extensions subject to approval by the approving body. Expiration of any necessary building permit or other construction-related permit for this project may invalidate this Approval if said Approval has also expired. If litigation is filed challenging this Approval, or its implementation, then the time period stated above for obtaining necessary permits for construction or alteration and/or commencement of authorized activities is automatically extended for the duration of the litigation.

3. Compliance with Other Requirements

The project applicant shall comply with all other applicable federal, state, regional, and local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City’s Bureau of Building, Fire Marshal, and Public Works Department. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition #4.

4. Minor and Major Changes

- a. Minor changes to the approved project, plans, Conditions, facilities, or use may be approved administratively by the Director of City Planning
- b. Major changes to the approved project, plans, Conditions, facilities, or use shall be reviewed by the Director of City Planning to determine whether such changes require submittal and approval of a revision to the Approval by the original approving body or a new independent permit/approval. Major revisions shall be reviewed in accordance with the procedures required for the original permit/approval. A new independent permit/approval shall be reviewed in accordance with the procedures required for the new permit/approval.

5. Compliance with Conditions of Approval

- a. The project applicant and property owner, including successors, (collectively referred to hereafter as the “project applicant” or “applicant”) shall be responsible for compliance with all the Conditions of Approval and any recommendations contained in any submitted and approved technical report at his/her sole cost and expense, subject to review and approval by the City of Oakland.
- b. The City of Oakland reserves the right at any time during construction to require certification by a licensed professional at the project applicant’s expense that the as-built project conforms to all applicable requirements, including but not limited to, approved maximum heights and minimum setbacks. Failure to construct the project in accordance with the Approval may result in remedial

reconstruction, permit revocation, permit modification, stop work, permit suspension, or other corrective action.

- c. Violation of any term, Condition, or project description relating to the Approval is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approval or alter these Conditions if it is found that there is violation of any of the Conditions or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions. The project applicant shall be responsible for paying fees in accordance with the City's Master Fee Schedule for inspections conducted by the City or a City-designated third-party to investigate alleged violations of the Approval or Conditions.

6. Signed Copy of the Approval/Conditions

A copy of the Approval letter and Conditions shall be signed by the project applicant, attached to each set of permit plans submitted to the appropriate City agency for the project, and made available for review at the project job site at all times.

7. Blight/Nuisances

The project site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within 60 days of approval, unless an earlier date is specified elsewhere.

8. Indemnification

- a. To the maximum extent permitted by law, the project applicant shall defend (with counsel acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the Oakland Redevelopment Successor Agency, the Oakland City Planning Commission, and their respective agents, officers, employees, and volunteers (hereafter collectively called "City") from any liability, damages, claim, judgment, loss (direct or indirect), action, causes of action, or proceeding (including legal costs, attorneys' fees, expert witness or consultant fees, City Attorney or staff time, expenses or costs) (collectively called "Action") against the City to attack, set aside, void or annul this Approval or implementation of this Approval. The City may elect, in its sole discretion, to participate in the defense of said Action and the project applicant shall reimburse the City for its reasonable legal costs and attorneys' fees.
- b. Within ten (10) calendar days of the filing of any Action as specified in subsection (a) above, the project applicant shall execute a Joint Defense Letter of Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations. These obligations and the Joint Defense Letter of Agreement shall survive termination, extinguishment, or invalidation of the Approval. Failure to timely execute the Letter of Agreement does not relieve the project applicant of any of the obligations contained in this Condition or other requirements or Conditions of Approval that may be imposed by the City.

9. Severability

The Approval would not have been granted but for the applicability and validity of each and every one of the specified Conditions, and if one or more of such Conditions is found to be invalid by a court of competent jurisdiction this Approval would not have been granted without requiring other valid Conditions consistent with achieving the same purpose and intent of such Approval.

10. Graffiti Control

Requirement:

- a. During construction and operation of the project, the project applicant shall incorporate best management practices reasonably related to the control of graffiti and/or the mitigation of the impacts of graffiti. Such best management practices may include, without limitation:
 - i. Installation and maintenance of landscaping to discourage defacement of and/or protect likely graffiti-attracting surfaces.
 - ii. Installation and maintenance of lighting to protect likely graffiti-attracting surfaces.
 - iii. Use of paint with anti-graffiti coating.
 - iv. Incorporation of architectural or design elements or features to discourage graffiti defacement in accordance with the principles of Crime Prevention Through Environmental Design (CPTED).
 - v. Other practices approved by the City to deter, protect, or reduce the potential for graffiti defacement.
- b. The project applicant shall remove graffiti by appropriate means within seventy-two (72) hours. Appropriate means include the following:
 - i. Removal through scrubbing, washing, sanding, and/or scraping (or similar method) without damaging the surface and without discharging wash water or cleaning detergents into the City storm drain system.
 - ii. Covering with new paint to match the color of the surrounding surface.
 - iii. Replacing with new surfacing (with City permits if required).

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

11. Construction-Related Permit(s)

Requirement: The project applicant shall obtain all required construction-related permits/approvals from the City. The project shall comply with all standards, requirements and conditions contained in construction-related codes, including but not limited to the Oakland Building Code and the Oakland Grading Regulations, to ensure structural integrity and safe construction.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

12. Construction Days/Hours

Requirement: The project applicant shall comply with the following restrictions concerning construction days and hours:

- a. Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pier drilling and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m.
- b. Construction activities are limited to between 9:00 a.m. and 5:00 p.m. on Saturday. In residential zones and within 300 feet of a residential zone, construction activities are allowed from 9:00 a.m. to 5:00 p.m. only within the interior of the building with the doors and windows closed. No pier drilling or other extreme noise generating activities greater than 90 dBA are allowed on Saturday.

- c. No construction is allowed on Sunday or federal holidays.

Construction activities include, but are not limited to, truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on-site in a non-enclosed area.

Any construction activity proposed outside of the above days and hours for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case-by-case basis by the City, with criteria including the urgency/emergency nature of the work, the proximity of residential or other sensitive uses, and a consideration of nearby residents'/occupants' preferences. The project applicant shall notify property owners and occupants located within 300 feet at least 14 calendar days prior to construction activity proposed outside of the above days/hours. When submitting a request to the City to allow construction activity outside of the above days/hours, the project applicant shall submit information concerning the type and duration of proposed construction activity and the draft public notice for City review and approval prior to distribution of the public notice.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

13. Construction Noise

Requirement: The project applicant shall implement noise reduction measures to reduce noise impacts due to construction. Noise reduction measures include, but are not limited to, the following:

- a. Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible.
- b. Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.
- c. Applicant shall use temporary power poles instead of generators where feasible.
- d. Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.
- e. The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

14. Extreme Construction Noise

- a. *Construction Noise Management Plan Required*

Requirement: Prior to any extreme noise generating construction activities (e.g., pier drilling, pile driving and other activities generating greater than 90dBA), the project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant for City review and approval that contains a set of site-specific noise attenuation measures to further reduce construction impacts associated with extreme noise generating activities. The project applicant shall implement the approved Plan during construction. Potential attenuation measures include, but are not limited to, the following:

- i. Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;
- ii. Implement “quiet” pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
- iii. Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site;
- iv. Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example and implement such measure if such measures are feasible and would noticeably reduce noise impacts; and
- v. Monitor the effectiveness of noise attenuation measures by taking noise measurements.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

b. ***Public Notification Required***

Requirement: The project applicant shall notify property owners and occupants located within 300 feet of the construction activities at least 14 calendar days prior to commencing extreme noise generating activities. Prior to providing the notice, the project applicant shall submit to the City for review and approval the proposed type and duration of extreme noise generating activities and the proposed public notice. The public notice shall provide the estimated start and end dates of the extreme noise generating activities and describe noise attenuation measures to be implemented.

When Required: During construction

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

15. **Operational Noise**

Requirement: Noise levels from the project site after completion of the project (i.e., during project operation) shall comply with the performance standards of chapter 17.120 of the Oakland Planning Code and chapter 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the City.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

16. **Construction Activity in the Public Right-of-Way**

- a. ***Obstruction Permit Required***

Requirement: The project applicant shall obtain an obstruction permit from the City prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets and sidewalks.

When Required: Prior to approval of construction-related permit

Initial Approval: Bureau of Building

Monitoring/Inspection: Bureau of Building

b. Traffic Control Plan Required

Requirement: In the event of obstructions to vehicle or bicycle travel lanes, the project applicant shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The project applicant shall submit evidence of City approval of the Traffic Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, transit, bicycle, and pedestrian detours, including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The project applicant shall implement the approved Plan during construction.

When Required: Prior to approval of construction-related permit

Initial Approval: Public Works Department, Transportation Services Division

Monitoring/Inspection: Bureau of Building

c. Repair of City Streets

Requirement: The project applicant shall repair any damage to the public right-of way, including streets and sidewalks caused by project construction at his/her expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.

When Required: Prior to building permit final

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

17. Construction and Demolition Waste Reduction and Recycling

Requirement: The project applicant shall comply with the City of Oakland Construction and Demolition Waste Reduction and Recycling Ordinance (chapter 15.34 of the Oakland Municipal Code) by submitting a Construction and Demolition Waste Reduction and Recycling Plan (WRRP) for City review and approval, and shall implement the approved WRRP. Projects subject to these requirements include all new construction, renovations/alterations/modifications with construction values of \$50,000 or more (except R-3 type construction), and all demolition (including soft demolition) except demolition of type R-3 construction. The WRRP must specify the methods by which the project will divert construction and demolition debris waste from landfill disposal in accordance with current City requirements. The WRRP may be submitted electronically at www.greenhalosystems.com or manually at the City's Green Building Resource Center. Current standards, FAQs, and forms are available on the City's website and in the Green Building Resource Center.

When Required: Prior to approval of construction-related permit

Initial Approval: Public Works Department, Environmental Services Division

Monitoring/Inspection: Public Works Department, Environmental Services Division

PROJECT SPECIFIC CONDITONS:

18. Radio Frequency Emissions

Prior to the final building permit sign off.

The applicant shall submit a certified RF aggregate emissions report stating the facility is operating within the acceptable standards established by the regulatory Federal Communications Commission.

19. Equipment cabinets

Prior to building permit Issuances.

The applicant shall submit revised elevations showing associated equipment cabinets are concealed within a single equipment box that is painted to match the utility pole, to the Oakland Planning Department for review and approval.

20. Camouflage

Requirement: The antenna and equipment shall be painted, texturized to mimic a pine tree. The equipment fence shall be solid wood.

When Required: Prior to a final inspection

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

21. Emissions Report

Requirement: A RF emissions report shall be submitted to the Planning Bureau indicating that the site is actually operating within the acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.

When Required: Prior to final building permit inspection sign-off

Initial Approval: N/A

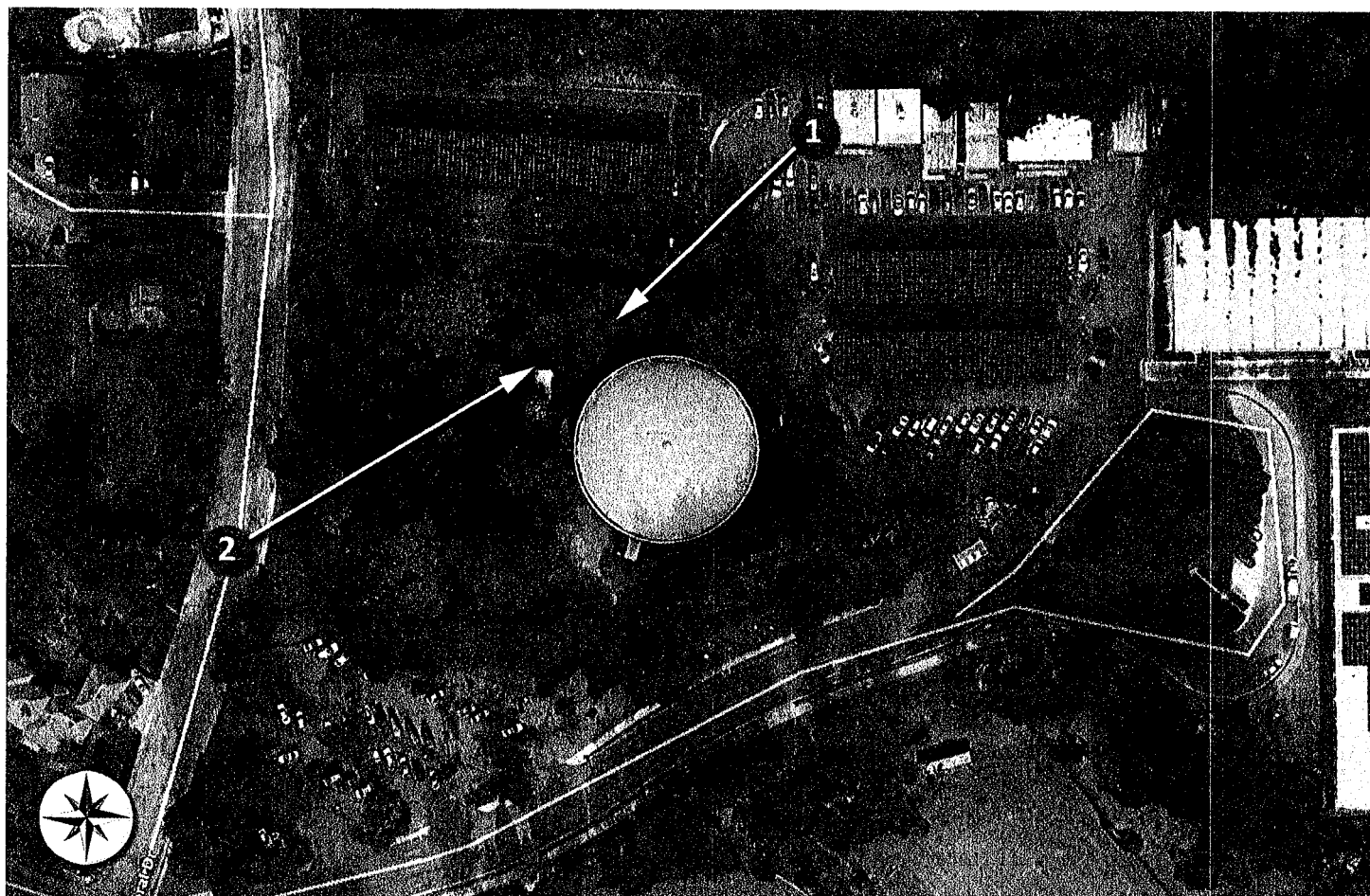
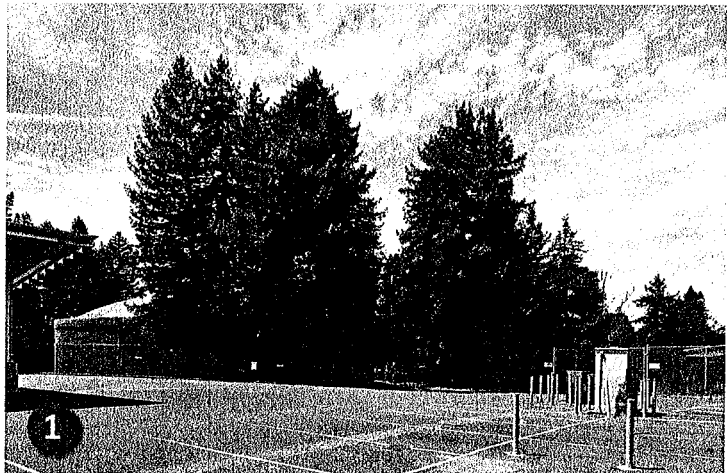
Monitoring/Inspection: N/A

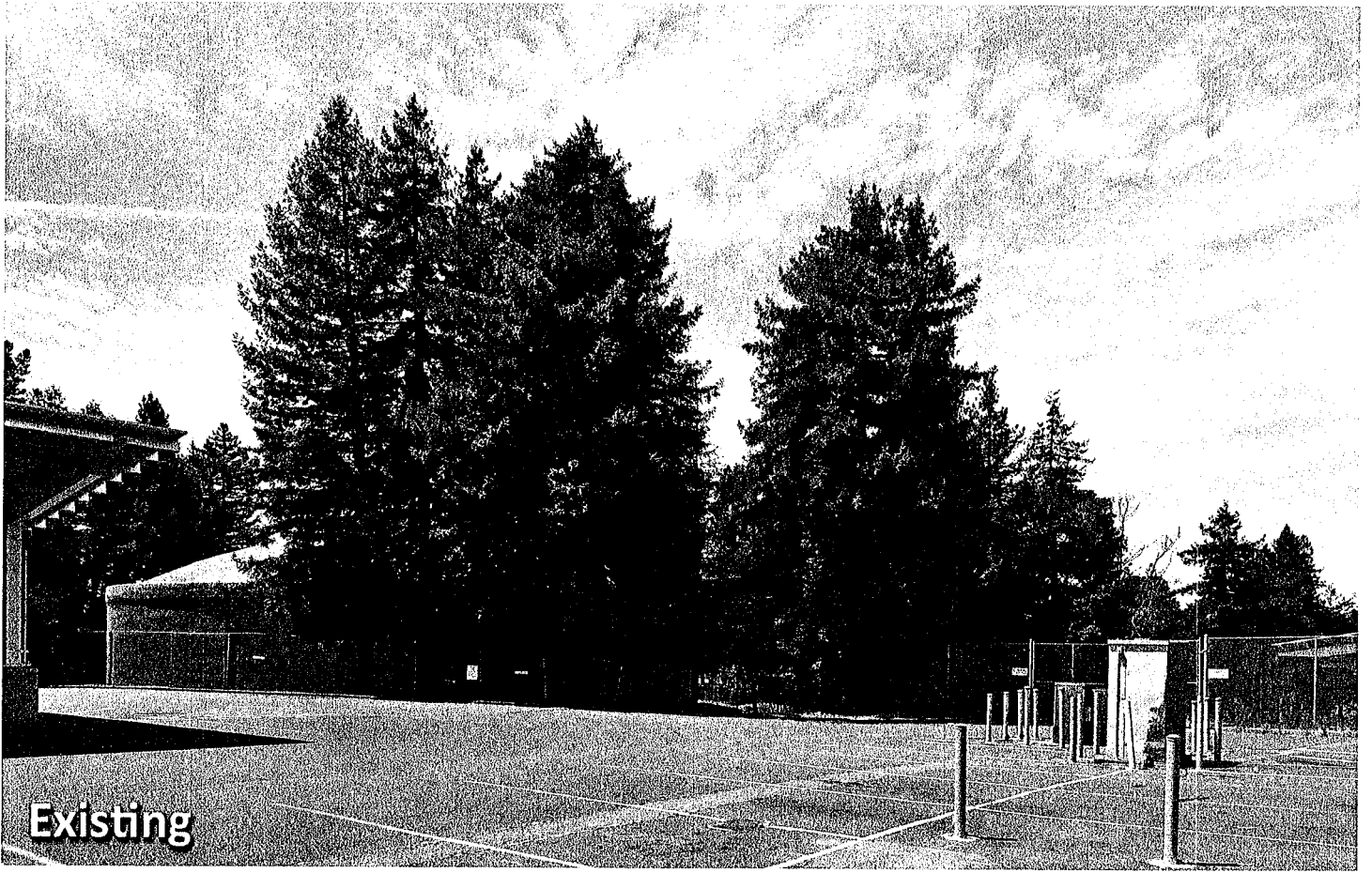
22. Possible District Undergrounding PG&E Pole

Ongoing

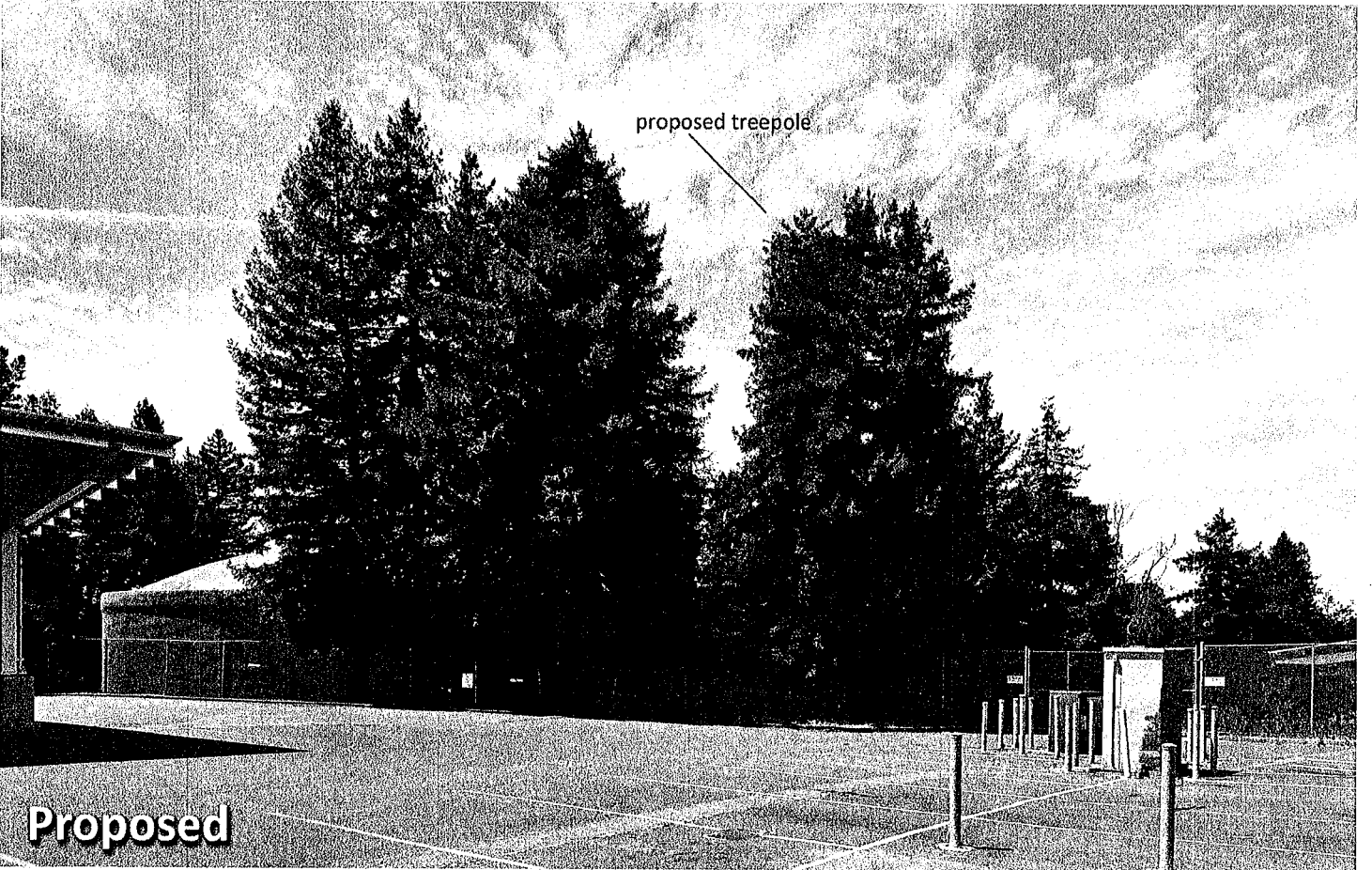
Should the PG &E utility pole be voluntarily removed for purposes of district undergrounding or otherwise, the telecommunications facility can only be re-established by applying for and receiving approval of a new application to the Oakland Planning Department as required by the regulations.

Attachment D





Existing



proposed treepole

Proposed



Attachment E



September 25, 2019

City of Oakland
Planning Department
250 Frank H. Ogawa Plaza, Ste 2114
Oakland, CA 94612

RE: Proposed new Verizon facility at EBMUD Madrone Reservoir
5650 Balmoral Drive, Oakland, CA 94619 (Skyline HS site)

Dear Planning Department,

Please find enclosed with this letter materials to support a CUP with Design Review for a Macro Telecommunications facility for a new Verizon Wireless facility at the address shown above.

This location currently has (1) other existing wireless facility which hosts (2) carriers: AT&T and T-Mobile. AT&T has (6) antennas and T-Mobile has (4) antennas on an existing monopine. Their equipment is located on the ground near the monopine surrounded by an 8 foot high wood fence.

Verizon is proposing to add a facility including a new monopine with (9) panel antennas, (9) remote radio units, (2) surge suppression units, (1) hybrid cables, (4) cabinets, and a backup generator.

Proposed Antennas and Equipment:

- (9) Panel antennas: 96 x 11.9 x 7.1 inches
- (6) Remote Radio units: 15 x 13.2 x 11.1 inches
- (3) Surge Suppression units: 28.93 x 19.15 x 10.31 inches
- (3) Battery/Misc Cabinets: 74.1 x 32.3 x 32.3 inches

The proposed monopine will be near an existing water tank on EBMUD property.

Please find included with this application:

1. Completed application for CUP and Design Review.
2. Telecommunications Facilities – Macro – Design Review Criteria and CUP findings.
3. Telecommunications Facilities – Macro – Additional Design Review Criteria and CUP findings.

4. Assessor's Parcel map.
5. Photosimulations
6. Photographs of the 20 nearest neighbors.
7. (4) sets of plans.
8. RF Report.
9. Colorboard

Under section 17.128.110 of the municipal code, telecommunications facilities designed for "City-owned properties or other public or quasi-public facilities" "do not require a site alternatives analysis." Although the subject parcel falls within the RH-1 zoning district, the property is *not* used for residential purposes, but is rather used for utility purposes. The parcel is owned by the East Bay Municipal Utilities District, and contains EBMUD's Madrone Reservoir. This parcel thus qualifies as a "public or quasi-public" facility. With this designation, this location qualifies as the City's second most preferred type of location for the development of telecommunications facilities.

Although the municipal code does not require alternatives analysis, several other alternatives were considered and rejected. In particular, the vast majority of parcels surrounding Madrone Reservoir are used for residential purposes. Under the City's Site Location Preferences specified in section 17.128.110, residential uses in residential zones are the City's least preferred location. For this reason, the many homes in the area were rejected as candidates for this development.

Locations at Skyline High School were considered and rejected. It may be technically possible to construct a cell site on the rooftop of the gymnasium building, or on a light pole at the athletic fields. These possibilities were evaluated but ultimately rejected because we viewed the EBMUD candidate as less intrusive. Our opinion is that members of the public would be more likely to encounter and be impacted by a development at the high school rather than at the EBMUD utility property.

No other existing commercial or industrial structures that could have served as candidates for this development have been identified in this area, except for the existing AT&T and T-Mobile cell sites described below.

As noted, AT&T and T-Mobile currently operate cell sites on a monopole that already exists on this parcel. We recognize that section 17.128.080 (C)(2) of the Municipal Code describes the City's preference that "monopole[s]" "not be located any closer than one thousand five hundred (1,500) feet from existing monopoles." However, the code also provides for exceptions to this rule, where it is "technologically required or visually preferable." In this case, it is both technologically required AND visually preferable, for the following reasons.

1. Verizon's antennas cannot operate properly on the existing monopole due to interference from the adjacent water tank. EBMUD's Madrone Reservoir, which is directly adjacent to the existing cell sites operated by AT&T and T-Mobile, has a domed roof that is approximately 17.5 feet higher at the very top than at the roofline on the perimeter of the structure. This places the top of the roof at 44'5"

above ground level. At this elevation, the existing AT&T and T-Mobile antennas are just barely high enough to shoot across the top of the water tank without facing interference from the water tank. If Verizon added antennas to this existing tower, the antennas would need to be mounted at a lower elevation than the existing AT&T and T-Mobile antennas, so that the bottom of Verizon's antennas would be at approximately 42'11" above ground level. Antennas mounted at this height would lower than the top of the water tank, and would thus not be able to cover the far side of the water tank without interference. This monopole is the only existing structure that could be a feasible solution. Given that it won't work without interference, we conclude that there is no existing structure that can accommodate the proposed antennas.

2. Replacing the existing tower with a taller tower would cause it to stick up significantly above the tree line. The existing tower is approximately as tall as the tallest trees in the immediate vicinity. In order to accommodate Verizon's antennas at an elevation that would avoid interference caused by the water tank, a replacement tower would need to be taller than the existing tower by at least 10 feet (in order to provide sufficient vertical separation between antennas so that they would not interfere with each other). This would cause the tower to stick up significantly above the existing tree line, and would cause a significant visual impact.
3. Allowing a second tower near the existing tower would cause negligible visual impacts. Verizon is proposing to install a "monopine," which is a monopole disguised to resemble an evergreen tree. Verizon is proposing to install this monopine near the existing AT&T/T-Mobile tower, on a parcel that is filled with other trees of similar height. Because many natural trees already exist on this parcel, they tend to screen the cell sites from view, and would make Verizon's proposed faux tree nearly unnoticeable. The photosimulations that have been submitted with this application confirm this. Even from the most advantageous viewing locations, Verizon's proposed tower is essentially invisible.
4. Replacing the existing tower with a new taller tower would cause significant unnecessary impacts. Replacing the existing tower with a new taller tower would require removing the existing AT&T and T-Mobile antennas from the existing tower for a period, while the tower is being replaced. This would cause the AT&T and T-Mobile networks to be "off air" for that period when no calls or data connections would be possible without mitigation. Given that AT&T and T-Mobile are not involved in this Verizon project, this would be a significant impact not only on AT&T and T-Mobile, but also on their subscribers who rely upon wireless service from those carriers. For example, it would likely impact students and parents visiting nearby Skyline High School. Sometimes cell sites must go offline for periods of time, of course. But an interruption in service, which could affect health and safety, should not be undertaken without significant corresponding benefits. In this case the benefits are marginal.

For the reasons described above, we respectfully request that the application be approved.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Haddock', with a long horizontal flourish extending to the right.

David Haddock
Site Development Manager
Ridge Communications, Inc. for Verizon Wireless
12919 Alcosta Blvd. Ste. 1
San Ramon, CA 94583

**Verizon Wireless • Proposed Base Station (Site No. 450320 “Skyline HS”)
5650 Balmoral Drive • Oakland, California**

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 450320 “Skyline HS”) proposed to be located at 5650 Balmoral Drive in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

Verizon proposes to install directional panel antennas on a tall steel pole, to be sited next to the EBMUD water tank located at 5650 Balmoral Drive in Oakland. The proposed operation will, together with the existing base stations at the site, comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

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

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

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called “radios” or “channels”) that are connected to the traditional wired telephone lines, and the passive antennas that



**Verizon Wireless • Proposed Base Station (Site No. 450320 “Skyline HS”)
5650 Balmoral Drive • Oakland, California**

send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

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

Site and Facility Description

Based upon information provided by Verizon, including zoning drawings by Streamline Engineering and Design, Inc., dated September 21, 2018, it is proposed to install nine CommScope Model NHH-65C directional panel antennas on a new 70-foot steel pole, configured to resemble a pine tree,* to be sited about 25 feet northwest of the EBMUD water tank located at 5650 Balmoral Drive in Oakland. The antennas would employ no downtilt, would be mounted at an effective height of about 66 feet above ground, and would be oriented in groups of three toward 60°T, 150°T, and 320°T. The maximum effective radiated power in any direction would be 35,750 watts, representing simultaneous operation at 11,750 watts for AWS, 10,000 watts for PCS, 7,080 watts for cellular, and 6,920 watts for 700 MHz service.

Located on another pole, also configured to resemble a pine tree, about 45 feet to the southwest are similar antennas for use by T-Mobile and AT&T Mobility. For the limited purpose of this study, the transmitting facilities of those carriers are assumed to be as follows:

* Foliage atop the pole puts the overall height at about 75 feet.



**Verizon Wireless • Proposed Base Station (Site No. 450320 "Skyline HS")
5650 Balmoral Drive • Oakland, California**

Operator	Service	Maximum ERP	Antenna Model	Downtilt	Height
T-Mobile	AWS	4,400 watts	Ericsson AIR21	3°	65 ft
	PCS	4,400	Ericsson AIR21	3	65
	700 MHz	3,300	RFS APXVARR24	3	65
	600 MHz	3,300	RFS APXVARR24	3	65
AT&T	WCS	3,900	CommScope SBNHH-1D65B	2	56
	AWS	6,200	CommScope SBNHH-1D65B	2	56
	PCS	5,700	CommScope SBNHH-1D65B	2	56
	Cellular	2,600	CommScope SBNHH-1D65B	4	56
	700 MHz	6,900	CommScope SBNHH-1D65B	4	56

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation by itself is calculated to be 0.074 mW/cm², which is 8.4% of the applicable public exposure limit. The maximum calculated cumulative level at ground, for the simultaneous operation of all three carriers, is 11% of the public exposure limit. The maximum calculated cumulative level at the second-floor elevation of any nearby building[†] is 25% of the public limit. The maximum calculated cumulative level for a person on top of the water tank is 40% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels.

No Recommended Compliance Measures

Due to their mounting location and height, the Verizon antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. It is presumed that the several carriers, as FCC licensees, take adequate steps to ensure that their employees or contractors receive appropriate training and comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by Verizon Wireless at 5650 Balmoral Drive in Oakland, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

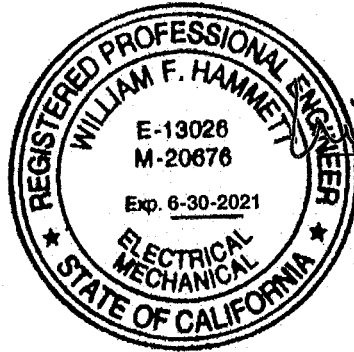
[†] Including the residences located at least 300 feet away, based on photographs from Google Maps.



**Verizon Wireless • Proposed Base Station (Site No. 450320 "Skyline HS")
5650 Balmoral Drive • Oakland, California**

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2021. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.



William F. Hammett

William F. Hammett, P.E.
707/996-5200

August 12, 2019

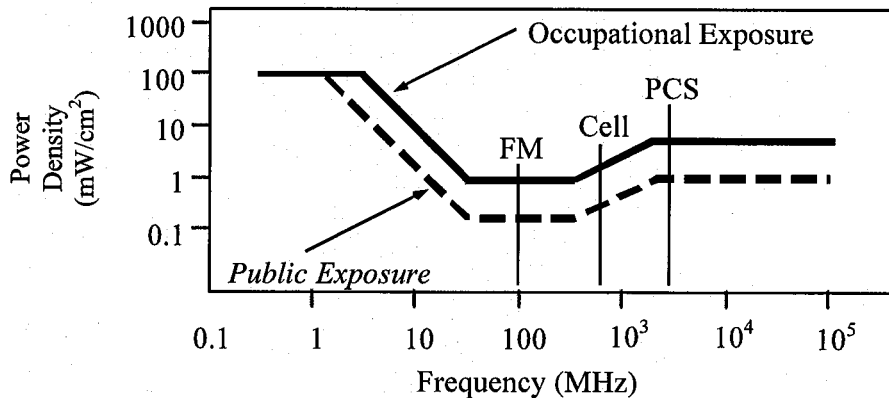


FCC Radio Frequency Protection Guide

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

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

Frequency Applicable Range (MHz)	Electromagnetic Fields (f is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f ²	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.



RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

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

Near Field.

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

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm²,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm²,

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

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

Far Field.

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

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

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

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





CITY OF OAKLAND

BUREAU OF PLANNING

250 Frank H. Ogawa Plaza, Suite 2114, Oakland, CA 94612-2031

Phone: 510-238-3911 Fax: 510-238-4730

PLANNING COMMISSION PUBLIC NOTICE

4.	Location:	5650 Balmoral Drive
	Assessor's Parcel Number:	085-0102-014-00
	Proposal:	The project involves installation of a 75' tall Monopole Telecommunication Facility (monopole) located on an EBMUD Reservoir property adjacent to the existing water tank. The proposal will also include nine (9) antennas panels measuring 96 x 11.9 x 7.1 inches; six (6) Remote Radio Units (RRU) measuring 15 x 13.2 x 11.1 inches and Surge Suppression units mounted to the monopole; four (4) associated equipment cabinets and a backup generator / battery to be ground mounted on a new screened cement pad located next to the monopole.
	Applicants/ Phone Number:	David Haddock for Verizon Wireless by Ridge Communications.(916) 420-5802
	Owners:	East Bay Municipal Utility District (EBMUD).
	Planning Permits Required:	Major Conditional Use Permit and Design Review to install a new Monopole Telecommunication Facility within a residential zone.
	General Plan:	Institutional
	Zoning:	RH-1 Hillside Residential – 1 Zone
	Environmental Determination:	Exempt, Section 15303 of the State CEQA Guidelines; installation a new telecommunication monopole and Section 15183; projects consistent with a community plan, General Plan or Zoning.
	Historic Status:	Not a Potential Designated Historic Property; Survey Rating: N/A
	City Council District:	6
	Date Filed:	September 26, 2019
	Staff Recommendation:	To approve the application with Conditions
	Finality of Decision:	<i>Appealable to City Council within 10 days</i>
	For Further Information:	Contact case planner Jason Madani, at (510) 238-4790 or jmadani@oaklandca.gov

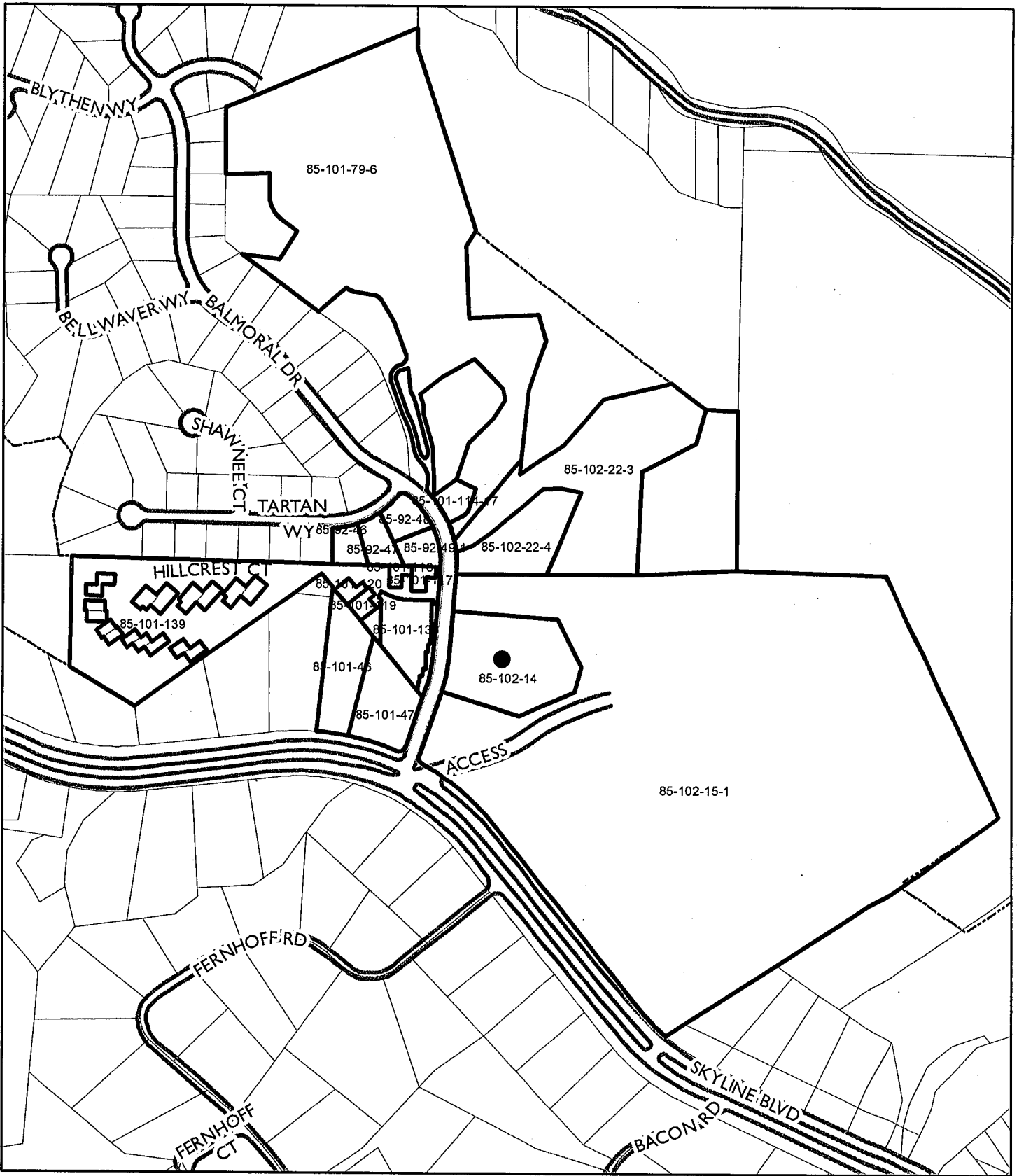
Your comments and questions, if any, should be directed to the Bureau of Planning, 250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, California 94612-2031 at or prior to the public hearing to be held on **February 19, 2020**, at Oakland City Hall, Council Chambers, 1 Frank H. Ogawa Plaza, Oakland, California 94612. The public hearing will start at 6:00 p.m.

If you challenge the Planning Commission decision on appeal and/or in court, you will be limited to issues raised at the public hearing or in correspondence delivered to the Bureau of Planning, at, or prior to, the public hearing on this case. If you wish to be notified of the decision of any of these cases, please provide the case planner with a regular mail or email address.

Please note that the description of the application found above is preliminary in nature and that the project and/or such description may change prior to a decision being made. Except where noted, once a decision is reached by the Planning Commission on these cases, they are appealable to the City Council. **Such appeals must be filed within ten (10) calendar days of the date of decision by the Planning Commission and by 4:00p.m.** An appeal shall be on a form provided by the Bureau of Planning and submitted to the same at 250 Frank H. Ogawa Plaza, Suite 2114, to the attention of the Case Planner. The appeal shall state specifically wherein it is claimed there was error or abuse of discretion by the City of Oakland or wherein the decision is not supported by substantial evidence and must include payment in accordance with the City of Oakland Master Fee Schedule. Failure to file a timely appeal will preclude you from challenging the City's decision in court. The appeal itself must raise every issue that is contested along with all the arguments and evidence previously entered into the record prior to or at the public hearing mentioned above. Failure to do so will preclude you from raising such issues during the appeal hearing and/or in court.

POSTING DATE: January 31, 2020

IT IS UNLAWFUL TO ALTER OR REMOVE THIS NOTICE WHEN POSTED ON SITE



0 520 Feet



PLN19244
 5650 Balmoral Drive
 085 010201400

Date: 1/27/2020

Madani, Jason

Attachment H

From: Madani, Jason
Sent: Monday, February 3, 2020 10:45 AM
To: Alexis or Ned Schroeder
Subject: RE: PLN19244 - Agenda Item #4 on Planning Commission Meeting (02.19.2020)

Hi Alexis, Staff report will be available one week prior to Feb 19 PC meeting. Staff report will be posted on City of Oakland web site. Take care. Jason

From: Alexis or Ned Schroeder <alexisned@sbcglobal.net>
Sent: Sunday, February 2, 2020 6:40 AM
To: Madani, Jason <JMadani@oaklandca.gov>
Subject: PLN19244 - Agenda Item #4 on Planning Commission Meeting (02.19.2020)

Good morning Jason -

Please make this document part of the public record and include it in the packet of information to be provided to the Planning Commission for the agenda item (#4) scheduled for approval on February 19, 2020. As an Oakland resident, I do not support this new monopole 9 cell antenna project by Verizon at this location due to an Ordinance violation and RF Emission report issues.

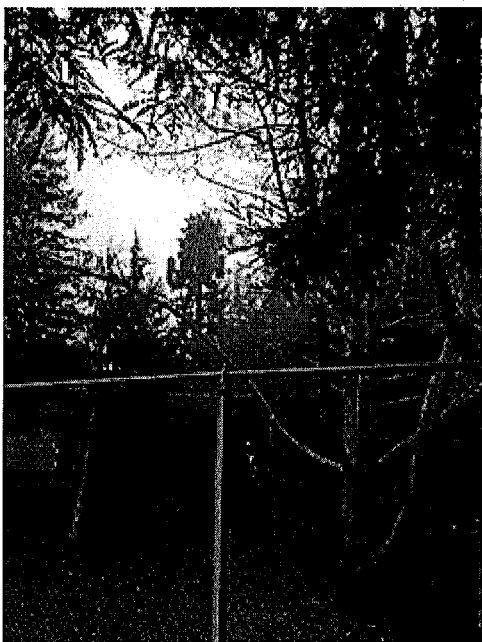
Also, please have the applicant provide public notification signage about the upcoming Planning Commission hearing on all four sides of the property since this EBMUD property is surrounded on three sides by the high school and one side by residential.

Thank you for forwarding Mr Haddock's reply to me as to Verizon's need to violate the City's telecom ordinance requirement for 1,500 feet between monopoles for their 9 Verizon cell antenna facility on a new monopole which is in very close proximity to the existing monopole near the water tank on EBMUD property near Skyline High School. At the public outreach event on January 23, 2020, I and others heard the *applicant say that the new monopole would be around 50 feet from the current monopole.*

By the way, Verizon already has 3 cell antennas operating on the current monopole at this EBMUD location which were never disclosed at the public outreach event. I discovered this information from the Accela Citizen Access database. By the way, Accela has still not been uploaded with the current application (PLN19244) documents as of February 2, 2020 even though the application was accepted by the Planning Department on September 26, 2019.

The current monopole is bordered on three sides by Skyline High School property and is less than 100 feet (based on my determination) from this high

school property line in some areas. Adding another monopole with 9 new cell antennas next to the existing monopole does not make for an optimal situation in a zone that is designated as RH-1, Hillside Residential. Plus it violates the ordinance parameters for distance between monopoles.



picture taken from High School parking lot fence line 01/27/2020 - existing monopole disguised as tree in center of photo.

Along with this ordinance violation, I found more historical documentation from the City's Accela Citizen Access database that would **disqualify this application from approval by the Planning Commission.**

Also, the **City should demand another independent expert engineering report from a licensed company other than Hammett and Edison, Inc to have an accurate report of RF Emission levels at the existing monopole** (which includes all cell antennas from three existing operators) as well as the projected cumulative impact with 9 additional cell antennas.

Summary:

1. It is in direct violation of the Ordinance 17.128.080 regarding distances between monopoles. **The applicant, asking for over a 1,450 feet exemption for this monopole, is very brazen** indeed, as the ordinance was designed and mandated to protect the residents of Oakland. Why does this applicant think they can violate the City's Ordinance for their best interest and financial gain? The residents and students/faculty are the ultimate losers if this violation is minimized in its importance by the Staff and the Commissioners.

2. The RF Emission Report created by Hammett and Edison and submitted with the application is incorrect based on City's Accela records about what telecom facilities are currently operating on the existing monopole at this location. *Both the number of antennas for each of the two "operators" is wrong AND the omission of Verizon as an "operator" of three (3) cell antennas also operating on this existing monopole. (ATT has at least 6 antennas. T-Mobile has at least 3 antennas. Verizon has at least 3 antennas.)*

Therefore, the RF Emission report submitted by Hammett and Edison is not accurate. The study results would show a greater exposure to the public at a cumulative level. Their study results are obviously missing the three cell antennas currently being operated by Verizon at that monopole location.

Supporting Information:

1. It is violation of the ordinance 17.128.080 which I have already pointed out in my January 24, 2020 email that I sent to you which was forwarded to the applicant for their comment and justification. Just because they want this new monopole does not mean it is justified. The residents of Oakland demand the protection of the Ordinance and compliance by the City. *Verizon is not asking for an exemption of just a few feet. They are asking for ONE THOUSAND FOUR HUNDRED AND FIFTY FEET!*

2. As of April 2014, there were multiple cell antennas on the monopole currently located at this EBMUD location of 5650 Balmoral. Both T-Mobile and AT&T had multiple cell antennas in place. Those building permit reference numbers were B1003670 and B1100941 and B1400614 and were all marked "final."

3. As of 2015, another 3 cell antennas were added to this location by Crown Castle. I can not determine which telecom company that Crown Castle was representing in this application. That building permit reference number is B1504583 and was marked "final."

4. *As of 2018, another 3 cell antennas were added to location by Crown Castle on behalf of Verizon Wireless.* This building permit reference number is B1704009 and was marked "final" on August 3, 2018.

5. And in 2018 and 2019, both ATT (6) and T-Mobile (3) applied for permits for replacing antennas on the current monopole. These building permit reference numbers were B1803798 and B1903761 and were both marked "final" in 2019.

6. The current application contains a RF Emission Report as part of the compliance to Telecom Ordinance 17.128.130 Section A. Hammett and Edison performed this study. It is attached. *You will note that the number of antennas for each operator does not match the City's records for building permit applications AND it does NOT include the three Verizon cell antennas added in 2018.*

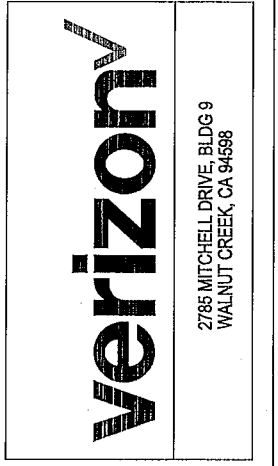


**SKYLINE HS
(EBMUD MADRONE RESERVOIR)**

5650 BALMORAL DRIVE, OAKLAND, CA 94619
LOCATION NUMBER: 450320

SKYLINE HS
(EBMUD MADRONE
RESERVOIR)

450320
5650 BALMORAL DRIVE
OAKLAND, CA 94619



VERIZON WIRELESS EQUIPMENT ENGINEER: SIGNATURE _____ DATE _____	VERIZON WIRELESS REAL ESTATE: SIGNATURE _____ DATE _____
VERIZON WIRELESS CONSTRUCTION: SIGNATURE _____ DATE _____	VERIZON WIRELESS RF ENGINEER: SIGNATURE _____ DATE _____
PROPERTY OWNER: SIGNATURE _____ DATE _____	RIDGE COMMUNICATIONS INC - LEASING SIGNATURE _____ DATE _____
RIDGE COMMUNICATIONS INC - CONSTRUCTION SIGNATURE _____ DATE _____	RIDGE COMMUNICATIONS INC - ZONING SIGNATURE _____ DATE _____

PROJECT DESCRIPTION

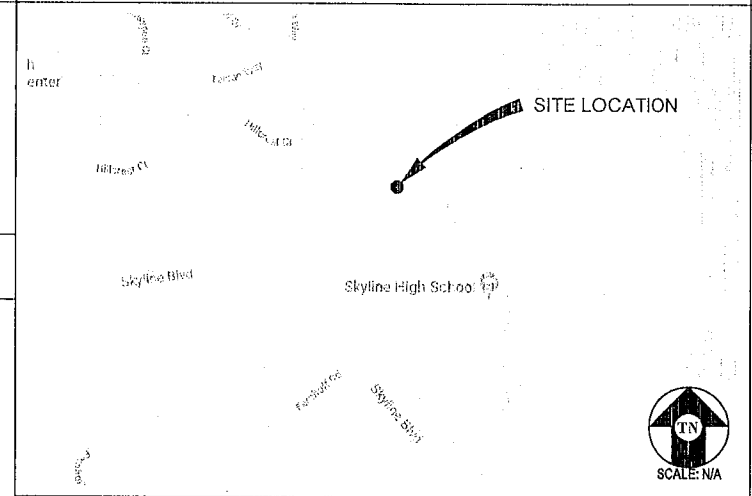
A (P) VERIZON WIRELESS UNMANNED TELECOMMUNICATION FACILITY CONSISTING OF:

- INSTALLING A (P) 75'-0" MONOPINE
- INSTALLING (9) (P) VERIZON WIRELESS ANTENNAS
- INSTALLING (9) (P) RRU UNITS
- INSTALLING (4) (P) SURGE SUPPRESSORS, (2) @ EQUIPMENT & (2) @ ANTENNAS
- INSTALLING (P) VERIZON WIRELESS 30KW DIESEL GENERATOR ON 132 GAL UL 2085 RATED FUEL TANK
- INSTALLING (P) VERIZON WIRELESS 18'-0"X22'-0" (396 SQ FT) LEASE AREA
- INSTALLING (P) GPS ANTENNA
- INSTALLING (1) (P) HYBRID TRUNK CABLE

PROJECT INFORMATION

SITE NAME:	SKYLINE HS (EBMUD MADRONE RESERVOIR)	SITE #:	450320
COUNTY:	ALAMEDA	JURISDICTION:	CITY OF OAKLAND
APN:	085-0102-014	POWER:	PG&E
SITE ADDRESS:	5650 BALMORAL DRIVE OAKLAND, CA 94619	FIBER:	T.B.D.
CURRENT ZONING:	RH-1 (HILLSIDE RESIDENTIAL)		
CONSTRUCTION TYPE:	V-B		
OCCUPANCY TYPE:	U, (UNMANNED COMMUNICATIONS FACILITY)		
PROPERTY OWNER:	EAST BAY MUNICIPAL UTILITY DISTRICT P.O. BOX 24055 OAKLAND, CA 94623 ATTN: ROB KORN (510) 287-1246 ROBERT.KORN@EBMUD.COM		
APPLICANT:	VERIZON WIRELESS 2785 MITCHELL DRIVE, BLDG 9 WALNUT CREEK, CA 94598		
SITE ACQUISITION COMPANY:	RIDGE COMMUNICATIONS INC 12919 ALCOSTA BLVD, STE#1 SAN RAMON, CA 94583		
ZONING CONTACT:	ATTN: DAVID HADDOCK (916) 420-5802 DAVID.HADDOCK@RIDGECOMMUNICATE.COM		
LEASING CONTACT:	ATTN: DAVID HADDOCK (916) 420-5802 DAVID.HADDOCK@RIDGECOMMUNICATE.COM		
CONSTRUCTION CONTACT:	ATTN: CHRIS MORRISSEY (925) 451-3986 CMORRISSEY@RCICOMM.COM		

VICINITY MAP



DRIVING DIRECTIONS

FROM: 2785 MITCHELL DRIVE, BLDG 9, WALNUT CREEK, CA 94598
TO: 5650 BALMORAL DRIVE, OAKLAND, CA 94619

1. HEAD SOUTHWEST ON MITCHELL DR 0.3 MI
2. TURN LEFT ONTO N WIGET LN 0.3 MI
3. TURN RIGHT ONTO YGNACIO VALLEY RD 2.9 MI
4. YGNACIO VALLEY RD TURNS RIGHT AND BECOMES HILLSIDE AVE 0.2 MI
5. TURN RIGHT ONTO THE 24 W RAMP TO OAKLAND 1.2 MI
6. CONTINUE ONTO CA-24 W 8.1 MI
7. KEEP LEFT AT THE FORK TO STAY ON CA-24 W 1.7 MI
8. TAKE EXIT 5A FOR HAYWARD TOWARD CA-13 S 0.2 MI
9. CONTINUE ONTO CA-13 S 4.2 MI
10. TAKE THE REDWOOD ROAD EXIT TOWARD CARSON STREET 0.1 MI
11. USE THE LEFT 2 LANES TO TURN SHARPLY LEFT ONTO REDWOOD RD 1.3 MI
12. TURN RIGHT ONTO SKYLINE BLVD 0.3 MI
13. TURN LEFT ONTO BALMORAL DR 207 FT

END AT: 5650 BALMORAL DRIVE, OAKLAND, CA 94619
ESTIMATED TIME: 29 MINUTES ESTIMATED DISTANCE: 20.8 MILES

VERIZON WIRELESS EMERGENCY CONTACT
NUMBER TO BE POSTED AT SITE:
VERIZON NOC#: (800) 264-6620

CODE COMPLIANCE

ALL WORK & MATERIALS SHALL BE PERFORMED & INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

- 2016 CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
- 2016 CALIFORNIA BUILDING CODE (CBC), PART 2, VOLUME 1&2, TITLE 24 C.C.R. (2015 INTERNATIONAL BUILDING CODE AND 2016 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. (2014 NATIONAL ELECTRICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R. (2015 UNIFORM MECHANICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R. (2015 UNIFORM PLUMBING CODE AND 2016 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.
- 2016 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R. (2015 INTERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24 C.C.R.
- 2016 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R. ANS/EIA-TIA-222-G

ALONG WITH ANY OTHER APPLICABLE LOCAL & STATE LAWS AND REGULATIONS

DISABLED ACCESS REQUIREMENTS

THIS FACILITY IS UNMANNED & NOT FOR HUMAN HABITATION. DISABLED ACCESS & REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH CALIFORNIA STATE BUILDING CODE, TITLE 24 PART 2, SECTION 11B-203.5

SHEET INDEX

SHEET	DESCRIPTION	REV
T-1	TITLE SHEET	--
C-1	TOPOGRAPHIC SURVEY	--
A-1	OVERALL SITE PLAN	--
A-2	SITE PLAN	--
A-3	EQUIPMENT PLAN & DETAILS	--
A-4	ANTENNA PLAN & DETAILS	--
A-5	ELEVATION	--
A-6	ELEVATION	--
A-7	ELEVATION	--

RECEIVED

SEP 20 2018

City of Oakland
Planning & Zoning Division

Streamline Engineering and Design, Inc.
8445 Sierra College Blvd, Suite E Granite Bay, CA 95861
Contact: Larry Houghton Phone: 916-275-4180
E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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**PRELIMINARY:
NOT FOR
CONSTRUCTION**

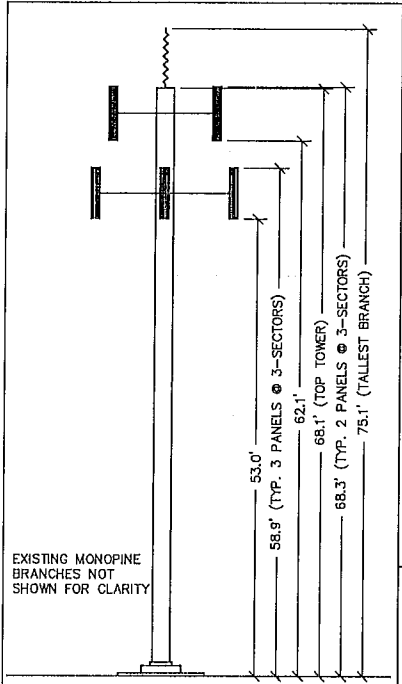
KEVIN R. SORENSON
54469

ISSUE STATUS

Δ	DATE	DESCRIPTION	REV.
	05/07/18	ZD 90%	C.C.
	08/16/18	CLIENT REV	C.C.
	09/21/18	ZD 100%	D.L.

DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: --
DATE: 09/21/18

SHEET TITLE:
TITLE
SHEET NUMBER:
T-1



TOWER DIAGRAM

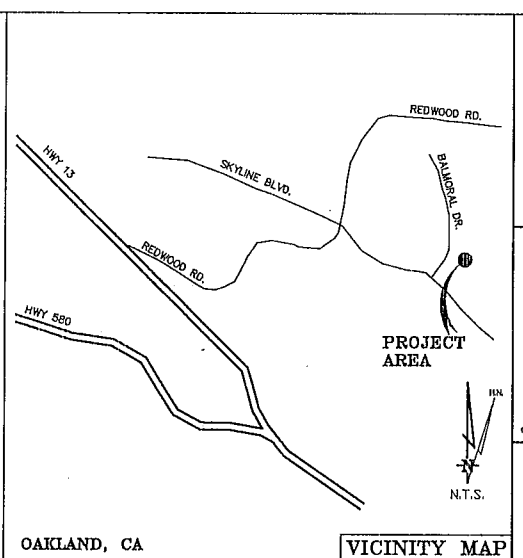
Gell Engineering
Engineering • Surveying • Planning
1226 High Street
Auburn, California 95603-5015
Phone: (530) 885-0426 • Fax: (530) 823-1309

Verizon Wireless
Project Name: SKYLINE H.S.
Project Site Location: 5650 Balmoral Drive
Oakland, CA 94619
Alameda County
Date of Observation: 04-16-18
Equipment/Procedure Used to Obtain Coordinates: Trimble Pathfinder Pro XL post processed with Pathfinder Office software.
Type of Antenna Mount: Proposed Monopine
Coordinates (Tower Location)
Latitude: N 37° 47' 58.10" (NAD83) N 37° 47' 58.36" (NAD27)
Longitude: W 122° 09' 48.88" (NAD83) W 122° 09' 45.00" (NAD27)
ELEVATION of Ground at Structure (NAVD88) 1157' AMSL
CERTIFICATION: I, the undersigned, do hereby certify elevation listed above is based on a field survey done under my supervision and that the accuracy of those elevations meet or exceed 1-A Standards as defined in the FAA ASAC Information Sheet 91-003, and that they are true and accurate to the best of my knowledge and belief.
Kenneth D. Gell California RCE 14803

BOUNDARY SHOWN IS BASED ON MONUMENTATION FOUND AND RECORD INFORMATION. THIS IS NOT A BOUNDARY SURVEY. THIS IS A SPECIALIZED TOPOGRAPHIC MAP WITH PROPERTY LINES AND EASEMENTS BEING A GRAPHIC DEPICTION BASED ON INFORMATION GATHERED FROM VARIOUS SOURCES OF RECORD AND AVAILABLE MONUMENTATION FOUND DURING THE FIELD SURVEY. NO EASEMENTS WERE RESEARCHED OR PLOTTED. PROPERTY LINES AND LINES OF TITLE WERE NOT INVESTIGATED NOR SURVEYED. NO PROPERTY MONUMENTS WERE SET.

Lease Area Description
All that certain lease area being a portion of that certain parcel of land being described in deed filed for record at Book 8115 at Page 359, Official Records of Alameda County, and being located in the City of Oakland, County of Alameda, State of California, being more particularly described as follows:
EQUIPMENT LEASE AREA:
Commencing at a 2" Brass Disk in Monument Well set at the Northern terminus of that certain monument line tangent on Balmoral Drive labeled "80.87' M. to M.", as is shown on that certain Tract Map filed for record at Book 86 of Tracts at Page 63, Official Records, from which a similar monument bears South 05°05'03" West 266.08 feet; thence from said point of commencement South 54°57'38" East 297.60 feet to the True Point of Beginning; thence from said True Point of Beginning South 25°40'35" East 22.00 feet; thence South 64°19'25" West 18.00 feet; thence North 25°40'35" West 22.00 feet; thence North 64°19'25" East 18.00 feet to the True Point of Beginning.
TOWER LEASE AREA:
Commencing at a 2" Brass Disk in Monument Well set at the Northern terminus of that certain monument line tangent on Balmoral Drive labeled "80.87' M. to M.", as is shown on that certain Tract Map filed for record at Book 86 of Tracts at Page 63, Official Records, from which a similar monument bears South 05°05'03" West 266.08 feet; thence from said point of commencement South 47°20'34" East 293.01 feet to the True Point of Beginning; thence a circular area having a radius of 10.08 feet centered on said point of beginning.
Together with a non-exclusive easement for access purposes, of variable width, the centerline of which is described as follows: Beginning at a point on the Southeast boundary of the above described lease area which bears South 64°19'25" West 9.18 feet from the Southeast corner thereof and running thence at a width of six feet South 28°33'04" East 8.72 feet; thence through a non-tangent curve to the left, the radius point of which bears South 28°33'04" East 72.97 feet, through a curve length of 113.29 feet; thence South 27°53'58" East 22.04 feet; thence at a width of fifteen feet South 53°20'54" West 20.37 feet to a point hereafter defined as Point "A"; thence North 36°39'06" West 10.84 feet; thence North 81°21'17" West 13.23 feet; thence North 83°42'08" West 61.49 feet; thence North 84°47'42" West 141.3 feet more or less to the public right of way.
Also together with a non-exclusive easement for access purposes nine feet in width the centerline of which is described as follows: beginning at Point "A" as previously defined and running thence South 36°39'06" East 3.00 feet; thence South 53°20'54" West 28.28 feet.
Also together with a non-exclusive easement for utility purposes ten feet in width the centerline of which is described as follows: Beginning at a point which bears South 64°19'25" West 5.44 feet from the most Northerly corner of the above described lease area and running thence from said North 25°40'35" West 4.11 feet; thence South 73°52'16" West 102.22 feet; thence South 05°12'18" West 104.97 feet; thence North 84°47'34" West 94.22 feet; thence North 05°12'18" East 5.75 feet; thence North 84°41'09" West 41.03 feet; thence South 51°33'08" West 1.0 feet more or less more or less to the public right of way.
Also together with a non-exclusive easement for access and utility purposes six feet in width the centerline of which is described as follows: Beginning at a point which bears South 25°40'35" East 2.78 feet from the most Westerly corner of the above described lease area and running thence from said South 37°10'30" West 11.7 feet more or less more or less to the above described tower lease area.

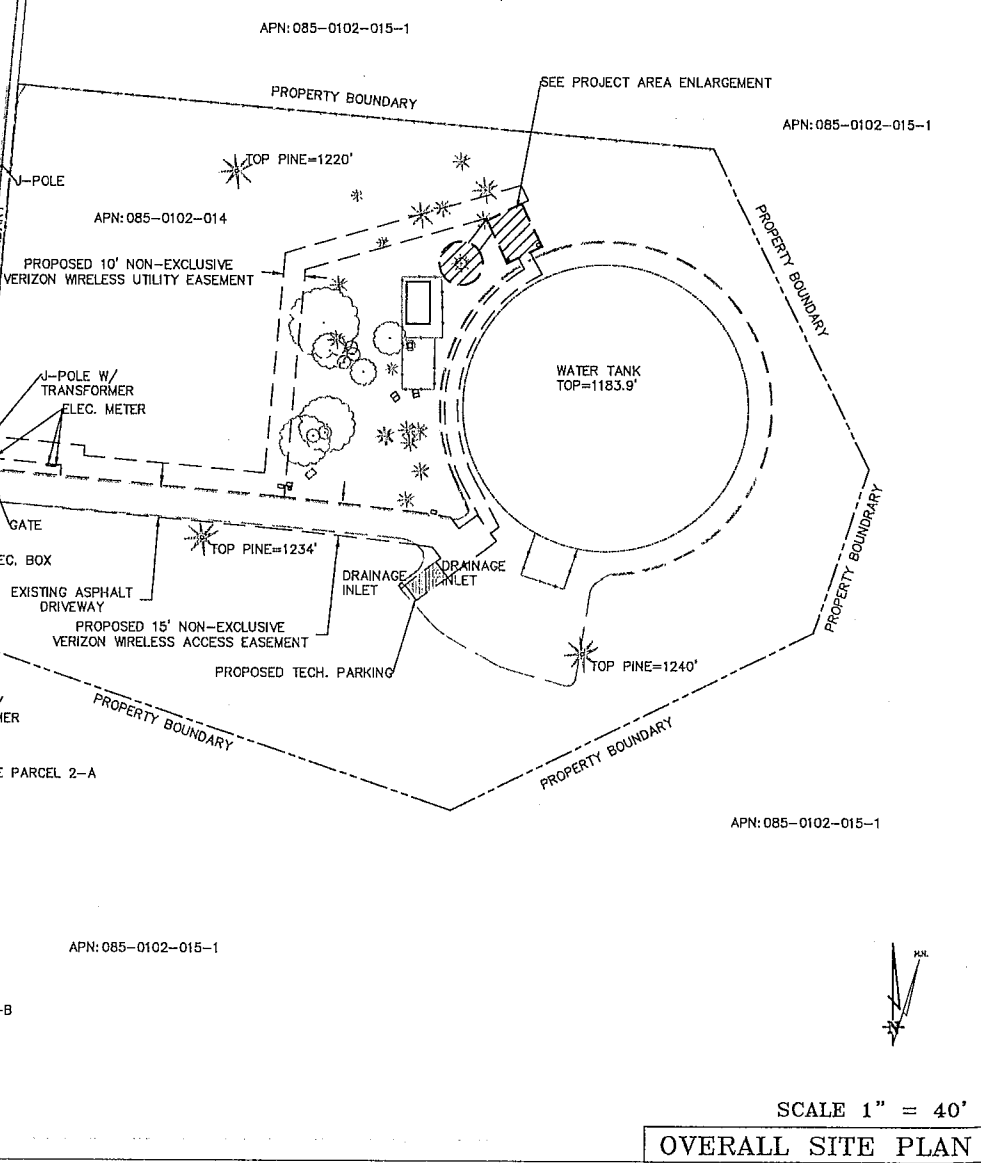
DATE OF SURVEY: 04-16-18
SURVEYED BY OR UNDER DIRECTION OF: KENNETH D. GELL, R.C.E. 14803
LOCATED IN THE COUNTY OF ALAMEDA, STATE OF CALIFORNIA
BEARINGS SHOWN ARE BASED UPON MONUMENTS FOUND AND RECORD INFORMATION. THIS IS NOT A BOUNDARY SURVEY.
ELEVATIONS SHOWN ON THIS PLAN ARE BASED UPON U.S.G.S. N.A.V.D. 88 DATUM, ABOVE MEAN SEA LEVEL.
N.G.V.D. 1929 CORRECTION: SUBTRACT 2.79' FROM ELEVATIONS SHOWN.
CONTOUR INTERVAL: 1'
CONTRACTOR IS RESPONSIBLE TO VERIFY LEASE AREA PRIOR TO CONSTRUCTION.
ASSESSOR'S PARCEL NUMBER: 085-0102-014
OWNER(S): EAST BAY MUNICIPAL UTILITY DISTRICT
PO BOX 24055
OAKLAND, CA 94623



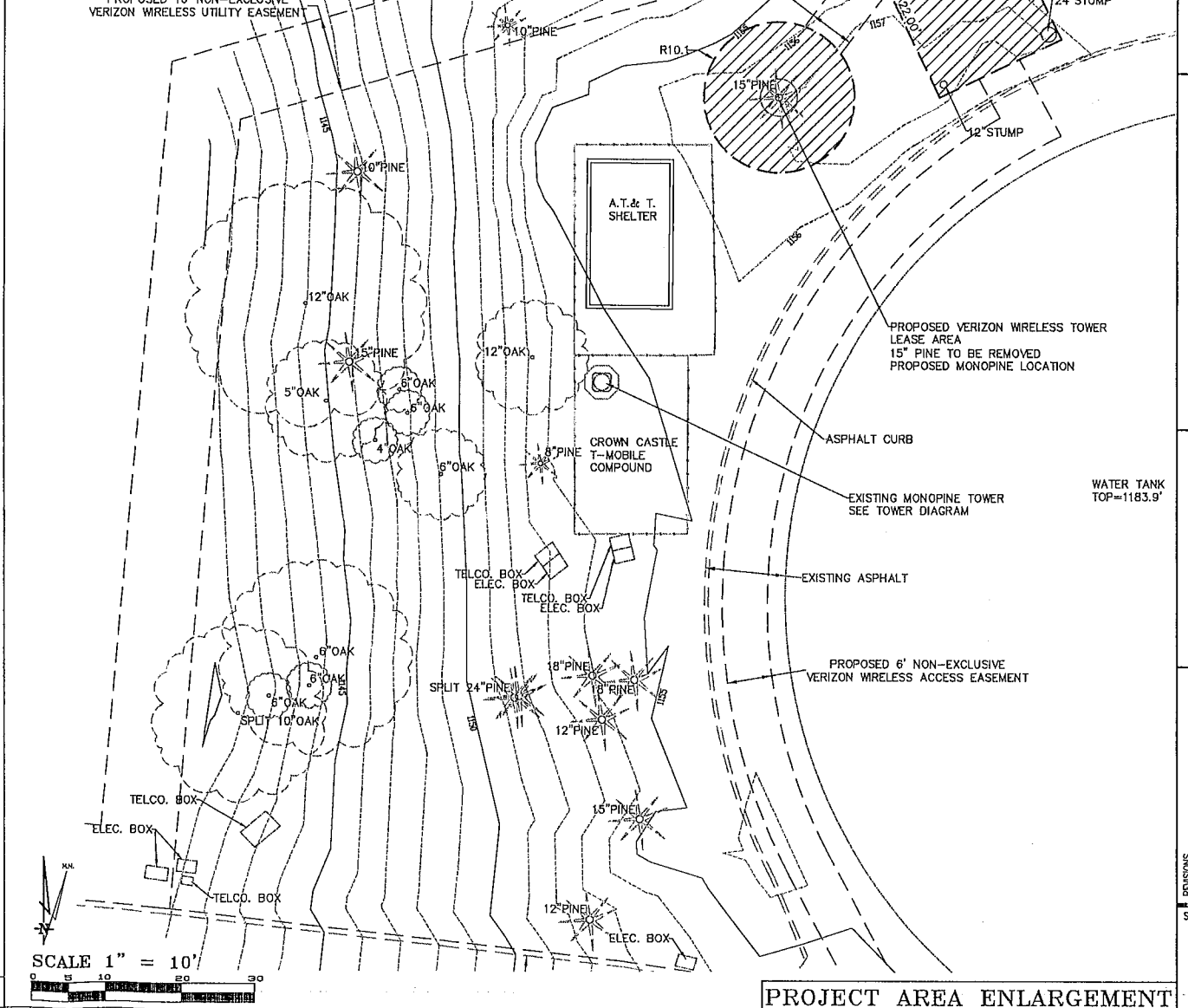
DEPT	APPROVED	DATE
ACC		
REC		
INT		
EE/IN		
OPS		
EE/OUT		

Surveyor
GELL ENGINEERING
ENGINEERING • SURVEYING • PLANNING
1226 HIGH STREET
AUBURN, CALIFORNIA 95603
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OVERALL SITE PLAN



PROJECT AREA ENLARGEMENT

SKYLINE H.S.
5650 BALMORAL DRIVE
OAKLAND, CA 94619
PLOT PLAN AND
SITE TOPOGRAPHY

REV	DESCRIPTION	DATE
REV	DRAWING SUBMITTAL	04-19-18
REV	LEASE AREA PLACED	05-08-18
REV	LEASE AREA MOD.	08-22-18
REV	EASEMENT MOD.	10-16-18

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verizon

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and Design, Inc.

8445 Sierra College Blvd, Suite E Granita Bay, CA 95661
Contact: Larry Houghtby Phone: 916-275-4180
E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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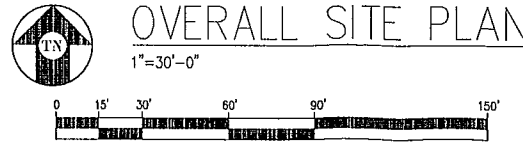
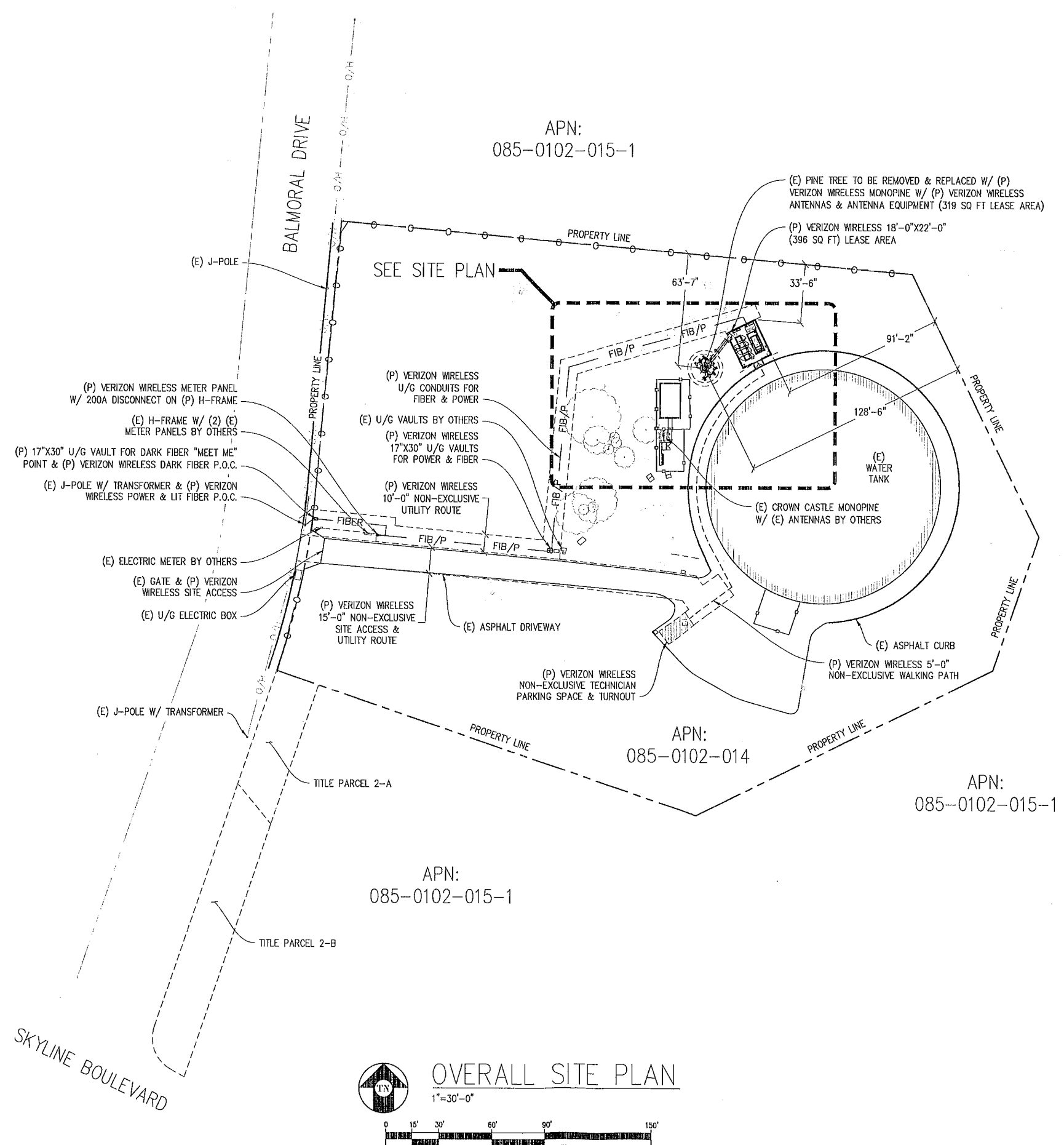
KEVIN R. SORENSEN
54469

ISSUE STATUS

Δ	DATE	DESCRIPTION	REV.
	05/07/18	ZD 90%	C.C.
	08/16/18	CLIENT REV	C.C.
	09/21/18	ZD 100%	D.L.
	-	-	-
	-	-	-

DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: -
DATE: 09/21/18

SHEET TITLE:
**OVERALL
SITE PLAN**
SHEET NUMBER:
A-1



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	-	-	-
	-	-	-

DRAWN BY: C. CODY

CHECKED BY: J. GRAY

APPROVED BY: -

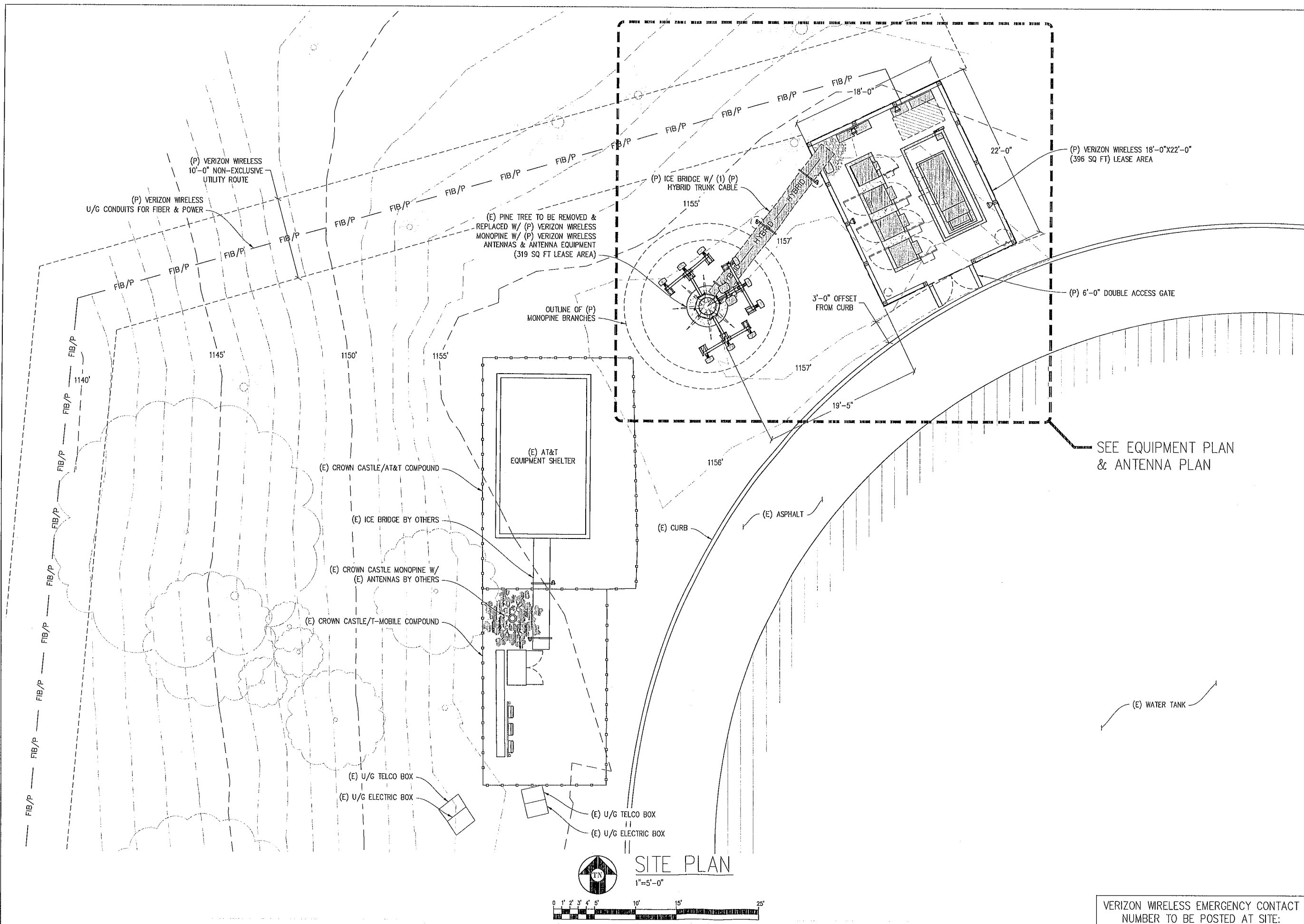
DATE: 09/21/18

SHEET TITLE:

SITE PLAN

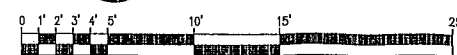
SHEET NUMBER:

A-2



SITE PLAN

1"=5'-0"



VERIZON WIRELESS EMERGENCY CONTACT
NUMBER TO BE POSTED AT SITE:
VERIZON NOC#: (800) 264-6620

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CHECKED BY: J. GRAY

APPROVED BY: -

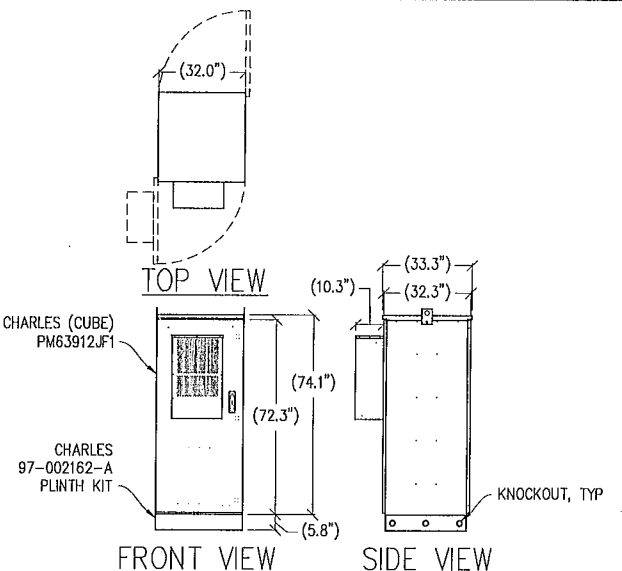
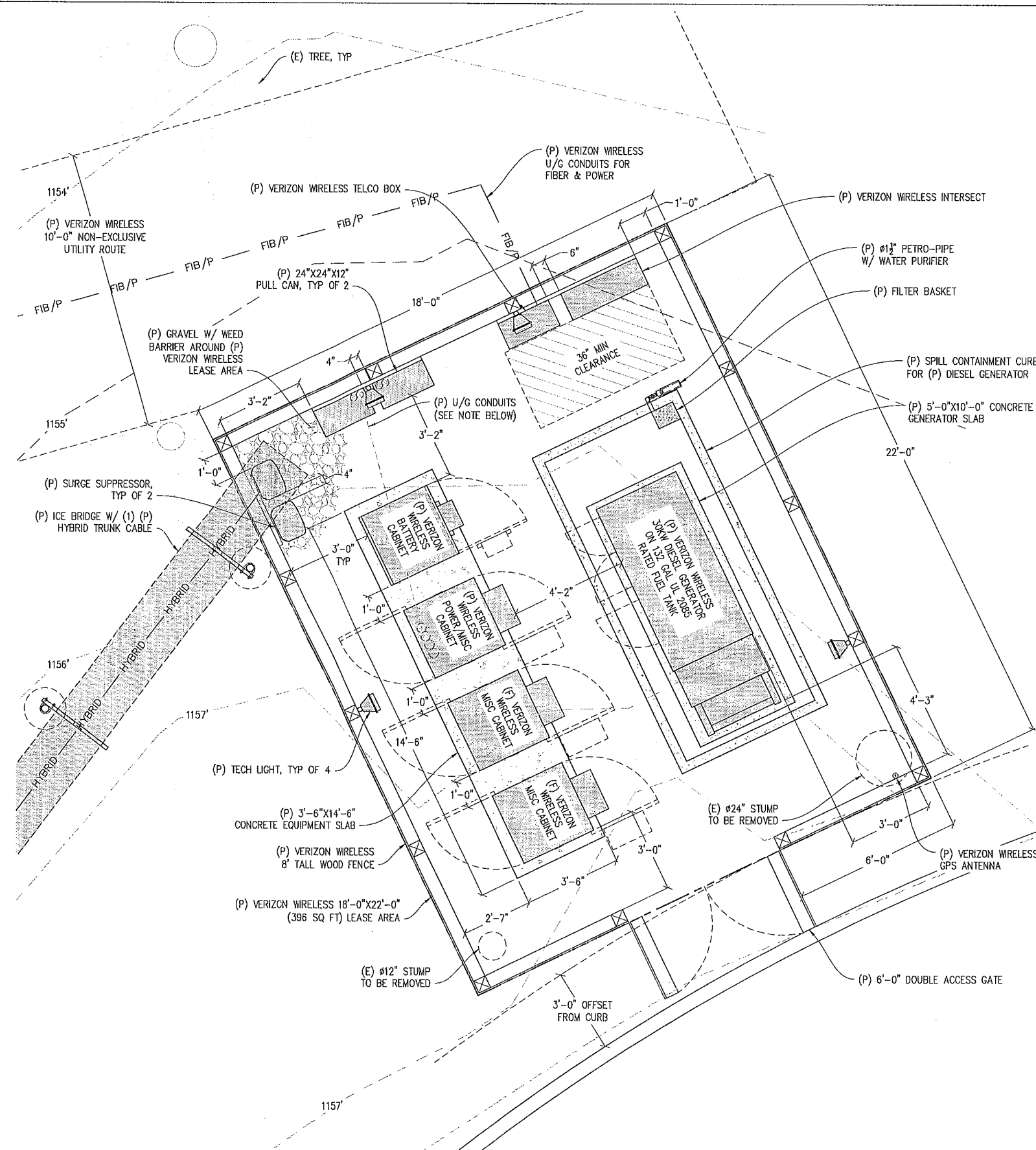
DATE: 09/21/18

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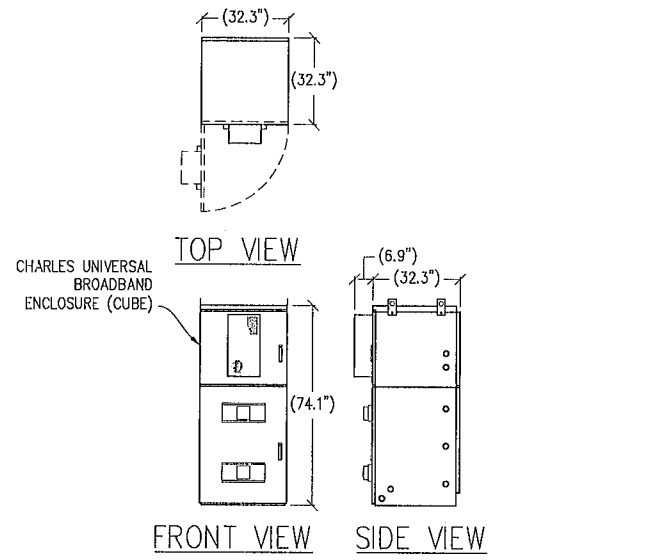
**EQUIPMENT PLAN
& DETAILS**

SHEET NUMBER:

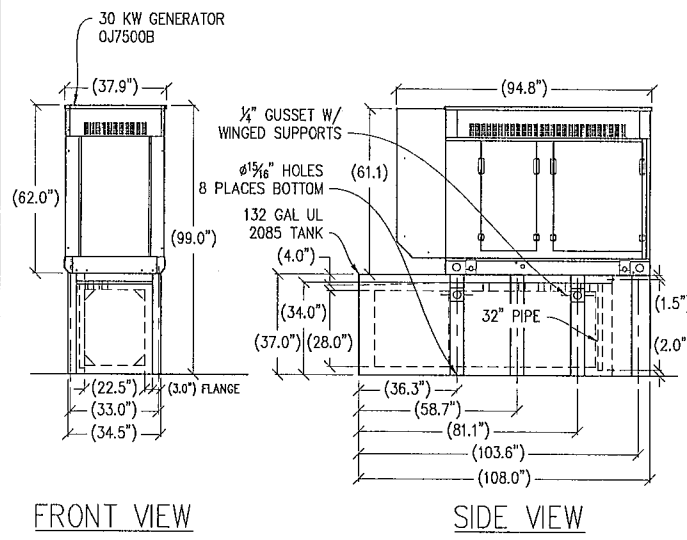
A-3



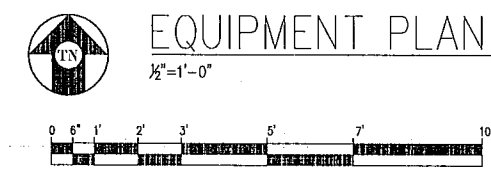
POWER/MISC CABINET DETAIL
1/8"=1'-0" WEIGHT: 500 LBS



BATTERY CABINET DETAIL
1/8"=1'-0" WEIGHT: 2,439 LBS



30KW GENERATOR DETAIL
1/8"=1'-0" MAX WEIGHT: 3,230 LBS



NOTE:
VERIZON WIRELESS WILL INSTALL (4) (P) #3" U/G CONDUITS FROM (P) POWER/MISC CABINET TO (P) PULL CANS. (2) (P) CONDUITS FOR DC POWER CABLES & (2) (P) CONDUITS FOR FIBER CABLES.

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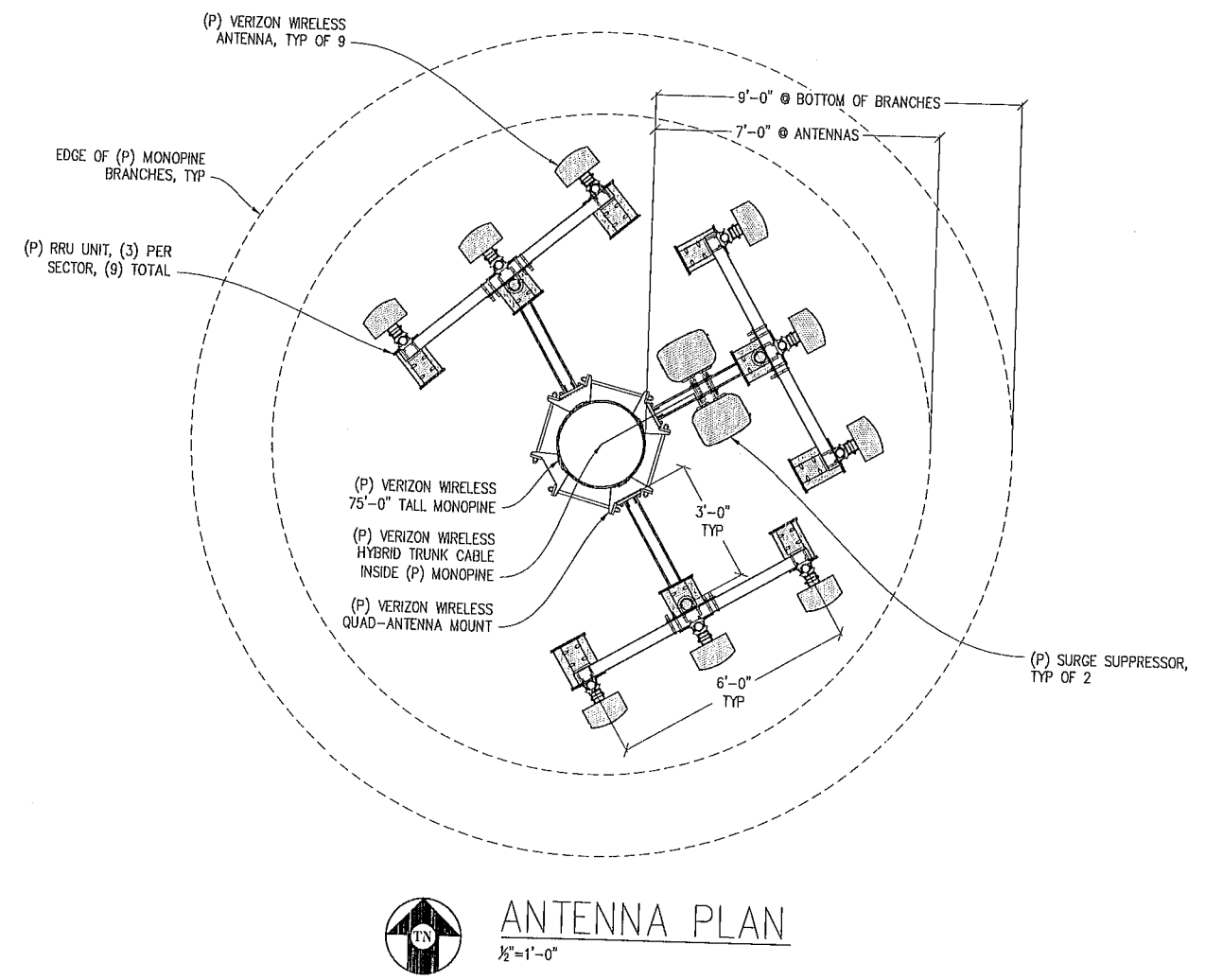
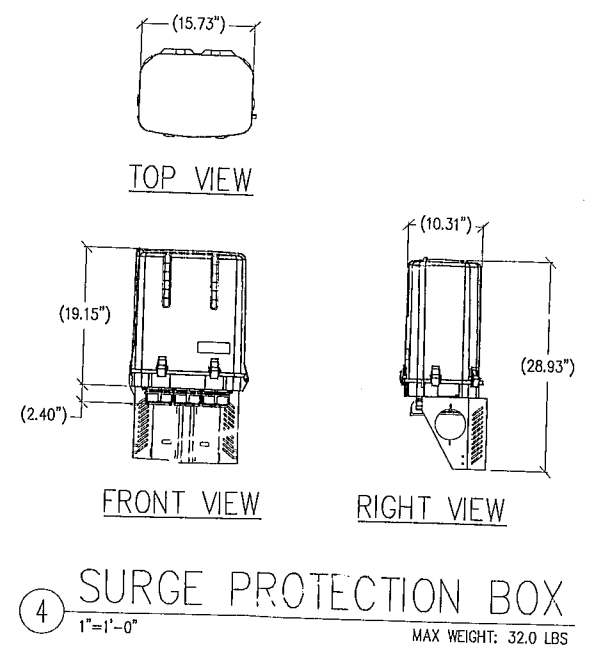
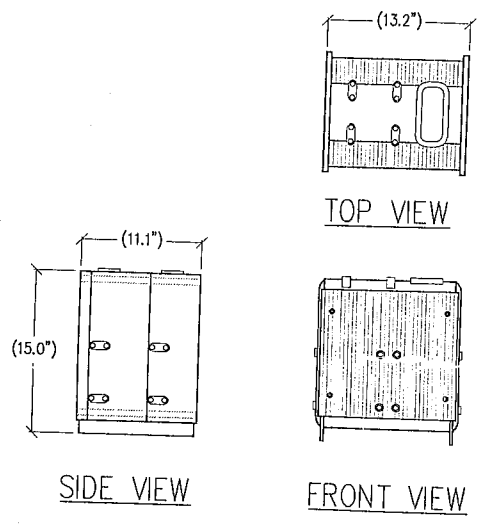
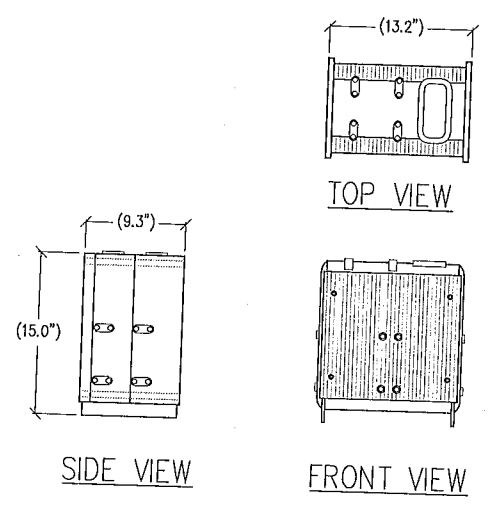
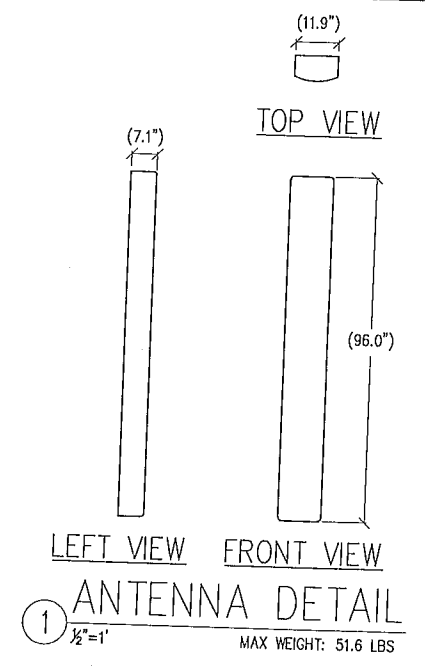
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	09/21/18	ZD 100%	D.L.
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DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: -
DATE: 09/21/18

SHEET TITLE:
ANTENNA PLAN
& DETAILS
SHEET NUMBER:

A-4



- NOTES:
1. ALL (P) ANTENNAS, ANTENNA MOUNTS, ANTENNA EQUIPMENT, & EXPOSED CABLES TO BE PAINTED TO MATCH (P) VERIZON WIRELESS MONOPINE.
 2. ALL (P) ANTENNAS TO BE COVERED IN MONOPINE "SOCKS".
 3. ALL (P) ANTENNAS, & ANTENNA EQUIPMENT TO BE INSIDE (P) MONOPINE BRANCH RADIUS.

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DRAWN BY: C. CODY

CHECKED BY: J. GRAY

APPROVED BY: -

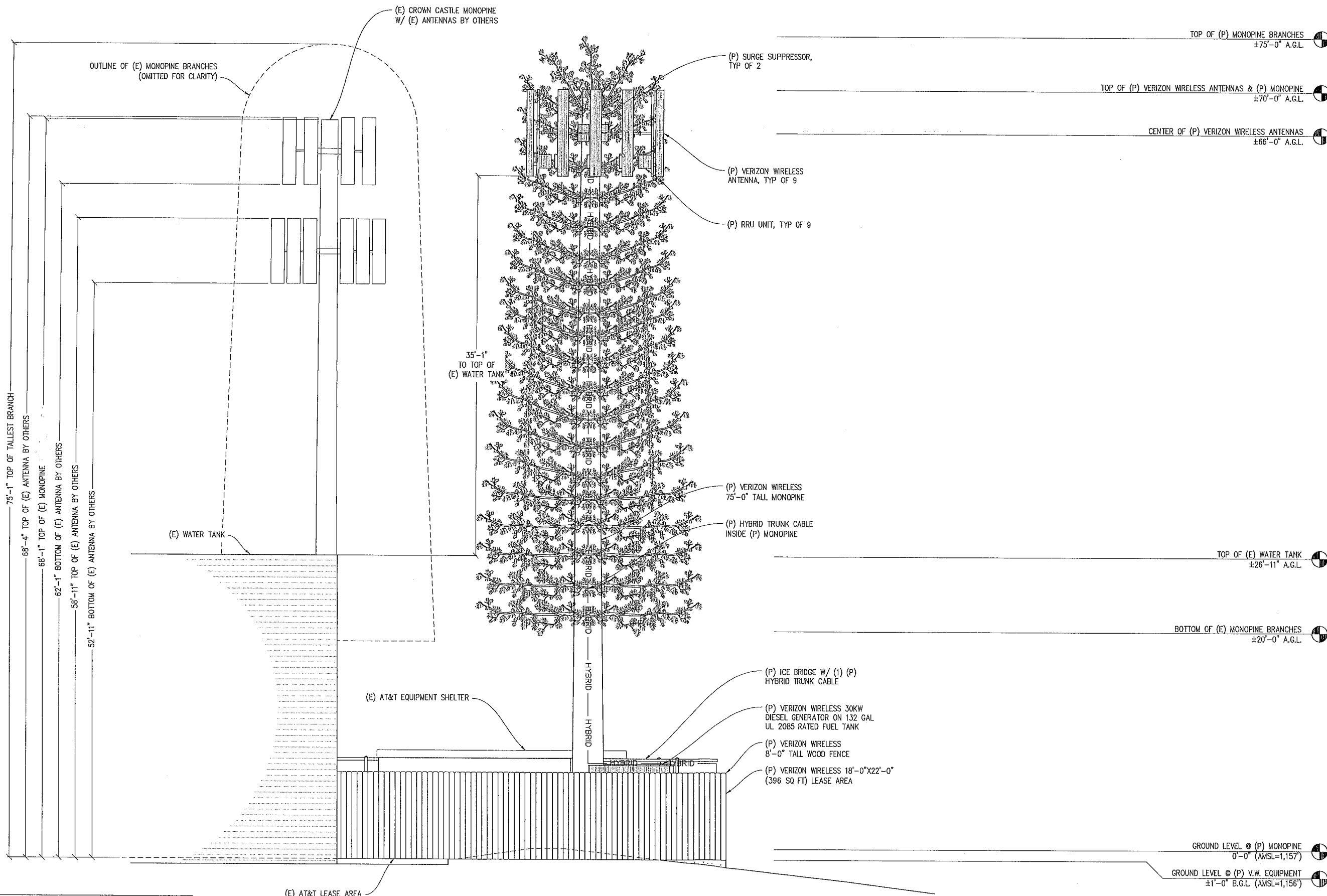
DATE: 09/21/18

SHEET TITLE:

ELEVATION

SHEET NUMBER:

A-6



- NOTES:
1. ALL (P) ANTENNAS, ANTENNA MOUNTS, ANTENNA EQUIPMENT, & EXPOSED CABLES TO BE PAINTED TO MATCH (P) MONOPINE.
 2. ALL ANTENNAS TO BE COVERED IN MONOPINE "SOCKS".
 3. ALL ANTENNAS, & ANTENNA EQUIPMENT TO BE INSIDE MONOPINE BRANCH RADIUS.
 4. ALL CABLES TO BE INSIDE (P) MONOPINE.

EAST ELEVATION
¼"=1'-0"

TOP OF (P) MONOPINE BRANCHES
±75'-0" A.G.L.

TOP OF (P) VERIZON WIRELESS ANTENNAS & (P) MONOPINE
±70'-0" A.G.L.

CENTER OF (P) VERIZON WIRELESS ANTENNAS
±66'-0" A.G.L.

(E) CROWN CASTLE MONOPINE

OUTLINE OF (E) MONOPINE BRANCHES
(OMITTED FOR CLARITY)

(P) VERIZON WIRELESS ANTENNA, TYP OF 9
(P) SURGE SUPPRESSOR, TYP OF 2
(P) RRU UNIT, TYP OF 9

35'-1" TO TOP OF (E) WATER TANK

(P) VERIZON WIRELESS 75'-0" TALL MONOPINE
(P) HYBRID TRUNK CABLE INSIDE (P) MONOPINE

TOP OF (E) WATER TANK
±26'-11" A.G.L.

BOTTOM OF (E) MONOPINE BRANCHES
±20'-0" A.G.L.

(E) WATER TANK

(P) VERIZON WIRELESS 30KW DIESEL GENERATOR ON 132 GAL UL 2085 RATED FUEL TANK

(P) ICE BRIDGE W/ (1) (P) HYBRID TRUNK CABLE

(P) VERIZON WIRELESS 8' TALL WOOD FENCE

(P) VERIZON WIRELESS 18'-0" X 22'-0" (396 SQ FT) LEASE AREA

(E) AT&T EQUIPMENT SHELTER

(E) AT&T LEASE AREA

(E) ICE BRIDGE BY OTHERS

(E) T-MOBILE LEASE AREA

GROUND LEVEL @ (P) MONOPINE
0'-0" (AMSL=1,157')

GROUND LEVEL @ (P) V.W. EQUIPMENT
±1'-0" B.G.L. (AMSL=1,156')

- NOTES:
1. ALL (P) ANTENNAS, ANTENNA MOUNTS, ANTENNA EQUIPMENT, & EXPOSED CABLES TO BE PAINTED TO MATCH (P) MONOPINE.
 2. ALL ANTENNAS TO BE COVERED IN MONOPINE "SOCKS".
 3. ALL ANTENNAS, & ANTENNA EQUIPMENT TO BE INSIDE MONOPINE BRANCH RADIUS.
 4. ALL CABLES TO BE INSIDE (P) MONOPINE.

WEST ELEVATION

1/4"=1'-0"

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	09/21/18	ZD 100%	D.L.
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	-	-	-

DRAWN BY: C. CODY

CHECKED BY: J. GRAY

APPROVED BY: -

DATE: 09/21/18

SHEET TITLE:

ELEVATION

SHEET NUMBER:

A-7