

Location:	Wooden Utility JPA pole in public right-of-way (sidewalk) adjacent to: 707 Jefferson Street (Intersection of Jefferson St. and 7 th St.)
Assessor's Parcel Numbers:	Adjacent to: 001-0211-014-00
Proposal:	To establish a new "small cell site" Macro telecommunications facility, in order to enhance existing services, by attaching an antenna and equipment to an existing 40' wooden utility pole located in the sidewalk; the antenna would be attached to the top at up to 46'-5" and equipment at approximately 7'-4" to 15'-8".
Applicant / Phone Number:	Ana Gomez/Black & Veatch & Extenet (for: Verizon) (913) 458-9148
Owner:	City of Oakland
Case File Number:	PLN17220
Planning Permits Required:	Regular Design Review with additional findings for Macro Telecommunications Facility
General Plan:	Central Business District
Zoning:	Central Business District Residential Zone (CBD-R)
Environmental Determination:	Exempt, Section 15301 of the State CEQA Guidelines: Existing Facilities; Exempt, Section 15302: Replacement or Reconstruction; Exempt, Section 15303: New Construction of Small Structures; Section 15183: Projects Consistent with a Community Plan, General Plan or Zoning
Historic Status:	Non-historic Utility Pole, API Grove St. Residential
City Council District:	3
Date Filed:	June 7, 2017
Action to be Taken:	Decision based on staff report
Finality of Decision:	<i>Appealable to City Council within 10 days</i>
For Further Information:	Contact case planner Marilu Garcia at (510) 238-5217 or mgarcia2@oaklandnet.com

SUMMARY

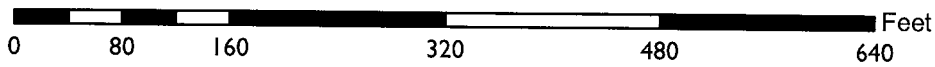
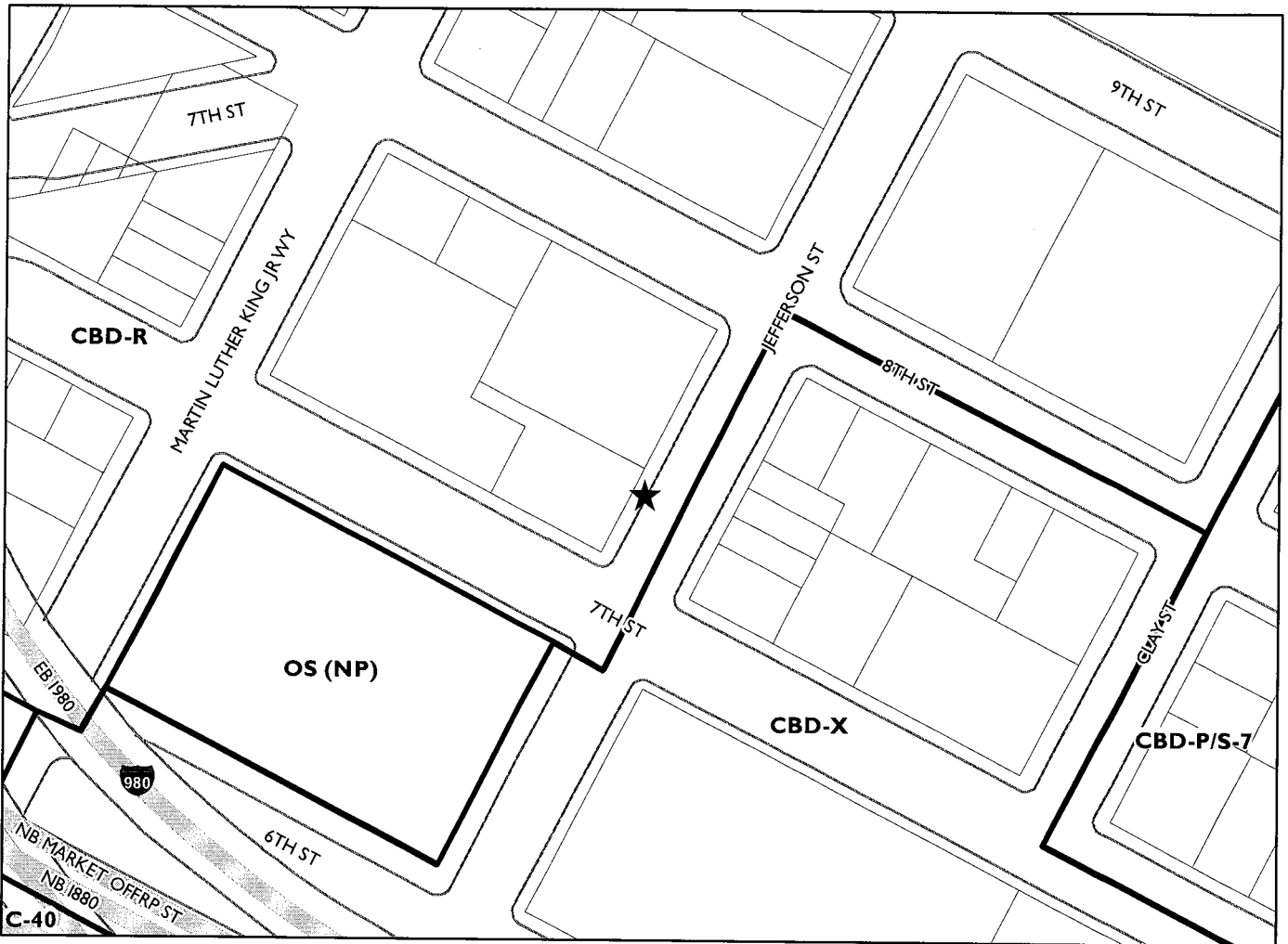
The applicant requests Planning Commission approval of a Regular Design Review with additional findings to establish a Macro Telecommunications Facility ("small cell site"). The purpose is to enhance existing wireless services. The project involves attaching an antenna and equipment to an existing utility pole located within the sidewalk in the public right-of-way.

Staff recommends approval, subject to conditions, as described in this report.

BACKGROUND

For several years in the City of Oakland, telecommunications carriers have proposed facility installation within the public right-of-way, instead of private property. These facilities typically consist of antennas and associated equipment attached to utility poles or street light poles. Poles are often replaced with

CITY OF OAKLAND PLANNING COMMISSION



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Address: Wooden Utility JPA pole in public right-of-way adjacent to:
707 Jefferson Street

Zone: CBD-R

replicas for technical purposes. The main purpose is to enhance existing service, given increasing technological demands for bandwidth, through new technology and locational advantages. The City exercises zoning jurisdiction over such projects in response to a 2009 State Supreme Court case decision (*Sprint v. Palos Verdes Estates*). Pursuant to the Planning Code, utility or joint pole authority (JPA) sites are classified by staff as “Macro Facilities,” and street light pole sites (lamps, not traffic signals) as “Monopole Facilities.” For JPA poles, only Design Review approval may be required, as opposed to Design Review and a Conditional Use Permit, for example. For non-JPA pole sites, such as City light poles, projects also require review by the City’s Public Works Agency (PWA) and Real Estate Division, and involve other considerations such as impacts to historical poles. The PWA may also review projects involving street lights. In either case, the practice has been to refer all such projects to the Planning Commission for decision when located in or near a residential zone.

Several projects for new DAS (distributed antenna services) facilities have come before the Planning Commission for a decision and have been installed throughout the Oakland Hills. Some applications have been denied due to view obstructions or propinquity to residences. Improved practices for the processing of all types of sites incorporating Planning Commission direction have been developed as a result. Conditions of approval typically attach requirements such as painting and texturing of approved components to more closely match utility poles in appearance. Approvals do not apply to any replacement project should the poles be removed for any reason. As with sites located on private property, the Federal Government precludes cities from denying an application on the basis of emissions concerns if a satisfactory emissions report is submitted. More recent Federal changes have streamlined the process to service existing facilities.

Currently, telecommunications carriers are in the process of attempting to deploy “small cell sites.” These projects also involve attachment of antennas and equipment at public right-of-way facilities such as poles or lights for further enhancement of services. However, components are now somewhat smaller in size than in the past. Also, sites tend to be located in flatland neighborhoods and Downtown where view obstructions are less likely to be an issue. Good design and placement is given full consideration nonetheless, especially with the greater presence of historic structures in Downtown. Additionally, given the sheer multitude of applications, and, out of consideration for Federal requirements for permit processing timelines, staff may develop alternatives to traditional staffing and agendizing.

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 Federal Communication Commission (FCC) standards in this regard. (See 47 U.S.C. Section 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 (See 47 U.S.C.332(c)(7)(B)(ii) and 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, consult the following:

Competition & Infrastructure Policy Division (CIPD) of the Wireless Telecommunications Bureau, main division number: (202) 418-1310.

Main division website:

<https://www.fcc.gov/general/competition-infrastructure-policy-division-wireless-telecommunications-bureau>

Tower siting:

<https://www.fcc.gov/general/tower-and-antenna-siting>

SITE DESCRIPTION

The project site consists of an existing wooden utility pole located in the public right-of-way (sidewalk, towards the curb) that measures approximately 40-feet in height. The pole hosts power lines on a horizontal post towards its top. The pole is located adjacent to 707 Jefferson Avenue. This property is at the corner of 7th Street and Jefferson Avenue and has residential uses. The structure is specified as an accessory facility to the St. Mary’s Church which is located on the adjacent parcel farther north. The utility pole is approximately 15-feet from the structure and 52 feet from the church. The church is considered a historic structure. However, the existing utility pole is not considered historic and no decorative utility poles are in this area. Properties across Jefferson Avenue (approximately 71 feet in distance to the east) consist of a mixture of single-story residences and stores. To the southwest is open space and to the southeast is the location of a multi-story parking garage.

PROJECT DESCRIPTION

The proposal is to establish a Macro Telecommunications Facility (“small cell site”). The project involves using an existing 40-foot wooden utility pole and attaching one canister antenna on top of the pole. The antenna, measuring 48” long and 14.6” in diameter, would be installed on top of the pole within a shroud at heights of 40’-3” to 46’-5”. Various equipment would be installed on the pole between 7’-4” to approximately 15’-8” in height.

GENERAL PLAN ANALYSIS

The site is located in a Central Business District area under the General Plan's Land Use and Transportation Element (LUTE). The intent of the area is: *"to encourage, support, and enhance the downtown area as a high density mixed use urban center of regional importance and a primary hub for business, communications, office, government, high technology, retail, entertainment, and transportation in Northern California."* Given residents' and visitors' increasing reliance upon cellular service for phone and internet, the proposal for a Macro Telecommunications Facility that is not adjacent to a primary living space or historic structure conforms to this intent.

Staff therefore finds the proposal, as conditioned, to conform to the General Plan.

ZONING ANALYSIS

The site is located within the Central Business District Residential Zone (CBD-R). The intent of the CBD-R Zone is: *"to create, maintain, and enhance areas of the Central Business District appropriate for residential development with small-scaled compatible ground-level commercial uses."* Per OMC section 17.136.040 and 17.128.080, this project requires a Regular Design Review with additional findings. Additionally, new wireless telecommunications facilities may also be subject to a Site Alternatives Analysis, Site Design Alternatives Analysis, and a satisfactory radio-frequency (RF) emissions report. Staff analyzes the proposal in consideration of these requirements in the 'Key Issues and Impacts' section of this report. Additionally, attachment to City infrastructure requires review by the City's Real Estate Department, Public Works Agency's Electrical Division, and Information Technology Department. Given increased reliance upon cellular service for phone and Wi-Fi, the proposal for a Macro Telecommunications Facility that is not adjacent to a primary living space or historic structure conforms to this intent.

Staff finds the proposal, as conditioned, to conform to the Planning Code.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines categorically exempts specific types of projects from environmental review. Section 15301 exempts projects involving 'Existing Facilities'; Section 15302 exempts projects involving 'Replacement or Reconstruction'; and, Section 15303 exempts projects involving 'Construction of Small Structures.' The proposal fits all of these descriptions. The project is also subject to Section 15183 for 'Projects consistent with a community plan, general plan or zoning.' The project is therefore exempt from further Environmental Review.

KEY ISSUES AND IMPACTS

The proposal to establish a Macro Telecommunications Facility is subject to the following Planning Code development standards, which are followed by staff's analysis in relation to this application:

17.128.070 Macro Telecommunications Facilities.

A. General Development Standards for Macro Telecommunications Facilities.

1. The Macro Facilities shall be located on existing buildings, poles or other existing support structures, or shall be post mounted.

The facility involves attachment to an existing utility pole hosting power lines.

2. The equipment shelter or cabinet must be concealed from public view or made compatible with the architecture of the surrounding structures or placed underground. The shelter or cabinet must be regularly maintained.

Recommended conditions of approval require painting and texturing the antenna, per Planning Commission direction, to match the appearance of the wooden utility pole and power line posts.

3. Macro Facilities may exceed the height limitation specified for all zones but may not exceed fifteen (15) feet above the roof line or parapet. Placement of an antenna on a nonconforming structure shall not be considered to be an expansion of the nonconforming structure.

This standard is inapplicable because the proposal does not involve attachment to a roofed structure. Nonetheless, the facility would not exceed the height of the host facility or maximum height permitted in the zoning district.

4. Ground post mounted Macro Facilities must not exceed seventeen (17) feet to the top of the antenna.

This standard is inapplicable because the proposal does not involve ground post mounting.

5. The applicant shall submit written documentation demonstrating that the emissions from the proposed project are within the limits set by the Federal Communications Commission.

This standard is met by the proposal; a satisfactory emissions report has been submitted and is attached to this report (Attachment F).

17.128.110 Site location preferences.

New wireless facilities shall generally be located on the following properties or facilities in 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 Nonresidential 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 DCE-3 or D-CE-4 Zones.
- E. Other Nonresidential uses in Residential Zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.
- F. Residential uses in Nonresidential 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 locating on an A, B or C ranked preference do not require a site alternatives analysis. Facilities proposing to locate on a D through G ranked preference, inclusive, must submit a site alternatives analysis as part of the required application materials. A site alternatives analysis shall, at a minimum, consist of: a. The identification of all A, B and C ranked preference sites within one thousand (1,000) feet of the proposed location. If more than three (3) sites in each preference order exist, the three such closest to the proposed location shall be required. b. Written evidence indicating why each such identified alternative cannot be used. Such evidence shall be in sufficient detail that independent verification, at the applicant's expense, 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. refusal to lease, inability to provide utilities).

A site alternatives analysis is not required because the proposal conforms to 'B' as it would be located on a quasi-public facility (utility pole with power lines and City light). Nonetheless, the applicant has submitted an analysis which is attached to this report (Attachment E).

17.128.120 Site design preferences.

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 or B ranked preference do 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 such 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 proposal most closely conforms to 'C' (Building or structure mounted antennas below roof line (facade mount, pole mount) visible from public right-of-way, painted to match existing structure), and the applicant has submitted a satisfactory site design alternatives analysis (Attachment E).

17.128.130 Radio frequency emissions standards.

The applicant for all wireless facilities, including requests for modifications to existing facilities, shall submit the following verifications:

- 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 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.

Analysis

The proposed site design would not be situated on a historic pole or structure and would not create a view obstruction or be directly adjacent to a primary living space. The antenna would have no projection over the sidewalk or street since it would be placed on top. The closest residential structure to the west is enclosed by a fence and a hedge. The utility pole is existing and no decorative poles are located in this area. Staff, therefore, finds the proposal to provide an essential service with a least-intrusive possible design. Draft conditions of approval stipulate that the components be painted and textured to match the pole in appearance for camouflaging.

Outreach


The applicant held a community meeting open to the public to introduce the technology in Downtown Oakland on February 24, 2017. The applicant conducted additional outreach on April 10, 2017 in East Oakland and on June 20, 2017 in uptown Oakland.

In conclusion, staff recommends approval subject to recommended Conditions of Approval.

RECOMMENDATIONS:

1. Affirm staff's environmental determination.
2. Approve the Regular Design Review subject to the attached Findings and Conditions of Approval.

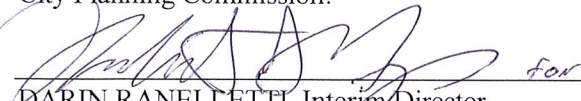
Prepared by:


MARILU GARCIA
Planner I

Reviewed by:


SCOTT MILLER
Zoning Manager

Approved for forwarding to the
City Planning Commission:


DARIN RANELLETTI, Interim Director
Planning and Building Department

ATTACHMENTS:

- A. Findings
- B. Conditions of Approval
- C. Plans
- D. Applicant's Photo-Simulations
- E. Site Alternatives Analysis/Site Design Alternatives Analysis
- F. RF Emissions Report by Hammett & Edison, Inc. dated June 23, 2017
- G. Applicant's Proof of Public Notification Posting

ATTACHMENT A: FINDINGS

This proposal meets the required findings under Regular Design Review Criteria for Nonresidential Facilities (OMC Sec. 17.136.050(B)) and Telecommunications Regulations/Design Review Criteria for Macro Telecommunications Facilities (OMC Sec. 17.128.070(B)), as set forth below. Required findings are shown in **bold** type; explanations as to why these findings can be made are in normal type.

REGULAR DESIGN REVIEW CRITERIA FOR NON-RESIDENTIAL FACILITIES (OMC SEC. 17.136.050(B))

1. That the proposed design will create a building or set of buildings that are well related to the surrounding area in their setting, scale, bulk, height, materials, and textures:

The attachment of a small antenna and equipment to an existing pole, painted and texturized to match the pole in appearance for camouflaging, will be the least intrusive design. The antenna will be placed on top of the pole and will have no projection over the streets. The facility will not adversely affect and detract from the characteristics of the neighborhood.

2. That the proposed design will protect, preserve, or enhance desirable neighborhood characteristics;

The proposal will not create a view obstruction, be directly adjacent to a primary living space, or be located on a historic structure. The adjacent area is considered historic; however, no historic or decorative poles are located in the vicinity. The facility is intended to be placed 52 feet from St. Mary's Church. The proposed design will enable the preservation of neighborhood characteristics as it will be placed on an existing utility pole and camouflaged to match the pole. Additionally, the facility will improve wireless services in this area and will enable better response from emergency services such as police, fire department and emergency response teams.

3. The project will provide a necessary function without negatively impacting surrounding opens pace and hillside residential properties.

The proposal will enhance essential services in an urbanized neighborhood.

4. That the proposed design will be sensitive to the topography and landscape.

The proposal will not be ground mounted.

5. That, if situated on a hill, the design and massing of the proposed building relates to the grade of the hill.

This finding is inapplicable because the site is level.

6. 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.

The site is located in a Central Business District area under the General Plan's Land Use and Transportation Element (LUTE). The intent of the area is: *"to encourage, support, and enhance the downtown area as a high density mixed use urban center of regional importance and a primary hub for business, communications, office, government, high technology, retail, entertainment, and transportation*

in Northern California.” Given residents’ and visitors’ increasing reliance upon cellular service for phone and internet, the proposal for a Macro Telecommunications Facility that is not adjacent to a primary living space or historic structure conforms to this intent.

TELECOMMUNICATIONS REGULATIONS/DESIGN REVIEW CRITERIA FOR MACRO TELECOMMUNICATIONS FACILITIES (OMC SEC. 17.128.070(B))

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

The antenna will be painted and texturized to match the power line posts in appearance for camouflaging will be the least intrusive design, as required by conditions of approval.

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

This finding is inapplicable because the antenna will not be mounted onto an architecturally significant structure but to an existing wooden utility pole.

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

The antenna will be located on top of the host utility pole.

4. Equipment shelters or cabinets shall be screened from the public view by using landscaping, or materials and colors consistent with surrounding backdrop or placed underground or inside existing facilities or behind screening fences.

Conditions of approval require painting and texturing to match the pole in appearance for camouflaging.

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

Equipment will be attached to the utility pole with an unobtrusive design.

6. For antennas attached to the roof, maintain a 1:1 ratio (example: ten (10) feet high antenna requires ten (10) feet setback from facade) 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.

This finding is inapplicable because the antenna would be attached to a pole and not to a roofed structure.

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 minimal clearance to the facility will be 7’-4”.

Attachment B: Conditions of Approval

Approved Use

The project shall be constructed and operated in accordance with the authorized use as described in the approved application materials, **staff report** and the approved plans **dated February 10, 2017 and submitted June 7, 2017**, 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 calendar 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. Job Site Plans

Ongoing throughout demolition, grading, and/or construction

At least one (1) copy of the stamped approved plans, along with the Approval Letter and Conditions of Approval, shall be available for review at the job site at all times.

11. Special Inspector/Inspections, Independent Technical Review, Project Coordination and Monitoring

The project applicant may be required to cover the full costs of independent third-party technical review and City monitoring and inspection, including without limitation, special inspector(s)/inspection(s) during times of extensive or specialized plan-check review or construction, and inspections of potential violations of the Conditions of Approval. The project applicant shall establish a deposit with the Bureau of Building, if directed by the Building Official, Director of City Planning, or designee, prior to the issuance of a construction-related permit and on an ongoing as-needed basis.

12. Public Improvements

The project applicant shall obtain all necessary permits/approvals, such as encroachment permits, obstruction permits, curb/gutter/sidewalk permits, and public improvement (“p-job”) permits from the City for work in the public right-of-way, including but not limited to, streets, curbs, gutters, sidewalks, utilities, and fire hydrants. Prior to any work in the public right-of-way, the applicant shall submit plans for review and approval by the Bureau of Planning, the Bureau of Building, and other City departments as required. Public improvements shall be designed and installed to the satisfaction of the City.

13. 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

PROJECT-SPECIFIC CONDITIONS

14. 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.

Requirement: Prior to a final inspection

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

Initial Approval: N/A

Monitoring/Inspection: N/A

15. Camouflage

Requirement: The antenna shall be painted, texturized, and maintained matte silver, and the equipment and any other accessory items including cables matte brown, to better camouflage the facility to the City light pole.

When Required: Prior to a final inspection

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

16. Operational

Requirement: Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 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 Planning and Zoning Division and Building Services.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

17. Possible District Undergrounding PG&E Pole

Requirement: Should the City light pole be permanently 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 Bureau as required by the regulations.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: N/A

18. 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:
- 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. For galvanized poles, covering with new paint to match the color of the surrounding surface.
 - iii. Replace pole numbers.

When Required: Ongoing

Initial Approval: N/A

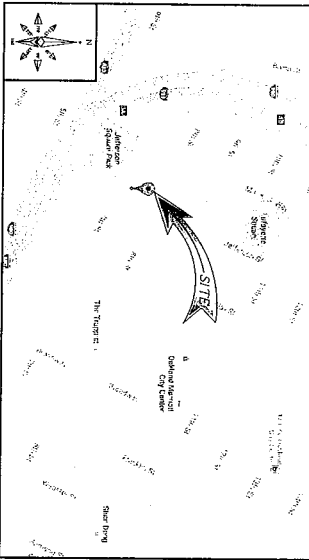
Monitoring/Inspection: Bureau of Building

NW-CA-DTOAKLAN 00018B

ADJACENT TO (IN PROW)
707 JEFFERSON STREET
OAKLAND, CA 94612

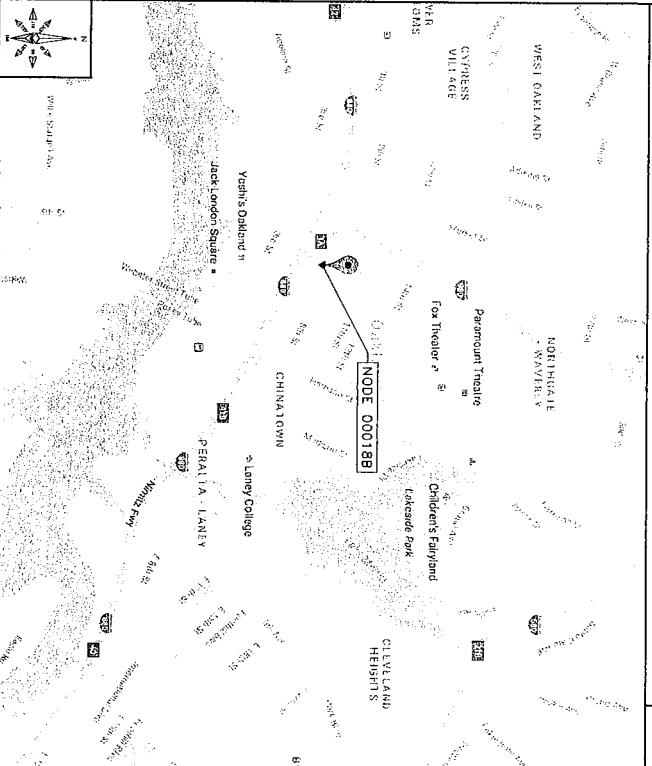
LOCAL MAP

NO SCALE



VICINITY MAP

NO SCALE



SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
GH-1	GENERAL NOTES AND LEGEND
C-1	GENERAL SITE PLAN
C-2	UTILITY POLE DEBARMENTS
C-2-1	POLE DETAILS
C-3	EQUIPMENT DETAILS
C-4	EQUIPMENT DETAILS

IF USING 11"x17" PLOT, DRAWINGS WILL BE HALF SCALE

SUBCONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT INFORMATION

AGENT	ENGINEER	POLE OWNER	APPLICANT
COMPANY: BLACK & VEATCH CONTACT: AMY GONZALEZ ADDRESS: 2899 OAK ROAD, SUITE 400, OAKLAND, CA 94612 PHONE: (913) 452-9148 E-MAIL: COM@BLACKANDVEATCH.COM	COMPANY: BLACK & VEATCH ENGINEER: ARON EVANS PHONE: (923) 886-0731 E-MAIL: EVANS@BLACKANDVEATCH.COM	OWNER: EXTENET SYSTEMS CALIFORNIA, LLC ADDRESS: 2000 CROW CANYON PLACE, SUITE 210, SAN RAMON, CA 94583 PHONE: -	COMPANY: EXTENET SYSTEMS CALIFORNIA, LLC CONTACT: CHARLES LINSKY ADDRESS: 2000 CROW CANYON PLACE, SUITE 210, SAN RAMON, CA 94583 PHONE: (910) 910-7787 E-MAIL: chadley@extenet-systems.com

AGENT

ENGINEER

PROJECT DATA

COMPANY: BLACK & VEATCH CONTACT: AMY GONZALEZ ADDRESS: 2899 OAK ROAD, SUITE 400, OAKLAND, CA 94612 PHONE: (913) 452-9148 E-MAIL: COM@BLACKANDVEATCH.COM	COMPANY: BLACK & VEATCH ENGINEER: ARON EVANS PHONE: (923) 886-0731 E-MAIL: EVANS@BLACKANDVEATCH.COM	OWNER: EXTENET SYSTEMS CALIFORNIA, LLC ADDRESS: 2000 CROW CANYON PLACE, SUITE 210, SAN RAMON, CA 94583 PHONE: -	COMPANY: EXTENET SYSTEMS CALIFORNIA, LLC CONTACT: CHARLES LINSKY ADDRESS: 2000 CROW CANYON PLACE, SUITE 210, SAN RAMON, CA 94583 PHONE: (910) 910-7787 E-MAIL: chadley@extenet-systems.com
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LONGITUDE: 37 801150
 ELEVATION: 11045993
 ZONING DISTRICT: NA
 NEAREST A.P.N.: 001-02101400
 OCCUPANCY: U, UNMANNED
 CONSTRUCTION TYPE: FACILITY IS UNMANNED AND NOT FOR PUBLIC USE. THIS PROJECT IS EXEMPT

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL AGENCIES FROM THE DATE OF THE PERMITS TO BE OBTAINED TO THE WORK. WORK NOT CONFORMING TO THESE CODES:

- IBC - 2012
- CALIFORNIA BUILDING STANDARDS CODE - 2013
- CALIFORNIA GENERAL ORDER 95 - 2013
- CALIFORNIA PLUMBING CODE 2013
- CALIFORNIA ELECTRICAL CODE 2013
- 2012 INTERNATIONAL FIRE CODE
- 2012 INTERNATIONAL FBC CODE
- BUILDING OFFICIALS AND CODE ADMINISTRATORS (BOCA) EFFECTIVE DATE: JANUARY 1ST, 2017

PROJECT DESCRIPTION

THESE DRAWINGS REPRESENT THE INSTALLATION OF WIRELESS TELECOMMUNICATIONS EQUIPMENT ON EXISTING UTILITY POLES. THESE DRAWINGS AND ANY EQUIPMENT TO BE INSTALLED AS DESCRIBED HEREIN.

GENERAL PROJECT NOTES

1. PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF/HERSELF WITH THE SCOPE OF WORK AND ALL CONDITIONS AFFECTING THE NEW PROJECT.
2. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND AS NOTED ON THESE CONSTRUCTION DOCUMENTS CAN BE WORK. WORK NOT SHOWN PRIOR TO COMMENCEMENT OF ANY WORK.
3. ALL FIELD MODIFICATIONS BEFORE DURING OR AFTER CONSTRUCTION SHALL BE APPROVED IN WRITING BY AN EXTENET SYSTEMS REPRESENTATIVE.
4. INSTALL ALL EQUIPMENT AND MATERIALS PER THE OWNER'S RECOMMENDATIONS, UNLESS INDICATED OTHERWISE.
5. VERIFY EXISTENT SYSTEMS, IN WRITING, OF ANY MAJOR DISCREPANCIES REGARDING THE CONTRACT DOCUMENTS EXISTING CONDITIONS, AND DESIGN IN WRITING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDITIONS IN WRITING TO THE SYSTEMS REPRESENTATIVE AND ADJUSTING THE BID ACCORDINGLY.
6. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL MATERIALS, LABOR, AND EQUIPMENT TO BE INSTALLED AND FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES THAT ARE TO REMAIN. CONTRACTOR SHALL OBTAIN ANY NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OAKLAND AND ANY EXISTENT SYSTEMS REPRESENTATIVE TO THE SITE.
7. CONTRACTOR SHALL PROVIDE CONCRETE SYSTEMS WITH ONE COPY OF THE FINAL INSPECTION REPORT TO THE CITY OF OAKLAND AND THE SYSTEMS REPRESENTATIVE.
8. CONTRACTOR SHALL PROVIDE CONCRETE SYSTEMS WITH ONE COPY OF THE FINAL INSPECTION REPORT TO THE CITY OF OAKLAND AND THE SYSTEMS REPRESENTATIVE.
9. VERIFY ALL FINAL FOUNDATIONS WITH AN EXISTENT SYSTEMS REPRESENTATIVE. ALL EQUIPMENT LAYOUTS SHALL BE APPROVED BY THE SYSTEMS REPRESENTATIVE AND THEIR FINAL LOCATION ARE TO BE APPROVED FOR CONSTRUCTION BY THE SYSTEMS REPRESENTATIVE. ALL CLEARANCES REQUIRED BY OTHERS RELATED TO SAID INSTALLATIONS.



UNDERGROUND SERVICES PROTECTION CENTER, INC.
 44 HOOPS DRIVE, 906



INTERNAL REVIEW	DATE
CONSTRUCTION SIGNATURE	DATE
RF SIGNATURE	DATE
REAL ESTATE SIGNATURE	DATE

BLACK & VEATCH
 BLACK & VEATCH CORPORATION
 2899 OAK ROAD
 OAKLAND, CA 94612
 WALNUT CREEK, CA 94597

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PROJECT NO.	DRAWN BY	CHECKED BY
192417.5741	DWM	LER

PRELIMINARY

IF A MODIFICATION OF LAW FOR ANY REASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY PERMITS AND APPROVALS TO ALTER THE DESIGN.

EXTENET SYSTEMS (CA) LLC
 2000 CROW CANYON PLACE
 SUITE 210
 SAN RAMON, CA 94583

SITE ADDRESS
 ADJACENT TO (IN PROW)
 707 JEFFERSON STREET
 OAKLAND, CA 94612

SHEET TITLE
 TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES

- THESE NOTES SHALL BE CONSIDERED A PART OF THE WRITTEN SPECIFICATIONS, CONTRACT AND CONSTRUCTION DOCUMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AGENCIES.
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DEFINITIONS

- "TYPICAL" OR "TYP." MEANS THAT THE ITEM IS SUBSTANTIALLY THE SAME AS THE ONE SHOWN. THE ITEM IS NOT TO BE CONSIDERED AS A STANDARD OR SPECIFICATION.
- "SHALL" MEANS REQUIREMENT TO WHICH NO EXCEPTIONS ARE TO BE MADE.
- "AS REQUIRED" MEANS AS REQUIRED BY REGULATORY AGENCIES, BY APPLICABLE STANDARDS, BY EXISTING CONDITIONS, OR BY OTHERWISE ACCEPTED CONSTRUCTION PRACTICE, OR BY THE CONTRACT DOCUMENTS.
- "MAJOR" MEANS A COMPONENT OR PART OF A SYSTEM OR MATERIALS IN THE SAME PLANE.
- "THE TERM 'YEAR' OR 'YEAR' SHALL BE UNDERSTOOD TO MEAN 'YEAR' IN FIELD WITH EXCESSIVE AND RECEIVING OPERATIONS."
- "WHERE THE WORDS 'OR EQUIV.' OR 'OR EQUIV.' ARE USED, THE CONTRACTOR SHALL FOLLOW THE SPECIFICATIONS, THEY SHALL BE UNDERSTOOD TO BE EQUIV. TO THE WORDS 'OR EQUIV.' OR 'OR EQUIV.' IN THE SAME PLANE.
- "ENGLISH" MEANS THE METRIC SYSTEM OF UNITS AS DESCRIBED IN THE CONTRACT DOCUMENTS, UNLESS OTHERWISE SPECIFIED.

FIELD WELDING NOTES:

- WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS FOR THE TYPE OF AND POSITION INDICATED. ALL WORK MUST BE IN COMPLIANCE WITH LATEST EDITION OF AWS D1.1.
- GRIND SURFACES TO BE WELDED WITH A SILICON CARBIDE WHEEL, PRIOR TO WELDING TO REMOVE ALL OXIDES, BURRS, AND OTHER DEFECTS. THE WELD METAL SHALL BE CLEAN AND FREE FROM OIL, GREASE, AND OTHER CONTAMINANTS.
- WELDING TECHNIQUE MUST MAINTAIN TEMPERATURE NEAR THE INSIDE SURFACE OF THE JOINT AND ALSO MAINTAIN A CONSISTENT WELD METAL WITH MINIMUM SPATTER. USE AN E70 LOW HYDROGEN ELECTRODE TO WELD ALL MANUFACTURER'S INSULATIONS FOR STORAGE AND USE OF ELECTRODES AVOID REMOVING ELECTRODES FROM MANUFACTURER'S PACKAGING UNTIL READY FOR IMMEDIATE USE.
- UPON COMPLETION OF WELDING, APPLY OIL-A-SOAK TO ALL UNPROTECTED SURFACES. APPLY A SECOND LAYER OF OIL TO ALL SURFACES TO BE PROTECTED FROM CORROSION.

ANTENNA MOUNTING

- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CHAPTER 48/71A-222 OR APPLICABLE LOCAL CODES.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A133 ZINC.
- ALL BOLTS, ANCHORS, NUTS, WASHERS, RIVETS, AND STEEL PRODUCTS - UNLESS NOTED OTHERWISE - SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A133 ZINC-COATING (HOT-DIP) ON IRON AND STEEL SURFACES. UNLESS NOTED OTHERWISE.
- ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, CONE NUTS AND SHALL BE TOUGHED TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSULATION AND PROTECTION.
- CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSULATION AND PROTECTION.

TORQUE REQUIREMENTS

- ALL RF CONNECTIONS SHALL BE TORQUED BY A TORQUE WRENCH.
- ALL RF CONNECTIONS, INCLUDING ANTENNA AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND AGENCIES.
- ALL 1/2" ANTENNA HARDWARE SHALL BE TORQUED TO 43 LB-FT (58 NM).
- ALL 3/4" ANTENNA HARDWARE SHALL BE TORQUED TO 43 LB-FT (58 NM).
- ALL 1" ANTENNA HARDWARE SHALL BE TORQUED TO 43 LB-FT (58 NM).
- ALL ON THE CONNECTIONS SHALL BE TORQUED TO 18-22 LB-FT (24.4 - 29.8 NM).
- ALL IN THE CONNECTIONS SHALL BE TORQUED TO 15-20 LB-FT (20.3 - 27.1 NM).

ROW UTILITY POLE CONSTRUCTION NOTES

- NO BOLT THROUGHS TO REMOVED MORE THAN 1-1/2" [38MM]
- ALL BOLT HEADS LEFT IN POLE FROM REMOVAL OF CLAMBERS
- ALL CLAMBER STEPS LEFT TO REMAIN SHALL HAVE EXTENDED STEPS
- POLE NOT TO BE WELDED 15' [4.57M] CLEAR SPACE OFF POLE FACE (1280)
- NO SHORT SWAGES UNDER ANTENNA. ALL CABLES MUST ONLY TRANSITION ON THE INSIDE OR BOTTOM OF POLE.
- USE 1/2" [12.7MM] CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.
- ALL VIBRO ROUND CABLES AT JOINT OPENING WITH FLOW EQUAL TO PREVENT WATER INTRUSION.

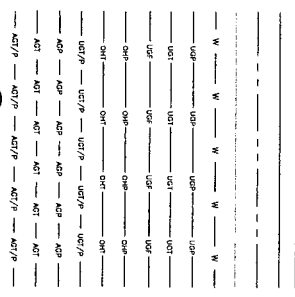
NODE SITE POWER SHUT DOWN PROCEDURES

- FOR NON EMERGENCY/SCHEDULED POWER SHUT DOWN
 - CALL CENTER SYSTEMS MGT (NETWORK OPERATIONS CENTER) (866)985-4227
 - 24 HOURS PRIOR TO SCHEDULED POWER SHUT OFF
 - PROVIDE THE FOLLOWING INFORMATION:
 - YOUR NAME AND REASON FOR POWER SHUT OFF
 - PROVIDE LOCATION OF OUTAGE
 - UNLOCK DISCONNECT BOX, FLIP BOTH BREAKERS TO THE OFF POSITION
 - POWER SHUT OFF VERIFICATION WITH APPROVED POLE PROCEDURES
 - NOTIFY CENTER MGT UPON COMPLETION OF WORK
 - REINSTALL LOCK ON DISCONNECT BOX
- EMERGENCY POWER SHUT OFF
 - CALL CENTER SYSTEMS MGT (NETWORK OPERATIONS CENTER) (866)985-4227
 - PROVIDE THE FOLLOWING INFORMATION:
 - YOUR NAME AND REASON FOR POWER SHUT OFF
 - PROVIDE LOCATION OF OUTAGE
 - UNLOCK DISCONNECT BOX, FLIP BOTH BREAKERS TO THE OFF POSITION
 - POWER SHUT OFF VERIFICATION WITH APPROVED POLE PROCEDURES
 - NOTIFY CENTER MGT UPON COMPLETION OF WORK
 - REINSTALL LOCK ON DISCONNECT BOX

GENERAL NOTES AND LEGENDS

LEGEND

- DOT/MERC CONNECTION
- Mechanical Connection
- Chemical/Electronic Grounding System
- TEST Chemical/Electronic Grounding System
- EXOTHERMIC WITH INSPECTION SLEEVE
- GROUNDING BAR
- GROUND ROD
- TEST GROUND ROD WITH INSPECTION SLEEVE
- CHANUKIM FENCE
- WOOD/ROUHOIT IRON FENCE
- WALL STRUCTURE
- PROPERTY LINE (PL)
- LEAST AREA
- SEPARATORS
- WATER LINE
- UNDERGROUND POWER
- UNDERGROUND TELL
- UNDERGROUND FIBER
- OVERHEAD POWER
- OVERHEAD TELL
- UNDERGROUND TELCO/POWER
- ABOVE GROUND POWER
- ABOVE GROUND TELL
- ABOVE GROUND TELCO/POWER
- SECTION REFERENCE
- DETAIL REFERENCE



GENERAL NOTES AND SCHEDULES

GN-1

BLACK & VEATCH

BLACK & VEATCH CORPORATION
3929 OAK ROAD
WALNUT CREEK, CA 94597

PROJECT NO. 09BWIN BY CHECKED BY
192417/2141 DWG LEW

DATE 02/27/12 12:50 PM 6/18/12

DATE 02/27/12 12:50 PM 6/18/12

DATE 02/27/12 12:50 PM 6/18/12

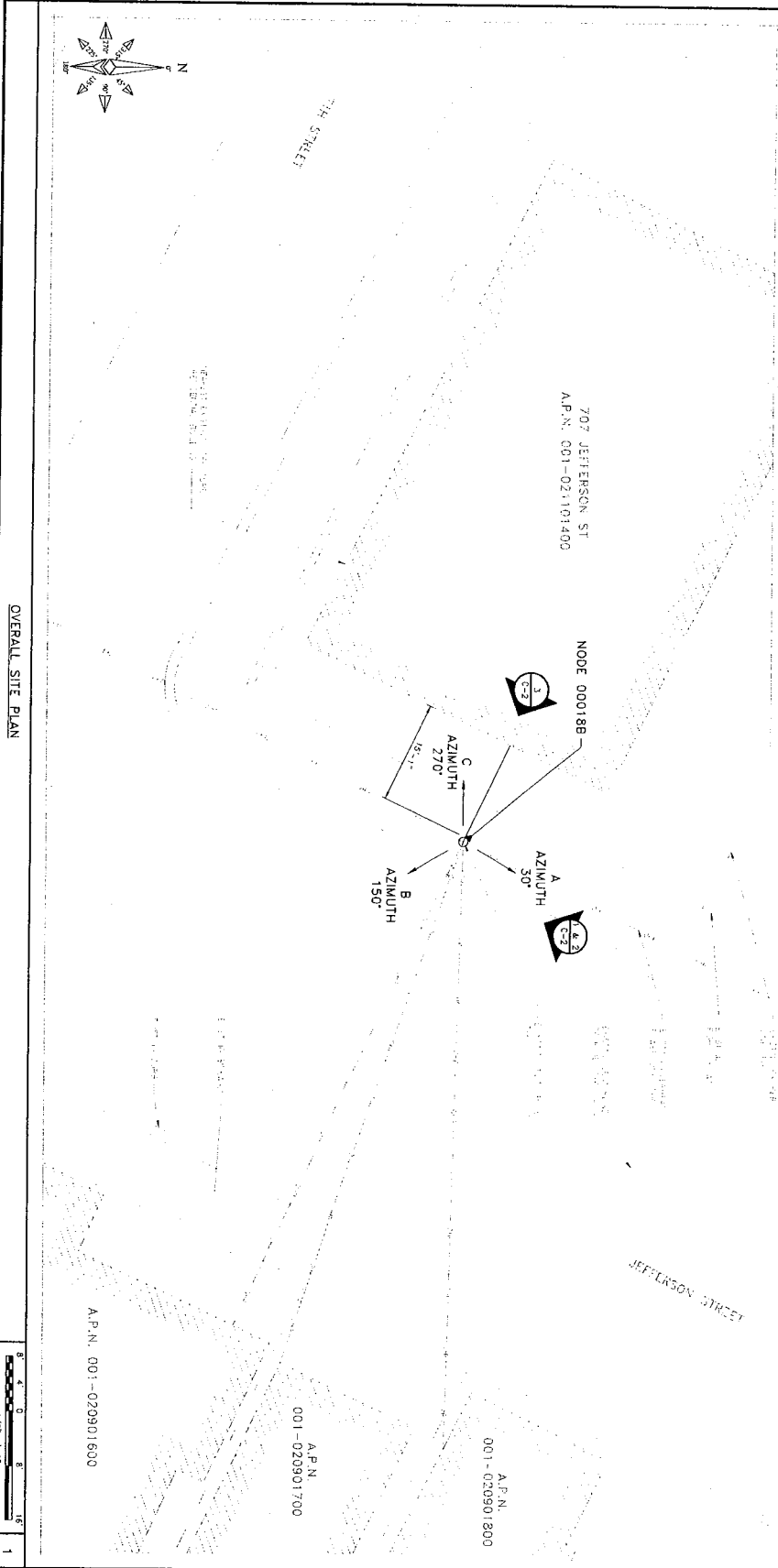
EXTENT SYSTEMS (CA) LLC
2000 CROW CANYON PLACE
SUITE 210
SAN RAMON, CA 94583

SITE ADDRESS
ADJACENT TO (IN PROW)
707 JEFFERSON STREET
OAKLAND, CA 94612

SHEET TITLE
GENERAL NOTES AND SCHEDULES

SHEET NUMBER
GN-1

SITE PLAN MAP		NO SCALE	A	SITE PHOTO		B



THIS DRAWING IS NOT A SITE SURVEY. THE PURPOSE OF THIS DRAWING IS TO SHOW THE PROPOSED SITE AND ADJACENT PROPERTIES. NO WARRANTIES OR APPROVALS ARE APPROXIMATIONS.

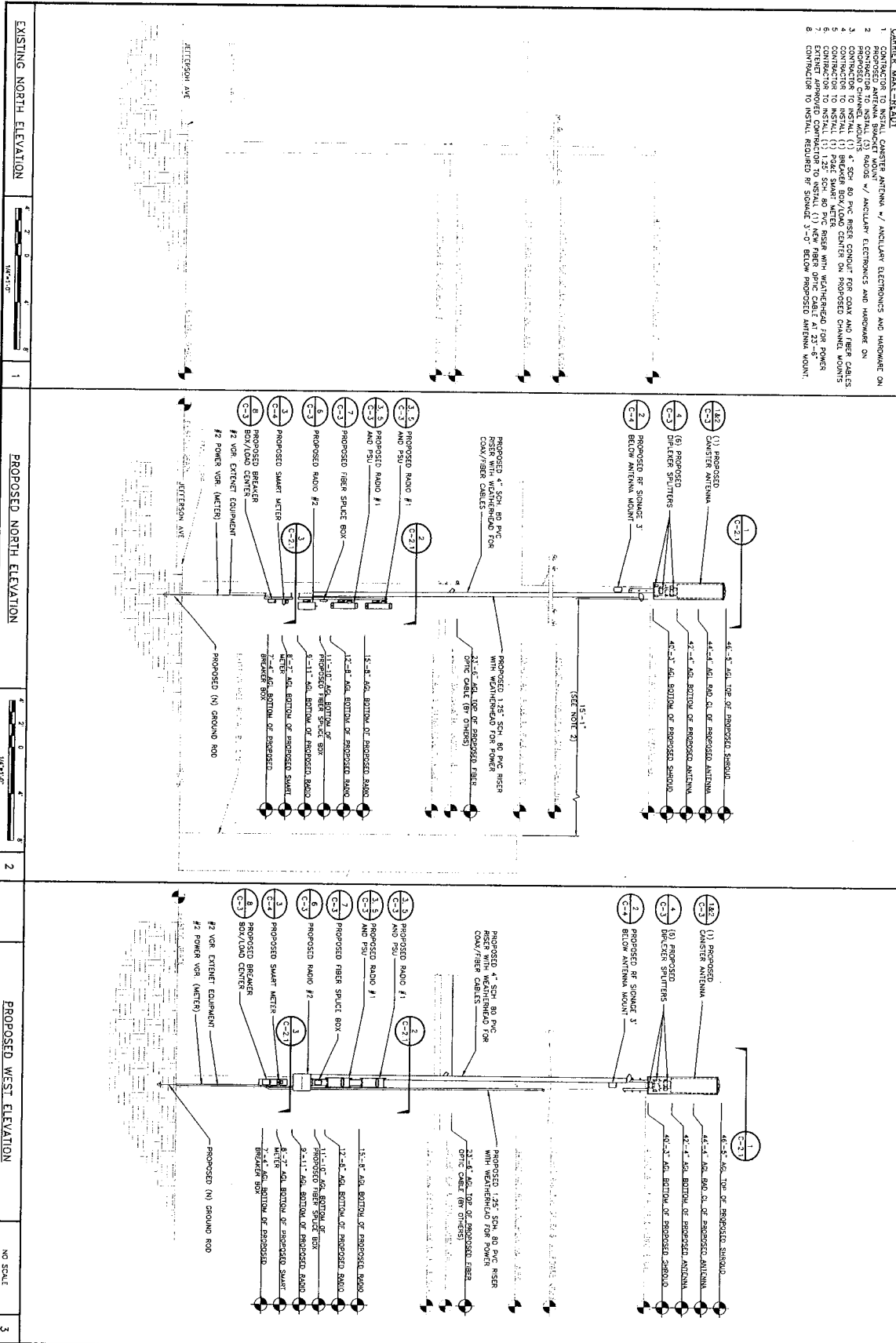


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	PROJECT NO: DRAWN BY: CHECKED BY: 192417.5741 DWM LEW
BLACK & VEATCH CORPORATION 2501 WILSON AVENUE WASHINGTON, DC 20007	EXTENT SYSTEMS (CA) LLC 2000 CROW CANYON PLACE SUITE 210 SAN RAMON, CA 94583
SITE ADDRESS: ADJACENT TO (IN BROW) 707 JEFFERSON STREET OAKLAND, CA 94612	SHEET NUMBER C-1
SHEET TITLE OVERALL SITE PLAN	PRELIMINARY

NOTES:
 THESE DRAWINGS HAVE BEEN PREPARED BASED ON THE ASSUMPTION THAT THE STRUCTURE HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADING. IT IS THE RESPONSIBILITY OF THE POLE OWNER TO VERIFY THE STRUCTURE'S CAPACITY TO SUPPORT THE PROPOSED LOADING WITHIN THE ORIGINAL DESIGN CAPACITY OF THE STRUCTURE.

- CABLES, WARE-HOUSE**
- CONTRACTOR TO INSTALL CENTER ANTENNA w/ ANGLULAR ELECTRONICS AND HARDWARE ON PROPOSED ANTENNA BRACKET MOUNT
 - CONTRACTOR TO INSTALL (1) 6000S w/ ANGLULAR ELECTRONICS AND HARDWARE ON PROPOSED ANTENNA BRACKET MOUNT
 - CONTRACTOR TO INSTALL (1) 4" SCH 80 PVC RISER CONDUIT FOR COAX AND FIBER CABLES
 - CONTRACTOR TO INSTALL (1) BREAKER BOX/LOAD CENTER ON PROPOSED CHANNEL MOUNTS
 - CONTRACTOR TO INSTALL (1) 1.25" SCH 80 PVC RISER WITH WEATHERHEAD FOR POWER
 - CONTRACTOR TO INSTALL (1) 1.25" SCH 80 PVC RISER WITH WEATHERHEAD FOR POWER
 - CONTRACTOR TO INSTALL (1) NEW FIBER OPTIC CABLE AT 23'-6" EXTENT APPROVED CONTRACTOR TO INSTALL (1) NEW FIBER OPTIC CABLE AT 23'-6"
 - CONTRACTOR TO INSTALL (1) NEW FIBER OPTIC CABLE AT 23'-6" EXTENT APPROVED CONTRACTOR TO INSTALL (1) NEW FIBER OPTIC CABLE AT 23'-6"

- NOTES:
- ALL PROPOSED EQUIPMENT TO BE PAINTED MESA BROWN
 - DISTANCE FROM ANTENNA FACE TO MESA BUILDING (707 JEFFERSON ST) SEE SHEET C-1 FOR ORIENTATION.



net
 NETWORKING SYSTEMS
 ENVIRONMENT

INTERNAL DESIGN: _____ DATE: _____
 CONSTRUCTION SIGNATURE: _____ DATE: _____
 RF SIGNATURE: _____ DATE: _____
 BEST PRACTICE SIGNATURE: _____ DATE: _____

BLACK & VEATCH

BLACK & VEATCH CORPORATION
 2888 OAK ROAD
 WALNUT CREEK, CA 94697

PROJECT NO: DRAWN BY: CHECKED BY: _____
 1324737541 DWG: LEW

NO.	DATE	DESCRIPTION
1	02/17/17	ISSUED FOR REVIEW
2	02/27/17	ISSUED FOR REVIEW
3	02/27/17	ISSUED FOR REVIEW

PRELIMINARY

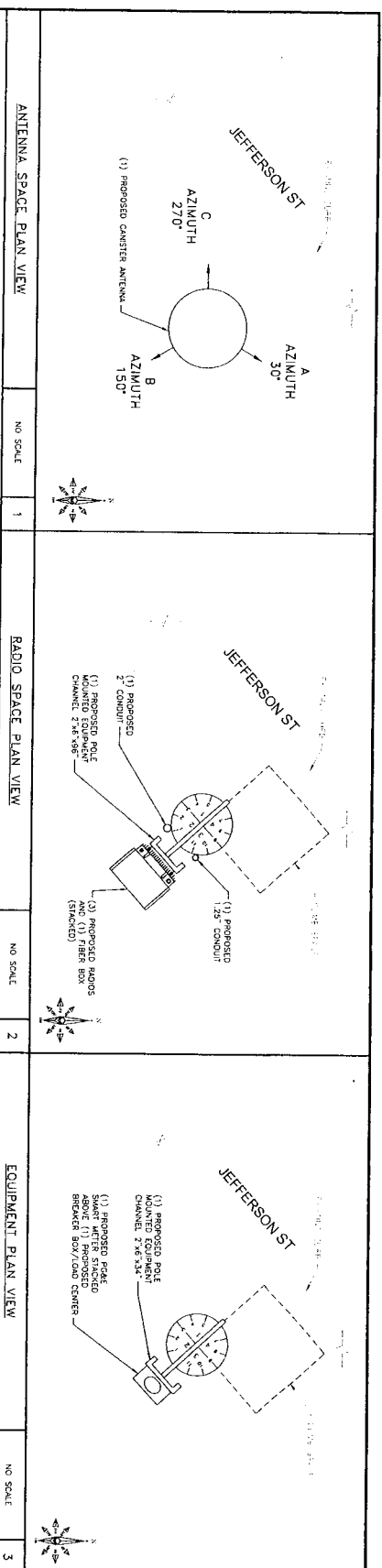
IT IS A VIOLATION OF LAW FOR ANY PERSON TO REPRODUCE, TRANSMIT, OR IN ANY MANNER USE THESE DRAWINGS OR ANY INFORMATION CONTAINED THEREIN WITHOUT THE WRITTEN CONSENT OF BLACK & VEATCH.

EXTENET SYSTEMS (CA) LLC
 2000 CROW CANYON PLACE
 SAN RAMON, CA 94583

SITE ADDRESS:
 ADJACENT TO (IN PROX)
 707 JEFFERSON STREET
 OAKLAND, CA 94612

UTILITY POLE ELEVATIONS

SHEET TITLE: _____
 SHEET NUMBER: **C-2**



INTERNAL REVIEW	DATE
CONSTRUCTION SIGNATURE	DATE
RF SIGNATURE	DATE
REAL ESTATE SIGNATURE	DATE

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PROJECT NO. DRAWN BY CHECKED BY
 192417 5741 DMW LEM

REV	DATE	DESCRIPTION
B	04/01/17	ISSUED FOR REVIEW
A	02/27/17	ISSUED FOR REVIEW

PRELIMINARY

IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THE ABOVE SIGNED UNDER THE DIRECTION OF THE ENGINEER TO ALTER THIS DOCUMENT.

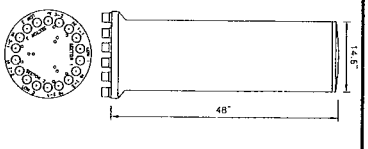
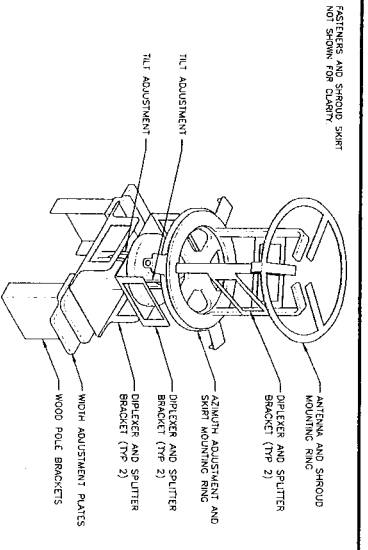
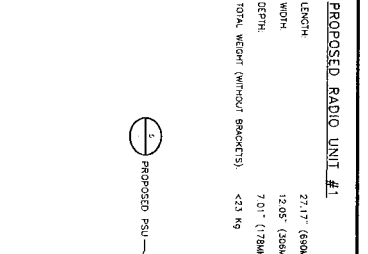
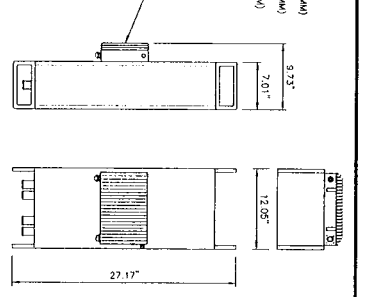
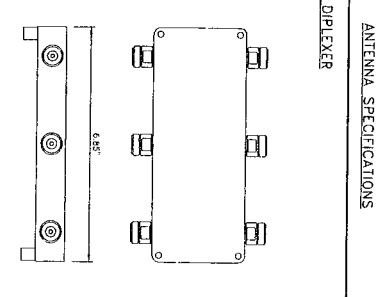
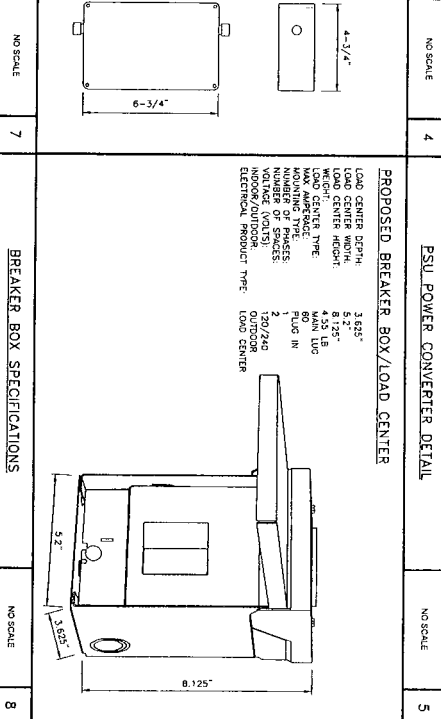
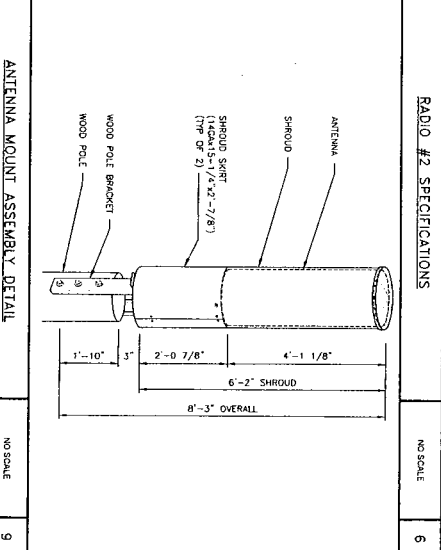
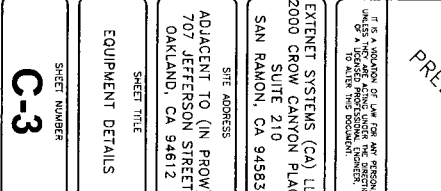
EXTENET SYSTEMS (CA) LLC
 2000 CROW CANYON PLACE
 SUITE 210
 SAN RAMON, CA 94583

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 OAKLAND, CA 94612

SHEET TITLE
 RISER DETAILS

SHEET NUMBER
C-2.1

ANTENNA SPACE PLAN VIEW NO SCALE 1 RADIO SPACE PLAN VIEW NO SCALE 2 EQUIPMENT PLAN VIEW NO SCALE 3

<p>PROPOSED ANTENNA</p> <p>RADIO COLOR: LIGHT GREY RADIO MATERIAL: FIBERGLASS, UV RESISTANT DIAMETER: 14.6" (371mm) HEIGHT: 48.0" (1219mm) TOTAL WEIGHT (WITHOUT BRACKETS): 42.0 lbs (191 kg) CONNECTOR INTERFACE: 4" / 9.5 OR 4.3" / 10 OR 7" / 6" RF CONNECTOR LOCATION: DIN FEMALE RF CONNECTOR QUANTITY: 18</p> 	<p>FASTENERS AND SHROUD SHIRT NOT SHOWN FOR CLARITY</p> 	<p>PROPOSED RADIO UNIT #1</p> <p>LENGTH: 27.17" (694mm) WIDTH: 12.05" (306mm) DEPTH: 7.01" (178mm) TOTAL WEIGHT (WITHOUT BRACKETS): < 23 kg</p>  <p>PROPOSED RADIO UNIT #2</p> <p>LENGTH: 17.8" WIDTH: 17.0" DEPTH: 7.2" TOTAL WEIGHT (WITHOUT BRACKETS): 23 kg</p> 
<p>ANTENNA SPECIFICATIONS</p> <p>NO SCALE</p> <p>1</p>	<p>POLE TOP MOUNT DETAIL</p> <p>NO SCALE</p> <p>2</p>	<p>RADIO #1 SPECIFICATIONS</p> <p>NO SCALE</p> <p>3</p>
<p>PROPOSED DIPLEXER</p>  <p>DIPLEXER SPECIFICATIONS</p> <p>NO SCALE</p> <p>4</p>	<p>PSU POWER CONVERTER DETAIL</p> <p>NO SCALE</p> <p>5</p>	<p>RADIO #2 SPECIFICATIONS</p> <p>NO SCALE</p> <p>6</p>
<p>PROPOSED FUSION SPlice ENCLOSURE</p> <p>DEPTH: 2 1/8" (51) HEIGHT: 6 3/4" (171) WIDTH: 4 3/4" (119)</p> 	<p>PROPOSED BREAKER BOX/LOAD CENTER</p> <p>LOAD CENTER DEPTH: 3.625" LOAD CENTER HEIGHT: 8.125" LOAD CENTER WIDTH: 4.53 LB MAX. AMPERAGE: 80 NUMBER OF PHASES: 1 NUMBER OF SPACES: 2 INDOOR/OUTDOOR: 2/20/200 ELECTRICAL PRODUCT TYPE: LOAD CENTER</p> 	<p>ANTENNA MOUNT ASSEMBLY DETAIL</p> 
<p>FIBER SPlice BOX SPECIFICATIONS</p> <p>NO SCALE</p> <p>7</p>	<p>BREAKER BOX SPECIFICATIONS</p> <p>NO SCALE</p> <p>8</p>	<p>ANTENNA MOUNT ASSEMBLY DETAIL</p> <p>NO SCALE</p> <p>9</p>



INTERNAL DESIGN
 CONSTRUCTION SIGNATURE _____ DATE _____
 RF SIGNATURE _____ DATE _____
 SEAL, ESTEER SIGNATURE _____ DATE _____



BLACK & VEATCH CORPORATION
 2800 CROW CANYON PLACE
 WASHINGTON, DC 20007
 WASHINGTON, DC 20007

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PROJECT NO: 192417.5744
 DRAWN BY: LEW
 CHECKED BY: LEW

REV	DATE	DESCRIPTION
B	05/07/17	ISSUED FOR REVIEW
A	02/27/17	ISSUED FOR REVIEW

PRELIMINARY

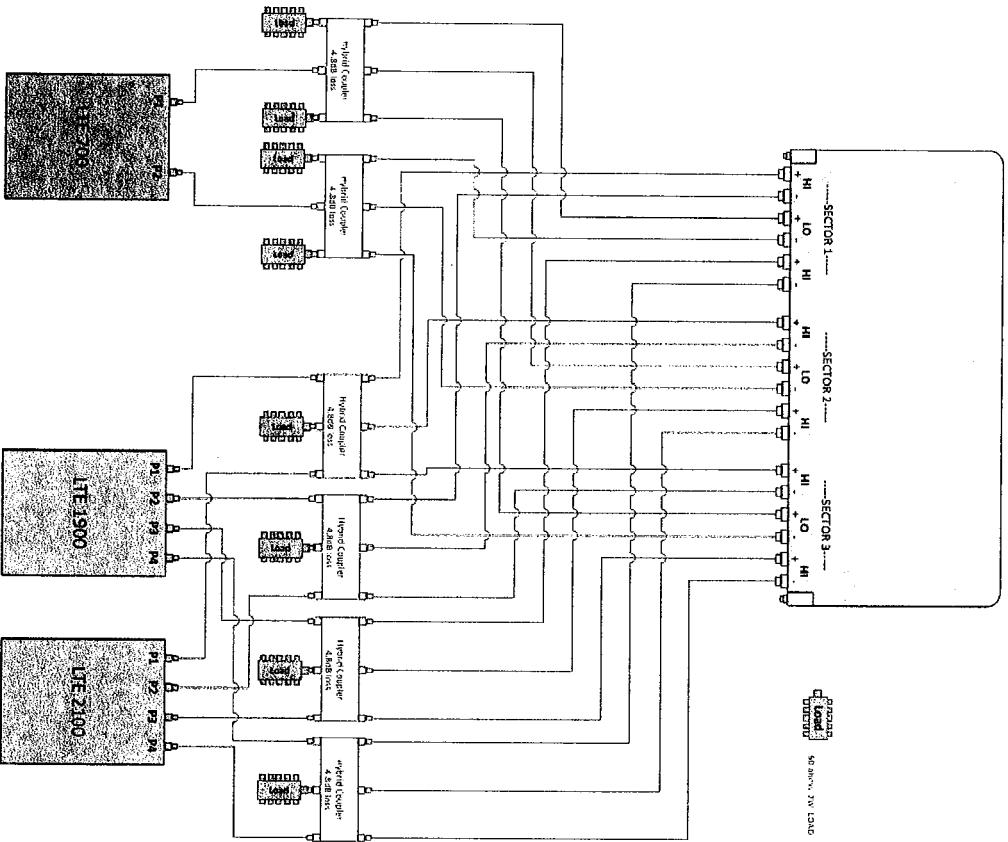
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EXTENET SYSTEMS (CA) LLC
 2000 CROW CANYON PLACE
 SUITE 210
 SAN RAMON, CA 94583

SITE ADDRESS
 ADJACENT TO (IN PROX)
 707 JEFFERSON STREET
 OAKLAND, CA 94612

SHEET TITLE
 EQUIPMENT DETAILS
 SHEET NUMBER
C-3

NW-CA-DTOAKLAN-VZW
(Option 12)



ANTENNA CONFIGURATION

NO SCALE 1

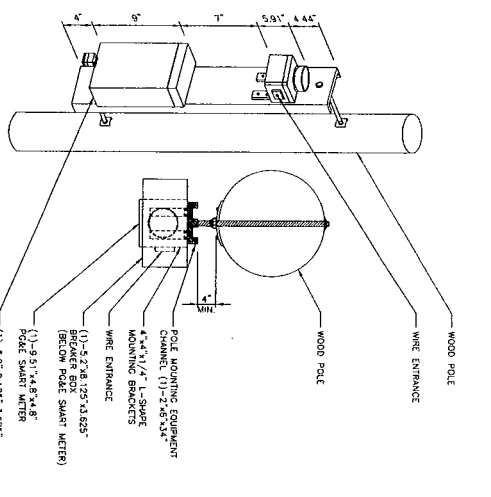
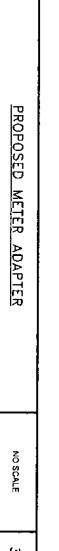
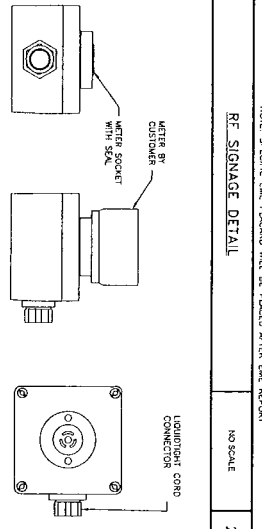
NOTICE

Beyond This Point you are entering a controlled area where RF emissions may be present. Obey all posted signs and site guidelines for working in a RF environment.

CAUTION

Beyond This Point you are entering a controlled area where RF emissions may be present. Obey all posted signs and site guidelines for working in a RF environment.

NOTE: SPECIFIC EMC PLACARD WILL BE PLACED AFTER END REVIEW



INTERNAL REVIEW
CONSTRUCTION SIGNATURE DATE
RF SIGNATURE DATE
TECH ESTIMATE SIGNATURE DATE

BLACK & VEATCH
BLACK & VEATCH CORPORATION
2959 DUM ROAD
WALNUT CREEK, CA 94597

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PROJECT NO. DRAWN BY CHECKED BY
1824125741 DWG LEW

REV	DATE	DESCRIPTION
0	05/06/17	ISSUED FOR REVIEW
1	07/27/17	ISSUED FOR REVIEW

PRELIMINARY

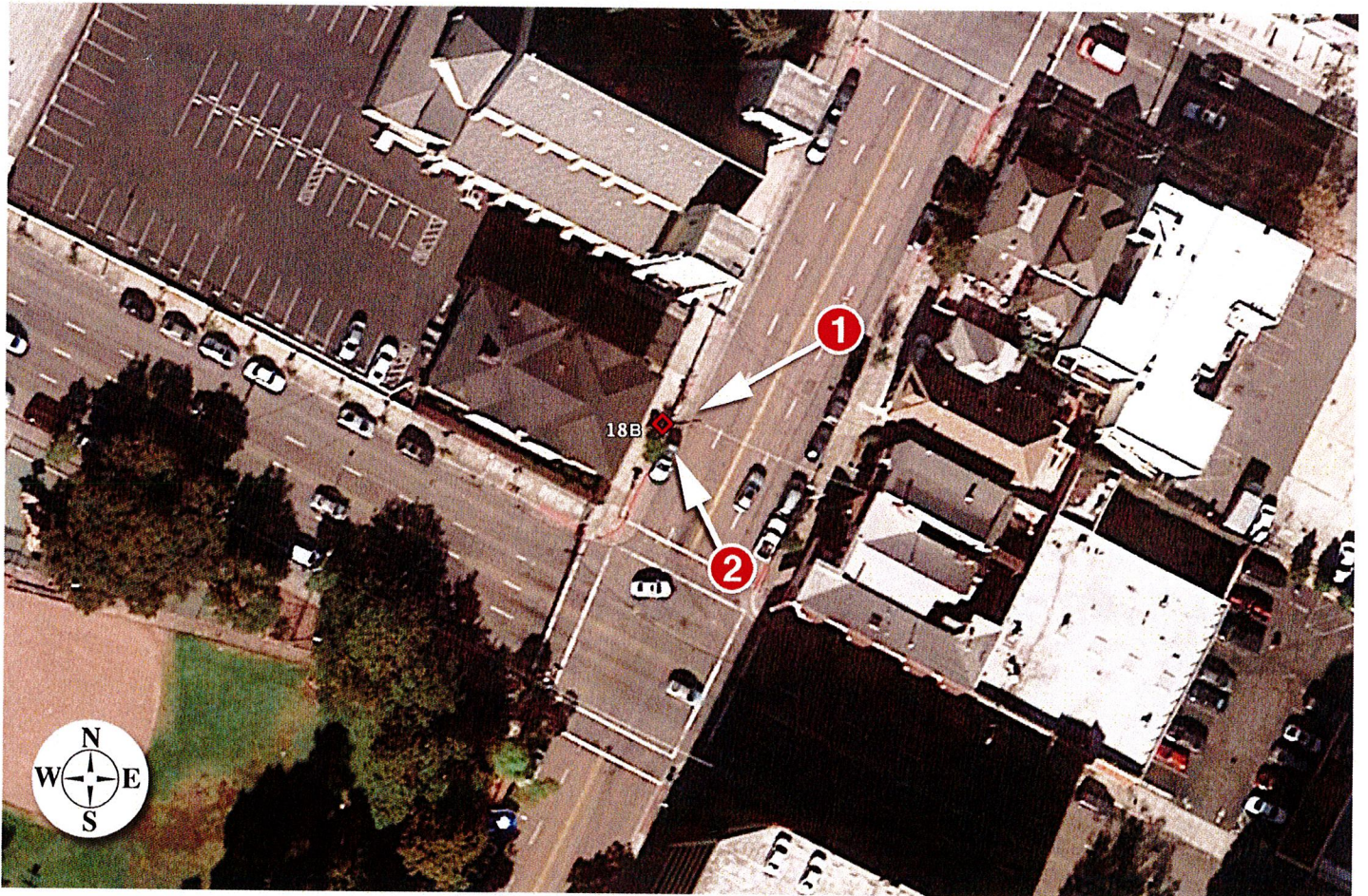
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EXTENET SYSTEMS (CA) LLC
2000 CROW CANYON PLACE
SUITE 210
SAN RAMON, CA 94583

SITE ADDRESS
ADJACENT TO (IN PROX)
707 JEFFERSON STREET
OAKLAND, CA 94612

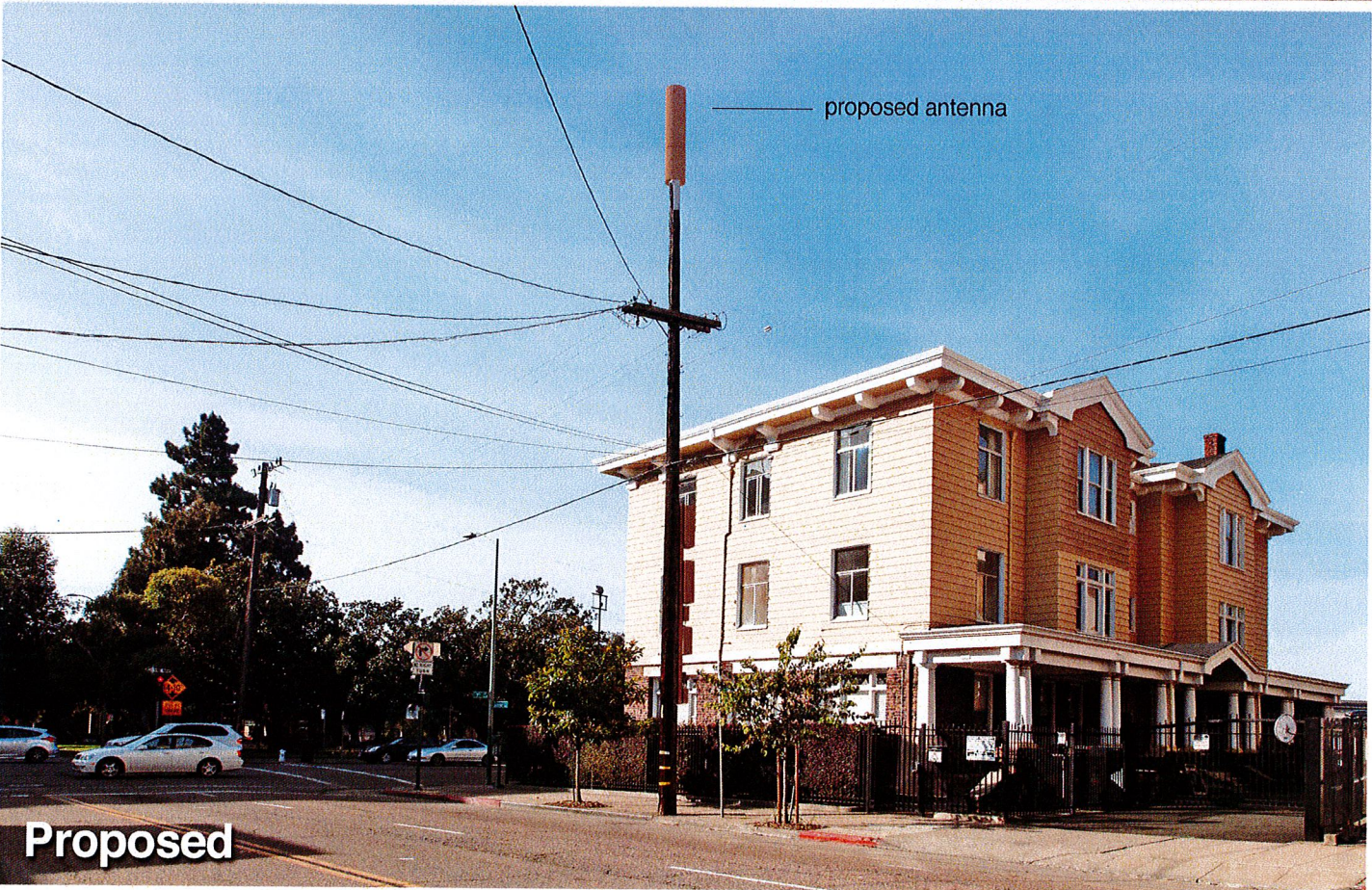
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
C-4





Existing



proposed antenna

Proposed



Existing



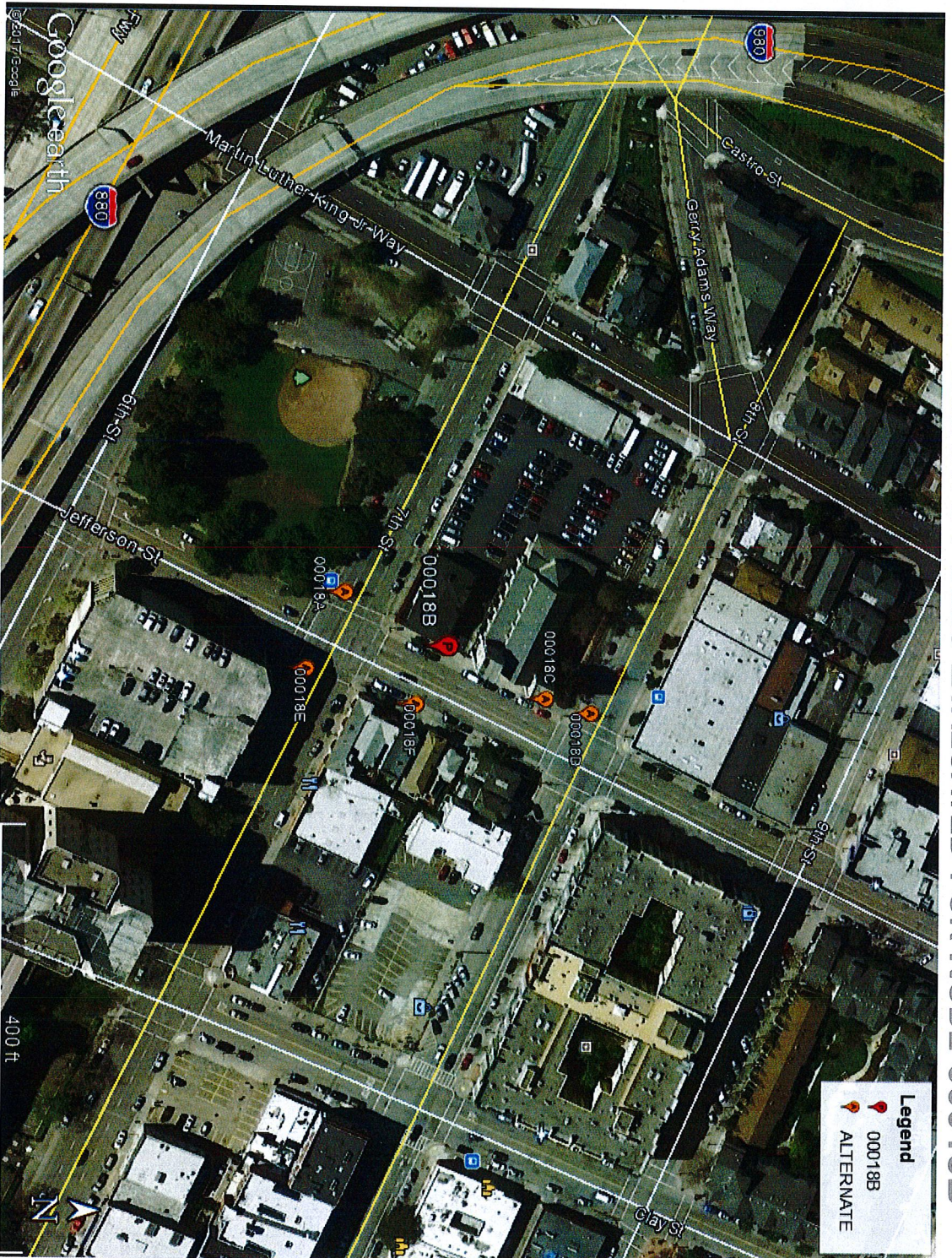
proposed antenna

Proposed



**EXTENET OAKLAND
NODE 00018B
707 JEFFERSON STREET
ALTERNATIVE SITE ANALYSIS**

MAP OF ALTERNATIVE POLES EVALUATED FOR NODE 00018B



- The above maps depict ExteNet's proposed Node 00018B in relation to other poles in the area that were evaluated as possibly being viable alternative candidates.
- The following is an analysis of each of those 5 alternative locations.

PROPAGATION MAP OF NODES 00018B



This propagation map depicts the ExtNet proposed Node 00018B in relation to surrounding proposed ExtNet small cell nodes.

00018B - PROPOSED LOCATION



- The location for ExteneNet's proposed Node 00018B is a wood utility pole located adjacent to 707 Jefferson Street (37.801160, - 122.277780).
- ExteneNet's objective is to provide Verizon wireless coverage and capacity as well as high speed wireless internet to the Oakland area.
- ExteneNet evaluated this site and nearby alternatives to verify that the selected site is the least intrusive means to close Verizon's significant service coverage gap.

ALTERNATIVE NODE 00018A



- Node 00018A is a wood utility pole next to 693 Jefferson Street (37.800888, -122.277961).
- This pole is not a viable alternative candidate because cross lines and cross arms prevent adequate climbing space on the pole pursuant to CPUC General Order 95, thus prohibiting a wireless facility from being installed at this location.
- This pole is not a viable alternative candidate because the existing transformer on the pole would need to be relocated to an uncertain destination in order to facilitate our proposed wireless installation.
- This pole is not a viable alternative candidate because this pole is located too close to primary Node 00057A.
- This pole is not a viable alternative candidate because this pole is located too far from the primary Node 00034B.
- This pole is not a viable alternative candidate because this pole is located too far from the primary Node 00036A.

ALTERNATIVE NODE 00018C



- Node 00018C is a metal light pole near 760 Jefferson Street (37.801457, -122.277594).
- This pole is not a viable alternative candidate because the existing height of the pole is not of sufficient height for the proposed project.
- This pole is not a viable alternative candidate because this pole is located too close to primary Node 00043A.
- This pole is not a viable alternative candidate because this pole is located too close to primary Node 00036A.

ALTERNATIVE NODE 00018D



- Node 00018D is a wood utility pole near 625 8th Street (37.801589, -122.277542).
- This pole is not a viable alternative candidate because cross lines and cross arms prevent adequate climbing space on the pole pursuant to CPUC General Order 95, thus prohibiting a wireless facility from being installed at this location.
- This pole is not a viable alternative candidate because this pole is located too close to primary Node 00043A.
- This pole is not a viable alternative candidate because this pole is located too close to primary Node 00036A.

ALTERNATIVE NODE 00018E



- Node 00018E is a wood utility pole near 585 7th Street (37.800785, -122.277701).
- This pole is not a viable alternative candidate because this pole is located too close to primary Node 00057A.
- This pole is not a viable alternative candidate because this pole is located too close to primary Node 00059B.

ALTERNATIVE NODE 00018F

- Node 00018F is a metal light pole near 708 Jefferson Street (37.801085, -122.277578).
- This pole is not a viable alternative because it is in front of residence's windows.



ALTERNATIVE SITE ANALYSIS CONCLUSION

Based on ExteneNet's analysis of alternative sites, the currently proposed Node 00018B is the least intrusive location from which to fill the surrounding significant wireless coverage gaps.



extenet
SM
SYSTEMS

Thank You!



May 12, 2017

City Planner
Planning Department
City of Oakland
250 Frank Ogawa Plaza, 2nd Floor
Oakland, CA 94612

Re: Proposed ExteNet Small Cell Node Installation
Applicant: ExteNet Systems (California) LLC
Nearest Site Address: Public Right of Way near 707 Jefferson Street
Site ID: NW-CA-DTOAKLAN Node 00018B
Latitude/Longitude: 37.801160, -122.277780

Dear City Planner,

On behalf of ExteNet Systems (California) LLC, this letter and attached materials are to apply for a design review permit to install a small cell node in the public right-of-way near 707 Jefferson Street ("Node 00018B").¹ The following is an explanation of the existing site, a project description of the designed facility, the project purpose and justifications in support of this proposal.

A. Project Description.

The proposed location for our facility currently consists of an approximate 40 feet tall wood utility pole in the public right-of-way on the west of Jefferson Street just northwest with 7th Street, at about 707 Jefferson Street. Power line is at 32 feet above ground.

ExteneNet proposes to utilize the existing pole measuring 40 feet above ground and to affix one canister antenna within an antenna shroud on top of the pole. The antenna, measuring 48 inches long and 14.6 inches in diameter, will be placed on top of the pole at 42 feet 4 inches. The top of the antenna shroud will be at 46 feet 5 inches. Six proposed diplexers measuring 6.85 inches wide, 3.20 inches long and 1.48 inches deep will be placed within the antenna shroud. One MRRU measuring 17.0 inches wide, 17.8 inches tall and 7.2 inches deep will be placed on the pole at 9 feet 11 inches. Two MRRUs measuring 12.05 inches wide, 27.17 inches tall and 7.01 inches deep will be placed on the pole at 12 feet 8 inches and 15 feet 8 inches. A miniature emergency shut-off safety switch and electricity meter will be placed on the pole at about eight feet above ground. All equipment will be painted brown to match the utility pole. Our proposal is depicted in the attached design drawings and photographic simulations.

This is an unmanned facility that will operate at all times (24 hours per day, seven days per week) and will be serviced about once per year. Our proposal will greatly benefit the area by improving wireless telecommunications service as detailed below.

¹ ExteneNet expressly reserves all rights concerning the city's jurisdiction to assert zoning regulation over the placement of wireless facilities in the public rights-of-way.

B. Project Purpose.

The purpose of this project is to provide Verizon wireless voice and data coverage to the surrounding area where there is currently a significant gap in service coverage. These wireless services include mobile telephone, wireless broadband, emergency 911, data transfers, electronic mail, Internet, web browsing, wireless applications, wireless mapping and video streaming. The proposed node is part of a larger small cell providing coverage to areas of Oakland that are otherwise very difficult or impossible to cover using traditional macro wireless telecommunications facilities due to the local topography and mature vegetation. The attached radio frequency propagation maps depict Verizon's larger small cell project. Further radio frequency details are set forth in the attached Radio Frequency Statement, including propagation maps depicting existing and proposed coverage in the vicinity of Node 00018B.

A small cell network consists of a series of radio access nodes connected to small telecommunications antennas, typically mounted on existing wooden utility poles within the public rights-of-way, to distribute wireless telecommunications signals. Small cell networks provide telecommunications transmission infrastructure for use by wireless services providers. These facilities allow service providers such as Verizon to establish or expand their network coverage and capacity. The nodes are linked by fiber optic cables that carry the signal stemming from a central equipment hub to a node antenna. Although the signal propagated from a node antenna spans over a shorter range than a conventional tower system, small cell can be an effective tool to close service coverage gaps.

C. Project Justification, Alternative Site and Design Analysis.

Node 00018B is an integral part of the overall small cell project, and it is located in a difficult coverage area near 8th Street. The coverage area consists of a primarily residential neighborhood off of Jefferson Street, 7th Street, 6th Street, Martin Luther King Jr Way, 8th Street, and surrounding areas. Node 00018B will cover transient traffic along the roadways and provide in-building service to the surrounding residences as depicted in the propagation maps, which are exhibits to the attached Radio Frequency Statement.

Based on ExteNet's analysis of alternative sites the currently proposed Node 00018B is the least intrusive means to close Verizon's significant service coverage gap in the area. Node 00018B best uses existing utility infrastructure, adding small equipment without disturbing the character of the neighborhoods served. Deploying a small cell node at an existing pole location minimizes any visual impact by utilizing an inconspicuous spot. By installing antennas and equipment at this existing pole location, Verizon does not need to propose any new infrastructure in this coverage area.

The small cell node RF emissions are also much lower than the typical macro site, they are appropriate for the area, and they are fully compliant with the FCC's requirements for limiting human exposure to radio frequency energy. The attached radio frequency engineering analysis provided by Hammett & Edison, Inc., Consulting Engineers, confirms that the proposed equipment will operate well within (and actually far below) all applicable FCC public exposure limits. The facility will also comply with California Public Utility Commission (CPUC) General Orders 95 (concerning overhead line design, construction and maintenance) and 170 (CEQA review) that govern utility use in the public right-of-way.

This proposed redesign is a viable design developed according to our discussions with the Planning Department. As discussed with City Planning, Node 00018B is the least intrusive option. Also the proposed location is a good coverage option because it sits at a spot from which point Verizon can adequately propagate its wireless signal.

ExteNet considered alternative sites on other utility poles in this area but none of these sites is as desirable from construction, coverage or aesthetics perspectives. The proposed location is approximately equidistant from other small cell nodes that ExteNet plans to place in surrounding hard-to-reach areas, so that service coverage can be evenly distributed. The proposed facility is not in the path of any protected view sheds. The other utility poles in the area are more conspicuous than the proposed pole. In addition to the utility pole proposed to host Node 00018B, ExteNet considered alternative sites set forth in the attached Alternative Site Analysis.

Alternative designs were considered including placing equipment inside of a ground-mounted cabinet. However, the pole-mounted equipment would better suit the area because it would blend in with the pole. We also evaluated whether equipment could be undergrounded but unfortunately this is not possible because there is insufficient right-of-way space for the necessary equipment access and the equipment would be compromised from saturation by rainwater. The antennas cannot be undergrounded because they rely on a line-of-site in order to properly transmit a signal.

Drawings, propagation maps, photographic simulations, and a radio-frequency engineering analysis are included with this packet.

As this application seeks authority to install a wireless telecommunication facility, the FCC's Shot Clock Order² requires the city to issue its final decision on ExteNet's application within 150 days. We respectfully request expedited review and approval of this application. Feel free to contact me if you have any questions. Thank you.

Thank you.

Best Regards,

Ana Gomez/BV for ExteNet

Ana Gomez

Permitting Agent for ExteNet Systems

² See Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B), WT Docket No. 08-165, Declaratory Ruling, 24 F.C.C.R. 13994 (2009).

**ExteNet Systems CA, LLC • Proposed Small Cell (Node No. 00018B)
707 Jefferson Street • Oakland, California**

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of ExteNet Systems CA, LLC, a wireless telecommunications facilities provider, to evaluate the addition of Node No. 00018B to be added to the ExteNet small cell network in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

ExteNet proposes to install a cylindrical antenna on top of a utility pole sited in the public right-of-way at 707 Jefferson Street in Oakland. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

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

<u>Wireless Service</u>	<u>Frequency Band</u>	<u>Occupational Limit</u>	<u>Public Limit</u>
Microwave (Point-to-Point)	5,000–80,000 MHz	5.00 mW/cm ²	1.00 mW/cm ²
BRS (Broadband Radio)	2,600	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.35	0.47
[most restrictive frequency range]	30–300	1.00	0.20

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

General Facility Requirements

Wireless nodes typically consist of two distinct parts: the electronic transceivers (also called “radios” or “channels”) that are connected to a central “hub” (which in turn are connected to the traditional wired telephone lines), and the passive antenna(s) that send the wireless signals created by the radios out to be received by individual subscriber units. The radios are often located on the same pole as the

**ExteNet Systems CA, LLC • Proposed Small Cell (Node No. 00018B)
707 Jefferson Street • Oakland, California**

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

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 attached 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 ExteNet, including drawings by Black & Veatch Corporation, dated May 10, 2017, it is proposed to install one Amphenol Model CUUT070X12F00 4-foot tall, tri-directional cylindrical antenna, with three directions activated, on top of a utility pole sited in the public right-of-way in front of the three-story building located at 707 Jefferson Street in Oakland. The antenna would employ no downtilt, would be mounted at an effective height of about 44½ feet above ground, and would have its principal directions oriented toward 30°T, 150°T, and 270°T. Verizon proposes to operate from this facility with a maximum effective radiated power in any direction of 2,590 watts, representing simultaneous operation at 1,250 watts for AWS, 1,130 watts for PCS, and 210 watts for 700 MHz service. There are reported no other wireless telecommunications base stations at this site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation is calculated to be 0.00032 mW/cm², which is 0.39% of the applicable public exposure limit. The maximum calculated level at any nearby building is 5.3% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

**ExteNet Systems CA, LLC • Proposed Small Cell (Node No. 00018B)
707 Jefferson Street • Oakland, California**

Recommended Mitigation Measures

Due to its mounting location and height, the ExteNet antenna would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training be provided to all authorized personnel who have access to the antenna, including employees and contractors of the utility companies. No access within 9 feet directly in front of the antenna itself, such as might occur during certain maintenance activities, should be allowed while the node is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. Posting explanatory signs* on the pole at or below the antenna, such that the signs would be readily visible from any angle of approach to persons who might need to work within that distance, would be sufficient to meet FCC-adopted guidelines.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the node proposed by ExteNet Systems CA, LLC, at 707 Jefferson Street 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 small cells. Training personnel and posting signs is recommended to establish compliance with occupational exposure limitations.

* Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (e.g., a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required. Signage may also need to comply with the requirements of California Public Utilities Commission General Order No. 95.

ExteNet Systems CA, LLC • Proposed Small Cell (Node No. 00018B)
707 Jefferson Street • Oakland, California

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-21306, which expires on September 30, 2017. 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.

June 23, 2017



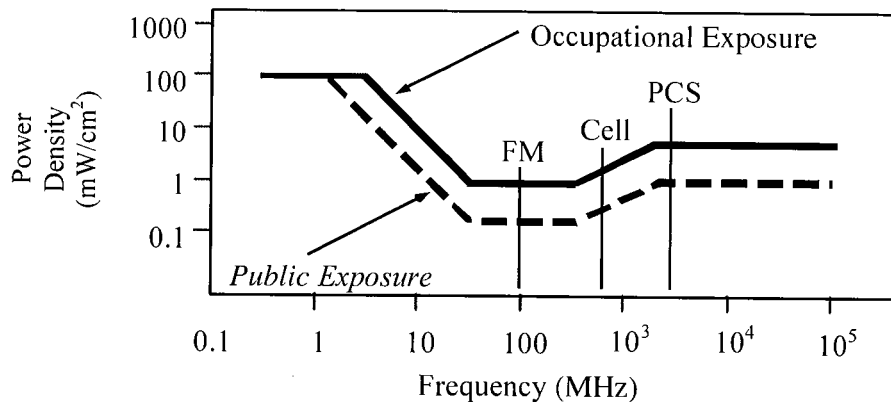
Neil J. Olij, P.E.
707/996-5200

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 the antenna, in degrees, and

P_{net} = net power input to the antenna, in watts,

D = distance from antenna, in meters,

h = aperture height of the antenna, in meters, and

η = aperture efficiency (unitless, typically 0.5-0.8).

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

Far Field.

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

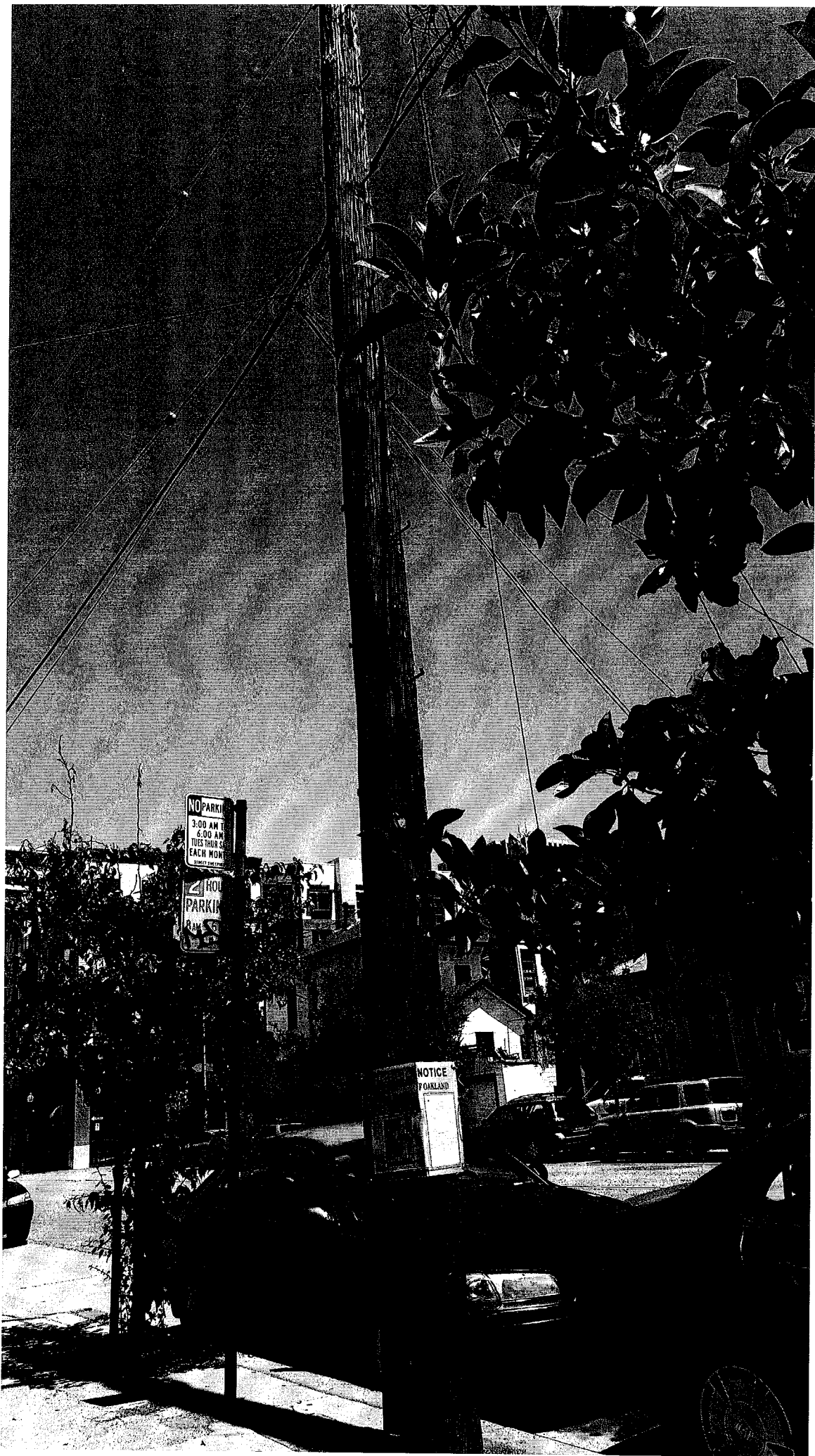
power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm²,

where ERP = total ERP (all polarizations), in kilowatts,

RFF = relative field factor at the direction to the actual point of calculation, and

D = distance from the center of radiation to the 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 has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.



NO PARKING
3:00 AM TO
6:00 AM
TUES THUR &
EACH MON
MAY 1978

24 HOUR
PARKING
MAY 1978

NOTICE
OAKLAND

NOTICE OF CITY OF OAKLAND



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

Location:	Wooden Utility JPA pole in public right-of-way adjacent to 707 Jefferson Street
Assessor's Parcel Number(s):	Adjacent to: 061-0211-014-00
Proposal:	To establish a new "small cell site" micro telecommunications facility, in order to enhance existing services, by attaching an antenna and equipment to an existing 40-foot wooden utility pole located in the sidewalk; the antenna would be attached to the top within a stroud at up to 46'-5" and equipment at approximately 7'-4" to 15'-8"
Applicant / Phone Number:	Ava Gomez/Black & Veatch & Estinet (for Verizon) (913) 458-9148
Owner:	City of Oakland
Case File Number:	PLAN17228
Planning Permits Required:	Regular Design Review with additional findings for Micro Telecommunications Facility
General Plan:	Central Business District
Zoning:	Central Business District Residential Zone (CBD-R)
Environmental Determination:	Exempt, Section 15301 of the State CEQA Guidelines; Existing Facilities; Exempt, Section 15302; Replacement or Reconstruction; Exempt, Section 15303; New Construction of Small Structures; Section 15183; Projects Consistent with a Community Plan, General Plan or Zoning
Historic Status:	Non-historic property
City Council District:	3
Date Filed:	June 7, 2017
Action to be Taken:	Decision based on staff report
Finality of Decision:	Appealable to City Council
For Further Information:	Contact case planner Marilu Garcia at (910) 238-5217 or by email at mgarcia2@oaklandnet.com

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 August 2, 2017, at Oakland City Hall, Council Chambers, 1 Frank H. Ogawa Plaza, Oakland, California 94612. The public hearing will start at 6:00 PM.

If you challenge the Planning Commission decision on appeal under its charter, you will be limited to issues raised at the public hearing or its correspondence delivered to the Bureau of Planning, at or prior to the public hearing on that date. If you wish to be notified of the decision of any of these actions, please provide the contact information 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 each description may change prior to a decision being made. Project design issues, such as a decision is required by the Planning Commission on these cases, they are reportable to the City Council. Such reports must be filed in Oakland City Hall, 1500 Webster Street at the end of the day of the Planning Commission meeting held by 4:00 PM. An appeal shall be on a form provided by the Bureau of Planning, and submitted to the Bureau of Planning, 250 Frank H. Ogawa Plaza, Suite 2114, at the attention of the Case Planner. The appeal shall state specifically whether it is a request for a variance or other relief from the City of Oakland or whether the decision is not supported by substantial evidence and must include a written statement 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 shall state 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 and will result in denial of the appeal.

POSTING DATE: July 14, 2017

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