Location:	**The public Right of Way in front of 2133 90th Avenue on a PG&E Utility /Telephone Pole (See map on reverse)**
Assessor Parcel Numbers:	**(043-4598-001-02) nearest lot adjacent to the project site.**
Proposal:	Installation of a wireless telecommunication facility on an existing 25' tall wooden utility pole located in the public right-of-way. The project involves a 6' pole top bayonet extension to the existing utility pole for the installation of one (1) canister antenna (23.5" long and 7.9" in diameter) at a height of 18' and two radio units (7.9" tall and 7.9" wide) 10'-6" and 13'-11" above ground.
Applicant:	Black & Veatch for Extenet Systems
Contact Person/ Phone Number:	Ana Gomez of Black & Veatch (913)458-9148
Owner:	Pacific Gas & Electric (PG&E)
Case File Number:	**PLN16316**
Planning Permits Required:	Regular Design Review (non-residential) to install a wireless Macro Telecommunications Facility (17.136.050 (B)(2); Additional Findings for a Macro Facility (OMC Sec. 17.128.070(B)(C).
General Plan:	Urban Residential
Zoning:	CN-4 Neighborhood Center Commercial 4 Zone
Environmental Determination:	Exempt, Section Exempt, Section 15301 of the State CEQA Guidelines; minor additions and alterations to an existing PG&E utility pole; Section 15303, new construction or conversion of small structures; Section 15183, projects consistent with a community plan, general plan or zoning.
Historic Status:	No Historic Record – Utility Pole
City Council District:	7
Date Filed:	October 14, 2016
Finality of Decision:	Appealable to City Council within 10 Days
For Further Information:	Contact case planner Jose M. Herrera-Preza at **(510) 238-3808** or jherrera@oaklandnet.com

SUMMARY

The project applicant (Extenet Systems) is proposing to install a wireless telecommunication facility on an existing 25' tall wooden PG&E utility pole located in the public right-of-way adjacent to 2133 90th Avenue. The project involves installation of one (1) canister antenna located within antenna shroud at 18' above the right-of-way and two radio units (7.9" tall and 7.9" wide) mounted at a height of 10'-6" and 13'-11" above ground.

A Major Design Review is required for the installation of a new Macro Telecommunications Facility within 100' of a residential zone. The proposed antenna and associated equipment are compatible with the existing PG&E utility pole and typical of utility infrastructure normally found on these poles. The proposed antenna will be extended toward the street and painted a gray

CITY OF OAKLAND PLANNING COMMISSION

Case File: PLN16316
Applicant: ExteNet Systems (California) LLC, c/o Matthew Yergovich
Address: The Public Right-of-Way adjacent to 2133 90th Avenue
Zone: CN-4

or brown color to blend with the site. As result, the proposed telecommunication facility is in an appropriate location and would not significantly increase negative visual impacts to adjacent neighboring residential properties. The proposed project meets all the required findings for approval of this project.

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

PROPERTY DESCRIPTION

The property is located at the northeast corner of Bancroft Ave and 90th Ave adjacent to a unimproved commercially zoned parcel. The existing 25' PG&E utility pole is in the public right -of-way on 90th Avenue adjacent to an open surface parking lot serving as customer parking for the "Rowaid Market".

PROJECT DESCRIPTION

The applicant is proposing the following (Attachment A):

The applicant is proposing to install a telecommunication facility onto an existing PG&E utility pole located within in the public right-of-way (Attachment A). The project involves:

- Installation of one canister antenna measuring 23.5" long and 7.9" in diameter at a height of 18' above the right-of-way.
- Installation of two radio units (7.9" tall and 7.9" wide) mounted 10'-6" and 13'-11" above ground.
- Installation of a breaker box and smart meter mounted to the pole 8' above ground.
- Painting the proposed antennas and associated equipment grey or brown to match the pole and/or other utilities located on the pole.

No portion of the telecommunication facilities will be located on the ground. The proposed antenna and associated equipment will not be accessible to the public.

GENERAL PLAN ANALYSIS

The site is classified Urban Residential per the Oakland General Plan's Land Use and Transportation Element (LUTE). This classification is intended is to create, maintain, and enhance areas of the City that are appropriate for multi-unit, mid-rise or high-rise residential structures in locations with good access to transportation and other services. The proposed unmanned wireless telecommunication facility, mounted on a replaced utility pole, will not adversely affect and detract from the characteristics of the neighborhood.

ZONING ANALYSIS

The proposed telecommunication facility is located within the CN-4 Neighborhood Center Commercial 4 Zone. The intent of the CN-4 Zone is to accommodate a broad range of low impact, retail and service uses in small commercial districts, often near lower density residential neighborhoods.

Section 17.136.040 and 17.128.070 of the City of Oakland Planning Code requires a Major Design Review permit for Macro Telecommunication facilities that are attached to utility poles in the CN-4 Zone if the site is located within one hundred (100) feet of the boundary of any residential zone. Special findings are also required for Design Review approval to ensure that the facility is concealed to the greatest extent possible. The project design is discussed later in the Key Issues section of this report and the required findings for Major Design Review are listed and included in staff's evaluation later in this report.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines lists the projects that qualify as categorical exemptions from environmental review. The proposed project is categorically exempt from the environmental review requirements pursuant to Section 15301; minor additions and alterations to an existing PG&E utility pole; Section 15303, new construction or conversion of small structures, and Section 15183, projects consistent with a community plan, general plan or zoning.

KEY ISSUES AND IMPACTS

Project Site

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

A. Co-located on an existing structure or facility with existing wireless antennas.
B. City owned properties or other public or quasi-public facilities.
C. Existing commercial or industrial structures in non-residential zones (excluding all HBX Zones and the D-CE3 and D-C-4 Zones).
D. Existing commercial or industrial structures in residential zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.
E. Other non-residential uses in residential zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.
F. Residential uses in non-residential zones (excluding all HBX Zones and the D-CE-3 and D-CE-4 Zones).
G. Residential uses in residential zones, HBX Zones, or the D-CE-3 or D-CE-4 Zones.

Facilities sited on an A, B or C ranked preferences do not require a site alternatives analysis. Since the proposed project involves the replacement of the utility pole and installation of new antenna and radio units within since the site is within 100' of a RU-2 zone, the proposed project

meets preferences B, and a site alternatives analysis is not required. However, the applicant has provided site alternatives analysis (Attachment B).

Alternative Site Analysis:

The project is located in an area with existing residential structures. Extenet Systems considered alternative sites on other utility poles in this area but none of these sites are as desirable from a service coverage perspective or from an aesthetics perspective to minimize visual impacts. The proposed project is in an underserved area and is approximately equidistant from other Distributed Antenna Systems (DAS) nodes proposed in the surrounding area so that service coverage can be evenly distributed.

Staff has reviewed the applicant's alternative sites analysis and determined that the site selected conforms to the telecommunication regulation requirements. In addition, staff agrees that no other sites are more suitable.

Project Design

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

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

Facilities designed to meet an A and 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. The site design alternatives analysis shall, at a minimum, consist of:

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

Since the proposed project does not meet preference A and B, a site design alternatives analysis is required.

Alternative Design Analysis:

Extenet System submitted an alternative design analysis. The analysis evaluated whether the equipment could be placed undergroubd and concealed from view. Unfortunately, this is not possible because there is insufficient right-of-way space for the necessary equipment access and the equipment may be compromised by water intrusion due to a lack of efficient drainage measures. The proposed design is a good option because the facility is located where a signal can be adequately propagated without obstruction, which could not have been the case if the antenna were located on a building and concealed.

Planning staff has reviewed the applicant's written evidence of alternative design analysis and determined that the site selected conforms to the telecommunication regulation requirements. Specifically, given the flat topography, streamlined equipment design, and location of the existing pole located on the corner near the intersection of two arterial streets, the facility will blend in with the existing over-head utilities on the existing wooden pole. In addition, the proposed new antenna is located within a shroud screening. Both the antenna and the radio units will be attached above head height, 10'- 18' above the ground. Finally, the shroud and radio units will be painted gray to match the other utilities or brown to match the pole.

Project Radio Frequency Emissions Standards

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

a. The telecommunications regulations require that the applicant submit written documentation demonstrating that the emission from the proposed project are within the limits set by the Federal Communications Commission.

b. 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.

In the analysis prepared by Hammett & Edison, Inc. (Attachment C), the proposed project was evaluated for compliance with appropriate guidelines limiting human exposure to radio frequency electromagnetic fields. According to the report, the project will comply with the prevailing standards for limiting public exposure to radio frequency energy, and therefore, the proposed site will operate within the current acceptable thresholds as established by the Federal government or any such agency that may be subsequently authorized to establish such standards. The RF emissions report, states that the proposed project will not cause a significant impact on the environment. Additionally, staff recommends that, prior to the final building permit sign off, the applicant submit a certified RF emissions report stating that the facility is operating within acceptable thresholds established by the regulatory federal agency.

CONCLUSION

The proposed project meets all of the required findings for approval. The proposal will provide an essential telecommunication service to the community and the City of Oakland at large. It will also be available to emergency services such as police, fire department and emergency response teams. Staff believes that the proposal is designed to meet the established zoning and telecommunication regulations and recommends supporting the Major Design Review application.

RECOMMENDATIONS:

1. Affirm staff's environmental determination
2. Approve Design Review application, subject to the attached findings and conditions of approval.

Prepared by:

Jose M. Herrera-Preza
Planner II

Reviewed by:

Scott Miller
Zoning Manager

Approved for forwarding to the
City Planning Commission

Darin Ranelletti, Interim Director
Planning and Building Department

ATTACHMENTS:

A. Project Plans & Photo simulations
B. Site & Design Alternative Analysis
C. Hammett & Edison, Inc., Consulting Engineering RF Emissions Report

FINDINGS FOR APPROVAL

FINDINGS FOR APPROVAL:
This proposal meets all the required findings under Section 17.136.050.(B), of the Non-Residential Design Review criteria and all the required findings under Section 17.128.070(B), of the telecommunication facilities (Macro) Design Review criteria and as set forth below: Required findings are shown in **bold** type; reasons your proposal satisfies them are shown in normal type.

17.136.050(B) – NONRESIDENTIAL DESIGN REVIEW CRITERIA:

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

The proposal is to install one telecommunication canister antenna on an existing wooden, PG&E utility pole 18' above ground with the associated equipment mounted to the pole at 10'-6" and 13'-11" high and above (breaker box and smart meter). Given the flat topography, slim equipment design, and proposal to paint the equipment, the facility will blend in with existing over-head utility lines, and be typical of, utility apparatus already located on the pole. In addition, the facility is located approximately adjacent to commercially zoned open surface parking near the intersection of two arterial streets. Finally, the proposed antennas and radio units will be located high up on the pole and oriented toward the street. Therefore, the proposal will have minimal visual impacts from public views.

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

The proposal improves wireless telecommunication service in the residential area. The facility will be camouflaged by the slim antenna canister and painted gray or brown color to blend in with the existing surrounding area and have minimal visual impacts on public views and protect the value of private and public investments in the area. Service will also be available to emergency services such as police, fire department and emergency response teams.

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

The site is classified as Urban Residential per the Oakland General Plan's Land Use and Transportation Element (LUTE). This classification is intended to create, maintain, and enhance areas of the City that are appropriate for multi-unit, mid-rise or high-rise residential structures in locations with good access to transportation and other services.

Section 17.128.120 of the City of Oakland Telecommunications Regulations describes the design criteria for wireless facilities. In general, these facilities should either be concealed from view or not visible from the public right of way. Since the project did not meet either ranked criteria, but did meet criteria C as described also in 17.128.120, an alternative site design study needed to be undertaken. The proposed antenna and associated related equipment are compatible with and typical of utility equipment on these poles, the proposed antenna will be extended toward street and painted to match either the pole or utilities. As result, the proposal is consistent telecommunication regulation requirements, in an appropriate location, and of an appropriate design that would not significantly increase negative visual impacts to adjacent neighboring residential properties

17.128.070(B) DESIGN REVIEW CRITERIA FOR MACRO FACILITIES

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

The proposed antenna and related equipment will be painted gray or brown to match the PG&E utility pole and blend with the surroundings.

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

The proposed antenna and equipment will not be mounted onto an architecturally significant structure but onto a replaced wooden utility pole similar to other poles in the City and block.

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

The proposed antennas will be placed above, and vertically in line with, the proposed utility pole and painted to match pole or utility equipment to blend with the surroundings.

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

The proposed antenna will be mounted on an existing PG&E utility pole and painted gray or brown to match the utility pole. As a result, the facility will be camouflaged to blend-in with existing surrounding area. The facility will also be located approximately 10'-6" and 13'-11" above ground and head height to minimize visual impacts.

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

The proposed equipment will be compatible with the existing PG&E pole and other utility equipment located on the pole.

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

N/A

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

The one telecommunication canister antenna will placed within an antenna shroud mounted on an existing, wooden, PG&E utility pole 18' above ground. The radio units will be located approximately 10'-6" and 13'-11" above ground, while the equipment above the breaker box and smart meter will be located 8' above the ground. None of the equipment will be accessible to the public due to its location.

STANDARD CONDITIONS:

1. Approved Use

The project shall be constructed and operated in accordance with the authorized use as described in the approved application materials, and the approved plans dated **September 27, 2016** and submitted on **October 14, 2016** as amended by the following conditions of approval and mitigation measures, if applicable ("Conditions of Approval" or "Conditions").

2. Effective Date, Expiration, Extensions and Extinguishment

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

3. Compliance with Other Requirements

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

4. Minor and Major Changes

a. Minor changes to the approved project, plans, Conditions, facilities, or use may be approved administratively by the Director of City Planning

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

5. Compliance with Conditions of Approval

a. The project applicant and property owner, including successors, (collectively referred to hereafter as the "project applicant" or "applicant") shall be responsible for compliance with all the Conditions of Approval and any recommendations contained in any submitted and

approved technical report at his/her sole cost and expense, subject to review and approval by the City of Oakland.

b. The City of Oakland reserves the right at any time during construction to require certification by a licensed professional at the project applicant's expense that the as-built project conforms to all applicable requirements, including but not limited to, approved maximum heights and minimum setbacks. Failure to construct the project in accordance with the Approval may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension, or other corrective action.

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

6. Signed Copy of the Approval/Conditions

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

7. Blight/Nuisances

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

8. Indemnification

a. To the maximum extent permitted by law, the project applicant shall defend (with counsel acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the Oakland Redevelopment Successor Agency, the Oakland City Planning Commission, and their respective agents, officers, employees, and volunteers (hereafter collectively called "City") from any liability, damages, claim, judgment, loss (direct or indirect), action, causes of action, or proceeding (including legal costs, attorneys' fees, expert witness or consultant fees, City Attorney or staff time, expenses or costs) (collectively called "Action") against the City to attack, set aside, void or annul this Approval or implementation of this Approval. The City may elect, in its sole discretion, to participate in the defense of said Action and the project applicant shall reimburse the City for its reasonable legal costs and attorneys' fees.

b. Within ten (10) calendar days of the filing of any Action as specified in subsection (a) above, the project applicant shall execute a Joint Defense Letter of Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations. These obligations and the Joint Defense Letter of Agreement shall survive termination, extinguishment, or invalidation of the Approval. Failure to timely execute the Letter of

Agreement does not relieve the project applicant of any of the obligations contained in this Condition or other requirements or Conditions of Approval that may be imposed by the City.

9. Severability

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

10. 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 Management

Prior to issuance of a demolition, grading, and/or construction permit

The project applicant may be required to pay for on-call special inspector(s)/inspections as needed during the times of extensive or specialized plan check review, or construction. The project applicant may also be required to cover the full costs of independent technical and other types of peer review, monitoring and inspection, including without limitation, third party plan check fees, including inspections of violations of Conditions of Approval. The project applicant shall establish a deposit with the Building Services Division, as directed by the Building Official, Director of City Planning or designee.

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. Days/Hours of Construction Operation

Ongoing throughout demolition, grading, and/or construction

The project applicant shall require construction contractors to limit standard construction activities as follows:

a) Construction activities are limited to between 7:00 AM and 7:00 PM Monday through Friday, except that pile driving 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. Monday through Friday.
b) Any construction activity proposed to occur outside of the standard hours of 7:00 am to 7:00 pm Monday through Friday for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the

overall duration of construction is shortened and such construction activities shall only be allowed with the prior written authorization of the Building Services Division.

c) Construction activity shall not occur on Saturdays, with the following possible exceptions:
   i. Prior to the building being enclosed, requests for Saturday construction for special activities (such as concrete pouring which may require more continuous amounts of time), shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened. Such construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division.
   ii. After the building is enclosed, requests for Saturday construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.
d) No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.
e) No construction activity shall take place on Sundays or Federal holidays.
f) 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.

14. Radio Frequency Emissions

Prior to the final building permit sign off.

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

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 utility pole and attached power line posts.

When Required: Prior to a final inspection

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

16. Operational

Ongoing.

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.

17. Possible District Undergrounding PG&E Pole

Ongoing

Should the PG &E utility pole be voluntarily removed for purposes of district undergrounding or otherwise, the telecommunications facility can only be re-established by

applying for and receiving approval of a new application to the Oakland Planning Department as required by the regulations.

Applicant Statement

I have read and accept responsibility for the Conditions of Approval. I agree to abide by and conform to the Conditions of Approval, as well as to all provisions of the Oakland Planning Code and Oakland Municipal Code pertaining to the project.

_____
Name of Project Applicant

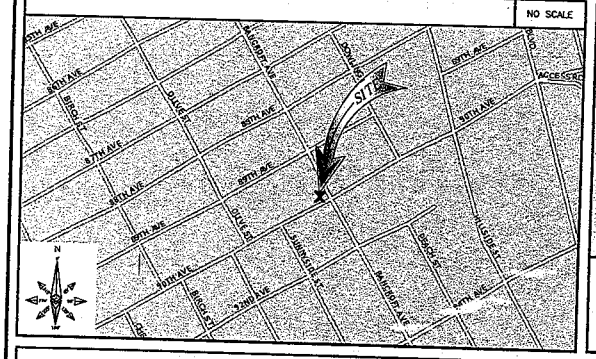
_____ _____

Signature of Project Applicant Date

NW-CA-SANFRNMC
06292B

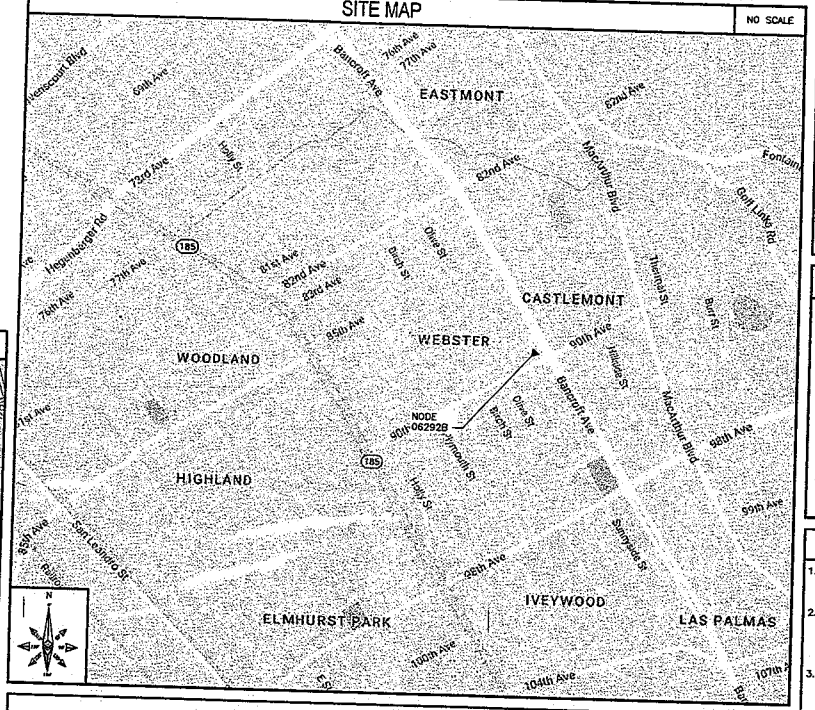
ADJACENT TO (IN PROW)
2133 90TH AVENUE
OAKLAND, CA 94603

NO SCALE



SITE MAP

NO SCALE



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 GOVERNING AUTHORITIES (AS APPLICABLE). NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1: IBC – 2012
2: CALIFORNIA BUILDING STANDARDS CODE – 2013
3: CALIFORNIA GENERAL ORDER 95
4: CALIFORNIA MECHANICAL CODE 2013
5: CALIFORNIA PLUMBING CODE 2013
6: CALIFORNIA ELECTRICAL CODE 2013
7: CITY AND/OR COUNTY ORDINANCES
8: 2012 INTERNATIONAL FIRE CODE
9: BUILDING OFFICIALS AND CODE ADMINISTRATORS (BOCA)
*EFFECTIVE UNTIL JANUARY 1ST, 2017

PROJECT DESCRIPTION

THESE DRAWINGS DEPICT THE INSTALLATION OF A WIRELESS TELECOMMUNICATIONS NODE IN THE PUBLIC RIGHT OF WAY.

HARDWARE AND ANCILLARY 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 DIMENSIONS OF THE JOB SITE AND CONFIRM THAT WORK AS INDICATED ON THESE CONSTRUCTION DOCUMENTS CAN BE ACCOMPLISHED AS 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 MANUFACTURER'S RECOMMENDATIONS, UNLESS INDICATED OTHERWISE.
5. NOTIFY EXTENET SYSTEMS, IN WRITING, OF ANY MAJOR DISCREPANCIES REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS, AND DESIGN INTENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATIONS FROM AN EXTENET SYSTEMS REPRESENTATIVE, AND ADJUSTING THE BID ACCORDINGLY.
6. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF THE WORK UNDER THE CONTRACT.
7. CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS AND FINISHES THAT ARE TO REMAIN. CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY OCCUR DURING THE CONSTRUCTION TO THE SATISFACTION OF AN EXTENET SYSTEMS REPRESENTATIVE.
8. CONTRACTOR PLANS TO ILLUSTRATE THE AS-BUILT CONDITION OF THE SITE. FOLLOWING THE FINAL INSPECTION BY EXTENET OR TMOBILE, THE CONTRACTOR SHALL PROVIDE EXTENET SYSTEMS WITH ONE COPY OF ALL RED-LINED DRAWINGS.
9. VERIFY ALL FINAL EQUIPMENT WITH AN EXTENET SYSTEMS REPRESENTATIVE. ALL EQUIPMENT LAYOUT, SPECS, PERFORMANCE INSTALLATION AND THEIR FINAL LOCATION ARE TO BE APPROVED BY EXTENET SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS/HER WORK WITH THE WORK AND CLEARANCES REQUIRED BY OTHERS RELATED TO SAID INSTALLATIONS.

SHEET INDEX

Attachment A

IF USING 11"X17" PLOT, DRAWINGS WILL BE HALF SCALE

SUBCONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME

PROJECT INFORMATION

POLE OWNER

OWNER: EXTENET SYSTEMS CA, LLC

ADDRESS: 2000 CROW CANYON PL SUITE 210, SAN RAMON, CA 94583

PHONE: –

APPLICANT

COMPANY: EXTENET SYSTEMS (CALIFORNIA), LLC.

CONTACT: MATTHEW YERGOVICH

ADDRESS: 2000 CROW CANYON PLACE, SUITE 210 SAN RAMON, CA 94583

PHONE: (415) 596-3474

E-MAIL: MYERGOVICH@EXTENETSYSTEMS.COM

AGENT

COMPANY: BLACK & VEATCH

CONTACT: ANA GOMEZ

ADDRESS: 2999 OAK ROAD, SUITE 490 WALNUT CREEK, CA 94597

PHONE: (913) 458-9148

E-MAIL: GOMEZABARCAA@BV.COM

ENGINEER

COMPANY: BLACK & VEATCH

ENGINEER: AARON EVANS

PHONE: (952) 896-0751

E-MAIL: EVANSRA@BV.COM

PROJECT DATA

LATITUDE:	37.753596°
LONGITUDE:	-122.165990°
POLE #:	110148277
ELEVATION:	NA
ZONING JURISDICTION:	CITY OF OAKLAND
ZONING DISTRICT:	CN-4
A.P.N.:	43-4598-1-2
OCCUPANCY:	U, UNMANNED
CONSTRUCTION TYPE:	ATTACHMENTS TO A WOOD UTILITY POLE
TITLE 24 REQUIREMENTS:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. THIS PROJECT IS EXEMPT.

UNDERGROUND SERVICE ALERT
UTILITIES PROTECTION CENTER, INC.
811
48 HOURS BEFORE YOU DIG

extenet SYSTEMS mConnectivity Everywhere

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

BLACK & VEATCH

BLACK & VEATCH CORPORATION
2999 OAK ROAD
SUITE 490
WALNUT CREEK, CA 94597

PROJECT NO.	DRAWN BY	CHECKED BY
192417.4601	AKJ	GAC

REV	DATE	DESCRIPTION
D	09/27/16	CLIENT COMMENTS
C	09/13/16	CLIENT COMMENTS
B	09/10/16	ISSUED FOR REVIEW
A	09/12/16	ISSUED FOR REVIEW

PRELIMINARY

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

SITE ADDRESS
ADJACENT TO (IN PROW)
2133 90TH AVENUE
OAKLAND, CA 94603

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES

1. THESE NOTES SHALL BE CONSIDERED A PART OF THE WRITTEN SPECIFICATIONS, CONTRACT AND CONSTRUCTION DOCUMENTS.
2. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THESE PLANS AND IN THE CONTRACT DOCUMENTS.
3. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTOR(S) SHALL VISIT THE JOB SITE(S) AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRM THAT THE WORK MAY BE ACCOMPLISHED PER THE CONTRACT DOCUMENTS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER PRIOR TO BID SUBMITTAL.
4. THE CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED ON ANY WORK NOT CLEARLY DEFINED OR IDENTIFIED IN THE CONTRACT AND CONSTRUCTION DOCUMENTS BEFORE STARTING ANY WORK.
5. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES, INCLUDING APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. IF THESE RECOMMENDATIONS ARE IN CONFLICT WITH THE CONTRACT AND CONSTRUCTION DOCUMENTS AND/OR APPLICABLE CODES OR REGULATIONS, REVIEW AND RESOLVE THE CONFLICT WITH DIRECTION FROM THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER PRIOR TO PROCEEDING.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATION OF ALL PORTIONS OF THE WORK UNDER THE CONTRACT INCLUDING CONTACT AND COORDINATION WITH THE IMPLEMENTATION ENGINEER AND WITH THE AUTHORIZED REPRESENTATIVE OF ANY OUTSIDE POLE OR PROPERTY OWNER.
8. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO PAVING, CURBS, VEGETATION, GALVANIZED SURFACE OR OTHER EXISTING ELEMENTS AND UPON COMPLETION OF THE WORK, REPAIR ANY DAMAGE THAT OCCURRED DURING CONSTRUCTION TO THE SATISFACTION OF EXTENET.
9. CONTRACTOR IS TO KEEP THE GENERAL AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. LEAVE PREMISES IN CLEAN CONDITION DAILY.
10. PLANS ARE INTENDED TO BE DIAGRAMMATIC ONLY AND SHOULD NOT BE SCALED UNLESS OTHERWISE NOTED. RELY ONLY ON ANNOTATED DIMENSIONS AND REQUEST INFORMATION IF ADDITIONAL DIMENSIONS ARE REQUIRED.
11. THE EXISTENCE AND LOCATION OF UTILITIES AND OTHER AGENCY'S FACILITIES WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. OTHER FACILITIES MAY EXIST. CONTRACTOR SHALL VERIFY LOCATIONS PRIOR TO START OF CONSTRUCTION AND USE EXTREME CARE AND PROTECTIVE MEASURES TO PREVENT DAMAGE TO THESE FACILITIES. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF UTILITIES OR OTHER AGENCY'S FACILITIES WITHIN THE LIMITS OF THE WORK, WHETHER THEY ARE IDENTIFIED IN THE CONTRACT DOCUMENTS OR NOT.
12. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (800) 227-2600, AT LEAST TWO WORKING DAYS PRIOR TO THE START OF ANY EXCAVATION.

DEFINITIONS

1. "TYPICAL" OR "TYP" MEANS THAT THIS ITEM IS SUBSTANTIALLY THE SAME ACROSS SIMILAR CONDITIONS. "TYP." SHALL BE UNDERSTOOD TO MEAN "TYPICAL WHERE OCCURS" AND SHALL NOT BE CONSIDERED AS WITHOUT EXCEPTION OR CONSIDERATION OF SPECIFIC CONDITIONS.
2. "SIMILAR" MEANS COMPARABLE TO CHARACTERISTICS FOR THE CONDITION NOTED. VERIFY DIMENSIONS AND ORIENTATION ON PLAN.
3. "AS REQUIRED" MEANS AS REQUIRED BY REGULATORY REQUIREMENTS, BY REFERENCED STANDARDS, BY EXISTING CONDITIONS, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICE, OR BY THE CONTRACT DOCUMENTS.
4. "ALIGN" MEANS ACCURATELY LOCATE FINISH FACES OF MATERIALS IN THE SAME PLANE.
5. THE TERM "VERIFY" OR "V.I.F." SHALL BE UNDERSTOOD TO MEAN "VERIFY IN FIELD WITH ENGINEER" AND REQUIRES THAT THE CONTRACTOR CONFIRM INTENTION REGARDING NOTED CONDITION AND PROCEED ONLY AFTER RECEIVING DIRECTION.
6. WHERE THE WORDS "OR EQUAL" OR WORDS OF SIMILAR INTENT FOLLOW A MATERIAL SPECIFICATION, THEY SHALL BE UNDERSTOOD TO REQUIRE SIGNED APPROVAL OF ANY DEVIATION TO SAID SPECIFICATION PRIOR TO CONTRACTOR'S ORDERING OR INSTALLATION OF SUCH PROPOSED EQUAL PRODUCT.
7. FURNISH : SUPPLY ONLY, OTHERS TO INSTALL. INSTALL: INSTALL ITEMS FURNISHED BY OTHERS. PROVIDE: FURNISH AND INSTALL.

FIELD WELDING NOTES:

1. WELDING TO BE PERFORMED BY AWS CERTIFIED WELDER FOR THE TYPE OF AND POSITION INDICATED. ALL WORK MUST BE IN CONFORMANCE WITH LATEST EDITION OF AWS D1.1.
2. GRIND SURFACES TO BE WELDED WITH A SILICON CARBIDE WHEEL PRIOR TO WELDING TO REMOVE ALL GALVANIZING WHICH MAY OTHERWISE BE CONSUMED IN THE WELD METAL. APPLY ANTI-SPATTER COMPOUND AFTER GRINDING.
3. WELDING TECHNIQUE MUST MINIMIZE TEMPERATURE RISE ON THE INSIDE SURFACE OF THE POLE AND ALSO VOLATIZE ANY REMAINING ZINC WITHIN THE BASE METAL WITH MINIMUM SPATTER. USE AN E70 (LOW HYDROGEN) ELECTRODE. USE LARGEST DIAMETER ELECTRODE COMPATIBLE WITH WELDING POSITION AND MATERIAL THICKNESS. STRICTLY FOLLOW ALL MANUFACTURE'S INSTRUCTIONS FOR STORAGE AND USE OF ELECTRODES. AVOID REMOVING ELECTRODES FROM MANUFACTURE'S PACKAGING UNTIL READY FOR IMMEDIATE USE.
4. WELDING MAY PRODUCE TOXIC FUMES. REFER TO ANSI STANDARD Z49.1 "SAFETY IN WELDING AND CUTTING" FOR PROPER PRECAUTIONS.
5. UPON COMPLETION OF WELDING, APPLY GALV-A-STICK ZINC COATING TO ALL UNPROTECTED SURFACES. APPLY A SECOND LAYER OF COLD GALVANIZING SPRAY COMPOUND CONTAINING A MINIMUM ZINC CONTENT OF 95%. IF NECESSARY, APPLY A FINAL COAT OF COMPATIBLE PAINT TO MATCH SURROUNDING SURFACES.

ANTENNA MOUNTING

1. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
2. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
3. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
4. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
5. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
6. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
7. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5% AS DEFINED BY THE RFDS.

TORQUE REQUIREMENTS

1. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
2. ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
   A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.
   B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.
3. ALL 8M ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).
4. ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).
5. ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.
6. ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 - 29.8 NM).
7. ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 - 2.3 NM).

ROW UTILITY POLE CONSTRUCTION NOTES

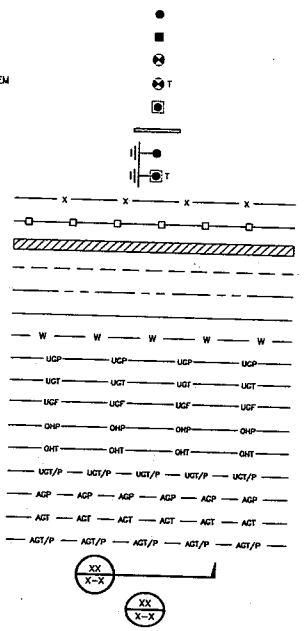
1. NO BOLT THREADS TO PROTRUDE MORE THAN 1-1/2" [.038M].
2. FILL ALL HOLES LEFT IN POLE FROM REARRANGEMENT OF CLIMBERS.
3. ALL CLIMB STEPS NEXT TO CONDUIT SHALL HAVE EXTENDED STEPS.
4. CABLE NOT TO IMPEDE 15" [.381M] CLEAR SPACE OFF POLE FACE (12:00).
5. 90 SHORT SWEEPS UNDER ANTENNA ARM. ALL CABLES MUST ONLY TRANSITION ON THE INSIDE OR BOTTOM OF ARMS (NO CABLE ON TOP OF ARMS).
6. USE 90 CONNECTOR AT CABLE CONNECTION TO ANTENNAS.
7. USE 1/2" [.013M] CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.
8. FILL VOID AROUND CABLES AT CONDUIT OPENING WITH FOAM SEALANT TO PREVENT WATER INTRUSION.

NODE SITE POWER SHUT DOWN PROCEDURES

1. FOR NON EMERGENCY/SCHEDULED POWER SHUT DOWN
   A. CALL EXTENET SYSTEMS NOC (NETWORK OPERATIONS CENTER) (866)892-5327
   B. 24 HOURS PRIOR TO SCHEDULED POWER SHUT OFF
   C. PROVIDE THE FOLLOWING INFORMATION
      - NOC SITE NUMBER IDENTIFIED ON SITE NUMBERING STICKER
      - YOUR NAME AND REASON FOR POWER SHUTOFF
      - PROVIDE DURATION OF OUTAGE
   D. UNLOCK DISCONNECT BOX, FLIP BOTH BREAKERS TO THE OFF POSITION
   E. POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES
   F. NOTIFY EXTENET NOC UPON COMPLETION OF WORK
   G. REINSTALL LOCK ON DISCONNECT BOX
2. EMERGENCY POWER SHUT OFF
   A. CALL EXTENET SYSTEMS NOC (NETWORK OPERATIONS CENTER) (866)892-5327
   B. PROVIDE THE FOLLOWING INFORMATION
      - NOC SITE NUMBER IDENTIFIED ON SITE NUMBERING STICKER
      - YOUR NAME AND REASON FOR POWER SHUTOFF
      - PROVIDE DURATION OF OUTAGE
   D. UNLOCK DISCONNECT BOX, FLIP BOTH BREAKERS TO THE OFF POSITION
   E. POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES
   F. NOTIFY EXTENET NOC UPON COMPLETION OF WORK
   G. REINSTALL LOCK ON DISCONNECT BOX

LEGEND

EXOTHERMIC CONNECTION
MECHANICAL CONNECTION
CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
EXOTHERMIC WITH INSPECTION SLEEVE
GROUNDING BAR
GROUND ROD
TEST GROUND ROD WITH INSPECTION SLEEVE
CHAINLINK FENCE
WOOD/WROUGHT IRON FENCE
WALL STRUCTURE
LEASE AREA
PROPERTY LINE (PL)
SETBACKS
WATER LINE
UNDERGROUND POWER
UNDERGROUND TELCO
UNDERGROUND FIBER
OVERHEAD POWER
OVERHEAD TELCO
UNDERGROUND TELCO/POWER
ABOVE GROUND POWER
ABOVE GROUND TELCO
ABOVE GROUND TELCO/POWER
SECTION REFERENCE
DETAIL REFERENCE



GENERAL NOTES AND LEGENDS

extenet SYSTEMS mConnectivity Everywhere

INTERNAL REVIEW

CONSTRUCTION SIGNATURE DATE

RF SIGNATURE DATE

REAL ESTATE SIGNATURE DATE

BLACK & VEATCH

BLACK & VEATCH CORPORATION
2999 OAK ROAD
SUITE 490
WALNUT CREEK, CA 94597

PROJECT NO.	DRAWN BY	CHECKED BY
192417.4601	AKJ	GAC

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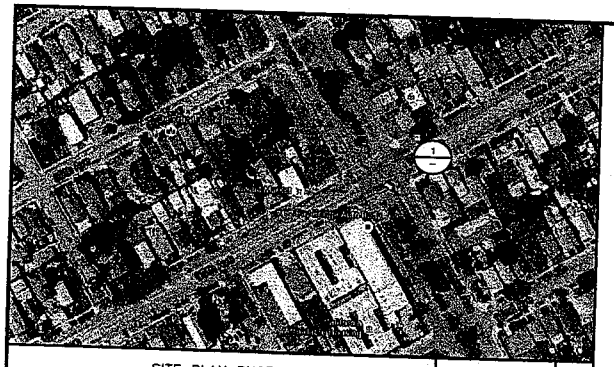
PRELIMINARY

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

SITE ADDRESS
ADJACENT TO (IN PROW)
2133 90TH AVENUE
OAKLAND, CA 94603

SHEET TITLE
GENERAL NOTES AND LEGEND

SHEET NUMBER
GN-1



SITE PLAN PHOTO | NO SCALE | A

THIS DRAWING IS NOT A SITE SURVEY

THE PURPOSE OF THIS DRAWING IS TO SHOW HOW THE DEVELOPED SITE RELATES TO THE PARENT PARCEL AND ADJACENT PROPERTIES. R.O.W. MEASUREMENTS ARE APPROXIMATIONS.

A.P.N. 43-4607-14-3

BANCROFT AVENUE

EXISTING PROPERTY LINE (TYP)

EXISTING PARKING LOT

NODE 062928

EXISTING CENTER LINE OF ROAD (TYP)

A.P.N. 43-4598-1-2

A.P.N. 43-4598-2

A.P.N. 43-4598-3

A 60°

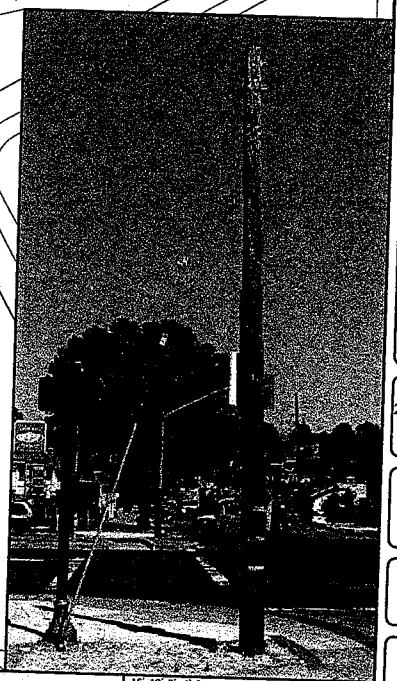
NEAREST EXISTING STRUCTURE (COMMERCIAL BUILDING)

90TH AVENUE

A.P.N. 46-5471-1-2

A.P.N. 46-5471-9-2

N



16' 12' 8' 4' 0 16' 32'

1/16"=1'-0"

A

OVERALL SITE PLAN

extenet mConnectivity Everywhere SYSTEMS

INTERNAL REVIEW	
CONSTRUCTION SIGNATURE	DATE
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OVERALL SITE PLAN

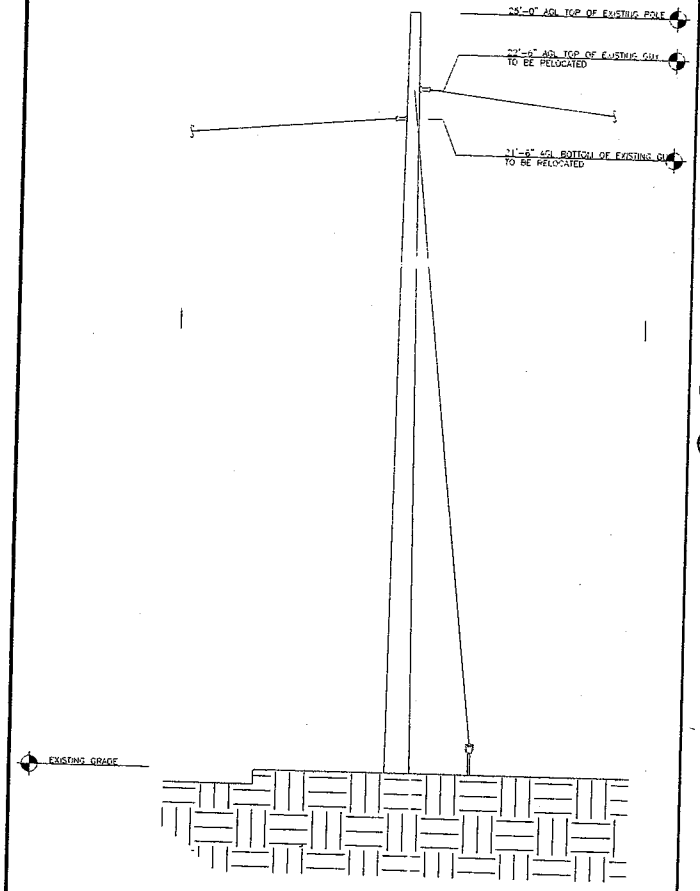
SHEET NUMBER
C-1

NOTE

THESE DRAWINGS HAVE BEEN CREATED BASED ON THE ASSUMPTION THAT THE STRUCTURE HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADING. IT IS THE RESPONSIBILITY OF THE POLE OWNER TO CONFIRM THAT THE PROPOSED LOADING IS WITHIN THE ORIGINAL DESIGN CAPACITY OF THE STRUCTURE.

CARRIER MAKE-READY

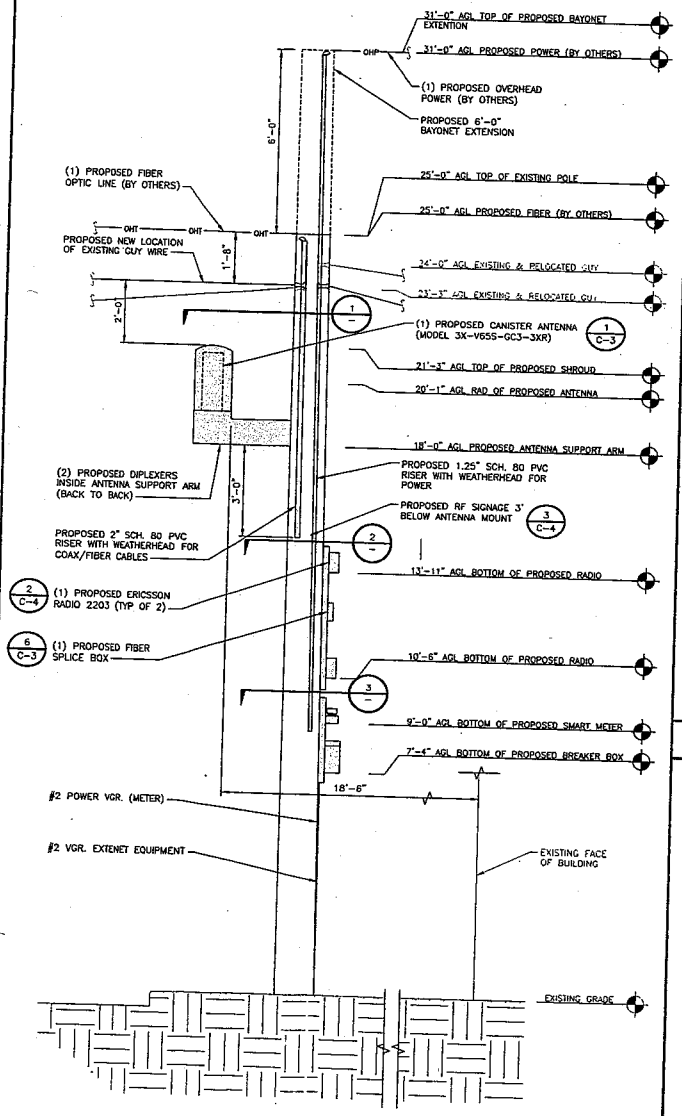
1. CONTRACTOR TO INSTALL CANISTER ANTENNA w/ ANCILLARY ELECTRONICS AND HARDWARE ON PROPOSED ANTENNA SUPPORT ARM.
2. CONTRACTOR TO INSTALL (2) RADIOS w/ ANCILLARY ELECTRONICS AND HARDWARE ON PROPOSED CHANNEL MOUNTS.
3. CONTRACTOR TO INSTALL (1) PROPOSED FIBER OPTIC LINE AT 25'-0".
4. CONTRACTOR TO INSTALL (1) 2" SCH. 80 PVC RISER CONDUIT FOR COAX AND FIBER CABLES.
5. CONTRACTOR TO INSTALL (1) BREAKER BOX/LOAD CENTER ON PROPOSED CHANNEL MOUNTS.
6. CONTRACTOR TO INSTALL (1) PG&E SMART METER.
7. EXTENT APPROVED CONTRACTOR TO INSTALL (1) BAYONET EXTENSION AT 25'-0".
8. EXTENT APPROVED CONTRACTOR TO RELOCATE EXISTING GUY WIRE FROM 21'-6" TO 23'-3".
9. EXTENT APPROVED CONTRACTOR TO RELOCATE EXISTING GUY WIRE FROM 22'-6" TO 24'-0".



EXISTING SOUTHEAST ELEVATION | 12" 6" 0 1' 2' 3' 4' 5' 1/2"=1'-0" | A

NOTE

1. ALL PROPOSED EQUIPMENT TO BE PAINTED TO MATCH EXISTING CONDITIONS.



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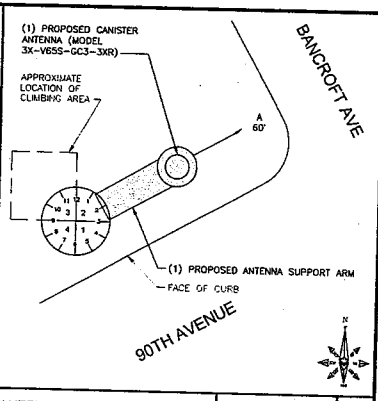
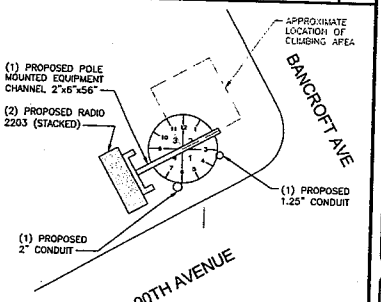
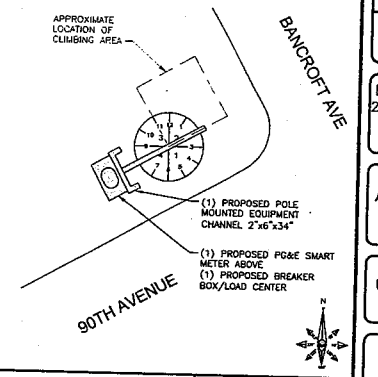


ANTENNA SPACE PLAN VIEW | NO SCALE | 1



RADIO SPACE PLAN VIEW | NO SCALE | 2



EQUIPMENT PLAN VIEW | NO SCALE | 3

exfenet mConnectivity Everywhere SYSTEMS

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REAL ESTATE SIGNATURE	DATE

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SHEET TITLE

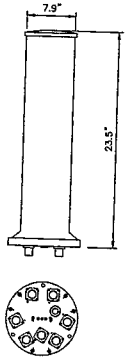
UTILITY POLE ELEVATIONS AND RISER DETAILS

SHEET NUMBER

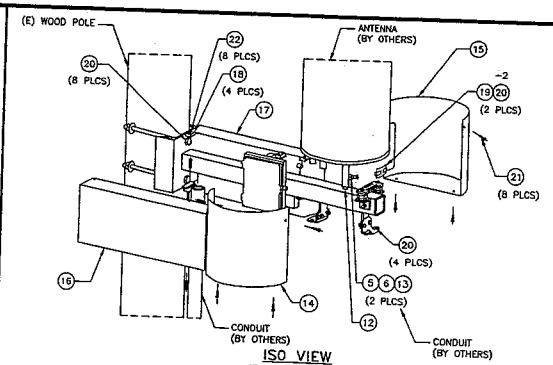
C-2

COMMSCOPE 3X-V65S-GC3-3XR

RADOME COLOR:	LIGHT GREY
RADOME MATERIAL:	FIBERGLASS, UV RESISTANT
DIAMETER:	7.9" (200mm)
HEIGHT:	23.5" (596mm)
TOTAL WEIGHT (WITHOUT BRACKETS):	7.2 Kg (15.9 LB)
CONNECTOR INTERFACE:	4.1-9.5 DIN FEMALE
RF CONNECTOR LOCATION:	BOTTOM
RF CONNECTOR QUANTITY:	6



PROPOSED ANTENNA | NO SCALE | 1



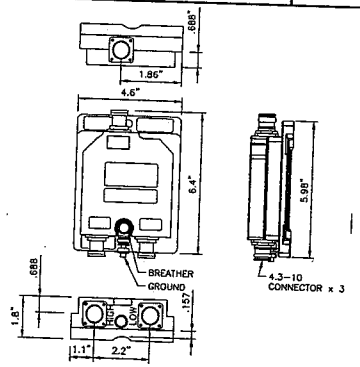
ISO VIEW
STANDOFF ASSEMBLY
(ANTENNA SHROUD NOT SHOWN FOR CLARITY)

SIDE ARM ANTENNA MOUNT
2'-0" STANDOFF FOR WOOD POLE | NO SCALE | 2

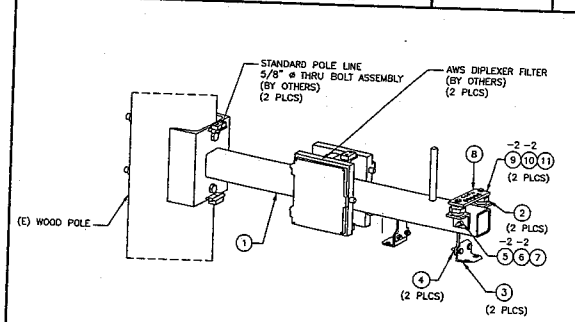
ITEM #	PART #	DESCRIPTION	QTY.	UNIT WT. (lbs)
		STANDOFF ARM ASSEMBLY PARTS/HDWR		
1	WA-714	3"x3"x3/16"x3'-2" STANDOFF ARM WLDMNT	1	43
2	SS-514	2"x2"x1/4"x2" A36, ANGLE	2	0.5
3	SS-516	2"x2"x1/8"x3" A36, ANGLE	2	0.4
4	15230	3/8#x1" A307 FULLY THD'D BOLT/NUT/LW, GALV.	4	0.1
5	41010	3/8#x1" A563-A HEX NUT, GALV.	2	0.01
6	51000	3/8#x1" A563-A HEX NUT, GALV.	2	0.01
7	80326	3/8#x6" A36 THRD ROD, GALV.	1	0.19
		BUS BAR ASSEMBLY PARTS / HDWR		
8	PL-718	1/4"x2"x6" COPPER, BUS BAR	1	0.8
9	43010	3/8"# LOCK COPPER, BUS BAR	4	0.01
10	71017	3/8"#x5/8" FULLY THD'D S.S. BOLT	4	0.04
11	90060	3/8" STANDOFF INSULATOR (559840)	2	0.1
		ANTENNA / EQUIPMENT MOUNT PARTS / HDWR		
12	WA-698	3/8"x7" O.D. A36, TOP CAP WLDMNT	1	2.2
13	16250F	3/8"#x1 1/2" A307 FULLY THD'D BOLT, GALV.	2	0.1
14	41010	3/8"# LOCK WASHER, GALV.	2	0.01
15	51000	3/8"# A563 HEX NUT, GALV.	2	0.02
		SHROUD ASSEMBLY PARTS / HDWR		
14	WA-715L	14GA.x13 1/16"x14 5/8" I.D. E.G., FORMED PLATE WLDMNT	1	8
15	WA-715R	14GA.x13 1/16"x14 5/8" I.D. E.G., FORMED PLATE WLDMNT	1	8
16	PL-1264	14GA.x17 5/8"x2'-0 7/8" E.G., FORMED COVER	1	9.9
17	PL-1267	14GA.X17 5/8"X2'-0 15/16" E.G., FORMED COVER	1	
18	PL-1581	1/2"x1"x2" A36, PLATE	4	0.3
19	14209-4	11GA.x1 1 1/2"x2 15/16" A36, FORMED PLATE	2	0.1
20	55500	1/4-20 U-STYLE SPEED NUT, BLACK PHOSPHATE	16	0.02
21	70217	1/4"#x1" SS FLGD BUTTON-HD SCKT CAP SCRW	18	0.02
22	70218	1/4"#x1 1/4" SS FLGD BUTTON-HD SCKT CAP SCRW	18	0.003

TOTAL GALV. WT. = 89lbs

ANTENNA SHROUD PARTS TABLE | NO SCALE | 3



COMMSCOPE CBC 1923-4310/ E11F13P20 | NO SCALE | 4

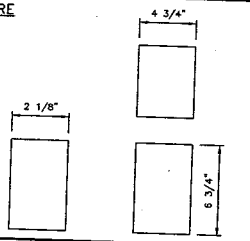


ISO VIEW
STANDOFF ASSEMBLY

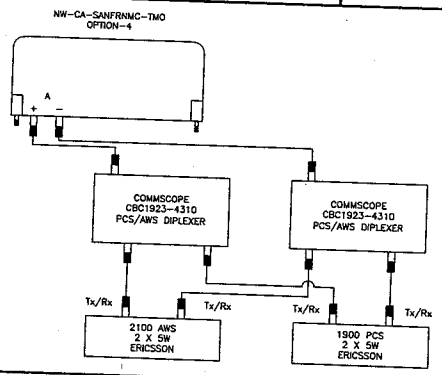
SIDE ARM ANTENNA MOUNT
2'-0" STANDOFF FOR WOOD POLE | NO SCALE | 5

F1-4868-FSS FUSION SPLICE ENCLOSURE

DEPTH:	2 1/8" (D)
HEIGHT:	6 3/4" (H)
WIDTH:	4 3/4" (W)



FIBER SPLICE BOX | NO SCALE | 6

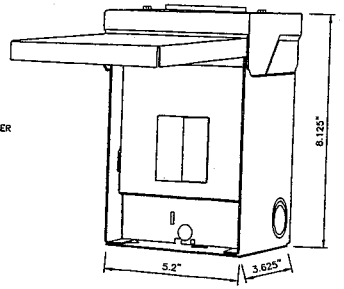


ANTENNA CONFIGURATION | NO SCALE | 7

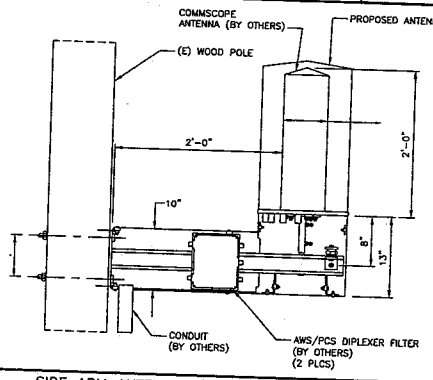
MURRAY LW002GRU SPECIFICATION

DIMENSIONS

LOAD CENTER DEPTH:	3.625"
LOAD CENTER WIDTH:	5.2"
LOAD CENTER HEIGHT:	8.125"
WEIGHT:	4.55 LB
LOAD CENTER TYPE:	MAIN LUG
MAX AMPERAGE:	60
MOUNTING TYPE:	PLUG IN
NUMBER OF PHASES:	1
NUMBER OF SPACES:	2
VOLTAGE (VOLTS):	120/240
INDOOR/OUTDOOR:	OUTDOOR
ELECTRICAL PRODUCT TYPE:	LOAD CENTER



MURRAY LW002GRU | NO SCALE | 8



SIDE ARM ANTENNA MOUNT
2'-0" STANDOFF FOR WOOD POLE | NO SCALE | 9

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

BLACK & VEATCH

BLACK & VEATCH CORPORATION
2999 OAK ROAD
SUITE 490
WALNUT CREEK, CA 94597

PROJECT NO.	DRAWN BY	CHECKED BY
192417.4601	AKJ	GAC

REV	DATE	DESCRIPTION
D	09/27/16	CLIENT COMMENTS
C	09/13/16	CLIENT COMMENTS
B	09/12/16	ISSUED FOR REVIEW
A	09/12/16	ISSUED FOR REVIEW

PRELIMINARY

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

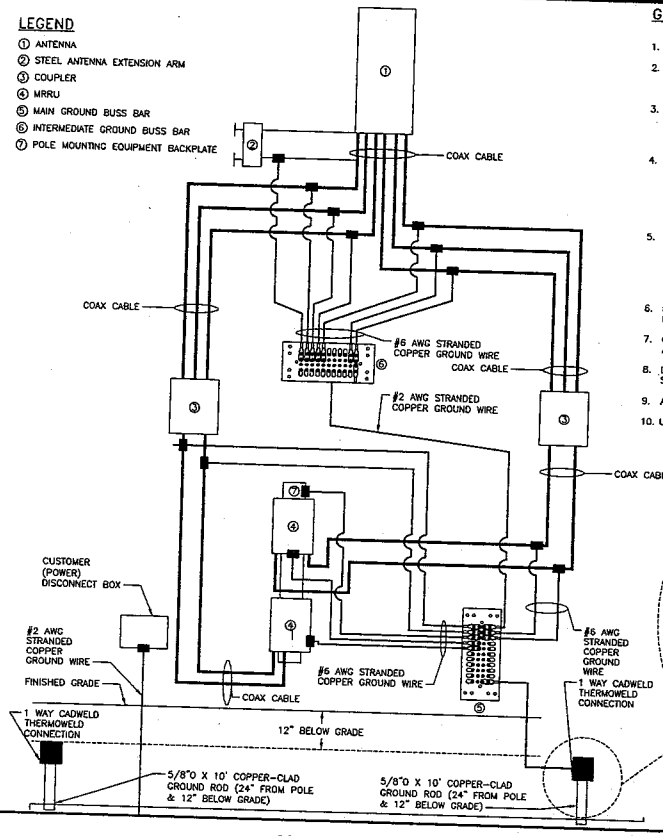
SITE ADDRESS
ADJACENT TO (IN PROW)
2133 90TH AVENUE
OAKLAND, CA 94603

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
C-3

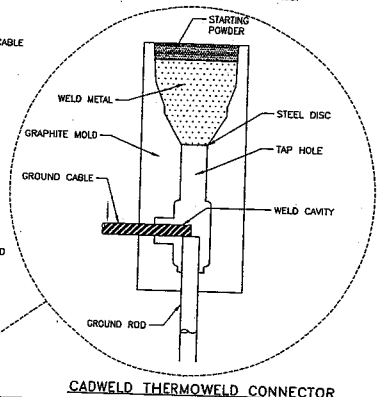
LEGEND

① ANTENNA
② STEEL ANTENNA EXTENSION ARM
③ COUPLER
④ MRRU
⑤ MAIN GROUND BUSS BAR
⑥ INTERMEDIATE GROUND BUSS BAR
⑦ POLE MOUNTING EQUIPMENT BACKPLATE



GENERAL GROUNDING NOTES

1. #6 GREEN COATED WIRE TO BE USED.
2. CRIMP (COMPRESSION) TYPE TWO HOLE BOLTED TONGUE CONNECTORS SHALL BE USED TO TERMINATE STRANDED GROUND CONDUCTORS. CONNECTORS SHALL BE TIN PLATED, LONG BARREL LUG.
3. GROUND WIRES SHALL BE INSERTED THE ENTIRE LENGTH OF THE LUG. PROVIDE ANTIOXIDANT COMPOUND ON THE CONDUCTOR BEFORE CRIMPING. CONTRACTOR TO INSTALL A TRANSPARENT HEAT SHRINK INSULATING TUBING ALONG ENTIRE LENGTH OF CRIMP.
4. GROUND CONDUCTORS RUN ALONG POLE SURFACE SHALL BE COVERED BY 3/8" HARD WOOD OR DOUGLAS FIR VGR WOOD MOLDING. CORROSION RESISTANT (GALVANIZED) STAPLE AT 2' INTERVALS TO BE USED FOR VGR. THE GROUNDING CONDUCTOR FROM THE GROUND ROD (GROUND ELECTRODE) TO THE MESSENGER SHALL BE CONTINUOUS, UNLESS SUITABLE ELECTRICAL COMPRESSION CONNECTIONS ARE USED.
5. BOND WIRES AND GROUND WIRES SHALL HAVE A CLEARANCE OF NOT LESS THAN 1 1/2" INCHES FROM METAL PINS, BOLTS, AND OTHER HARDWARE ON WOOD CROSSARMS AND WOOD POLES EXCEPT WHERE THE HARDWARE IS EXTENDED TO BE CONNECTED TO THE BOND OR GROUND WIRES, AND IN BEING SO CONNECTION DOES NOT VIOLATE OTHER RULES OF G095, IN WHICH CASE SUITABLE ELECTRICAL CONTACT SHALL BE MADE.
6. IGB TO BE MOUNTED DIRECTLY TO ANTENNA SUPPORT ARM. MGB TO BE MOUNTED DIRECTLY TO POLE MOUNT EQUIPMENT BACKPLATE.
7. GROUND BUSS BAR LENGTH TO VARY BASED ON NUMBER OF GROUND ATTACHMENTS.
8. DO NOT INSTALL CABLE GROUNDING KITS ON BENDS. CONTRACTOR SHALL ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
9. ALL G095 & NEC GROUNDING RULES TO BE FOLLOWED AT ALL TIMES.
10. USE GROUND LUG TO BOND ANTENNA SUPPORT ARM TO IGB.

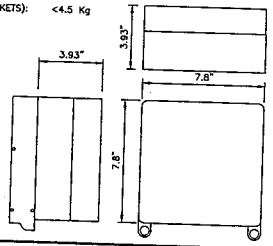


CADWELD THERMOWELD CONNECTOR

CONCEPTUAL WOOD POLE GROUNDING DETAIL | NO SCALE | 1

ERICSSON RADIO 2203

LENGTH:	7.8" (200MM)
WIDTH:	7.8" (200MM)
DEPTH:	3.93" (100MM)
TOTAL WEIGHT (WITHOUT BRACKETS):	<4.5 Kg



RADIO SPECIFICATION DETAIL | NO SCALE | 2

NOTICE

Beyond This Point you are entering a controlled area where RF emissions *may exceed* the FCC General Population Exposure Limits.

Follow all posted signs and site guidelines for working in a RF environment.

Ref: 47CFR 1.1307(b)

CAUTION

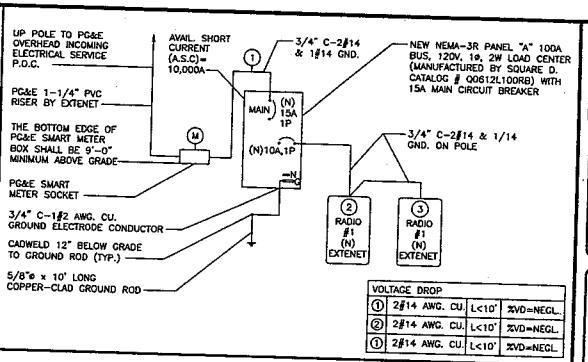
Beyond This Point you are entering a controlled area where RF emissions *may exceed* the FCC Occupational Exposure Limits.

Obey all posted signs and site guidelines for working in a RF environment.

Ref: 47CFR 1.1307(b)

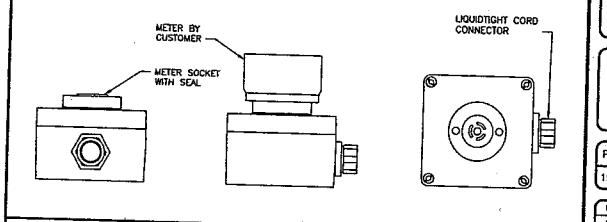
NOTE: SPECIFIC EME PLACARD WILL BE PLACED AFTER EME REPORT

RF SIGNAGE DETAIL | NO SCALE | 3

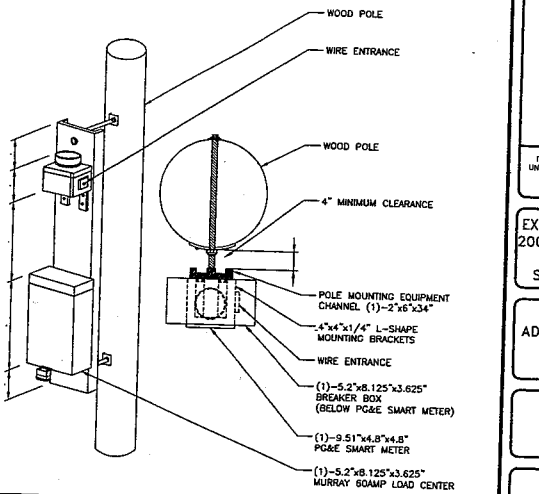


VOLTAGE DROP			
①	2#14 AWG. CU.	L<10'	%VD=NEGL.
②	2#14 AWG. CU.	L<10'	%VD=NEGL.
①	2#14 AWG. CU.	L<10'	%VD=NEGL.

CA-84C WITH 4.1-9.5 DIN CONNECTORS | NO SCALE | 4



PROPOSED METER ADAPTER | NO SCALE | 5



SMART METER/BREAKER BOX DETAIL | NO SCALE | 6

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

BLACK & VEATCH

BLACK & VEATCH CORPORATION
2999 OAK ROAD
SUITE 490
WALNUT CREEK, CA 94597

PROJECT NO.	DRAWN BY	CHECKED BY
192417.4601	AKJ	GAC

REV	DATE	DESCRIPTION
D	09/27/16	CLIENT COMMENTS
C	09/13/16	CLIENT COMMENTS
B	08/19/16	ISSUED FOR REVIEW
A	08/12/16	ISSUED FOR REVIEW

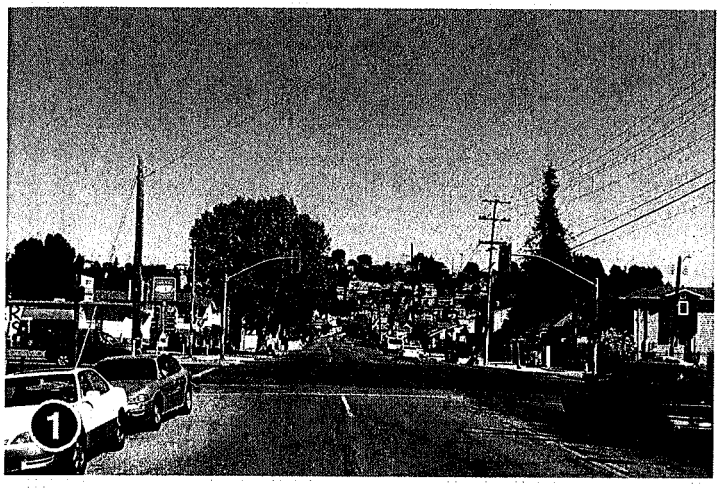
PRELIMINARY

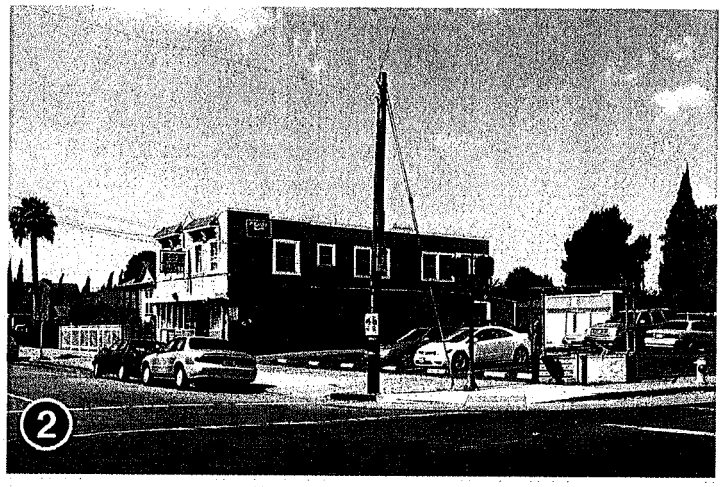
EXTENET SYSTEMS (CA) LLC
2000 CROW CANYON PLACE
SUITE 210
SAN RAMON, CA 94583

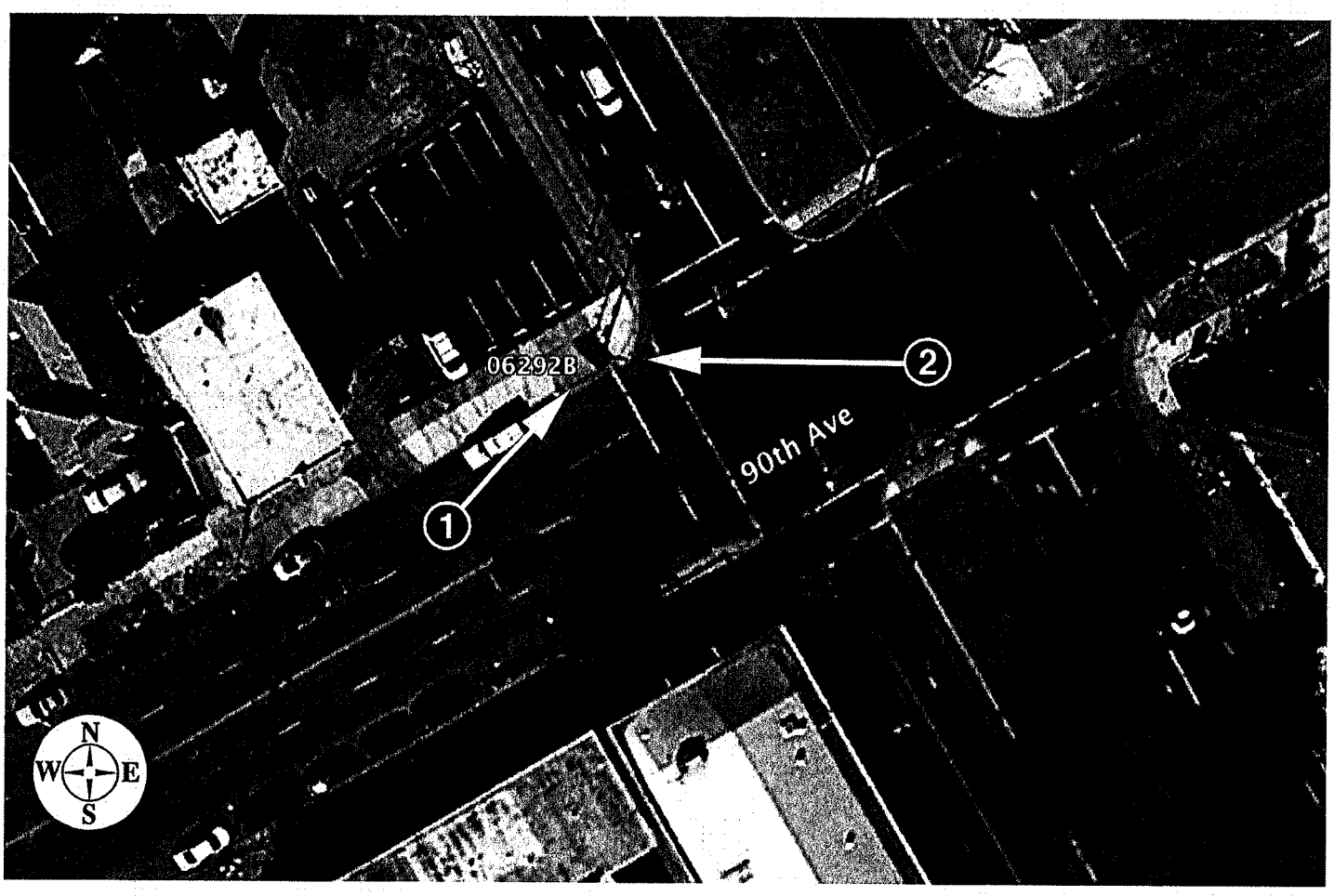
SITE ADDRESS
ADJACENT TO (IN PROW)
2133 90TH AVENUE
OAKLAND, CA 94603

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
C-4







extenet SYSTEMS

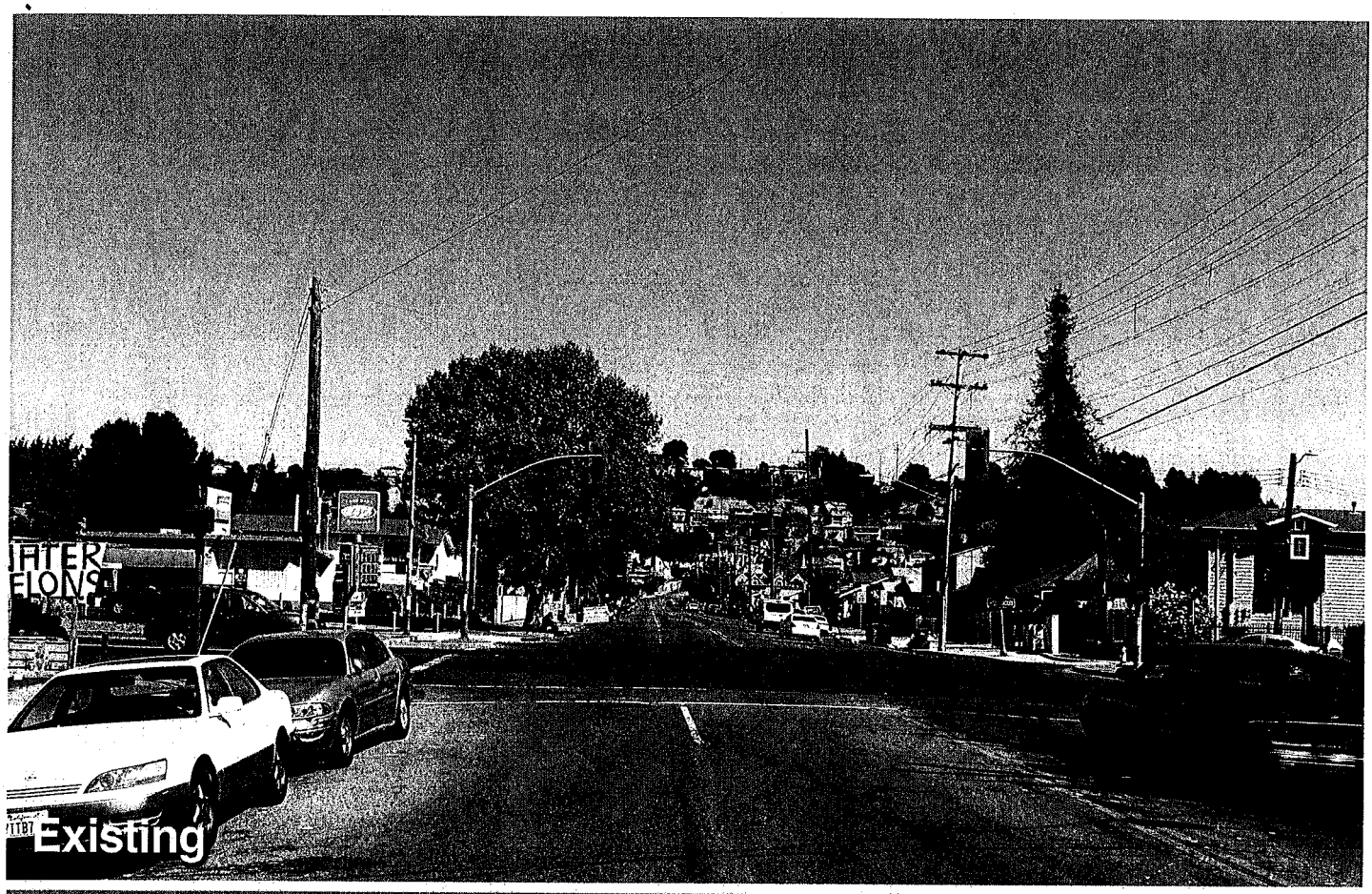
NW-CA-SANFRNMC 06292B

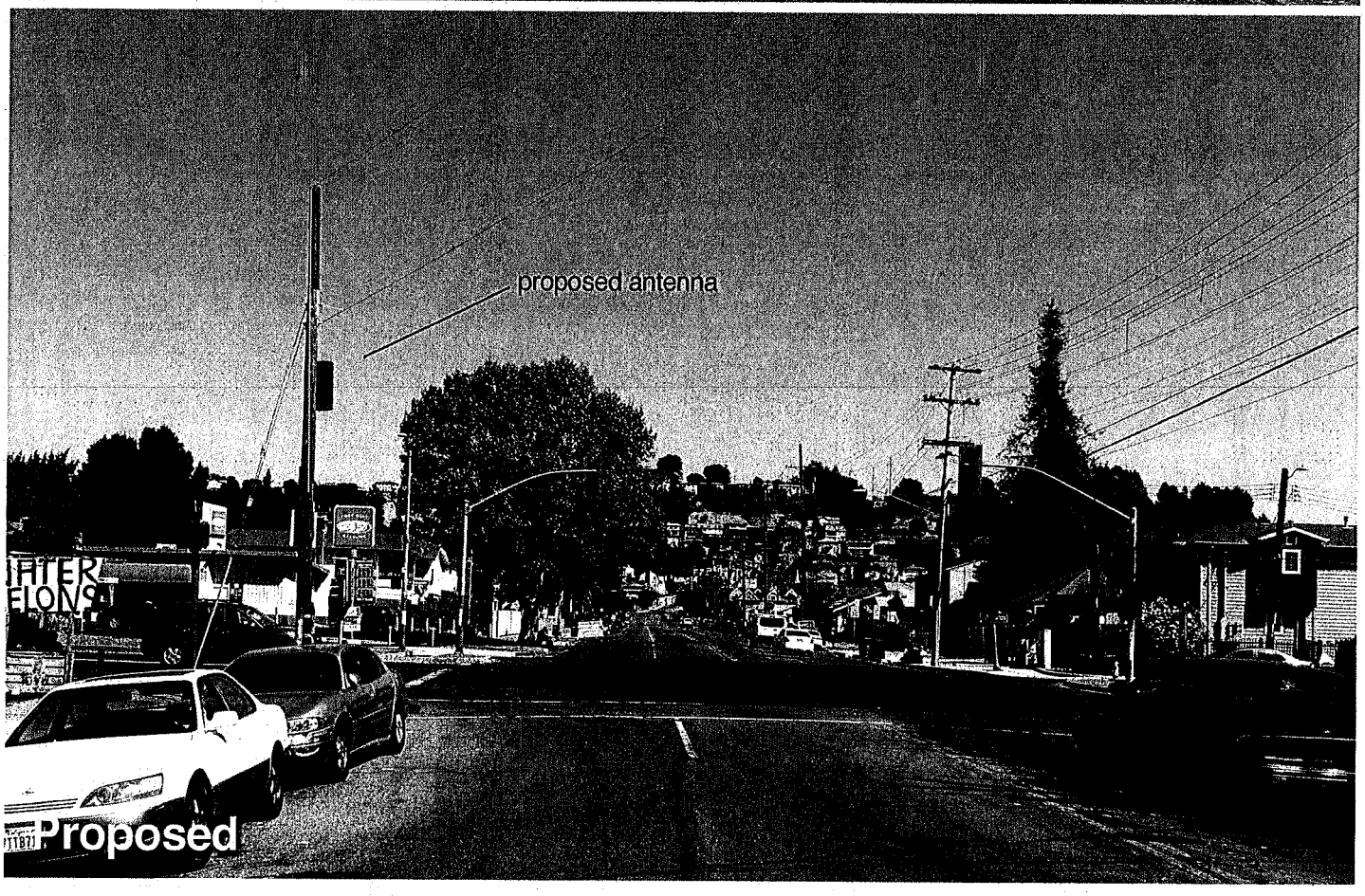
Aerial Map

Adjacent to (IN PROW)
2133 90th Avenue Oakland, CA

9/26/16

Applied Imagination 510 914-0500





extenet SYSTEMS

NW-CA-SANFRNMC 06292B

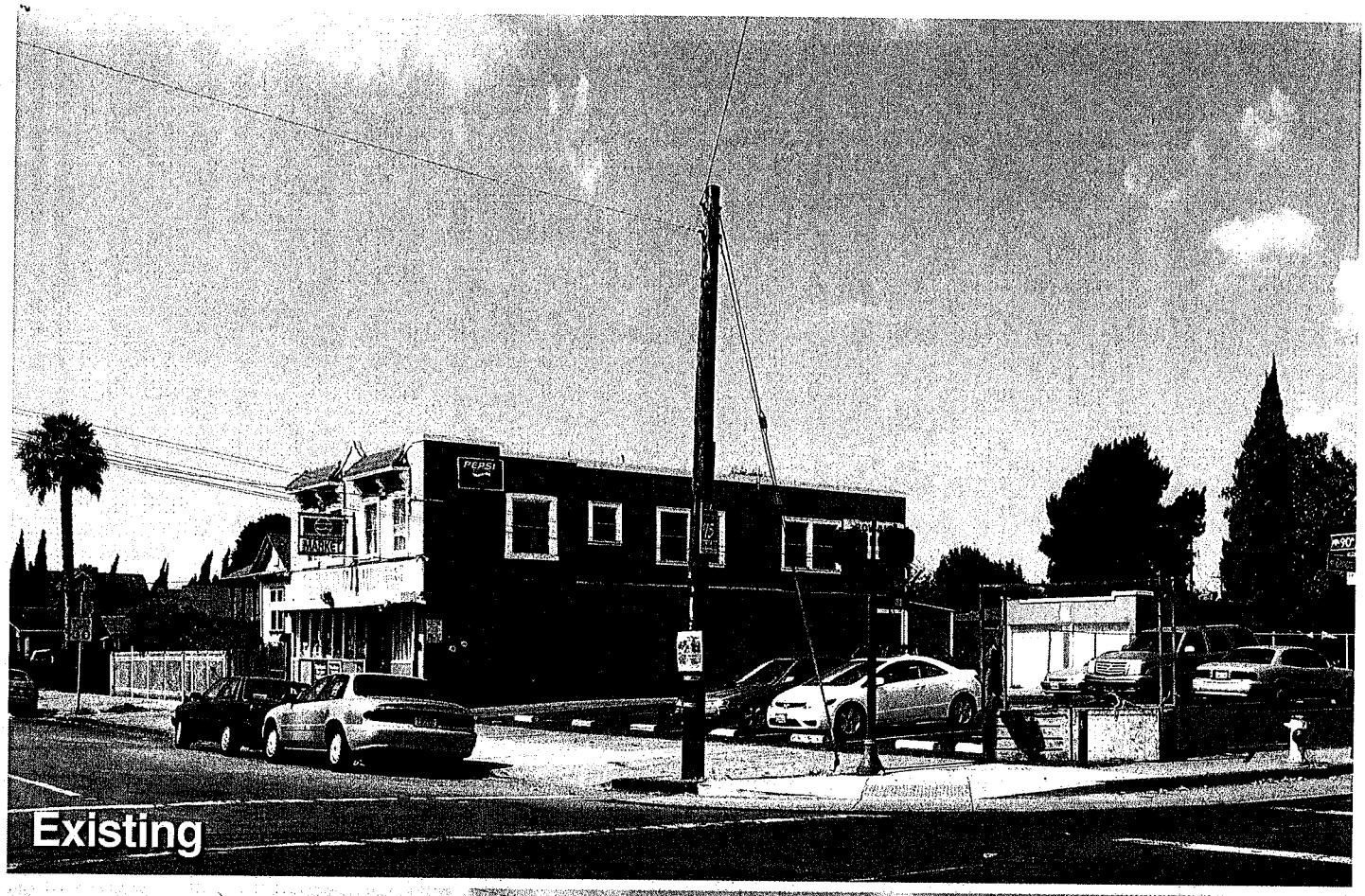
Looking Northeast from 90th Avenue

9/26/16

Adjacent to (IN PROW)
2133 90th Avenue Oakland, CA

View #1

Applied Imagination 510 914-0500



Existing

Proposed

extenet SYSTEMS

NW-CA-SANFRNMC 06292B

Adjacent to (IN PROW)
2133 90th Avenue Oakland, CA

Looking West from 90th Avenue

View #2

9/26/16

Applied Imagination 510 914-0500

March 17, 2017

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

Re: GO 95 Required Two Feet Clearance Between Antenna and Pole

Applicant:	**ExteNet Systems (California) LLC**
Nearest Site Address:	**Public Right of Way near 2133 90th Avenue**
Site ID:	**NW-CA-SANFRNMC-TMO Node 06292B**
Latitude/Longitude:	**37.753596, -122.165990**
Planning Application:	**PLN16316**

Dear City Planner,

This letter is in response to discussions with City of Oakland Planning Department seeking clarification on the proposed antenna placement on the utility pole.

Wireless facility attachments to utility poles must comply with CPUC General Order 95 design, safety and clearance standards. Specifically, Rule 94.4(E) states: *Antennas shall maintain a 2 ft horizontal clearance from centerline of pole when affixed between supply and communication lines or below communication lines.* This rule precludes ExteNet from placing the antennas flush mounted to the utility pole when there is a power source attached to the pole. ExteNet minimized the clearance as much as possible by placing the antenna shroud just over two feet from the centerline of the utility pole.

Feel free to contact me if you have any questions. Thank you.

Thank you.

Best Regards,

Ana Gomez/BV for ExteNet

Ana Gomez
ExteNet Permitting Contractor

extenet SYSTEMS YOUR NETWORK. EVERYWHERE.

October 4, 2016

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 2133 90th Avenue.**
Site ID:	**NW-CA-SANFRANMC- Node 06292B**
Latitude/Longitude:	**37.753596, -122.165990**

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 2133 90th Avenue ("Node 06292B").[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 25 foot tall wooden utility pole in the public right-of-way on the north of 90th Avenue, just northwest of intersection with Bancroft Avenue, at about 2133 90th Avenue.

ExteNet proposes to utilize the existing 25 foot tall wooden utility pole and proposed to install a 6 foot bayonet extension resulting in a total utility pole measurement of 31 feet above ground. Power lines are to be added on the pole at 31 feet. One canister antenna is to be affix on the utility pole within an antenna shroud on a proposed antenna support arm. The antenna, measuring 23.5 inches long and 7.9 inches in diameter, will be placed on an antenna support arm attached at 18 feet. Two proposed diplexers measuring 6.4 inches long, 4.6 inches wide and 1.8 inches deep will be placed within the side arm antenna mount. Two MRRUs measuring 7.8 inches tall, 7.8 inches wide and 3.9 inches deep will be placed on the pole at 10 feet 6 inches and 13 feet 11 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.

B. Project Purpose.

[1] ExteNet 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.

ExteNet Systems
2000 Crow Canyon Place, #210 • San Ramon, CA 94583
(415) 596-3474 • myergovich@extenetsystems.com

The purpose of this project is to provide T-Mobile third and fourth generation (3G and 4G) 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 T-Mobile'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 06292B.

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 T-Mobile to establish or expand their network coverage and capacity. The nodes are linked by fiber optic cable 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 06292B is an integral part of the overall small cell project, and it is located in an area near by Bancroft Avenue. The coverage area consists of a primarily residential neighborhood off 90th Avenue, Bancroft Street, 89th Avenue, International Boulevard and surrounding areas. Node 06292B 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 ExteNets's analysis of alternative sites the currently proposed Node 06292B is the least intrusive means to close T-Mobile's significant service coverage gap in the area. Node 06292B 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, T-Mobile 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 06292B is the least intrusive option. Also the proposed location is a good coverage option because it sits at a spot from which point T-Mobile 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. Additionally, 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 06292B, 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 Order[2] 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,
EXTENET SYSTEMS

Matthew S. Yergovich

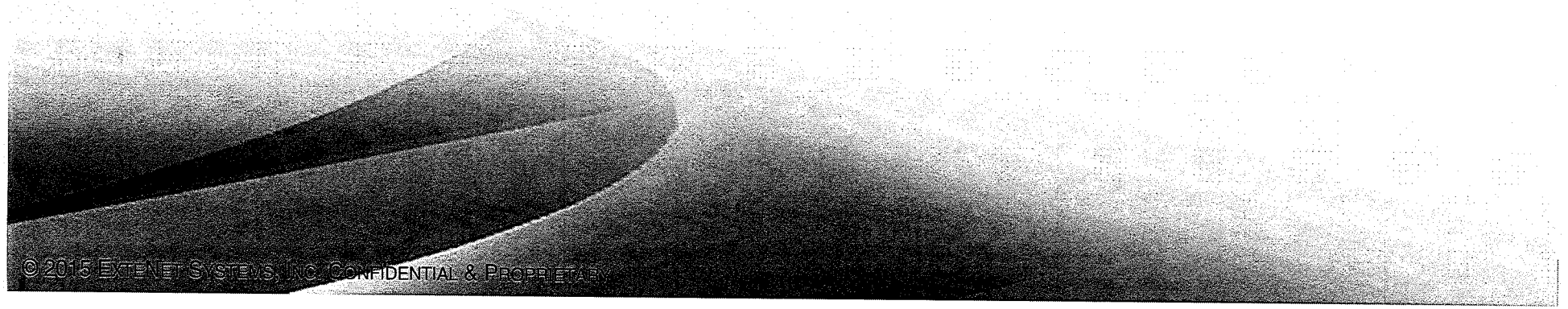
[2] *See* Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B), WT Docket No. 08-165, Declaratory Ruling, 24 F.C.C.R. 13994 (2009).

ExteNet Systems
2000 Crow Canyon Place, #210 • San Ramon, CA 94583
(415) 596-3474 • myergovich@extenetsystems.com

extenet SYSTEMS mConnectivity Everywhere

Attachment B

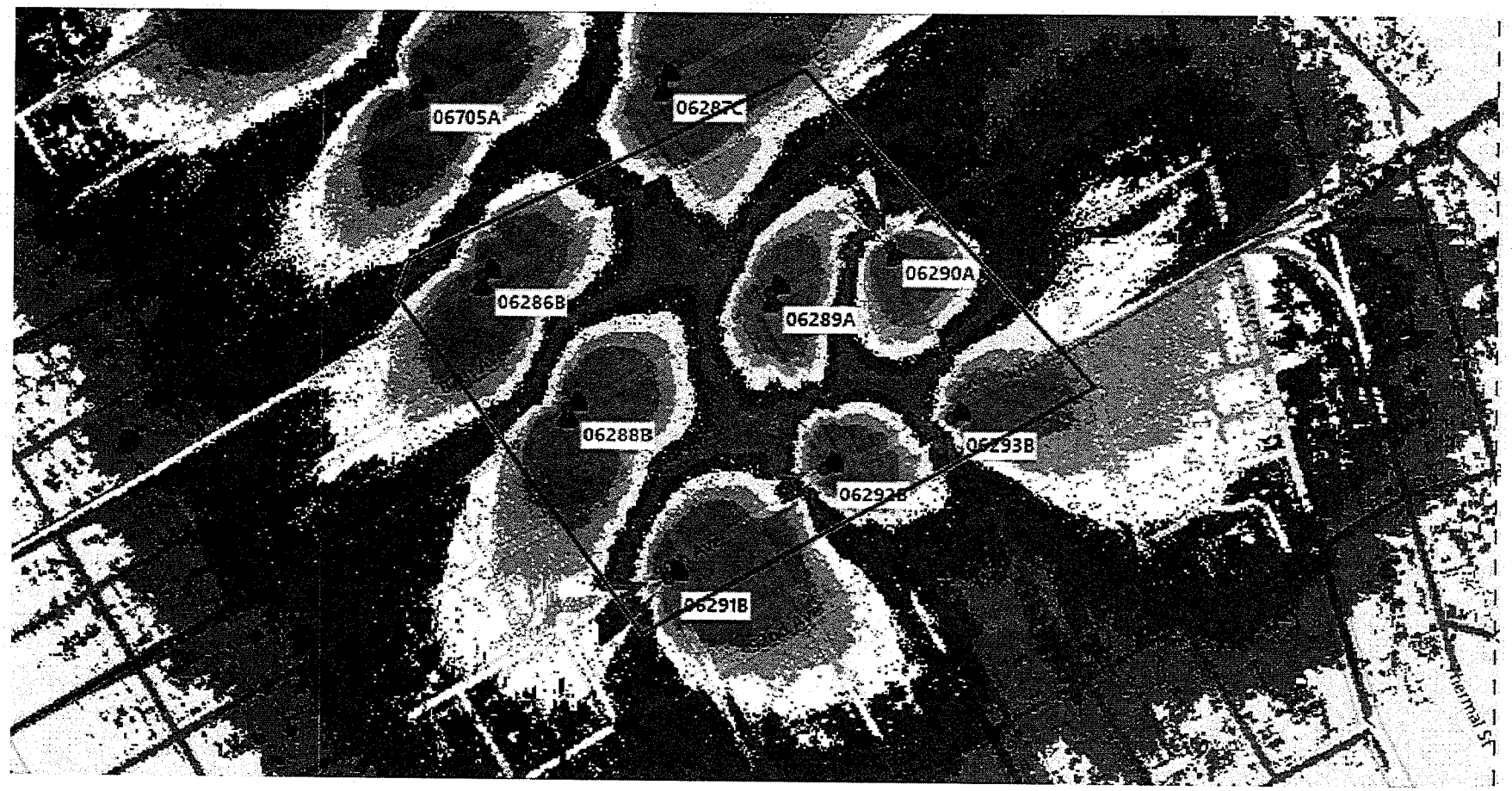
EXTENET OAKLAND NODE 06292B ALTERNATIVE SITE ANALYSIS



MAP OF ALTERNATIVE POLES EVALUATED FOR NODE 06292B

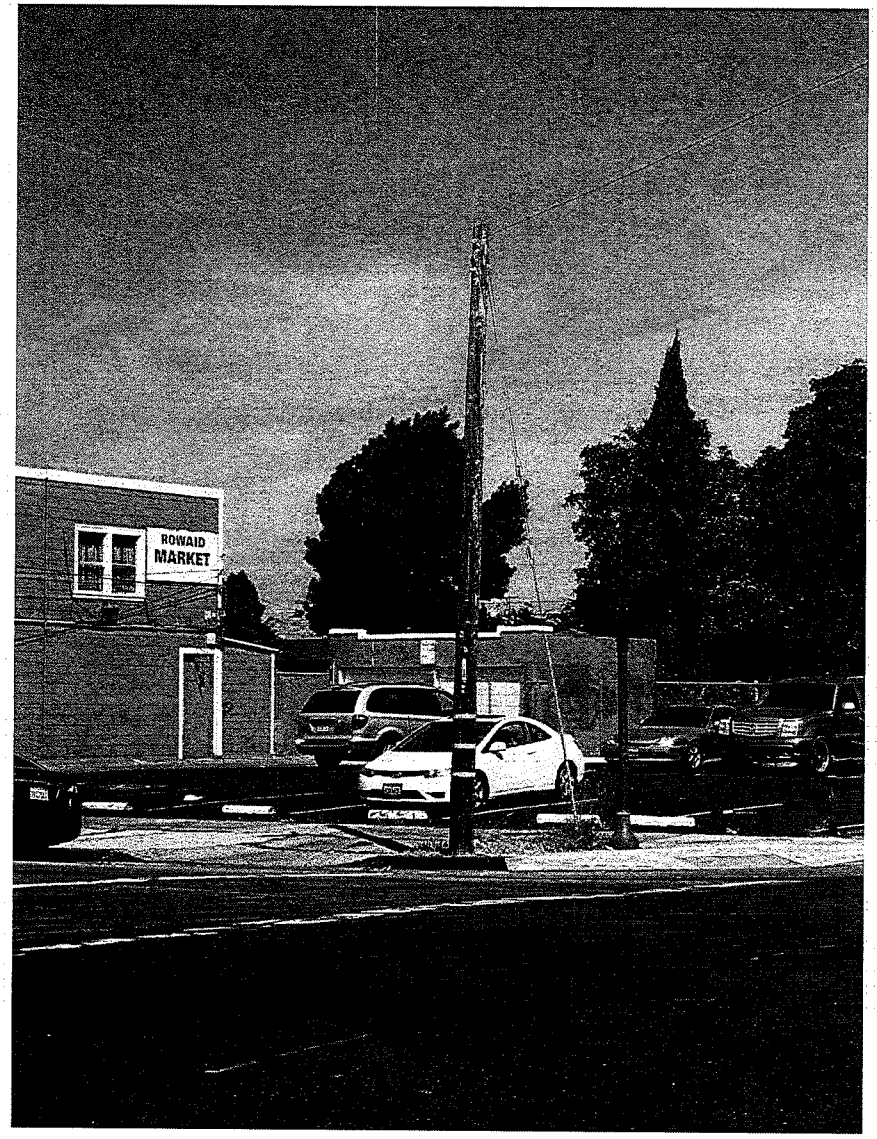
- The above maps depict ExteNet's proposed Node 06292B in relation to other poles in the area that were evaluated as possibly being viable alternative candidates.
- The following is an analysis of each of those 3 alternative locations.

PROPAGATION MAP OF NODE 06292B



This propagation map depicts the ExteNet proposed Node 06292B in relation to surrounding proposed ExteNet small cell nodes.

06292B- PROPOSED LOCATION

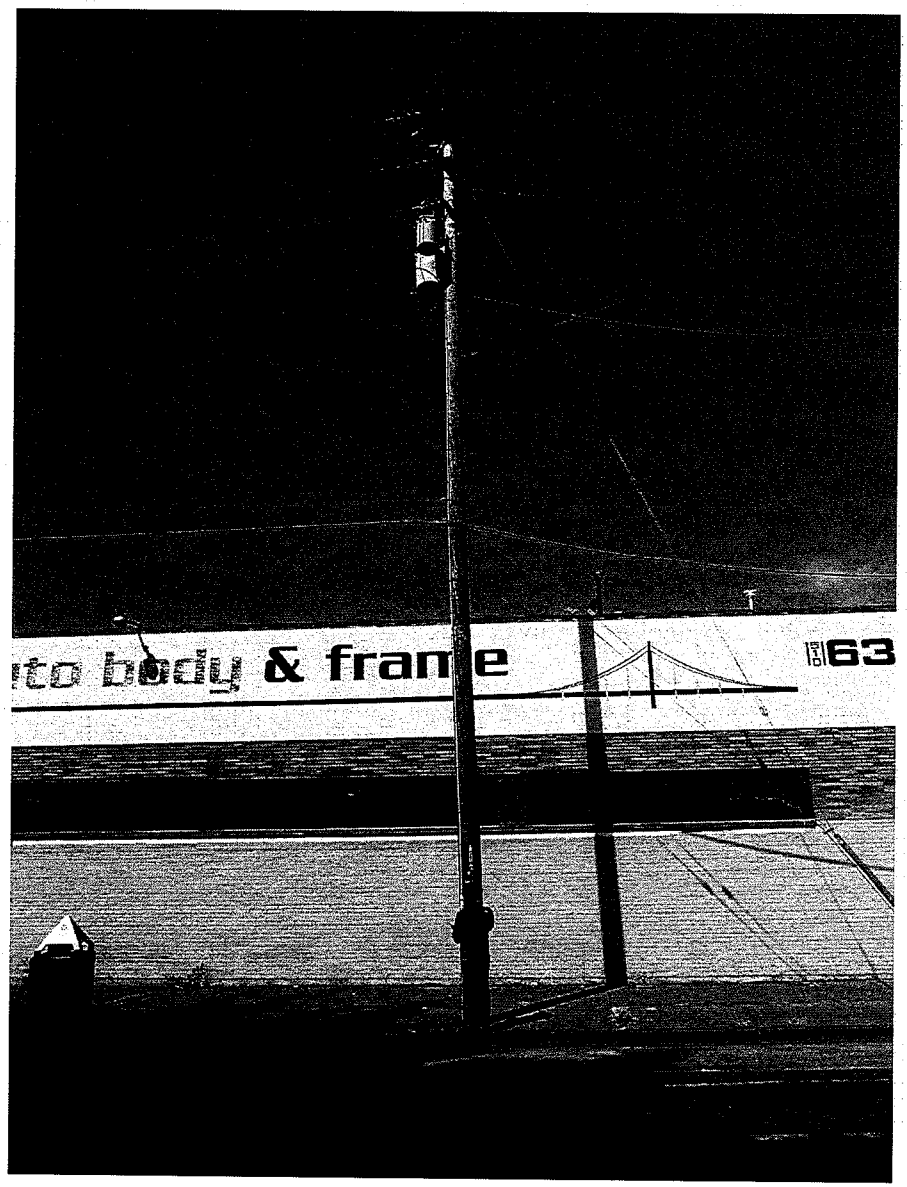


- The location for ExteNet's proposed Node 06292B is a joint utility pole located at 2133 90th Avenue (37.753638, -122.166049).
- ExteNet's objective is to provide T-Mobile 4G wireless coverage and capacity to the Oakland area.
- ExteNet evaluated this site and nearby alternatives to verify that the selected site is the least intrusive means to close T-Mobile's significant service coverage gap.

ALTERNATIVE NODE 06292A

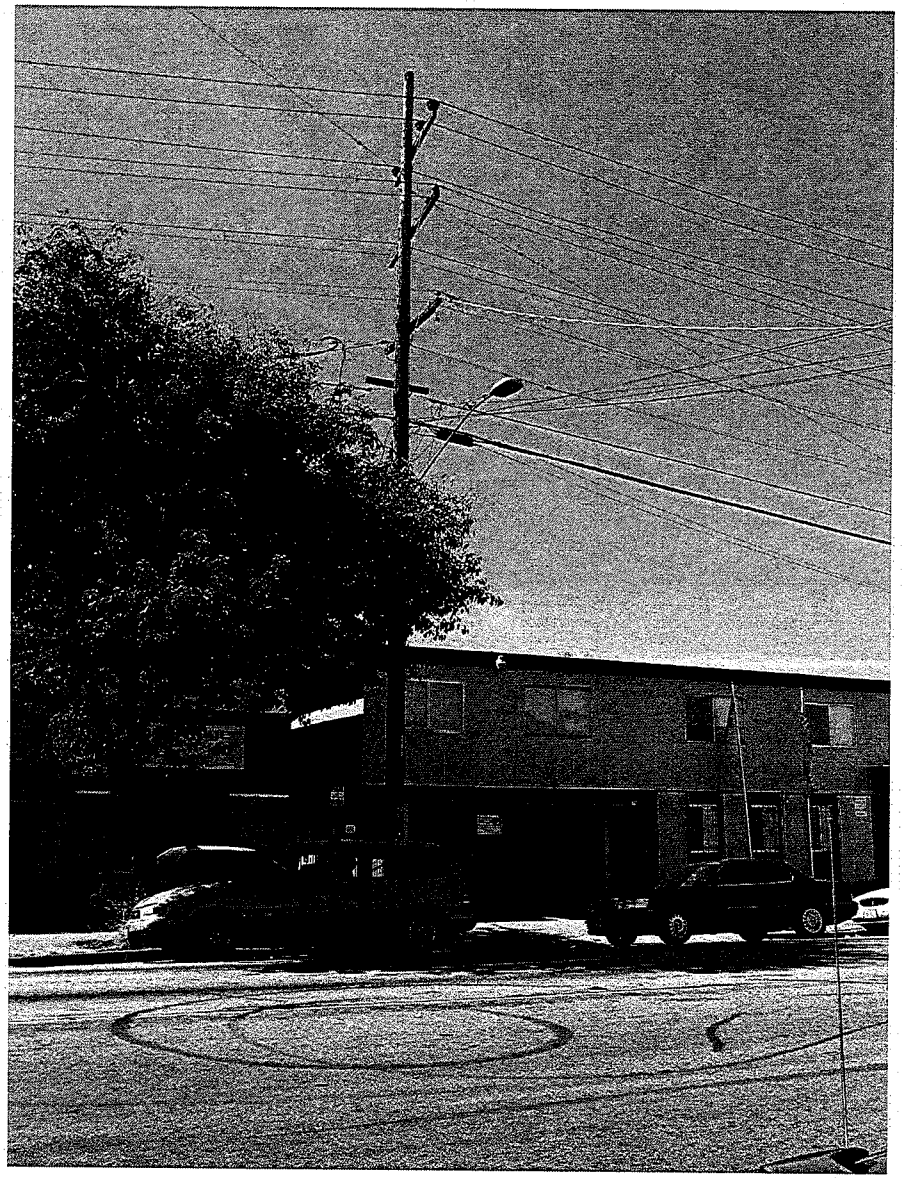
- Node 06292A is a joint utility pole near 2310 90th Avenue, (37.753424, -122.165809).
- This pole was originally selected to host ExteNet's wireless facility but was eventually ruled out because of a riser placement on utility pole.
- This pole is not a viable alternative because the minimum antenna height needed at this pole would violate CPUC General Order-94 Regulation safety clearances. This configuration does not allow ExteNet the proper 2' of separation from the communication lines.
- 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.

ALTERNATIVE NODE 06292C



- Node 06292C is a joint utility pole located on the side of 2130 90th Avenue, pole number 110150106, (37.753331, -122.165739).
- This pole is not a viable alternative candidate because this pole is located too far from the primary service gap.

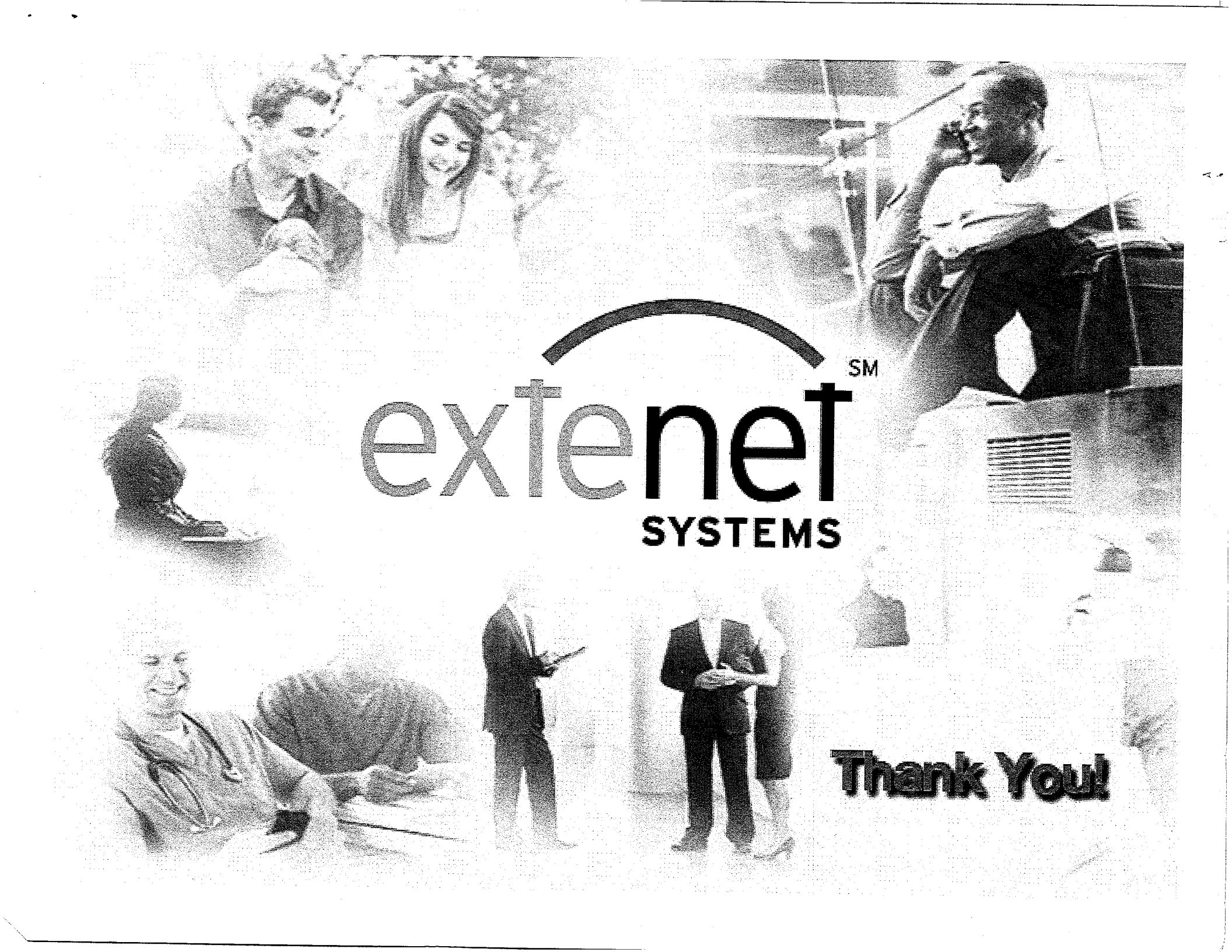
ALTERNATIVE NODE 06292D



- Node 06292D is a joint utility pole located in front of 2130 90th Avenue, pole number 110148280 (37.753386, -122.165963)
- This pole is not a viable alternative because the signal would be blocked by trees.
- This pole is not a viable alternative because the minimum antenna height needed at this pole would violate CPUC General Order-94 Regulation safety clearances. This configuration does not allow ExteNet the proper 2' of separation from the communication lines.
- 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.

ALTERNATIVE SITE ANALYSIS CONCLUSION

Based on ExteNet's analysis of alternative sites, the currently proposed Node 06292B is the least intrusive location from which to fill the surrounding significant wireless coverage gaps.


extenet
SM
SYSTEMS
Thank You!

ExteNet Systems CA, LLC • Proposed DAS Node (Site No. 06292B)
2133 90th Avenue • 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 carrier, to evaluate the addition of Node No. 06292B to be added to the ExteNet distributed antenna system ("DAS") in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

ExteNet proposes to install a directional panel antenna on a utility pole sited in the public right-of-way at 2133 90th Avenue 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:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
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

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables.

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

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 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 zoning drawings by Black & Veatch Corporation, dated September 27, 2016, it is proposed to install one CommScope Model 3X-V65S-GC3-3XR 2-foot tall, tri-directional cylindrical antenna, with one direction activated, on a cross-arm to be added to a utility pole sited in the public right-of-way in front of the parking lot located at 2133 90th Avenue in Oakland. The antenna would employ no downtilt, would be mounted at an effective height of about 20 feet above ground, and its principal direction would be oriented toward 60°T. T-Mobile proposes to operate from this facility with a maximum effective radiated power in any direction of 214 watts, representing simultaneous operation 107 watts for AWS, and 107 watts for PCS 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 ambient RF exposure level due to the proposed T-Mobile operation is calculated to be 0.0046 mW/cm^2, which is 0.46% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of any nearby building is 0.14% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

Recommended Mitigation Measures

Due to 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 2 feet directly in front of the antenna itself, such as might occur during certain activities, should be allowed while the base station 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 2133 90th Avenue in Oakland, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training personnel and posting signs is recommended to establish compliance with occupational exposure limitations.

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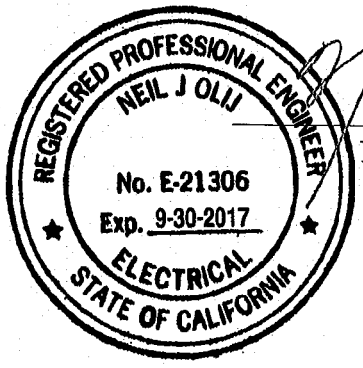
* Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health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

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.



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

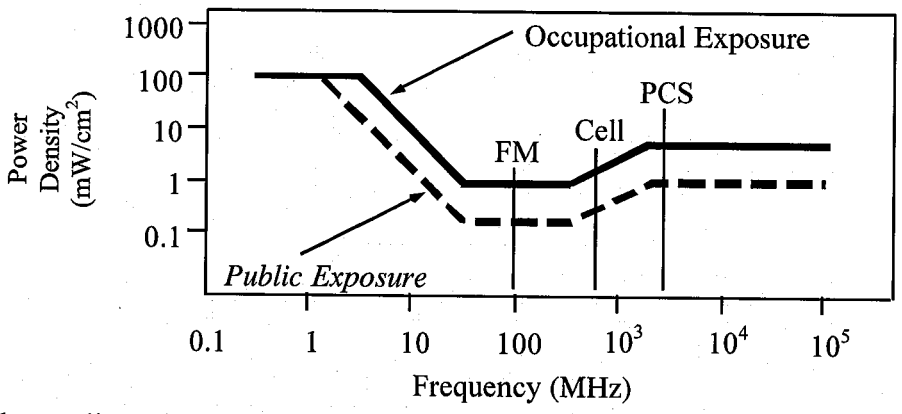
October 4, 2016

FCC Radio Frequency Protection Guide

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

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

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



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has 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/cm^2,

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

where θ_{BW} = half-power beamwidth of 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:

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

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