

<b>Location:</b>	<b>City street light pole in public right-of-way adjacent to: 1125 Brush Street</b>
<b>Assessor's Parcel Numbers:</b>	<b>Adjacent to: 002-0009-015-03</b>
<b>Proposal:</b>	To install a new "small cell site" telecommunications facility for Verizon on an existing 28' tall City street light pole located in the Public Right-of-Way (sidewalk). The project involves the installation of one (1) antenna panel measuring 24 inches long and 14.6 inches in diameter, located within a shroud up to 31'-6" in height and equipment at 7' to 12'-6" above ground-level.
<b>Applicant / Phone Number:</b>	Ana Gomez/Black & Veatch & Extenet (for: Verizon) (913) 458-9148
<b>Owner:</b>	City of Oakland
<b>Case File Number:</b>	<b>PLN17163</b>
<b>Planning Permits Required:</b>	Major Conditional Use Permit and Regular Design Review with additional findings for Monopole Telecommunications Facility in a Residential Zone; Minor Variance for Monopole Adjacent to Residential Use.
<b>General Plan:</b>	Urban Residential
<b>Zoning:</b>	Urban Residential - 1 Zone (RU-1)
<b>Environmental Determination:</b>	Exempt, Section 15301 of the State CEQA Guidelines: Existing Facilities; Exempt, Section 15302: Replacement or Reconstruction; Exempt, Section 15303: New Construction of Small Structures; Section 15183: Projects Consistent with a Community Plan, General Plan or Zoning S-20; Non-historic pole
<b>Historic Status:</b>	S-20; Non-historic pole
<b>City Council District:</b>	3
<b>Date Filed:</b>	May 6, 2017
<b>Action to be Taken:</b>	Decision based on staff report
<b>Finality of Decision:</b>	<i>Appealable to City Council within 10 days</i>
<b>For Further Information:</b>	Contact case planner <b>Marilu Garcia</b> at <b>(510) 238-5217</b> or <a href="mailto:mgarcia2@oaklandnet.com">mgarcia2@oaklandnet.com</a>

## SUMMARY

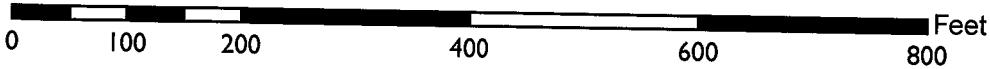
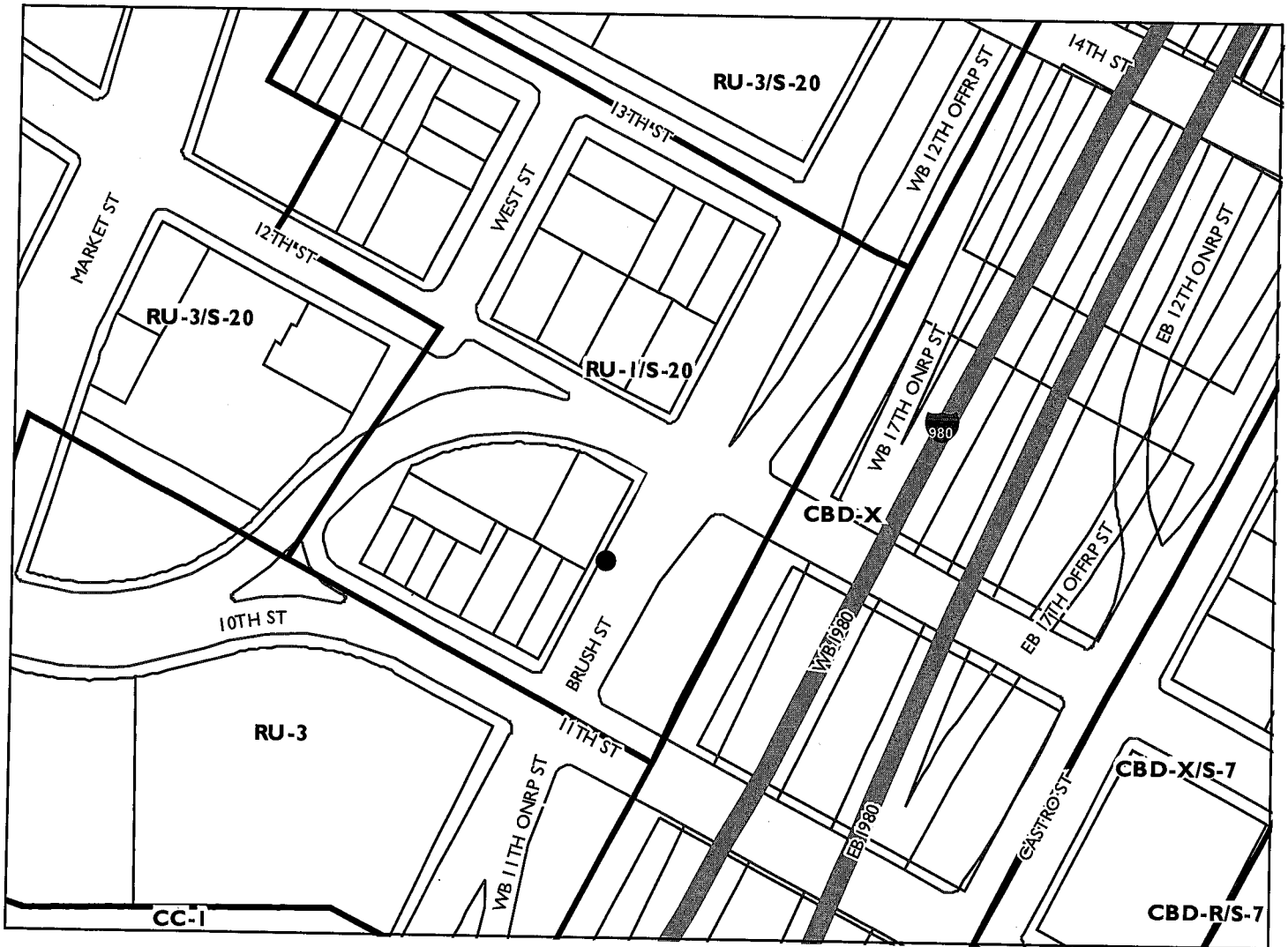
The applicant requests Planning Commission approval of a Major Conditional Use Permit, Regular Design Review and Minor Variance to establish a Monopole Telecommunications Facility ("small cell site"). The purpose is to enhance existing wireless services. The project involves attaching an antenna and equipment to an existing City street light pole located within the sidewalk in the public right-of-way in a residential neighborhood.

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

## BACKGROUND

For several years in the City of Oakland, telecommunications carriers have proposed facility installation within the public right-of-way, instead of private property. These facilities typically consist of antennas and associated equipment attached to utility poles or street light poles. Poles are often replaced with replicas for technical purposes. The main purpose is to enhance existing service, given increasing

# CITY OF OAKLAND PLANNING COMMISSION



Case File: PLN17163

Applicant: Ana Gomez/Black & Veatch & Extenet (for: Verizon)

Address: City Street light pole in public right-of-way  
(sidewalk) adjacent to 1125 Brush Street

Zone: RU-1 / S-20

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

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

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

## **TELECOMMUNICATIONS BACKGROUND**

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

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

- Under Section 253 of the TCA, no state or local regulation or other legal requirement can prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.
- Further, Section 704 of the TCA imposes limitations on what local and state governments can do. Section 704 prohibits any state and local government action which unreasonably discriminates among personal wireless providers. Local governments must ensure that its wireless ordinance does not contain requirements in the form of regulatory terms or fees which may have the "effect" of prohibiting the placement, construction, or modification of personal wireless services.

- Section 704 also preempts any local zoning regulation purporting to regulate the placement, construction and modification of personal wireless service facilities on the basis, either directly or indirectly, on the environmental effects of radio frequency emissions (RF) of such facilities, which otherwise comply with Federal Communication Commission (FCC) standards in this regard. (See 47 U.S.C. Section 332(c)(7)(B)(iv) (1996)). This means that local authorities may not regulate the siting or construction of personal wireless facilities based on RF standards that are more stringent than those promulgated by the FCC.
- Section 704 mandates that local governments act upon personal wireless service facility siting applications to place, construct, or modify a facility within a reasonable time (See 47 U.S.C.332(c)(7)(B)(ii) and FCC Shot Clock ruling setting forth “reasonable time” standards for applications deemed complete).
- Section 704 also mandates that the FCC provide technical support to local governments in order to encourage them to make property, rights-of-way, and easements under their jurisdiction available for the placement of new spectrum-based telecommunications services. This proceeding is currently at the comment stage.

For more information on the FCC’s jurisdiction in this area, consult the following:

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

Main division website:

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

Tower siting:

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

## **SITE DESCRIPTION**

The project site consists of an existing non-decorative City street light pole located in the public right-of-way (sidewalk, towards the curb) that measures 28’ in height. The pole is adjacent to 1125 Brush St. which is the location of a residence. The closest residential structure is used for multi-family housing on a parcel to the southwest located approximately 12’-3” in distance. Interstate-980 is located to the east. This area is within the S-20 Historic Preservation overlay. However, the utility pole is not considered historic.

## **PROJECT DESCRIPTION**

The proposal is to establish a Monopole Telecommunications Facility (“small cell site”). The project involves the following:

- Use existing 28’ tall utility pole;
- Install one canister antenna within an antenna shroud measuring 24” long and 14.6” in diameter on the top of the pole up to 31’-6” in height;
- Install two radio units measuring 12.05” wide, 27.17” tall and 7.01” deep mounted at a height of 9’-3” and 12’-3” above ground;
- Install an associated breaker box 7’ above ground, and
- Paint the proposed antennas and associated equipment to match the pole and/or other utilities located on the pole.

## GENERAL PLAN ANALYSIS

The site is located in an Urban Residential area under the General Plan's Land Use and Transportation Element (LUTE). The intent of the area 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."* Given residents and visitor's increasing reliance upon cellular service for phone and internet, the proposal for a Monopole Telecommunications Facility that is not adjacent to a primary living space or historic structure conforms to this intent.

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

## ZONING ANALYSIS

The site is located within the Urban Residential - 1 Zone (RU-1). The intent of the RU-1 Zone is: *"to create, maintain, and enhance areas of the City that are appropriate for multi-unit, low-rise residential structures and neighborhood businesses where appropriate in locations with good access to transportation and other services."* Per OMC section 17.136.040 and 17.128.080 Monopole Telecommunications Facilities on City light poles in the RU-1 zone require a Conditional Use Permit and a Regular Design Review with additional findings.

Section 17.134.020 (3)(e) indicates that a Major Conditional Use Permit is required when a Monopole Telecommunications Facility is in, or within, 300 feet of the boundary of any residential zone or HBX zone. This proposal is in a residential zone. Section 17.128.080 (A)(3) also states: "When a monopole is in a Residential Zone or adjacent to a residential use, it must be set back from the nearest residential lot line a distance at least equal to its total height". The applicant has requested a Minor Variance for a 31'-6" monopole situated approximately 12'-3" feet from residential use.

Additionally, new wireless telecommunications facilities may also be subject to a Site Alternatives Analysis, Site Design Alternatives Analysis, and a satisfactory radio-frequency (RF) emissions report. Staff analyzes the proposal in consideration of these requirements in the 'Key Issues and Impacts' section of this report. Additionally, attachment to City infrastructure requires review by the City's Real Estate Department, Public Works Agency's Electrical Division, and Information Technology Department. Given residential and other customers increasing reliance upon cellular service for phone and Wi-Fi, the proposal for a Monopole Telecommunications Facility that is not adjacent to a primary living space or historic structure conforms to this intent.

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

## ENVIRONMENTAL DETERMINATION

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

## KEY ISSUES AND IMPACTS

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

### 17.128.080 Monopole Telecommunications Facilities.

**A. General Development Standards for Monopole Telecommunications Facilities.**

**1. Applicant and owner shall allow other future wireless communications companies including public and quasi-public agencies using similar technology to collocate antenna equipment and facilities on the monopole unless specific technical or other constraints, subject to independent verification, at the applicant's expense, at the discretion of the City of Oakland Zoning Manager, prohibit said collocation. Applicant and other wireless carriers shall provide a mechanism for the construction and maintenance of shared facilities and infrastructure and shall provide for equitable sharing of cost in accordance with industry standards. Construction of future facilities shall not interrupt or interfere with the continuous operation of applicant's facilities.**

The proposal involves using an existing City of Oakland metal street light pole for the wireless communication facility that would be available for future collocation purposes.

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

Recommended conditions of approval require painting and texturing the antenna and equipment to match the appearance of the metal pole. There is no equipment shelter or cabinet proposed, however, minimal equipment would be closely mounted on the side of the metal pole.

**3. When a monopole is in a Residential Zone or adjacent to a residential use, it must be set back from the nearest residential lot line a distance at least equal to its total height.**

The existing City light pole is located within a residential zone and is adjacent to residential use. The closest residential use is located approximately 12'-3' to the southwest (multi-story apartments). A Minor Variance has been requested to allow a reduction in setback requirements. The proposal meets the variance criteria included in that section of this attachment and would not create a negative visual impact on the neighborhood.

**4. In all zones other than the D-CE-5, D-CE-6, IG, CIX-2, and IO Zones, the maximum height of Monopole Telecommunications Facilities and connecting appurtenances may be increased from the otherwise required maximum height to forty-five (45) feet upon the granting of a Conditional Use Permit (see Chapter 17.134 for the Conditional Use Permit Procedure).**

The facility would not exceed the height of 31'-6".

**5. In the D-CE-5, D-CE-6, CIX-2, and IO Zones, the maximum height of Monopole Telecommunications Facilities and connecting appurtenances may be increased from the otherwise required maximum height to eighty (80) feet upon the granting of a Conditional Use Permit (see Chapter 17.134 for the Conditional Use Permit Procedure).**

This requirement does not apply. The subject property is not located in any of the described zoning districts. Nonetheless, the facility would not exceed the height of 31'-6".

**6. In the IG Zone, the maximum height of Monopole Telecommunications Facilities and connecting appurtenances may reach a height of forty-five (45) feet. These facilities may reach a height of eighty (80) feet upon the granting of Regular Design Review approval (see Chapter 17.136 for the Design Review Procedure).**

This requirement does not apply. The subject property is not located in the described zoning districts. Nonetheless, the facility would not exceed the height of 31'-6".

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

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

**8. Antennas may not extend more than fifteen (15) feet above their supporting structure.**

The proposed antenna would not be more than fifteen feet above the City light pole.

**17.128.110 Site location preferences.**

New wireless facilities shall generally be located on the following properties or facilities in order of preference:

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

Facilities locating on an A, B or C ranked preference do not require a site alternatives analysis. Facilities proposing to locate on a D through G ranked preference, inclusive, must submit a site alternatives analysis as part of the required application materials. A site alternatives analysis shall, at a minimum, consist of: a. The identification of all A, B and C ranked preference sites within one thousand (1,000) feet of the proposed location. If more than three (3) sites in each preference order exist, the three such closest to the proposed location shall be required. b. Written evidence indicating why each such identified alternative cannot be used. Such evidence shall be in sufficient detail that independent verification, at the applicant's expense, could be obtained if required by the City of Oakland Zoning Manager. Evidence should indicate if the reason an alternative was rejected was technical (e.g. incorrect height, interference from existing RF sources, inability to cover required area) or for other concerns (e.g. refusal to lease, inability to provide utilities).

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

**17.128.120 Site design preferences.**

New wireless facilities shall generally be designed in the following order of preference:

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

**D. Building or structure mounted antennas above roof line visible from public right-of-way.**

**E. Monopoles.**

**F. Towers.**

Facilities designed to meet an A or B ranked preference do not require a site design alternatives analysis. Facilities designed to meet a C through F ranked preference, inclusive, must submit a site design alternatives analysis as part of the required application materials. A site design alternatives analysis shall, at a minimum, consist of: a. Written evidence indicating why each such higher preference design alternative cannot be used. Such evidence shall be in sufficient detail that independent verification could be obtained if required by the City of Oakland Zoning Manager. Evidence should indicate if the reason an alternative was rejected was technical (e.g. incorrect height, interference from existing RF sources, inability to cover required area) or for other concerns (e.g. inability to provide utilities, construction or structural impediments).

The proposal most closely conforms to 'E' (monopole) and the applicant has submitted a satisfactory site design alternatives analysis (Attachment E).

**17.128.130 Radio frequency emissions standards.**

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

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

A satisfactory report is attached to this report (Attachment F).

Analysis

The proposed Monopole Wireless Communications Facility would be placed on an existing City street light pole that is not historic and is not decorative. The antenna is intended to be placed at the top of the pole, would have no projection over the sidewalk or street and would not cause a view obstruction. Staff, therefore, finds the proposal to provide an essential service with a least-intrusive possible design. Draft conditions of approval stipulate that the components be painted and textured to match the metal pole in appearance for camouflaging.

Outreach

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

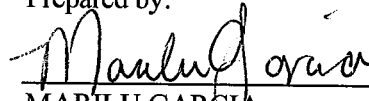


In conclusion, staff recommends approval subject to recommended Conditions of Approval.

**RECOMMENDATIONS:**

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

Prepared by:



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MARILU GARCIA  
Planner I

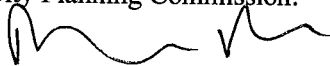
Reviewed by:



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SCOTT MILLER  
Zoning Manager

Approved for forwarding to the  
City Planning Commission:



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DARIN RANELLETTI, Deputy Director  
Planning and Building Department

**ATTACHMENTS:**

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

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**ATTACHMENT A: FINDINGS**

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This proposal meets the required findings under General Use Permit Criteria (OMC Section 17.134.050; Conditional Use Permit Criteria for Monopole Facilities (OMC Section 17.128.080 (C)); Regular Design Review for Non-Residential Facilities (OMC Section 17.136.050 (B)), Telecommunications Regulations/Design Review Criteria for Monopole Telecommunications Facilities (OMC Sec. 17.128.080(B)); Minor Variance Criteria (OMC 17.148.050(A)) and S-20 Design Review Criteria (OMC SEC. 17.100B.050), and as set forth below. Required findings are shown in **bold type**; explanations as to why these findings can be made are in normal type.

**GENERAL USE PERMIT CRITERIA (OMC SEC. 17.134.050)**

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

The proposal involves the placement of a Monopole Facility in a residential zone. Specifically, it will provide for one new antenna to the upper portion of an existing City light pole located in the public right-of-way. The antenna and equipment is to be camouflaged and match the metal pole. The project will be compatible with the neighborhood; it meets special findings and is intended to improve wireless services in the neighborhood.

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

The intent is to place a wireless telecommunications facility in a residential zone to improve wireless services in the area. The inclusion of camouflaging paint will lessen the impacts of the proposed facility.

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

The placement of the proposed monopole facility will provide wireless communication services in the neighborhood.

**D. That the proposal conforms to all applicable design review criteria set forth in the design review procedure at Section 17.136.050.**

The proposal conforms to Design Review findings which are included in that section of this attachment of Findings for Approval.

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

The project is consistent with the following Objectives of the Oakland General Plan's Land Use & Transportation Element (adopted 1998):

Civic and Institutional Uses, Objective N2: Encourage adequate civic, institutional, and educational facilities located within Oakland, appropriately designed and sited to serve the community.

Infrastructure, Objective N12: Provide adequate infrastructure to meet the needs of Oakland's growing community.

The proposal to expand a wireless telecommunications facility will not create functional issues for the area and the project possesses a satisfactory emissions report.

**SECTION 17.128.080(C) – CONDITIONAL USE PERMIT CRITERIA FOR MONOPOLE FACILITIES.**

**1. The project must meet the special design review criteria listed in subsection B of this section.**

The proposal conforms to Design Review findings, which are included in that section of this attachment of Findings for Approval.

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

The request is part of proposed small cell network. This network consists of a series of radio access nodes connected to small telecommunications antennas that distribute wireless communication signals. Monopoles within the network may be located within one-thousand five-hundred feet. The applicant has submitted documentation to demonstrate that this arrangement is technologically required and/or visually preferable to a minimum distance separation. (Attachment E)

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

The Monopole Facility will not alter or disrupt the current overall character of the community as it will be attached to an existing City light pole. The antenna will be painted and texturized to match existing metal pole in appearance.

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

An independent expert review may be requested by the specified parties. No expert review has been requested as of now.

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

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

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

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

The proposal will not create a view obstruction, be directly adjacent to a primary living space such as a living room or bedroom window, or be located on an historic structure. Improving wireless services in this area will enable better response from 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**

The site is located in an Urban Residential area under the General Plan's Land Use and Transportation Element (LUTE). The intent of the area 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."* Given residential and other customers' increasing reliance upon cellular service for phone and internet, the proposal for a Monopole Telecommunications Facility that is not adjacent to a primary living space or historic structure conforms to this intent.

**TELECOMMUNICATIONS REGULATIONS/DESIGN REVIEW CRITERIA FOR MONOPOLE TELECOMMUNICATIONS FACILITIES (OMC SEC. 17.128.080(B))**

**1. Collocation is to be encouraged when it will decrease visual impact and collocation is to be discouraged when it will increase negative visual impact.**

The project does not involve collocation as it involves the establishment of a new telecommunications facility; however, the project should not preclude any future proposals for location at the site.

**2. Monopoles should not be sited to create visual clutter or negatively affect specific views.**

The Monopole Facility is sited at the median where it will not create clutter or negatively affect specific views. The closest structure is an apartment and the Monopole Facility is not adjacent to any windows.

**3. Monopoles shall be screened from the public view wherever possible.**

The Monopole Facility will be camouflaged and placed as an attachment to a replacement of an existing light pole. The antenna and equipment will be texturized to match the pole in appearance. The antenna will be placed on top of the City light pole and not adjacent to a primary living area or window.

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

Recommended conditions of approval require painting and texturing the antenna and equipment to match the appearance of the metal pole. There is no equipment shelter or cabinet proposed, however minimal equipment would be closely mounted on the side of the metal pole.

**5. Site location and development shall preserve the preexisting character of the surrounding buildings and land uses and the zone district as much as possible. Wireless communication towers shall be integrated through location and design to blend in with the existing characteristics of the site to the extent practical. Existing on-site vegetation shall be preserved or improved, and disturbance of the existing topography shall be minimized, unless such disturbance would result in less visual impact of the site to the surrounding area.**

The proposed Monopole Facility will be placed on an existing non-decorative City Light pole. This enables the preservation of character in the area and will not pose a negative visual impact as the proposal will be camouflaged to match the pole. There is no impact on existing vegetation or topography as this is an existing City light pole.

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

The minimal clearance to the facility will be seven-feet.

**MINOR VARIANCE FINDINGS (OMC 17.148.050(A))**

**1. That such strict compliance would preclude an effective design solution improving livability, operational efficiency, or appearance.**

The applicant intends to improve wireless communication services and fill a gap in service in this neighborhood. Strict compliance would preclude this intent: that may require installing a new pole, and the proposed design will not create a view obstruction.

**2. That such strict compliance would preclude an effective design solution fulfilling the basic intent of the applicable regulation.**

Strict compliance would preclude an effective design solution to improve wireless communication services in this area. The City light pole is existing and the antenna would not cause view obstructions.

**3. That the variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy.**

The proposal would not be detrimental to the public welfare or contrary to adopted plans or development policy. The monopole would be placed on an existing City light pole fronting and open yard and would not adversely affect the character of the surroundings. The antenna and equipment would be camouflaged to reduce visual impacts and would provide wireless communications services.

**4. That the variance will not constitute a grant of special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the zoning regulations.**

The variance would not constitute a grant of privilege. Monopole wireless communication facilities are allowed as a Conditional Use in this zoning district. Findings for the Conditional Use Permit are included above. The antenna would be placed on an existing light pole that is not in front of any windows or living areas. The proposal is consistent with the purposes of the zoning regulations.

**5. That the elements of the proposal requiring the variance (e.g., elements such as buildings, walls, fences, driveways, garages and carports, etc.) conform with the regular design review criteria set forth in the design review procedure at Section 17.136.050**

The proposal for a Monopole Wireless Communication Facility conforms with the Regular Design Review criteria specified in that section of this attachment of Findings of Approval.

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

The proposal for a Monopole Wireless Communication Facility conforms with the General Plan and applicable guidelines as specified in a previous sections of this attachment of Findings of Approval.

**S-20 DESIGN REVIEW CRITERIA (OMC SEC. 17.100B.050)**

**In the S-20 Zone, proposals requiring Regular design review approval pursuant to Section 17.100B.030 may be granted only upon determination that the proposal conforms to the Regular design review criteria set forth in the design review procedure in Chapter 17.136 and to all of the following additional criteria:**

**A. That the proposal will not substantially impair the visual, architectural, or historic value of the affected site or facility. Consideration shall be given to design, form, scale, color, materials, texture, lighting, detailing and ornamentation, landscaping, signs, and any other relevant design element or effect, and, where applicable, the relation of the above to the original design of the affected facility.**

The existing City light pole is a standard metal pole with no decorations. It is located across from Interstate 980 and adjacent to an open side yard. The proposal would not impair the visual, architectural, or historic value of the site or facility. The antenna and compact equipment would be camouflaged to match the existing pole.

**B. That the proposed development will not substantially impair the visual, architectural, or historic value of the total setting or character of the S-20 Historic Preservation Zone or of neighboring facilities. Consideration shall be given to the desired overall character of any such area or grouping of facilities, including all design elements or effects specified in Subsection (A) above; and**

The proposed development would not substantially impair the visual, architectural, or historic value of the total setting or character of the S-20 Historic Preservation Zone and neighboring facilities. The wireless communication facility would be placed on an existing metal pole not in front of any windows or living space and is not a historical structure. The proposal would not have a negative impact on the neighborhood.

**C. That the proposal conforms with the Design Guidelines for Landmarks and Preservation Districts as adopted by the City Planning Commission and, as applicable for certain federally-related projects, with the Secretary of the Interior's Standards for the Treatment of Historic Properties.**

The proposal conforms with the applicable guidelines. The City light pole would preserve its character while filling a gap in wireless communication services in the area.

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**Attachment B: Conditions of Approval**

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**Approved Use**

The project shall be constructed and operated in accordance with the authorized use as described in the approved application materials, **staff report** and the approved plans **dated March 31, 2017 and submitted May 6, 2017**, as amended by the following conditions of approval and mitigation measures, if applicable (“Conditions of Approval” or “Conditions”).

**2. Effective Date, Expiration, Extensions and Extinguishment**

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

**3. Compliance with Other Requirements**

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

**4. Minor and Major Changes**

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

**5. Compliance with Conditions of Approval**

- a. The project applicant and property owner, including successors, (collectively referred to hereafter as the “project applicant” or “applicant”) shall be responsible for compliance with all the Conditions of Approval and any recommendations contained in any submitted and approved technical report at his/her sole cost and expense, subject to review and approval by the City of Oakland.

- b. The City of Oakland reserves the right at any time during construction to require certification by a licensed professional at the project applicant's expense that the as-built project conforms to all applicable requirements, including but not limited to, approved maximum heights and minimum setbacks. Failure to construct the project in accordance with the Approval may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension, or other corrective action.
- c. Violation of any term, Condition, or project description relating to the Approval is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approval or alter these Conditions if it is found that there is violation of any of the Conditions or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions. The project applicant shall be responsible for paying fees in accordance with the City's Master Fee Schedule for inspections conducted by the City or a City-designated third-party to investigate alleged violations of the Approval or Conditions.

**6. Signed Copy of the Approval/Conditions**

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

**7. Blight/Nuisances**

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

**8. Indemnification**

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

**9. Severability**



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

#### **10. Job Site Plans**

*Ongoing throughout demolition, grading, and/or construction*

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

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

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

#### **12. Public Improvements**

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

#### **13. Construction Days/Hours**

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

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

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

Any construction activity proposed outside of the above days and hours for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case-by-case basis by the City, with criteria including the urgency/emergency nature of the work, the proximity of residential or other sensitive uses, and a consideration of nearby

residents'/occupants' preferences. The project applicant shall notify property owners and occupants located within 300 feet at least 14 calendar days prior to construction activity proposed outside of the above days/hours. When submitting a request to the City to allow construction activity outside of the above days/hours, the project applicant shall submit information concerning the type and duration of proposed construction activity and the draft public notice for City review and approval prior to distribution of the public notice.

When Required: During construction

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

#### **PROJECT-SPECIFIC CONDITIONS**

##### **14. Emissions Report**

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

Requirement: Prior to a final inspection

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

Initial Approval: N/A

Monitoring/Inspection: N/A

##### **15. Camouflage**

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

When Required: Prior to a final inspection

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

##### **16. Operational**

Requirement: Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

##### **17. Possible District Undergrounding PG&E Pole**

Requirement: Should the City light pole be permanently removed for purposes of district undergrounding or otherwise, the telecommunications facility can only be re-established by applying for and receiving approval of a new application to the Oakland Planning Bureau as required by the regulations.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: N/A

**18. Graffiti Control**

Requirement:

- a. During construction and operation of the project, the project applicant shall incorporate best management practices reasonably related to the control of graffiti and/or the mitigation of the impacts of graffiti. Such best management practices may include, without limitation:
  - a. The project applicant shall remove graffiti by appropriate means within seventy-two (72) hours. Appropriate means include the following:
    - i. Removal through scrubbing, washing, sanding, and/or scraping (or similar method) without damaging the surface and without discharging wash water or cleaning detergents into the City storm drain system.
    - ii. For galvanized poles, covering with new paint to match the color of the surrounding surface.
    - iii. Replace pole numbers.

When Required: Ongoing

Initial Approval: N/A

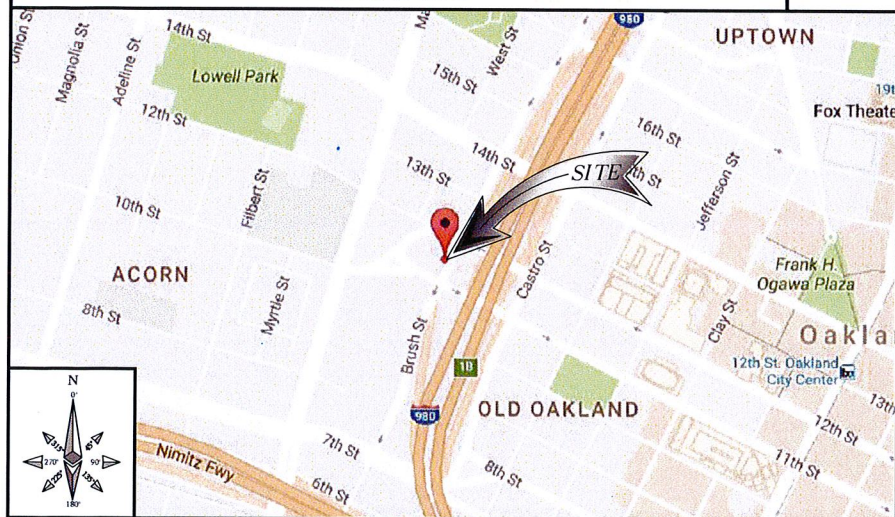
Monitoring/Inspection: Bureau of Building

# NW-CA-DTOAKLAN 00078A

ADJACENT TO (IN PROW)  
1125 BRUSH STREET  
OAKLAND, CA 94607

## LOCAL MAP

NO SCALE



## VICINITY 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, 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.



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



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

THESE DRAWINGS ARE COPYRIGHTED AND ARE THE PROPERTY OF BLACK & VEATCH; PRODUCED SOLELY FOR THE USE OF OUR CLIENT. ANY REPRODUCTION OR USE OF THE INFORMATION CONTAINED WITHIN SAID DRAWINGS IS PROHIBITED WITHOUT WRITTEN CONSENT BY BLACK & VEATCH.

PROJECT NO.	DRAWN BY	CHECKED BY
192417.6141	WHN	LW

REV	DATE	DESCRIPTION
A	03/31/17	ISSUED FOR REVIEW

PRELIMINARY

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

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

SITE ADDRESS  
00078A  
ADJACENT TO (IN PROW)  
1125 BRUSH STREET  
OAKLAND, CA 94607

SHEET TITLE  
TITLE SHEET

SHEET NUMBER  
**T-1**

## SHEET INDEX

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
GN-1	GENERAL NOTES AND LEGEND
C-1	OVERALL SITE PLAN
C-2	POLE ELEVATIONS
C-2.1	RISER DETAILS
C-3	EQUIPMENT DETAILS
C-4	EQUIPMENT DETAILS
C-5	CONCEPTUAL WIRING DIAGRAMS

## Attachment C

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	APPLICANT
OWNER: CITY OF OAKLAND	COMPANY: EXTENET SYSTEMS CALIFORNIA, LLC.
ADDRESS: 7101 EDGEWATER DRIVE OAKLAND, CA 94621	CONTACT: MATTHEW YERGOVICH
PHONE: -	ADDRESS: 2000 CROW CANYON PLACE, SUITE 210 SAN RAMON, CA 94583
	PHONE: (415) 596-3474
	E-MAIL: MYERGOVICH@EXTENETSYSTEMS.COM
AGENT	ENGINEER
COMPANY: BLACK & VEATCH	COMPANY: BLACK & VEATCH
CONTACT: ANA GOMEZ	ENGINEER: AARON EVANS
ADDRESS: 2999 OAK ROAD, SUITE 490 WALNUT CREEK, CA 94597	PHONE: (952) 896-0751
PHONE: (913) 458-9148	E-MAIL: EVANSRA@BV.COM
E-MAIL: GOMEZABARCAA@BV.COM	
PROJECT DATA	
LATITUDE: 37.805576	
LONGITUDE: -122.279824	
POLE #: N1054	
ELEVATION: NA	
ZONING JURISDICTION: CITY OF OAKLAND	
ZONING DISTRICT: RU-1/S-20	
NEAREST A.P.N.: 002-0009-01503	
OCCUPANCY: U, UNMANNED	
CONSTRUCTION TYPE: ATTACHMENTS TO A METAL/STREET LIGHT 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

**GENERAL NOTES**

- THESE NOTES SHALL BE CONSIDERED A PART OF THE WRITTEN SPECIFICATIONS, CONTRACT AND CONSTRUCTION DOCUMENTS.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (800) 227-2600, AT LEAST TWO WORKING DAYS PRIOR TO THE START OF ANY EXCAVATION.

**DEFINITIONS**

- "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.
- "SIMILAR" MEANS COMPARABLE TO CHARACTERISTICS FOR THE CONDITION NOTED. VERIFY DIMENSIONS AND ORIENTATION ON PLAN.
- "AS REQUIRED" MEANS AS REQUIRED BY REGULATORY REQUIREMENTS, BY REFERENCED STANDARDS, BY EXISTING CONDITIONS, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICE, OR BY THE CONTRACT DOCUMENTS.
- "ALIGN" MEANS ACCURATELY LOCATE FINISH FACES OF MATERIALS IN THE SAME PLANE.
- 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.
- 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.
- FURNISH : SUPPLY ONLY, OTHERS TO INSTALL. INSTALL: INSTALL ITEMS FURNISHED BY OTHERS. PROVIDE: FURNISH AND INSTALL.

**FIELD WELDING NOTES:**

- 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.
- 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.
- WELDING TECHNIQUE MUST MINIMIZE TEMPERATURE RISE ON THE INSIDE SURFACE OF THE POLE AND ALSO VOLATILIZE 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 MANUFACTURER'S INSTRUCTIONS FOR STORAGE AND USE OF ELECTRODES. AVOID REMOVING ELECTRODES FROM MANUFACTURER'S PACKAGING UNTIL READY FOR IMMEDIATE USE.
- WELDING MAY PRODUCE TOXIC FUMES. REFER TO ANSI STANDARD Z49.1 "SAFETY IN WELDING AND CUTTING" FOR PROPER PRECAUTIONS.
- 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**

- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
- 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.
- 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.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
- 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**

- ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
- 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.
  - RF CONNECTION BOTH SIDES OF THE CONNECTOR.
  - 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.
- ALL 8M ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).
- ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).
- ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.
- ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 - 29.8 NM).
- ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 - 2.3 NM).

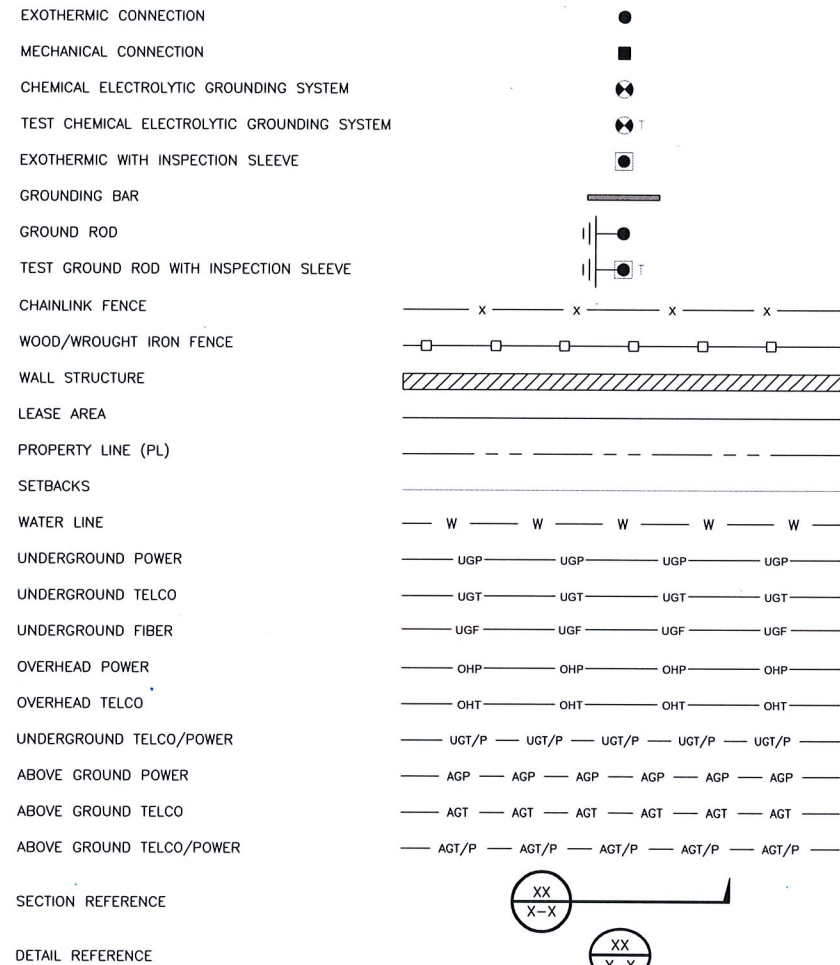
**ROW UTILITY POLE CONSTRUCTION NOTES**

- NO BOLT THREADS TO PROTRUDE MORE THAN 1-1/2" [0.38M].
- FILL ALL HOLES LEFT IN POLE FROM REARRANGEMENT OF CLIMBERS.
- ALL CLIMB STEPS NEXT TO CONDUIT SHALL HAVE EXTENDED STEPS.
- CABLE NOT TO IMPEDE 15" [381M] CLEAR SPACE OFF POLE FACE (12:00).
- 90 SHORT SWEEPS UNDER ANTENNA ARM. ALL CABLES MUST ONLY TRANSITION ON THE INSIDE OR BOTTOM OF ARMS (NO CABLE ON TOP OF ARMS).
- USE 90 CONNECTOR AT CABLE CONNECTION TO ANTENNAS.
- USE 1/2" [.013M] CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.
- FILL VOID AROUND CABLES AT CONDUIT OPENING WITH FOAM SEALANT TO PREVENT WATER INTRUSION.

**NODE SITE POWER SHUT DOWN PROCEDURES**

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

**LEGEND**



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

BLACK & VEATCH CORPORATION  
2999 OAK ROAD  
SUITE 490  
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192417.6141	WHN	LW

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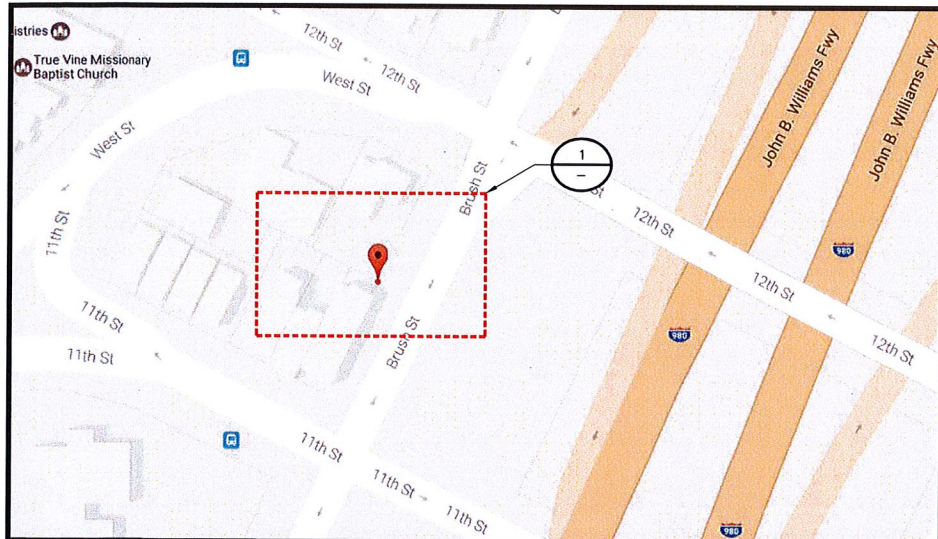
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EXTENET SYSTEMS (CA) LLC  
2000 CROW CANYON PLACE  
SUITE 210  
SAN RAMON, CA 94583

SITE ADDRESS  
00078A  
ADJACENT TO (IN PROW)  
1125 BRUSH STREET  
OAKLAND, CA 94607

SHEET TITLE  
GENERAL NOTES  
AND LEGEND

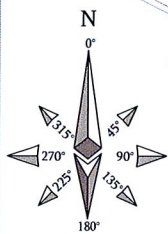
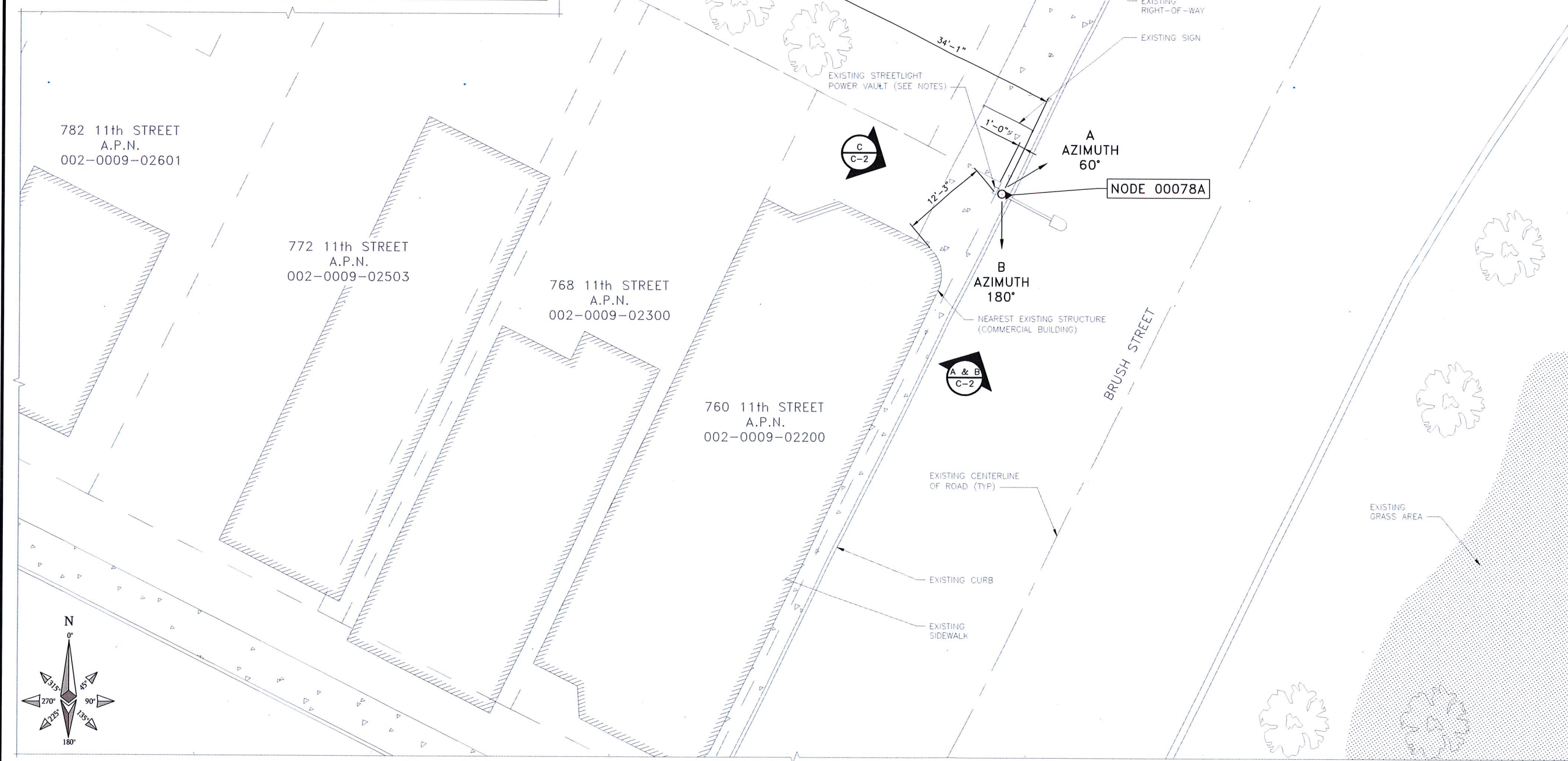
SHEET NUMBER  
**GN-1**



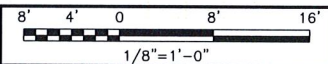
SITE PLAN MAP

NO SCALE

A



OVERALL SITE PLAN



**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.

- NOTES**
- EXTENET TO UTILIZE EXISTING CITY OF OAKLAND STREETLIGHT ELECTRICAL DUCT STRUCTURE TO NEAREST COMMERCIAL POWER CONNECTION POINT.
- OR
- EXTENET TO BRING COMMERCIAL POWER AND FIBER OPTIC CABLE TO CITY OF OAKLAND STREETLIGHT ELECTRICAL BOX SERVING SPECIFIED EXISTING CITY OF OAKLAND STREETLIGHT AND UTILIZE EXISTING CONDUIT CONNECTION BETWEEN THE ELECTRIC BOX AND STREETLIGHT.



INTERNAL REVIEW	
CONSTRUCTION SIGNATURE	DATE
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SITE ADDRESS  
 00078A  
 ADJACENT TO (IN PROW)  
 1125 BRUSH STREET  
 OAKLAND, CA 94607

SHEET TITLE  
 OVERALL SITE PLAN

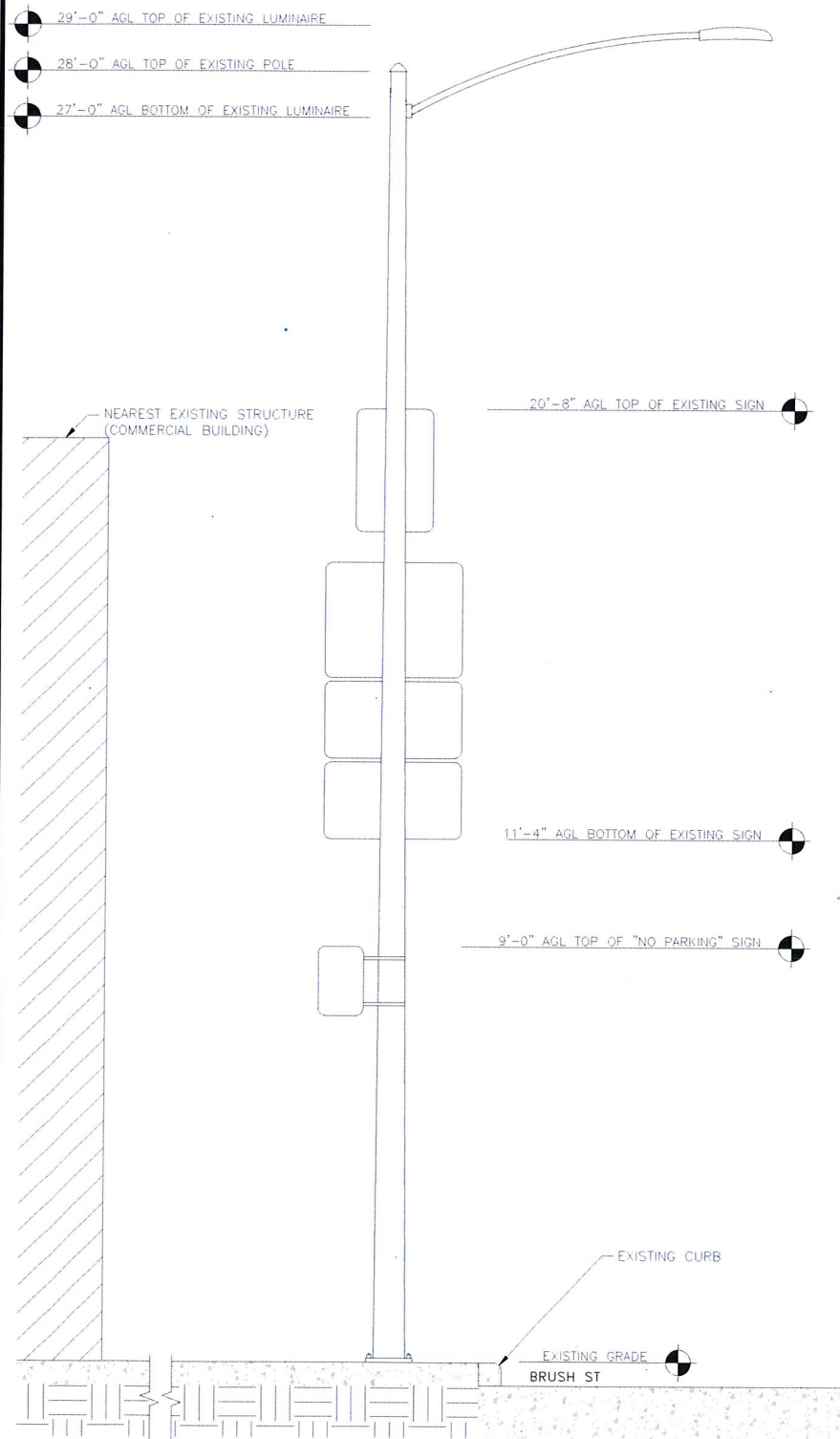
SHEET NUMBER  
**C-1**

**NOTE**

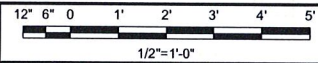
THESE DRAWINGS HAVE BEEN CREATED BASED ON THE ASSUMPTION THAT THE STRUCTURE HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADING. IT IS THE RESPONSIBILITY OF THE POLE OWNER TO CONFIRM THAT THE PROPOSED LOADING IS WITHIN THE ORIGINAL DESIGN CAPACITY OF THE STRUCTURE.

**NOTES**

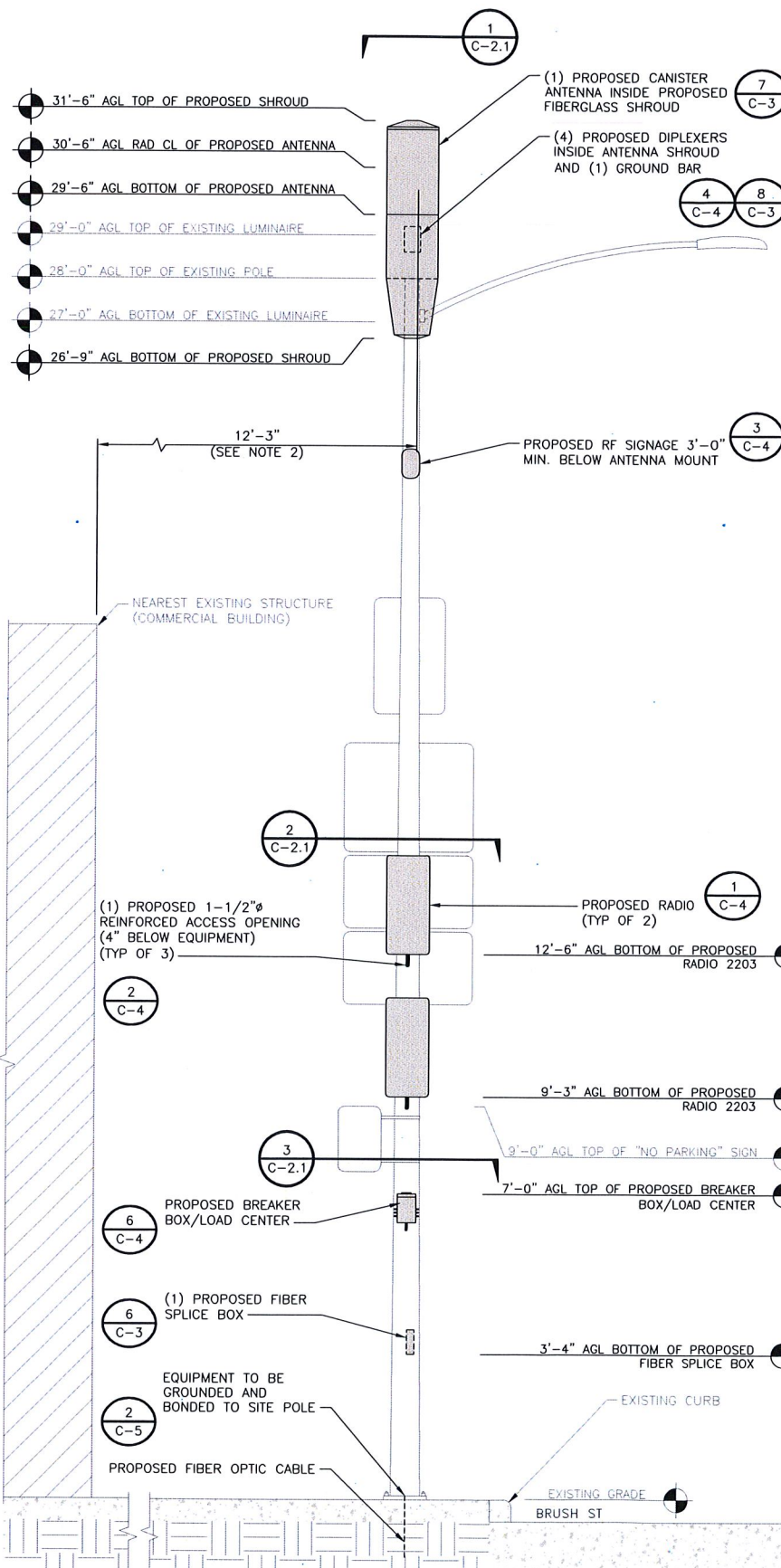
1. ALL PROPOSED EQUIPMENT TO BE PAINTED TO MATCH EXISTING CONDITIONS.
2. DISTANCE FROM ANTENNA FACE TO NEAREST BUILDING (1125 BRUSH STREET). SEE SHEET C-1 FOR ORIENTATION.



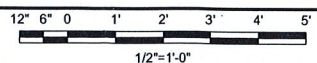
EXISTING SOUTHWEST ELEVATION



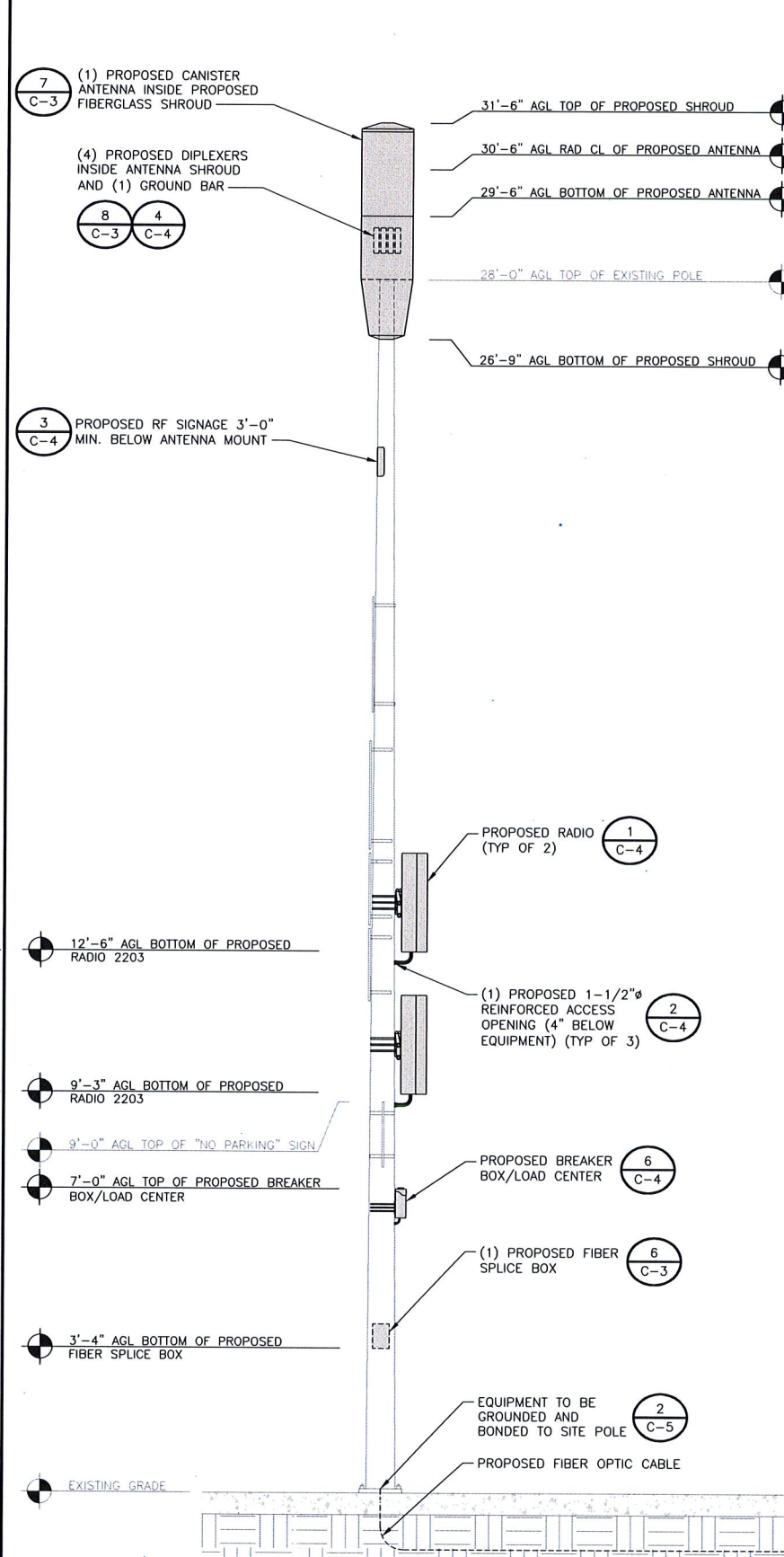
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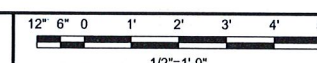
PROPOSED SOUTHWEST ELEVATION



B



PROPOSED NORTHWEST ELEVATION



C



INTERNAL REVIEW	
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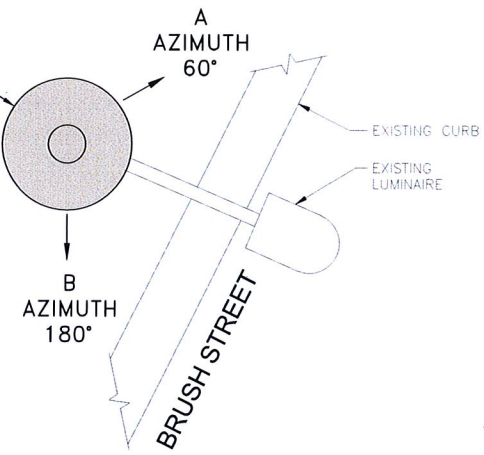
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SUITE 210  
SAN RAMON, CA 94583

SITE ADDRESS  
00078A  
ADJACENT TO (IN PROW)  
1125 BRUSH STREET  
OAKLAND, CA 94607

SHEET TITLE  
POLE ELEVATIONS

SHEET NUMBER  
**C-2**

(1) PROPOSED CANISTER ANTENNA INSIDE PROPOSED FIBERGLASS SHROUD



ANTENNA SPACE PLAN VIEW

NO SCALE

1

EXISTING SIGNS

EXISTING LIGHT POLE

(2) PROPOSED RADIOS (STACKED)

RADIO SPACE PLAN VIEW

NO SCALE

2

EXISTING SIGNS

EXISTING LIGHT POLE

(1) PROPOSED BREAKER BOX/LOAD CENTER

EQUIPMENT PLAN VIEW

NO SCALE

3



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

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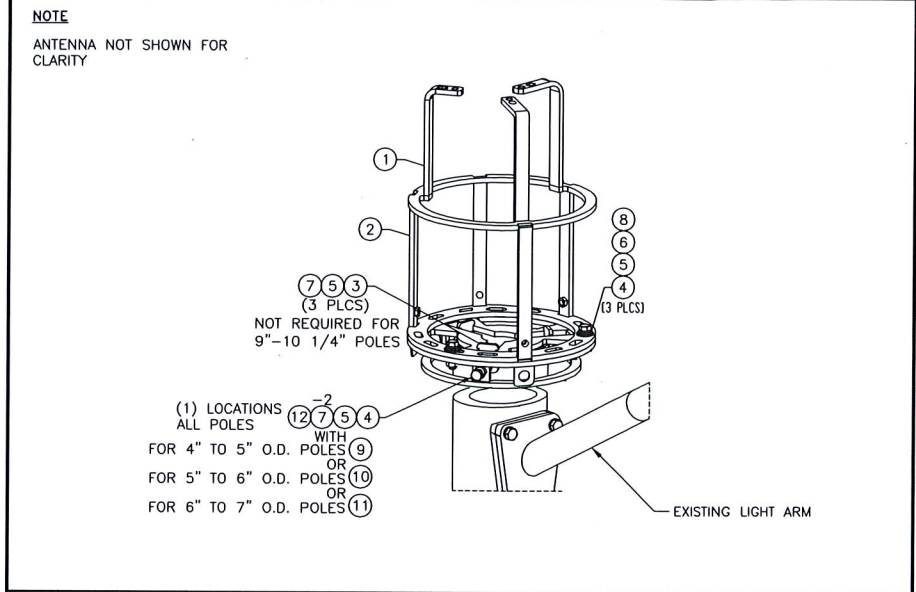
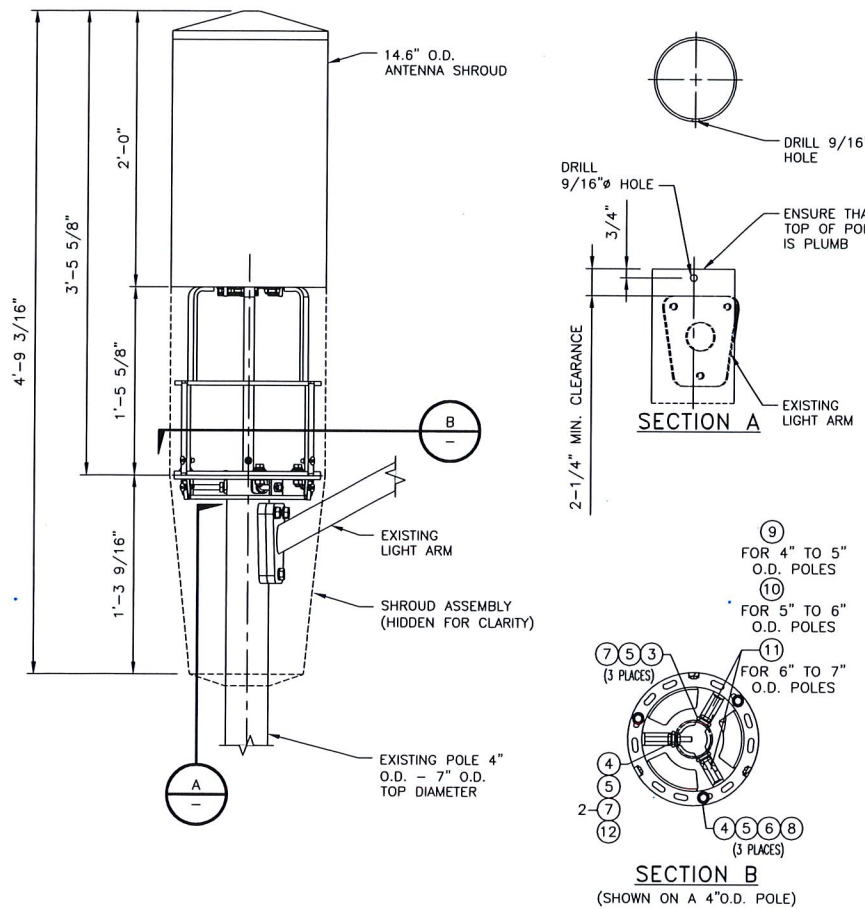
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SAN RAMON, CA 94583

SITE ADDRESS  
00078A  
ADJACENT TO (IN PROW)  
1125 BRUSH STREET  
OAKLAND, CA 94607

SHEET TITLE  
RISER DETAILS

SHEET NUMBER  
**C-2.1**

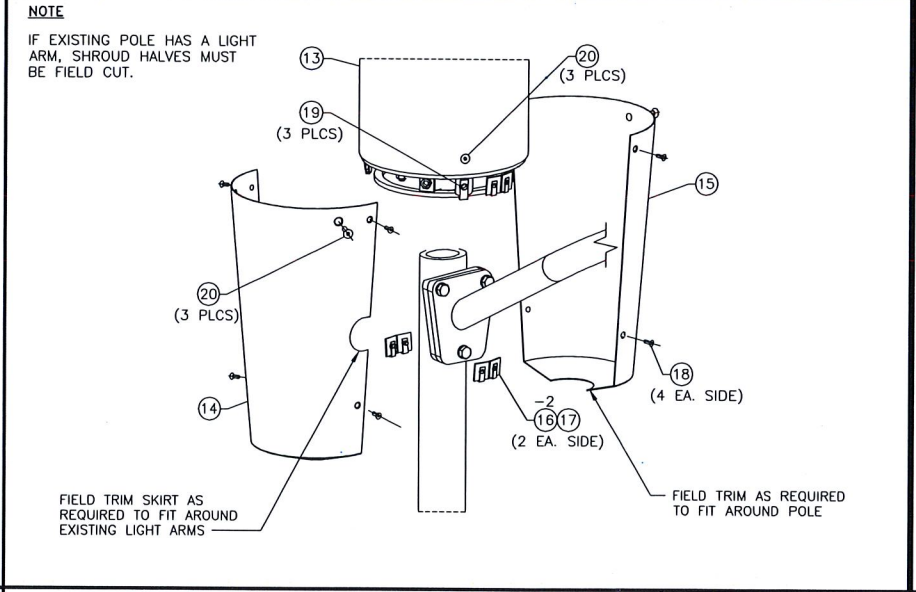




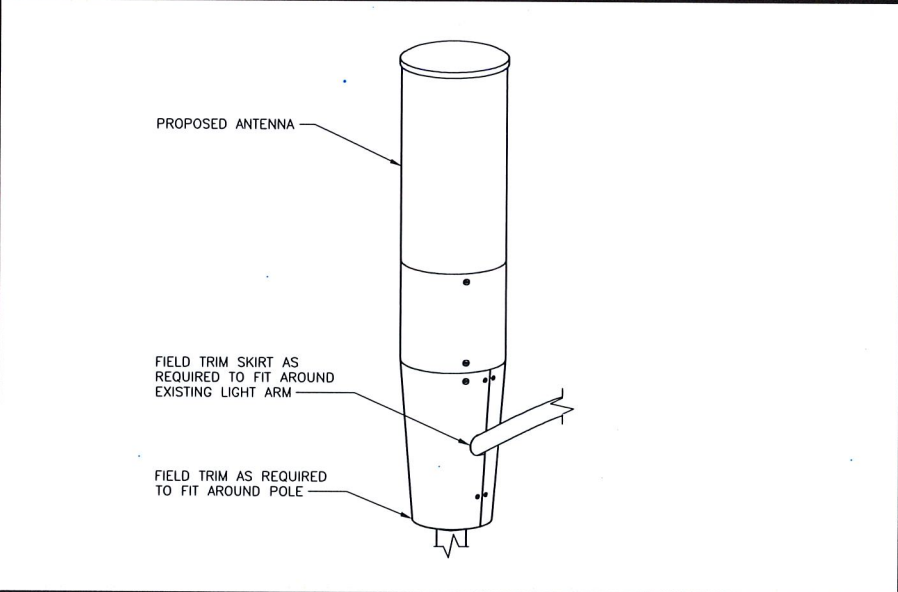
ITEM #	PART #	DESCRIPTION	QTY.	UNIT (WT. (lbs))
CLAMP-ON BRACKET PARTS				
1	WA-1185	3/8" x 1-1 7/8" O.D. A36, TOP MOUNT WLD MNT	1	18.1
2	WA-1194	3/8" x 13 7/8" O.D. A36, TOP CAP WLD MNT	1	13.9
3	PL-1655	1/4"x1 5/8"x2 1/8" A36, PLATE	3	0.2
SHROUD PARTS				
4	WA-1193	14GA. x 14 1/4" TD x 4 1/4" BD x 15 9/16" A569, SKIRT	2	7.6
5	14.25R17.625	14 1/4" O.D. x 17 5/8" FIBERGLASS SHROUD HALF	2	2
6	14209-4	11GA. x 1 1/2" x 2 15/16" A36, FORMED PLATE	4	0.1
HARDWARE				
7	70399	1/4" x 3/4" SS, CNTR SUNK SOCKET HD SCREW	8	0.01
8	55500	1/4-20 U-STYLE SPEED NUT	8	0.02
9	91137	3/8" x 1" ROUND HEAD SLOTTED NYLON SCREW	4	0.01
10	70428	3/8" x 1 1/4" S.S. COUNTERSUNK SCKT HD SCREW	12	0.01
11	55510	3/8-16 SPEED NUT	4	0.04
12	71011	1/2" x 1 1/2" S.S. BOLT	2	0.1
13	71012F	1/2" x 1 3/4" S.S. FULLY THD'D BOLT	3	0.1
14	71013F	1/2" x 2" S.S. FULLY THD'D BOLT	2	0.2
15	71015F	1/2" x 2 1/2" S.S. FULLY THD'D BOLT	2	0.2
16	71052F	1/2" x 3" S.S. FULLY THD'D BOLT	2	0.2
17	71051F	1/2" x 3 1/2" S.S. FULLY THD'D BOLT	2	0.2
18	71053F	1/2" x 4" S.S. FULLY THD'D BOLT	2	0.3
19	80333	1/2" x 6" S.S. THREADED ROD	1	0.3
20	44005	1/2" NYLON FLAT WASHER	3	0.01
21	40027	1/2" x 1.032" O.D. x .121" S.S. FLAT WASHER	4	0.02
22	43020	1/2" S.S. LOCK WASHER	7	0.01
23	52005	1/2" S.S. JAM NUT	5	0.04
TOTAL GALV. WT.			128	

CLAMP-ON BRACKET NO SCALE 2

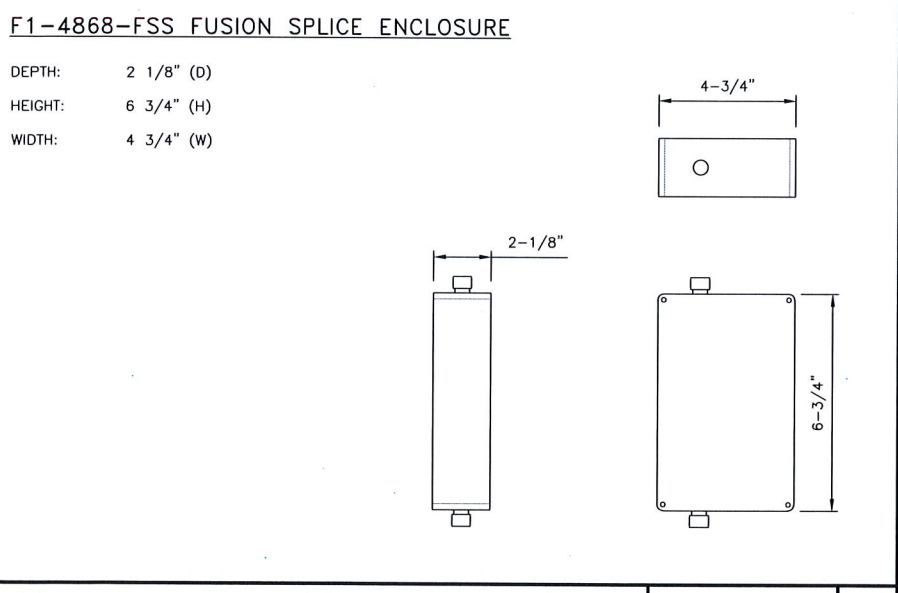
EQUIPMENT TABLE NO SCALE 3



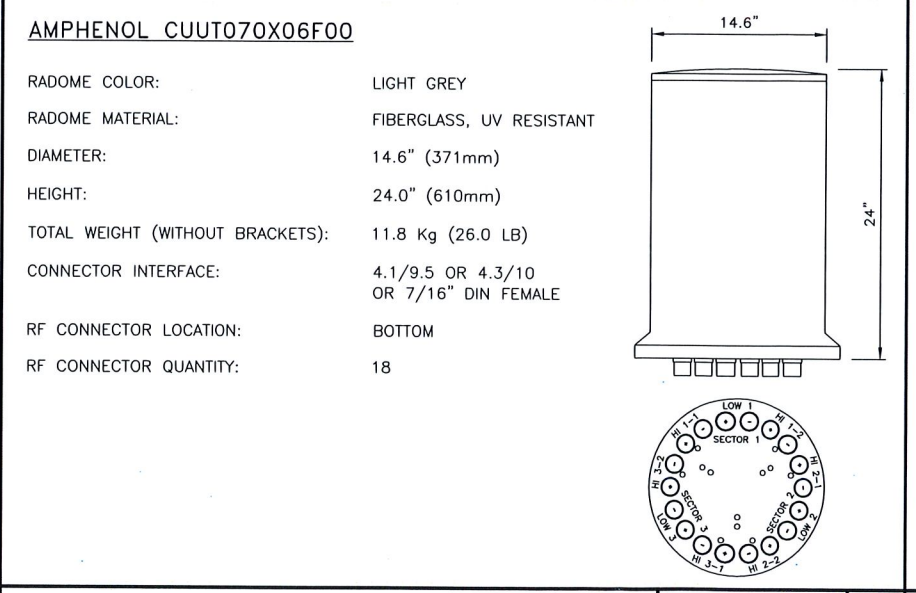
SHROUD ASSEMBLY NO SCALE 4



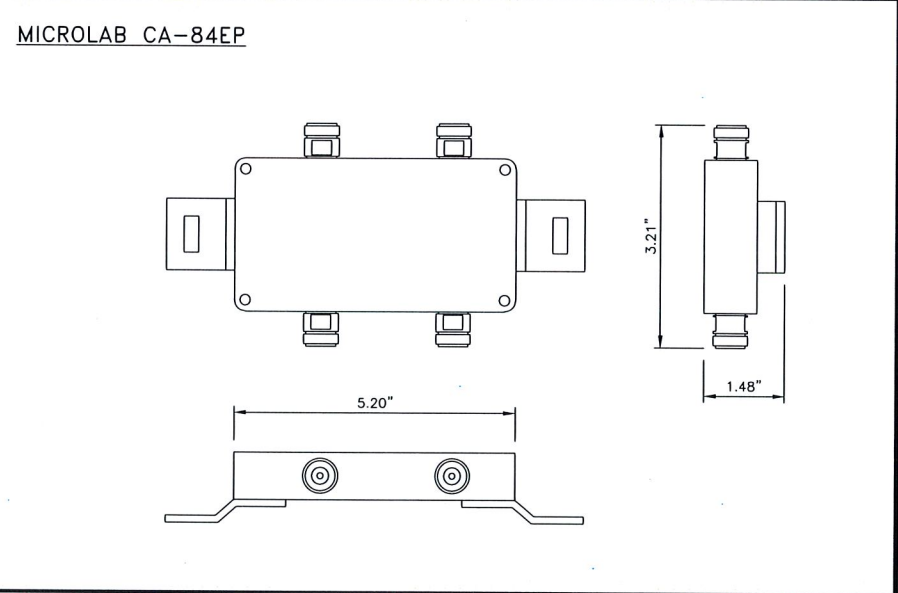
SHROUD ASSEMBLY (AS ASSEMBLED) NO SCALE 5



FIBER SPLICE BOX SPECIFICATIONS NO SCALE 6



ANTENNA SPECIFICATIONS NO SCALE 7



DIPLEXER SPECIFICATIONS NO SCALE 8

**extenet** mConnectivity Everywhere  
SYSTEMS

INTERNAL REVIEW

CONSTRUCTION SIGNATURE DATE

RF SIGNATURE DATE

REAL ESTATE SIGNATURE DATE

**BLACK & VEATCH**

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2000 CROW CANYON PLACE  
SUITE 210  
SAN RAMON, CA 94583

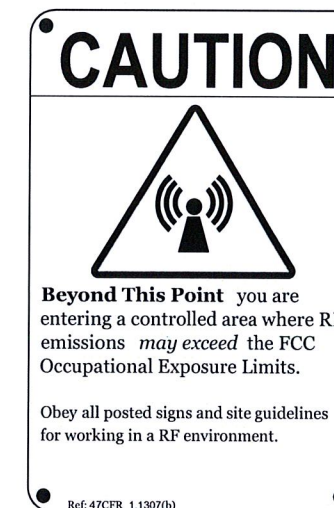
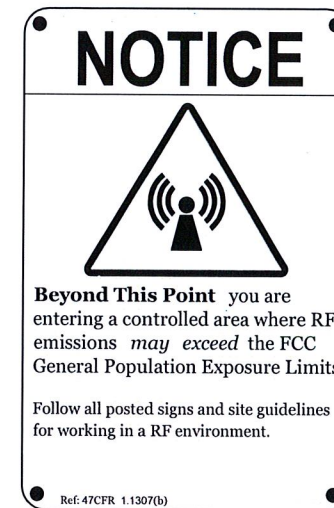
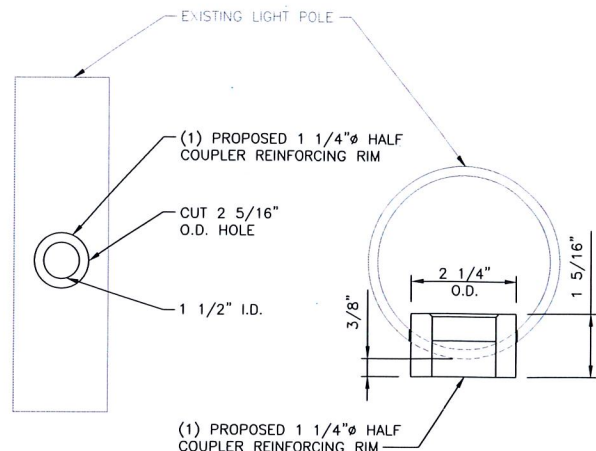
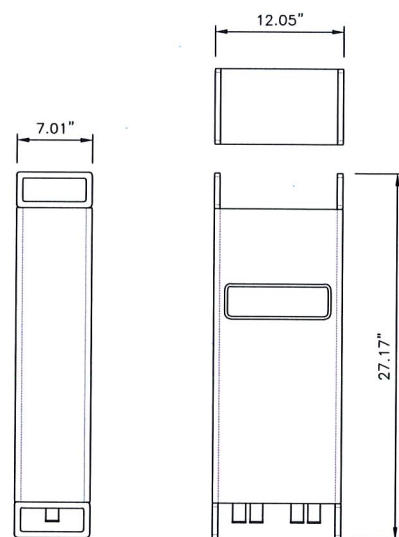
SITE ADDRESS  
00078A  
ADJACENT TO (IN PROW)  
1125 BRUSH STREET  
OAKLAND, CA 94607

SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER  
**C-3**

**ERICSSON RRUS-32**

LENGTH: 27.17" (690MM)  
 WIDTH: 12.05" (306MM)  
 DEPTH: 7.01" (178MM)  
 TOTAL WEIGHT (WITHOUT BRACKETS): <23 Kg



NOTE: SPECIFIC EME PLACARD WILL BE PLACED AFTER EME REPORT



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 OAKLAND, CA 94607

SHEET TITLE  
 EQUIPMENT DETAILS

SHEET NUMBER

**C-4**

**RADIO SPECIFICATIONS**

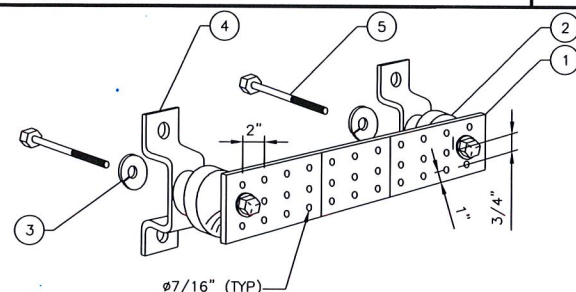
NO SCALE 1

**VERTICAL ACCESS PORT DETAIL**

NO SCALE 2

**RF SIGNAGE DETAILS**

NO SCALE 3



- LEGEND**
1. COPPER TINNED GROUND BAR HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
  2. INSULATORS
  3. 5/8" LOCKWASHERS
  4. WALL MOUNTING BRACKETS
  5. 5/8"-11 X 1" H.H.C.S. BOLTS

**GROUND BAR**

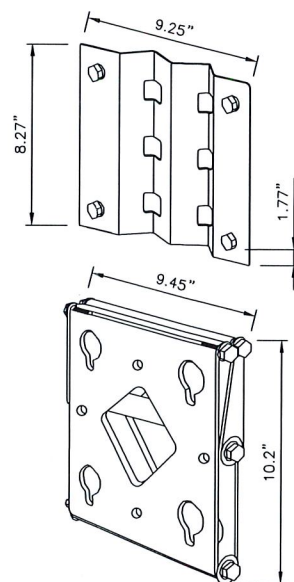
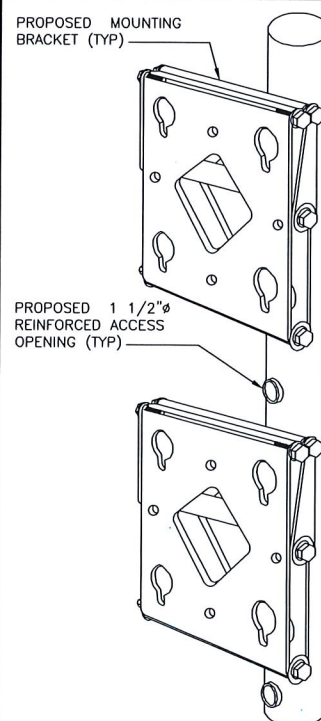
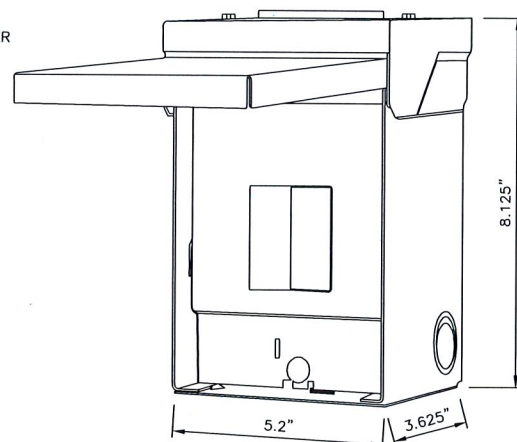
NO SCALE 4

**NOT USED**

NO SCALE 5

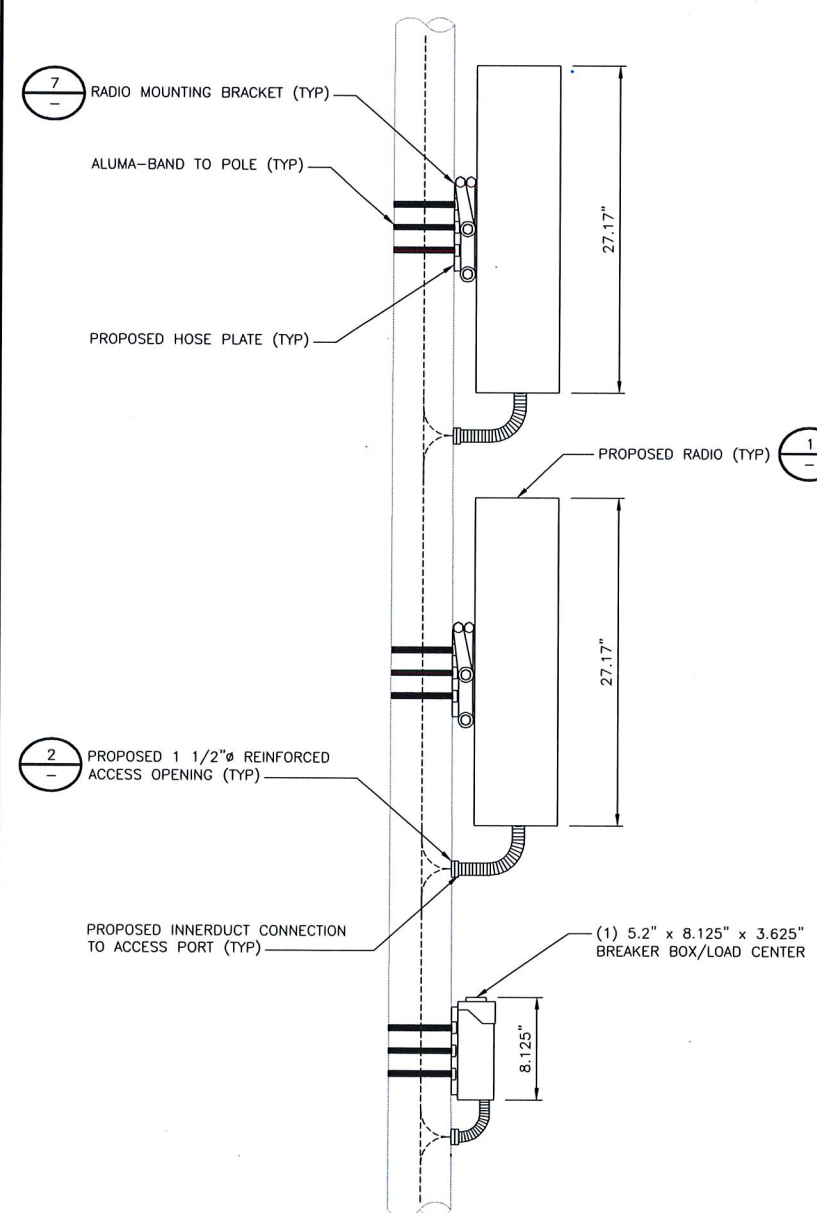
**MURRAY LW002GRU SPECIFICATIONS**

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



**RADIO POLE MOUNTING DETAILS**

NO SCALE 7



**EQUIPMENT PLACEMENT DETAIL**

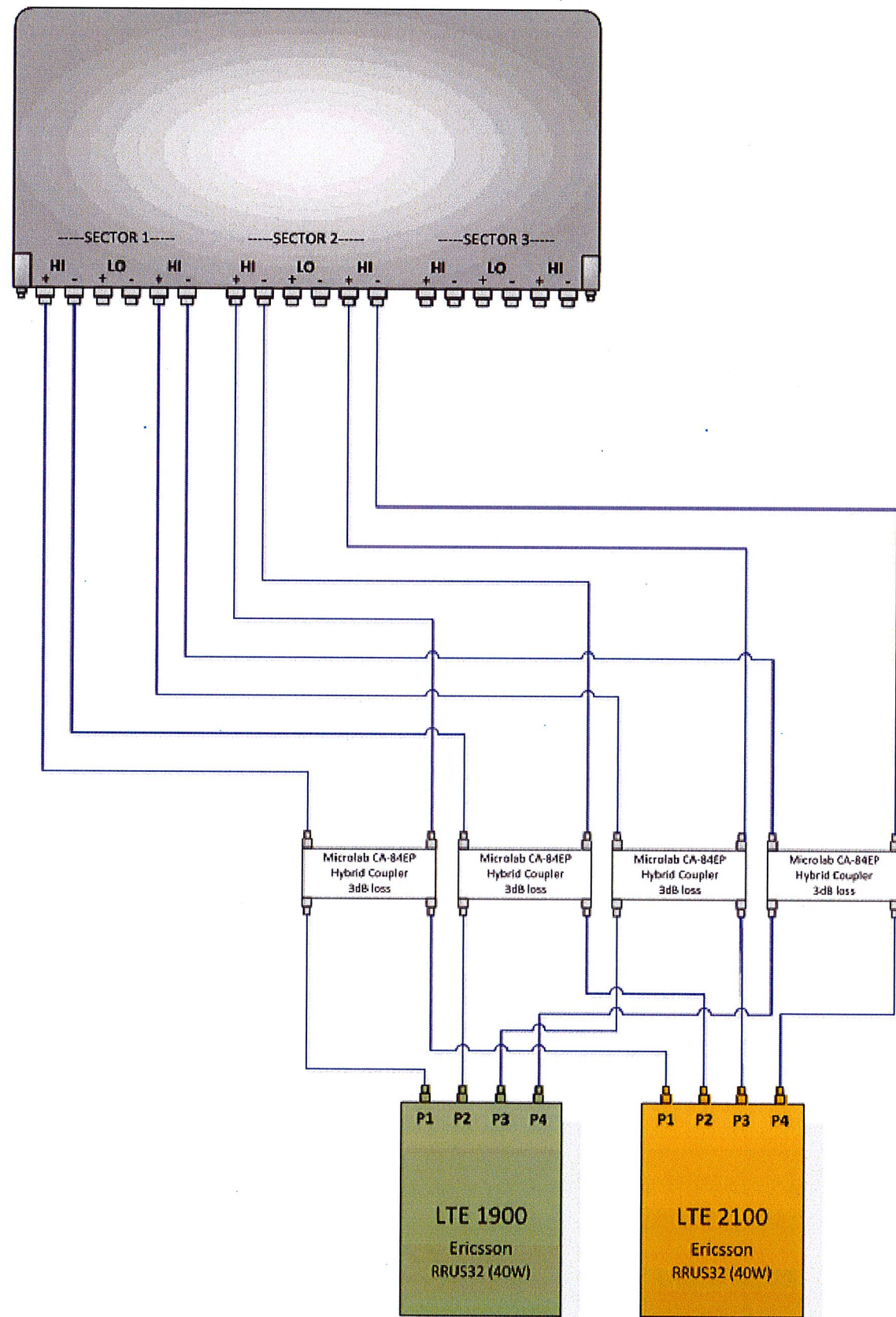
NO SCALE 8

**BREAKER BOX SPECIFICATIONS**

NO SCALE 6

NW-CA-DTOAKLAN-VZW  
(Option 8)

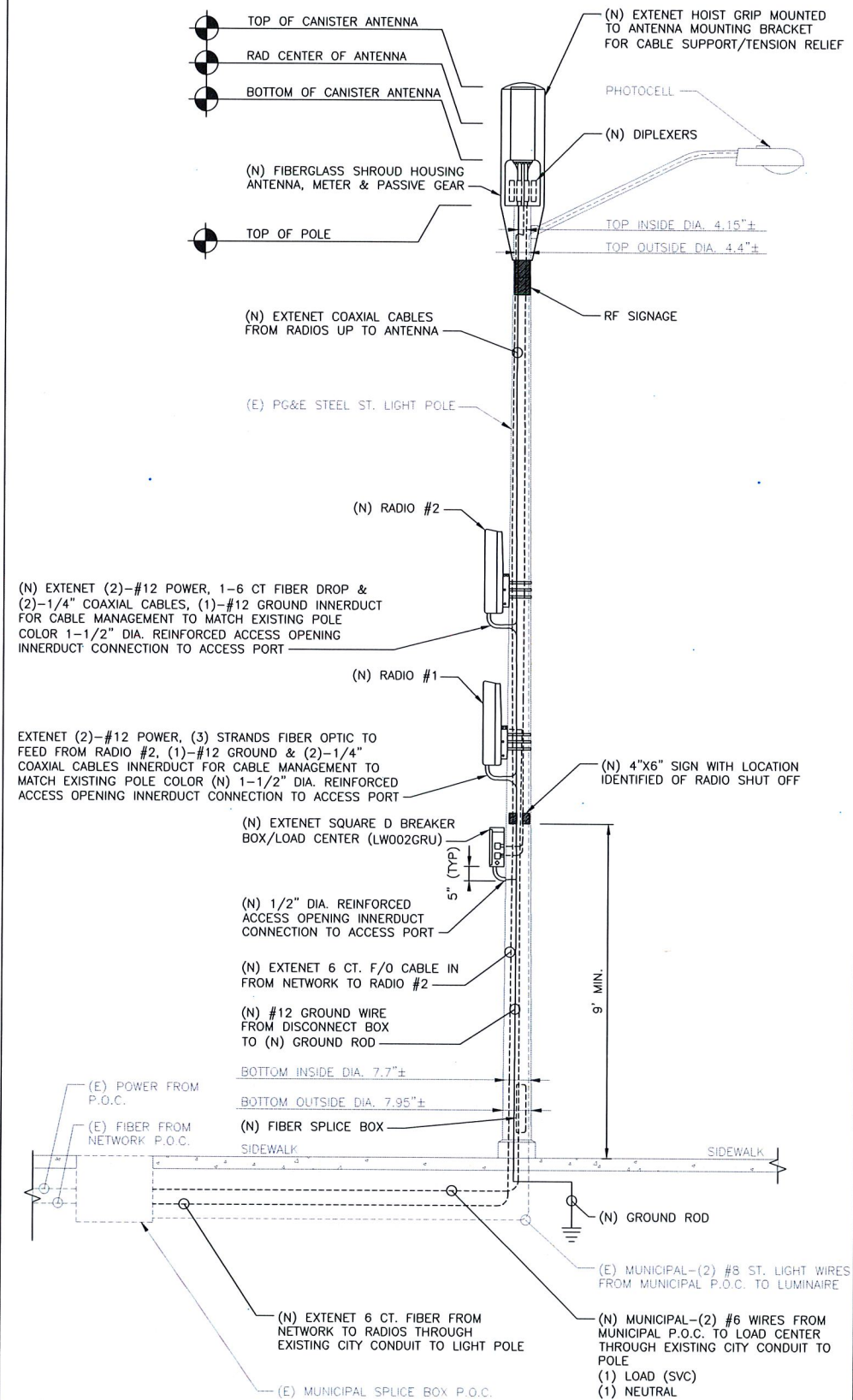
Amphenol CUUT070X06FxyS



ANTENNA CONFIGURATION

NO SCALE

1



TYPICAL STEEL STREETLIGHT SITE TEMPLATE

NO SCALE

2



INTERNAL REVIEW	
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REAL ESTATE SIGNATURE	DATE



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A	03/31/17	ISSUED FOR REVIEW

PRELIMINARY

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

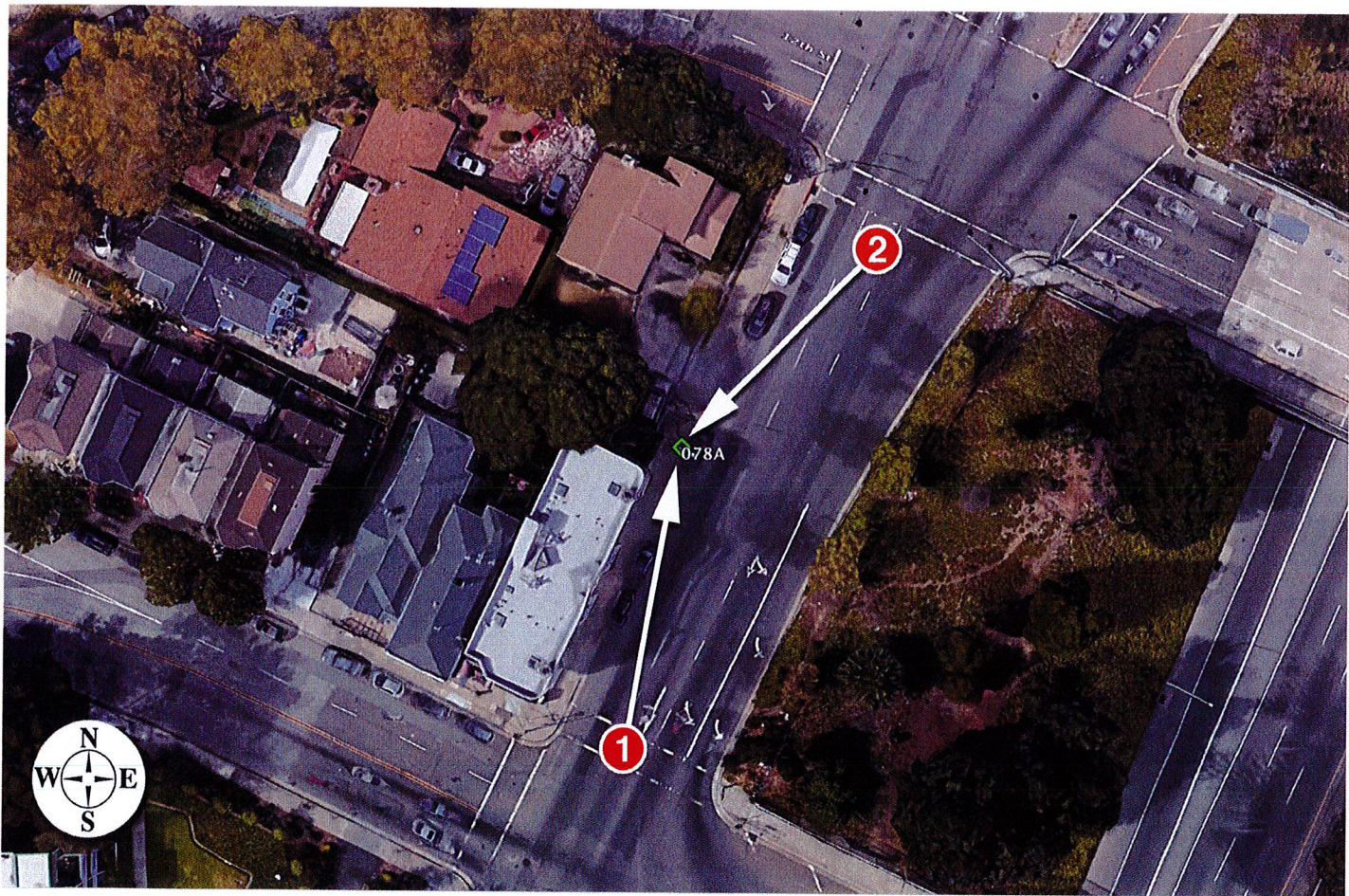
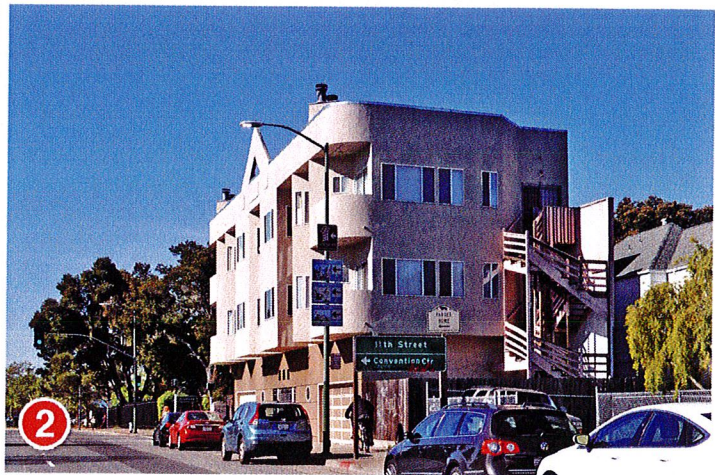
EXTENET SYSTEMS (CA) LLC  
2000 CROW CANYON PLACE  
SUITE 210  
SAN RAMON, CA 94583

SITE ADDRESS  
00078A  
ADJACENT TO (IN PROW)  
1125 BRUSH STREET  
OAKLAND, CA 94607

SHEET TITLE  
CONCEPTUAL  
WIRING DIAGRAMS

SHEET NUMBER  
**C-5**

# Attachment D



NW-CA-DTOAKLAN 00078A

Aerial Map

4/24/17

Adjacent to (IN PROW)  
1125 Brush Street Oakland, CA

Applied Imagination 510 914-0500



Existing

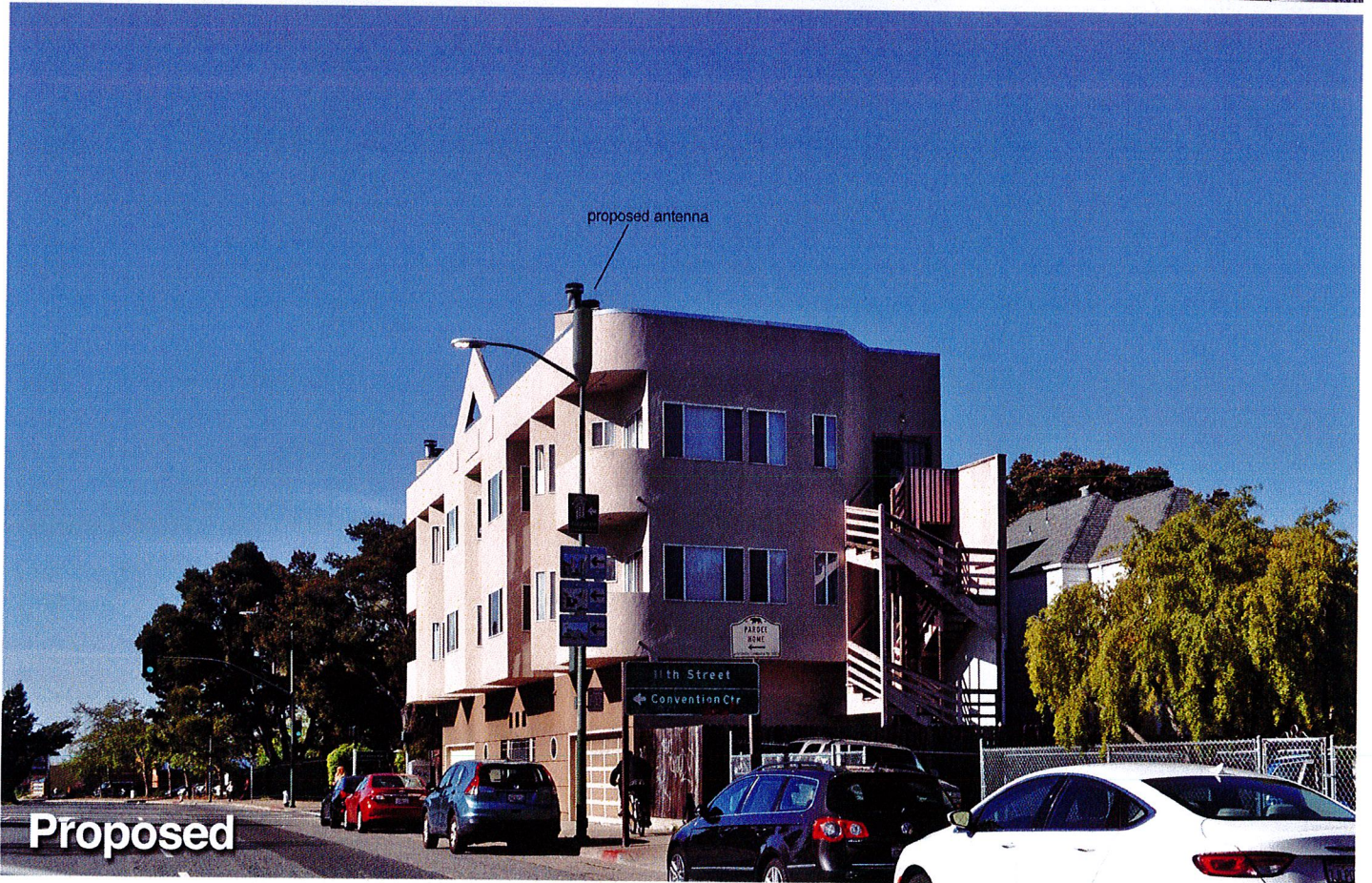


proposed antenna

Proposed



Existing



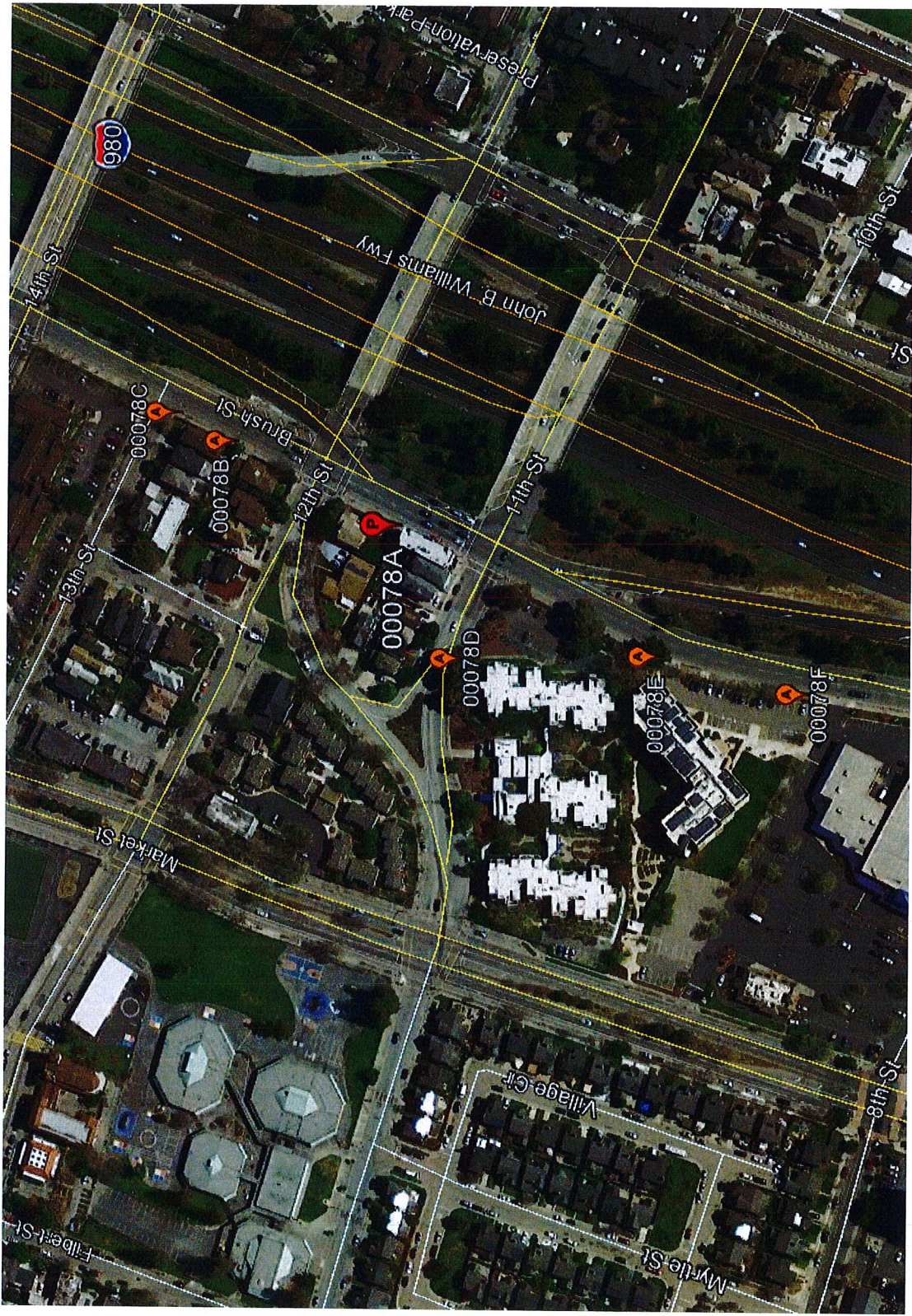
Proposed



**EXTENET OAKLAND  
NODE 00078A  
1125 BRUSH STREET  
ALTERNATIVE SITE ANALYSIS**

**Attachment E**

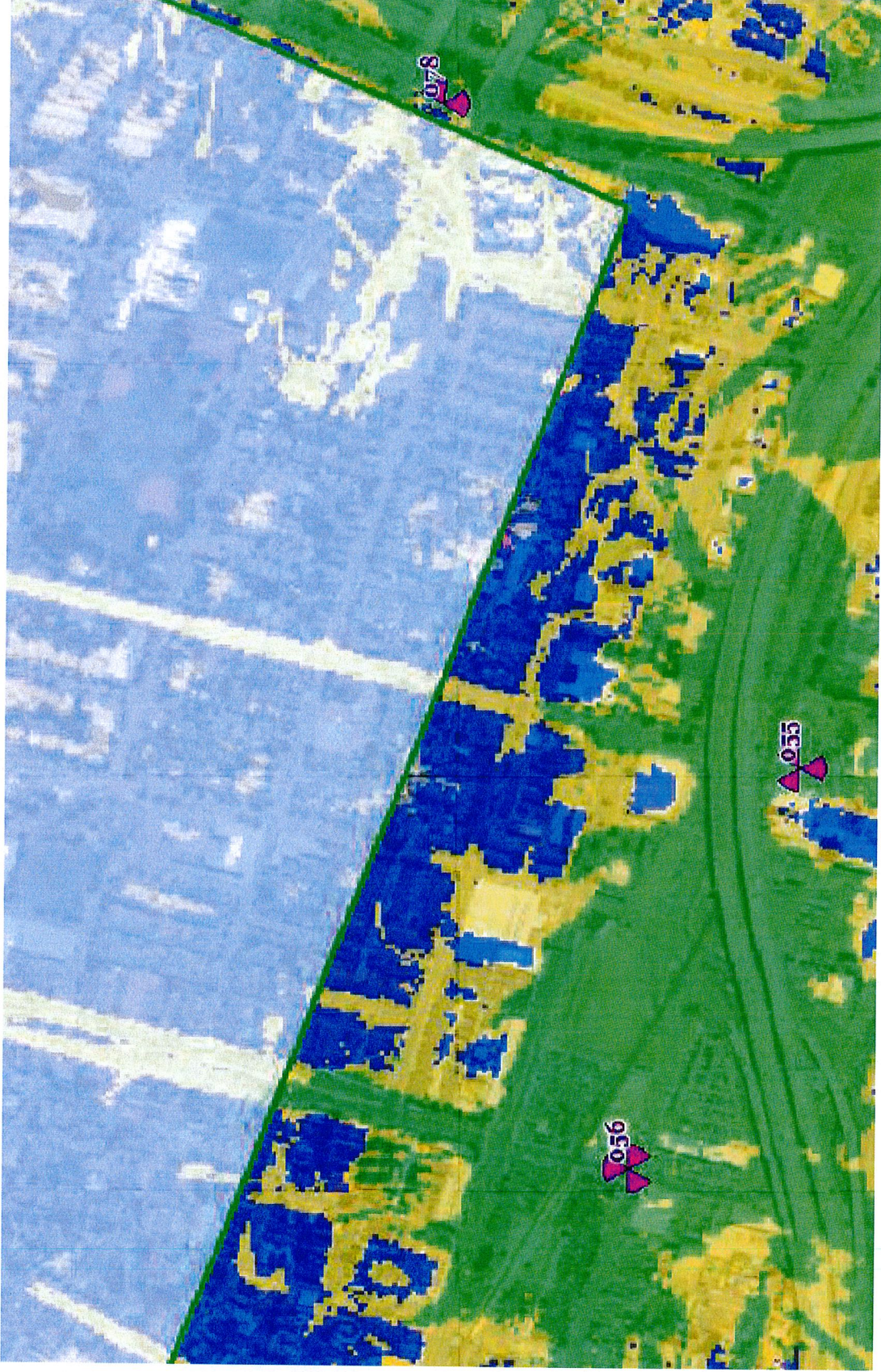
# MAP OF ALTERNATIVE POLES EVALUATED FOR NODE 00078A



- The above maps depict ExteNet's proposed Node 00078A in relation to other poles in the area that were evaluated as possibly being viable alternative candidates.
- The following is an analysis of each of those 5 alternative locations.



# PROPAGATION MAP OF NODES 00078A



This propagation map depicts the ExteNet proposed Node 00078A in relation to surrounding proposed ExteNet small cell nodes.

## 00078A - PROPOSED LOCATION



- The location for ExteNet's proposed Node 00078A is a metal light pole located adjacent to PROW 1125 Brush Street (37.805576, -122.279824).
- ExteNet's objective is to provide Verizon wireless coverage and capacity as well as high speed wireless internet to the Oakland area.
- ExteNet evaluated this site and nearby alternatives to verify that the selected site is the least intrusive means to close Verizon's significant service coverage gap.

## ALTERNATIVE NODE 00078B



- Node 00078B is a metal light pole located at 1416 Brush Street (37.806270, -122.279389)
- This pole is not a viable alternative candidate because this pole is located too close to primary Node 00027A.
- This pole is not a viable alternative candidate because this pole is located too far from the primary Node 00043A.

## ALTERNATIVE NODE 00078C



- Node 00078C is a metal light pole located at 771 13th Street (37.806523, -122.279237)
- This pole is not a viable alternative candidate because this pole is located too close to primary Node 00027A.
- This pole is not a viable alternative candidate because this pole is located too far from the primary Node 00043A.

## ALTERNATIVE NODE 00078D



- Node 00078D is a metal light pole located at 801 10th Street (37.805320, -122.280500)
- This pole is not a viable alternative candidate because this pole is located too far from the primary Node 00043A.
- This pole is not a viable alternative because the signal would be blocked by trees.

## ALTERNATIVE NODE 00078E



- Node 00078E is a metal light pole located at 989 Brush Street (37.804523, -122.280478)
- This pole is not a viable alternative candidate because this pole is located too far from the primary Node 00043A.
- This pole is not a viable alternative because the signal would be blocked by trees.

## ALTERNATIVE NODE 00078F



- Node 00078F is a metal light pole located at 989 Brush Street (37.803947, -122.280654)
- This pole is not a viable alternative candidate because this pole is located too far from primary Node 00027A.
- This pole is not a viable alternative candidate because this pole is located too far from the primary Node 00043A.

# ALTERNATIVE SITE ANALYSIS CONCLUSION

Based on ExteNet's analysis of alternative sites, the currently proposed Node 00078A is the least intrusive location from which to fill the surrounding significant wireless coverage gaps.





SM  
**extenet**  
SYSTEMS

**Thank You!**

**ExteNet Systems CA, LLC • Proposed Small Cell (Node No. 00078A)**  
**1125 Brush Street • Oakland, California**

**Statement of Hammett & Edison, Inc., Consulting Engineers**

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of ExteNet Systems CA, LLC, a wireless telecommunications facilities provider, to evaluate the addition of Node No. 00078A to be added to the ExteNet small cell network in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

**Executive Summary**

ExteNet proposes to install a cylindrical antenna on a light pole sited in the public right-of-way at 1125 Brush Street in Oakland. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

**Prevailing Exposure Standards**

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

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5,000–80,000 MHz	5.00 mW/cm <sup>2</sup>	1.00 mW/cm <sup>2</sup>
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

**General Facility Requirements**

Wireless nodes typically consist of two distinct parts: the electronic transceivers (also called “radios” or “channels”) that are connected to a central “hub” (which in turn are connected to the traditional wired telephone lines), and the passive antenna(s) that send the wireless signals created by the radios out to be received by individual subscriber units. The radios are often located on the same pole as the antennas and are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed

**ExteNet Systems CA, LLC • Proposed Small Cell (Node No. 00078A)  
1125 Brush Street • Oakland, California**

to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

### **Computer Modeling Method**

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

### **Site and Facility Description**

Based upon information provided by ExteNet, including drawings by Black & Veatch Corporation, dated March 31, 2017, it is proposed to install one CommScope Model CUUT070X06F 2-foot tall, tri-directional cylindrical antenna, with two directions activated, on top of a light pole sited in the public right-of-way in front of the residence located at 1125 Brush Street in Oakland. The antenna would employ no downtilt, would be mounted at an effective height of about 30½ feet above ground, and its principal directions would be oriented toward 50°T and 170°T. Verizon proposes to operate from this facility with a maximum effective radiated power in any direction of 1,800 watts, representing simultaneous operation at 940 watts for AWS and 860 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 RF exposure level due to the proposed Verizon operation is calculated to be 0.011 mW/cm<sup>2</sup>, which is 1.1% of the applicable public exposure limit. The maximum calculated level at any nearby building is 87% 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



**ExteNet Systems CA, LLC • Proposed Small Cell (Node No. 00078A)  
1125 Brush Street • Oakland, California**

antenna. No access within 12 feet directly in front of the antenna itself, such as might occur during certain maintenance activities, should be allowed while the node is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. Posting explanatory signs\* on the pole at or below the antenna, such that the signs would be readily visible from any angle of approach to persons who might need to work within that distance, would be sufficient to meet FCC-adopted guidelines.

**Conclusion**

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the node proposed by ExteNet Systems CA, LLC, at 1125 Brush Street in Oakland, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating small cells. Training personnel and posting signs is recommended to establish compliance with occupational exposure limitations.

**Authorship**

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-21306, which expires on September 30, 2017. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

June 15, 2017



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

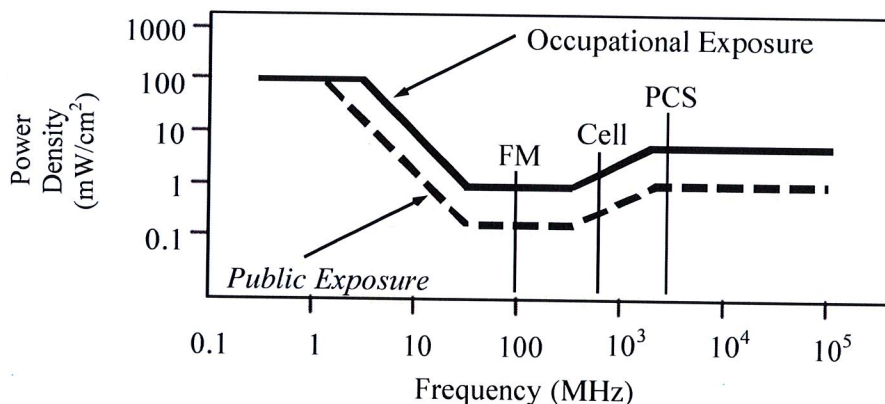
\* Signs should comply with OET-65 color, symbol, and content recommendations. Contact information should be provided (e.g., a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health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

## FCC Radio Frequency Protection Guide

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

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

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



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



## RFR.CALC™ Calculation Methodology

### Assessment by Calculation of Compliance with FCC Exposure Guidelines

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

#### Near Field.

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

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

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<sup>2</sup>,

where  $\theta_{BW}$  = 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

$\eta$  = aperture efficiency (unitless, typically 0.5-0.8).

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

#### Far Field.

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

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

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.



# NOTICE OF OAKLAND



**CITY OF OAKLAND**  
**BUREAU OF PLANNING**  
 250 Frank H. Ogawa Plaza, Suite 2114, Oakland, CA 94612-2031  
 Phone: 510-238-3911 Fax: 510-238-4730  
**PLANNING COMMISSION PUBLIC NOTICE**

Location:	City Street light pole in public right-of-way (sidewalk) adjacent to 1125 Brush Street
Assessor's Parcel Number(s):	Nearest adjacent lot 002-0009-015-03
Proposal:	To install new "small cell site" Monopole Wireless Communications Facility to improve services by placing one canister antenna (24" long and 14.6" in diameter) within an antenna shroud at the top of an existing 28' City Street light pole, located in the public Right-of-Way. The antenna and shroud would be up to 31'-6" in height and related equipment mounted at a height of 7' and 12'-6" above ground-level.
Applicant / Phone Number:	Ana Gomez/Black & Veatch & Extenset (for Verizon) (913) 456-9148
Owner:	City of Oakland
Case File Number:	PLN17163
Planning Permits Required:	Major Conditional Use Permit and Regular Design Review with additional findings for Monopole Telecommunications Facility in Residential Zone; Mass Variance for Monopole adjacent to residential use.
General Plan:	Urban Residential
Zoning:	Urban Residential - 1 Zone (RU-1) / S-20
Environmental Determination:	Exempt, Section 15301 of the State CEQA Guidelines; Existing Facilities; Exempt, Section 15302; Replacement or Reconstruction; Exempt, Section 15303; New Construction of Small Structures; Section 15183; Projects Consistent with a Community Plan, General Plan or Zoning.
Historic Status:	Non-historic pole
City Council District:	3
Date Filed:	May 6, 2017
Action to be Taken:	Decision based on staff report
Finality of Decision:	Appealable to City Council
For Further information:	Contact case planner Marilu Garcia at (510) 238-5117 or by email at mgarcia2@oaklandnet.com.

Your comments and questions, if any, should be directed to the Bureau of Planning, 250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, California 94612-2031 at or prior to the public hearing to be held on **October 4, 2017**, at Oakland City Hall, Council Chambers, 1 Frank H. Ogawa Plaza, Oakland, California 94612. The public hearing will start at 6:00 p.m.

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

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

POSTING DATE: **September 15, 2017**

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

ED, PLEASE CALL ZONING AT (510) 238-3911. FOR BLIGHT NOTICES, PLEASE CALL (510) 238-6402

**ATTACHMENT G**



11th Street  
← Convention Ctr

PARD  
HON  
←  
HISTORICAL LAND

NO STOPPING  
EVEN THERE  
EACH MONTH

NO STOPPING  
EVEN THERE  
EACH MONTH

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