Oakland City Planning Commission

STAFF REPORT

Case nos. PLN18229 / PLN18231 / PLN18230

June 20, 2018

Locations:	**City street light pole in public right-of-way adjacent to:** **1) Case no. PLN18229; 2701 Telegraph Ave (APN: 009 068900203);** General Plan: Community Commercial; Zoning: CC-2 **2) Case no. PLN18231; 1103 8TH St (APN: 004 002901001);** General Plan: Urban Residential; Zoning: RU-2 **3) Case no. PLN18230; 845 Market St (APN: 004 000706500);** General Plan: Mixed Housing Type Residential; Zoning: RM-1 Council District: 3; Submitted: 5/29/18 ***(See map on reverse)***
Proposal:	To consider requests for three (3) applications to install new "small cell site" Monopole Telecommunications Facilities on City light poles by attaching antenna and equipment.
Applicant / Phone Number:	Matt Yergovich / Vinculums (415) 596-3474
Owner:	City of Oakland
Planning Permits Required:	Major Conditional Use Permit & Regular Design Review with additional findings for Monopole Telecommunications Facility in/near Residential Zone
Environmental Determination:	Exempt, Section 15301 of the State CEQA Guidelines: Existing Facilities; Exempt, Section 15302: Replacement or Reconstruction; Exempt, Section 15303: New Construction of Small Structures; Section 15183: Projects Consistent with a Community Plan, General Plan or Zoning
Historic Status:	Non-historic property
Action to be Taken:	Approve with Conditions
Finality of Decision:	*Appealable to City Council*
For Further Information:	Contact case planner **Aubrey Rose AICP** at **(510) 238-2071** or by email at arose@oaklandnet.com

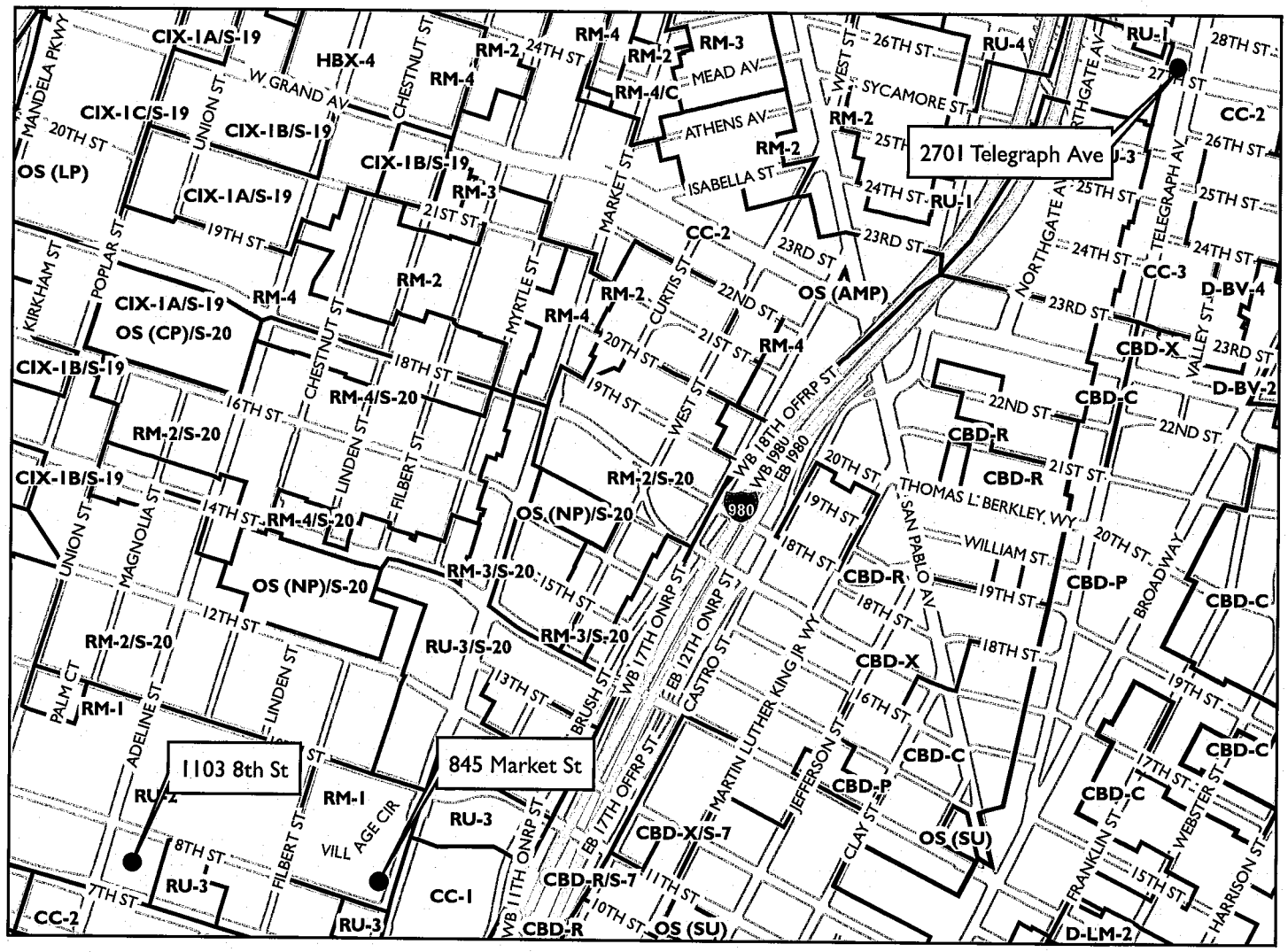
EXECUTIVE SUMMARY

The applicant requests Planning Commission approval to establish three (3) small cell wireless telecommunication facility site on existing City street light poles located on the public right-of-way in residential and commercial districts. The project involves attaching one antenna within one shroud to the top of the pole and equipment mounted to the side of the pole, as described in the submitted plans, to enhance wireless services in those areas.

Regular Design Review and a Major Conditional Use Permit decided by the Planning Commission, each with additional findings, are required for the installation of a new Monopole Telecommunications Facility. The proposed projects, antenna and associated equipment, would be similar to other facilities around the City. The proposed telecommunication facility is therefore sited at appropriate locations and would not significantly increase negative visual impacts to adjacent properties including residences. The project meets all the required findings for approval of these three (3) small cell sites.

TELECOMMUNICATIONS BACKGROUND

CITY OF OAKLAND PLANNING COMMISSION



Case Files: PLN18229, PLN18231, PLN18230
Applicant: Matt Yergovich / Vinculums
Addresses: 2701 Telegraph Ave, 1103 8th St, 845 Market St
Zones: CC-2, RU-2, RM-1

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

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

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

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

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

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

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

For more information on the FCC's jurisdiction in this area, consult the following:
Competition & Infrastructure Policy Division (CIPD) of the Wireless Telecommunications Bureau, main division number: (202) 418-1310. https://www.fcc.gov/general/competition-infrastructure-policy-division-wireless-telecommunications-bureau

PROPERTY DESCRIPTION

Site # 1) Case no. PLN18229; 2701 Telegraph Avenue: 26'-3" tall non-decorative ("cobra-head" style) City street light pole with two luminaires located in the median;

Site # 2) Case no. PLN18231; 1103 8TH Street: 26'-3" tall non-decorative ("cobra-head" style) City street light pole located in the sidewalk adjacent to a fenced open parking lot service a health clinic; and

Site # 3) Case no. PLN18230; 845 Market Street: 26'-3" tall non-decorative ("cobra-head" style) City street light pole with two luminaires located in the median.

PROJECT DESCRIPTION

The sites are proposed for:

- Installation by top-mounting one 25-inch tall canister antennas within one shroud above the street light(s) to extend an additional 2'-3", to total 28'-6" in height;
- Installation of side-mounted equipment below the street light(s); and
- Paint the proposed antennas and associated equipment to match the pole.

No portion of the telecommunication facilities would be located at grade. The proposed antenna and associated equipment would not be accessible to the public.

SIMILAR CASES

Records show that the Planning Commission has approved numerous Monopole Telecommunications Facilities requiring Design Review and Conditional Use Permits throughout the City since 2016.

GENERAL PLAN ANALYSIS

Site # 1 is located in the Community Commercial area under the General Plan's Land Use and Transportation Element (LUTE). The intent of the area is: "to identify, create, maintain, and enhance areas suitable for a wide variety of commercial and institutional operations along the City's major corridors and in shopping districts or centers." Site # 2 is in the Urban Residential area. 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." Site # 3 is in the Mixed Housing Type Residential area. The intent of the area is: "to create, maintain, and enhance residential areas typically located near the City's major arterials and characterized by a mix of single family homes, townhouses, small multi-unit buildings, and neighborhood businesses where appropriate."
The proposed telecommunication facilities would be mounted on existing City street light poles within the City of Oakland public right-of-way. The proposed unmanned wireless telecommunication facility would not adversely affect the characteristics of the neighborhood.

ZONING ANALYSIS

Site # 1 is in the CC-2 Community Commercial Zone. Site # 2 is in the RU-2 Urban Residential Zone. Site # 3 is in the RM-1 Mixed Housing Type Residential Zone. Monopole Telecommunications Facilities on City light poles require a Conditional Use Permit and a Regular Design Review with additional findings; these permits are decided by the Planning Commission for sites located in or near to a residential zone. 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 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.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines list the projects that qualify as categorical exemptions from environmental review. The proposed project is categorically exempt from the environmental review requirements pursuant to Section 15301, minor additions and alterations to an existing City street light pole; Section 15302, replacement or reconstruction of existing utility systems and/or facilities; Section 15303, new construction or conversion of small structures, and Section 15183, projects consistent with the General Plan or Zoning.

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 use of an existing City of Oakland metal street light pole that would remain available for future collocation purposes as practicable.

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 onto 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.

Two of the three sites are located in Residential Zones; none of the sites is located adjacent to a residential property.

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).

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 28'-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 28'-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 district. Nonetheless, the facility would not exceed the height of 28'-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 (Attachments C-D-E).

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

The proposed antenna would project less 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 (Attachments C-D-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 (Attachments C-D-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 (Attachments C-D-E).

Analysis

The proposed site design would not be situated on an historic or decorative pole or structure, would not create a view obstruction, and would not negatively impact a view from a primary living space such as a living room or bedroom window. 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.

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 and Regular Design Review, subject to the attached Findings and Conditions of Approval.

Prepared by:

Aubrey Rose

AUBREY ROSE, AICP
Planner III

Reviewed by:

ROBERT MERKAMP
Interim Zoning Manager

Approved for forwarding to the Planning Commission:

ED MANASSE, Interim Deputy Director
Planning Bureau

ATTACHMENTS:

A. Findings

B. Conditions of Approval

C. Site # 1: Plans / Photo-Simulations / Site Analyses / RF Report / Proof of Posting

D. Site # 2: Plans / Photo-Simulations / Site Analyses / RF Report / Proof of Posting

E. Site # 3: Plans / Photo-Simulations / Site Analyses / RF Report / Proof of Posting

ATTACHMENT A: FINDINGS

This proposal meets the required findings under General Use Permit Criteria (OMC Sec. 17.134.050), Conditional Use Permit Criteria for Monopole Facilities (OMC Sec. 17.136.040 (A)), Regular Design Review Criteria for Nonresidential Facilities (OMC Sec. 17.136.050(B)), and Design Review Criteria for Monopole Telecommunications Facilities (OMC Sec. 17.128.070(B)), as set forth below. Required findings are shown in **bold** type; explanations as to why these findings can be made are in normal type.

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 is to establish a Monopole Telecommunications Facility in a residential or commercial zone by attaching to an existing City light pole. Attachment to an existing structure with smallest possible components painted and texturized to match the pole will be the least intrusive design. The project will enhance existing service for merchants, shoppers, residents, and visitors in the area.

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

Attachment to an existing structure with smallest possible components painted and texturized to match the pole will be the least intrusive design.

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 project will enhance existing service for merchants, shoppers, residents, and visitors in the area.

D. That the proposal conforms to all applicable design review criteria set forth in the design review procedure at Section 17.136.070.

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.

Site # 1 is located in the Community Commercial area under the General Plan's Land Use and Transportation Element (LUTE). The intent of the area is: "to identify, create, maintain, and enhance areas suitable for a wide variety of commercial and institutional operations along the City's major corridors and in shopping districts or centers." Site # 2 is in the Urban Residential area. 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." Site # 3 is in the Mixed Housing Type Residential area. The intent of the area is: "to create, maintain, and enhance residential areas typically located near the City's major arterials and characterized by a mix of single family homes, townhouses, small multi-unit buildings, and neighborhood businesses where appropriate."
The proposed telecommunication facilities would be mounted on existing City street light poles within the City of Oakland public right-of-way. The proposed unmanned wireless telecommunication facility would not adversely affect the characteristics of the neighborhood.

CONDITIONAL USE PERMIT CRITERIA FOR MONOPOLE FACILITIES (OMC SEC. 17.128.070(C))

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.

Use of this pole precludes placement of a new pole with facility fronting an upper story residences at various viable sites in the surrounding area and is therefore "visually preferable."

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

Attachment to an existing structure with smallest possible components painted and texturized to match the pole will be the least intrusive design. The project will enhance existing service for merchants, shoppers, residents, and visitors in the area.

4. If a major conditional use permit is required, the Planning Director or the Planning Commission may request independent expert review regarding site location, collocation and facility configuration. Any party may request that the Planning Commission consider making such request for independent expert review.
a. If there is any objection to the appointment of an independent expert engineer, the applicant must notify the Planning Director within ten (10) days of the Commission request. The Commission will hear arguments regarding the need for the independent expert and the applicant's objection to having one appointed. The Commission will rule as to whether an independent expert should be appointed.
b. Should the Commission appoint an independent expert, the Commission will direct the Planning Director to pick an expert from a panel of licensed engineers, a list of which will be compiled, updated and maintained by the Planning Department.
c. No expert on the panel will be allowed to review any materials or investigate any application without first signing an agreement under penalty of perjury that the expert will keep confidential any and all information learned during the investigation of the application. No personnel currently employed by a telecommunication company are eligible for inclusion on the list.

d. An applicant may elect to keep confidential any proprietary information during the expert's investigation. However, if an applicant does so elect to keep confidential various items of proprietary information, that applicant may not introduce the confidential proprietary information for the first time before the Commission in support of the application.
e. The Commission shall require that the independent expert prepare the report in a timely fashion so that it will be available to the public prior to any public hearing on the application.
f. Should the Commission appoint an independent expert, the expert's fees will be paid by the applicant through the application fee, imposed by the City.

A Major Conditional Use Permit is required and the Planning Director or Planning Commission may therefore independent expert review in addition to that which is attached to this report.

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:

Attachment to an existing structure with smallest possible components painted and texturized to match the pole will be the least intrusive design.

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

The proposal will not create a view obstruction, will not be directly adjacent to a residential facility's primary living space windows, and will not be located on an historic or decorative structure.

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

The proposal will enhance essential services in a residential or commercial district.

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

The proposal will not be ground mounted.

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

This finding is inapplicable because the site is level.

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

This finding is met by this proposal as described in a previous section of this attachment.

DESIGN REVIEW CRITERIA FOR MONOPOLE TELECOMMUNICATIONS FACILITIES (OMC SEC. 17.128.070(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 on existing infrastructure where it will not create clutter or negatively affect specific views. The view of the City street light from the adjacent story residence should remain of the pole below the antenna and above the equipment.

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

The Monopole Facility will be camouflaged and texturized to match the appearance of the existing light pole that will host it. The City street light is not located adjacent to a residential facility

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 in 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 adjacent vegetation or topography.

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 reduce or eliminate public access.

Attachment B: Conditions of Approval

1. 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 October 6, 2017 and submitted May 29, 2018**, as amended by the following conditions of approval and mitigation measures, if applicable ("Conditions of Approval" or "Conditions").

Three (3) approvals to install new "small cell site" Monopole Telecommunications Facilities on an existing City street light pole in public right-of-way (sidewalk) by attaching one antenna within a shroud to the top of the pole and equipment mounted to the side of the pole adjacent to:

Site # 1) Case no. PLN18229; 2701 Telegraph Avenue;

Site # 2) Case no. PLN18231; 1103 8TH Street; and

Site # 3) Case no. PLN18230; 845 Market Street.

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 and equipment shall be painted, texturized, and maintained the same color and finish of 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. Graffiti Control

Requirement:

a. During construction and operation of the project, the project applicant shall incorporate best management practices reasonably related to the control of graffiti and/or the mitigation of the impacts of graffiti. Such best management practices may include, without limitation:

b. The project applicant shall remove graffiti by appropriate means within seventy-two (72) hours. Appropriate means include the following:

i. Removal through scrubbing, washing, sanding, and/or scraping (or similar method) without damaging the surface and without discharging wash water or cleaning detergents into the City storm drain system.

ii. For galvanized poles, covering with new paint to match the color of the surrounding surface.

iii. Replace pole numbers.

When Required: Ongoing

Initial Approval: N/A

Monitoring/Inspection: Bureau of Building

PROJECT TEAM

APPLICANT:
AT&T
5001 Executive Parkway
San Ramon, Ca 94583

ARCHITECT/ENGINEER:
Rodney Barnes
Meridian Management LLC
785 Oak Grove Road E2
Suite 251
Concord, CA 94518
T 707.592.5924
rodney@meridian.management

ZONING CONTACT
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T 415.596.3474
myergo8@gmail.com

LEASING CONTACT:
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Suite 125
Walnut Creek, CA 94598
T 415.596.3474
myergo@gmail.com

CONSTRUCTION MANAGER:
Vinculums Services
575 Lennon Lane
Suite 125
Walnut Creek, CA 94598

GENERAL NOTES

1. THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR THE AT&T WIRELESS NETWORK CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON AN EXISTING METAL LIGHT POLE IN THE PUBLIC RIGHT-OF-WAY. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
2. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.
3. CHANGES FROM THE APPROVED PLANS DURING THE COURSE OF CONSTRUCTION SHALL CAUSE CONSTRUCTION TO BE SUSPENDED UNTIL SUCH TIME AS THE PLANS CAN BE AMENDED BY THE DESIGNER AND SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL

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. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

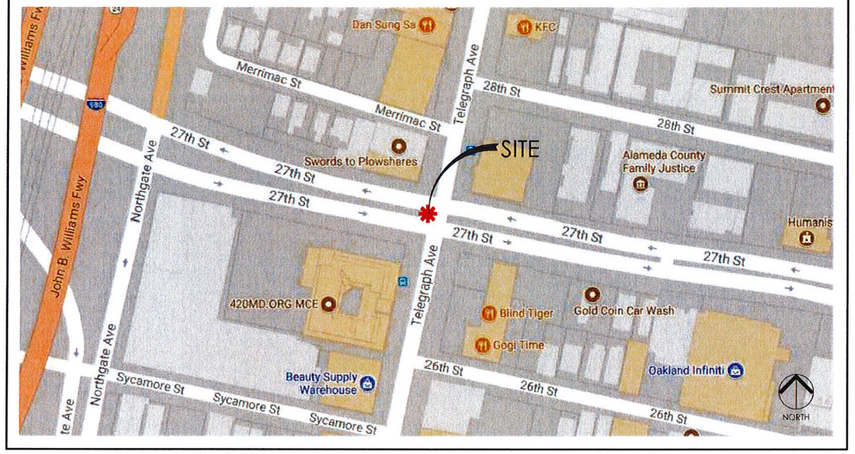
- CALIFORNIA CODES
- 2016 CALIFORNIA BUILDING CODE
- 2016 CALIFORNIA MECHANICAL CODE
- 2016 CALIFORNIA PLUMBING CODE
- 2016 CALIFORNIA ELECTRIC CODE
- 2016 GREEN BUILDING CODE
- 2016 EDITION OF TITLE 24 ENERGY STANDARDS
- ANY LOCAL BUILDING CODE AMENDMENTS TO THE ABOVE
- CITY / COUNTY ORDINANCES
- CITY OF OAKLAND PUBLIC WORKS DEPARTMENT
- GENERAL ORDER 95 (JUNE 2009 EDITION)

AT&T

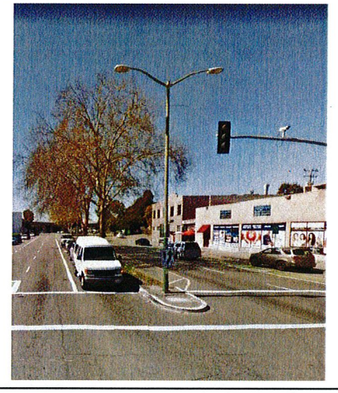
5001 EXECUTIVE PARKWAY, SAN RAMON, CA 94583

CRAN-RSFR-SFOK6-023

PACE ID:
ROW AT 2701 TELEGRAPH AVE, OAKLAND, CA 94612
COUNTY: ALAMEDA
SITE TYPE: METAL STREET LIGHT POLE
FA:14307065 HUB:19 USID:192871



SITE IMAGE



DRIVING DIRECTIONS

FROM AT&T WIRELESS OFFICE AT 5001 EXECUTIVE PARKWAY, SAN RAMON, CA

1. Head north-east on Bishop Dr towards Sunset Dr
2. Turn right onto Sunset Dr
3. Use the right 2 lanes to turn right onto Bollinger Canyon Rd
4. Use the right 2 lanes to merge onto I-680 N via the slip road to Sacramento
5. Merge onto I-680 N
6. Use the right 2 lanes to take exit 46A for State Route 24 towards Oakland/Lafayette
7. Continue onto CA-24 W
8. Keep left at the fork to stay on CA-24 W
9. Use the 2nd from the right lane to take the 27th St exit towards W Grand Ave
10. Use the left 2 lanes to turn left onto 27th St

INDEX

DRAWING SIGN-OFF

VINCULUMS

	Signature	Date
SITE ACQUISITION:		
PLANNING:		
CONSTRUCTION:		
MANAGEMENT:		

AT&T

	Signature	Date
CONSTRUCTION:		
REAL ESTATE:		
RF ENGINEER:		
EQUIPMENT ENGINEER:		
MW ENG/TRANSPORT:		
OWNER:		

PROJECT DESCRIPTION

THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR THE AT&T WIRELESS NETWORK CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON AN EXISTING METAL LIGHT POLE IN THE PUBLIC RIGHT-OF-WAY.

SCOPE OF WORK & SITE COMPLETION CHECKLIST:

1. ANTENNA & ASSOCIATED EQUIPMENT BOXES: INSTALL A NEW TELECOMMUNICATION ANTENNA AND 2 EQUIPMENT BOXES ON AN EXISTING METAL LIGHT POLE
2. DURABLE PAINT: ANTENNAS, MOUNTING BRACKETS, CABLING, AND RADIO RELAY UNITS TO BE PAINTED TO MATCH THE EXISTING POLE USING A DURABLE PAINT (E.G. SHERWIN WILLIAMS, FRAZEE, KELLY MOORE, OR EQUIVALENT)
3. CABLING: CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS
4. LOGO REMOVAL: ALL EQUIPMENT LOGOS, OTHER THAN THOSE REQUIRED BY REGULATION (E.G. NODE IDENTIFICATION), SHALL BE PAINTED OVER OR REMOVED, RAISED/DEPRESSED TEXT ON RRUS OR OTHER EQUIPMENT, IF PRESENT, TO BE SANDED OFF OR SIMILARLY REMOVED AND/OR FILLED
5. SIGNAGE: FCC MANDATED RF WARNING SIGNAGE SHALL FACE CLIMBING SPACE. OPTIONAL SIGNAGE SHALL FACE OUT TO STREET WHEN PLACED IN FRONT OF OR NEAR A WINDOW. SIGNAGE SHALL FACE TOWARD BUILDING IF THERE IS NO WINDOW.
6. UTILITY LINES: PROPOSED UTILITY LINES BETWEEN EXISTING POINT OF CONNECTION TO BE IN CONDUIT INSIDE POLE

SITE INFORMATION

OWNER:	CITY OF OAKLAND
APPLICANT:	AT&T 5001 EXECUTIVE PARKWAY SAN RAMON, CA 94583
LATTITUDE:	37.8162110 (NAD 83)
LONGITUDE:	-122.2680960 (NAD 83)
GROUND ELEVATION:	30' AMSL
ADJACENT APN#:	(IFO) 9-689-2-3
ZONING JURISDICTION:	CITY OF OAKLAND
CURRENT ZONING:	PUBLIC ROW
PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & FIELD 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

USA NORTH 811 Call 811 Before You Dig

AT&T

AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:

Meridian Management LLC
785 Oak Grove Road E2
Suite 251
Concord, CA 94518
T 707.592.5924
www.meridian.management

Project Architect:

VINCULUMS
575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-023
PACE ID:
ROW AT 2701 TELEGRAPH AVE
OAKLAND, CA 94612
COUNTY: ALAMEDA

Site Name:

Professional Seal:

Rev:	Date	Description
01	09/17/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

TITLE SHEET

Sheet Title:

T.1

Sheet No.:

GENERAL CONSTRUCTION NOTES

1. PLANS ARE INTENDED TO BE DIAGRAMMATIC OUTLINE ONLY. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
2. THE CONTRACTOR SHALL OBTAIN, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
3. CONTRACTOR SHALL CONTACT USA (UNDERGROUND SERVICE ALERT) AT (800) 227-2600, FOR UTILITY LOCATIONS 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
4. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CBC / CBSC REQUIREMENTS REGARDING EARTHQUAKE RESISTANCE, FOR, BUT NOT LIMITED TO, PIPING, LIGHT FIXTURES, CEILING GRID, INTERIOR PARTITIONS, AND MECHANICAL EQUIPMENT. ALL WORK MUST COMPLY WITH LOCAL EARTHQUAKE CODES AND REGULATIONS.
6. REPRESENTATIONS OF TRUE NORTH, OTHER THAN THOSE FOUND ON THE PLOT OF SURVEY DRAWINGS, SHALL NOT BE USED TO IDENTIFY OR ESTABLISH BEARING OF TRUE NORTH AT THE SITE. THE CONTRACTOR SHALL RELY SOLELY ON THE PLOT OF SURVEY DRAWING AND ANY SURVEYOR'S MARKINGS AT THE SITE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ARCHITECT / ENGINEER PRIOR TO PROCEEDING WITH THE WORK IF ANY DISCREPANCY IS FOUND BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPICTED ON THE CIVIL SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ARCHITECT / ENGINEER.
7. THE BUILDING DEPARTMENT ISSUING THE PERMITS SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK, OR AS OTHERWISE STIPULATED BY THE CODE ENFORCEMENT OFFICIAL HAVING JURISDICTION.
8. DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
9. ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON THE PLAN HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT / ENGINEER AND THE OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR THE ACCURACY OF THE INFORMATION SHOWN ON THE PLANS, OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTORS SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTORS SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING EXISTING UTILITIES.
10. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES, BOTH HORIZONTAL AND VERTICALLY, PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT / ENGINEER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT / ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS/HER OWN RISK AND EXPENSE.
11. ALL PROPOSED AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
12. ANY DRAIN AND/OR FIELD TILE ENCOUNTERED / DISTURBED DURING CONSTRUCTION SHALL BE RETURNED TO ITS ORIGINAL CONDITION PRIOR TO COMPLETION OF WORK. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON "AS-BUILT" DRAWINGS BY GENERAL CONTRACTOR, AND ISSUED TO THE ARCHITECT / ENGINEER AT COMPLETION OF PROJECT.
13. ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
14. INCLUDE MISC. ITEMS PER AT&T WIRELESS SPECIFICATIONS.

GENERAL NOTES FOR EXISTING CELL SITES

1. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
2. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
3. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW (USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT).
4. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
5. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD PROPOSED TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
6. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

APPLICABLE CODES, REGULATIONS AND STANDARDS:

1. SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION.
2. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
3. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
4. - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
   - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES.
   - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRICAL EQUIPMENT.
   -IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY 'C3' AND 'HIGH SYSTEM EXPOSURE')
5. TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS TELCORDIA GR-63 NETWORK EQUIPMENT-BUILDING SYSTEM (NEBS): PHYSICAL PROTECTION
   TELCORDIA GR-347 CENTRAL OFFICE POWER WIRING
   TELCORDIA GR-1275 GENERAL INSTALLATION REQUIREMENTS
   TELCORDIA GR-1503 COAXIAL CABLE CONNECTIONS
6. ANY AND ALL OTHER LOCAL & STATE LAWS AND REGULATIONS.
7. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

GENERAL TRENCHING NOTES

1. MAINTAIN 40" MINIMUM COVER FOR ALL ELECTRICAL CONDUITS.
2. MAINTAIN 30" MINIMUM COVER FOR ALL TELECOMMUNICATIONS CONDUITS.
3. MINIMUM 1" SAND SHADING BELOW CONDUITS AND 6" COVERING ON TOP OF CONDUITS REQUIRED.
4. ALL ELECTRICAL CONDUITS FROM POWER COMPANY FROM ANY POLE, TRANSFORMER OR OTHER LOCATIONS WILL BE SLURRY BACKFILLED.
5. INTERNET SLURRY TO GRADE AND MILL DOWN 1-1/2" FOR AC CAP.
6. IN DIRT SLURRY BE FROM GRADE AND TILL PER COMPACTION NATIVE SOIL FOR BALANCE.
7. WARNING TAPE TO BE PLACED IN TRENCH 12" ABOVE ALL CONDUITS AND #18 WARNING TAPE ABOVE PING.

GENERAL GROUNDING NOTES

1. 5/8" x 8' ROD, CAD WELD BELOW GRADE.
2. GROUND TESTED AT 5 OHMS OR LESS.
3. #5 GROUND AND BOND WIRE.
4. GROUNDS 3' FROM POLE.
5. PLACE 3 #10 GA WIRES FROM TESCO BREAKER TO PBMD OR STRONG BOX.
6. WOOD MOLDING, STAPLED EVERY 3' AND AT EACH END.

GENERAL CONDUIT NOTES

1. ALL CONDUITS WILL BE MANDRELED AND EQUIPPED WITH 3/8" PULL ROPE.
2. SCHEDULE 40 CONDUIT FOR UNDERGROUND USE.
3. SCHEDULE 80 CONDUIT FOR RISER USE.
4. 2" GALVANIZED STEEL CONDUIT FOR ANY CONDUIT UNDER 3' STUB UP 10' THEN CONVERT TO SCHEDULE 80.
5. CONVERT 4" CONDUIT TO 3' AT BASE OF POLE.
6. CONTRACTOR TO STUB UP POLE 10' w/ 3" POWER CONDUIT. POWER COMPANY TO CONVERT FROM 3' STUB SCHEDULE 80 TO 2' SCHEDULE 80 FROM TOP OF STUB UP.
7. INSTALL STEPS PER PG&E REQUIREMENTS

TYPICAL R.O.W. POLE CONSTRUCTION NOTES

1. CABLE NOT TO IMPEDE 15" CLEAR SPACE OFF POLE FACE.
2. ALL CLIMB STEPS NEXT TO CONDUIT SHALL HAVE EXTENDED STEPS.
3. NO BOLT THREADS TO PROTRUDE MORE THAN 1-1/2.
4. ALL HOLES IN POLE LEFT FROM REARRANGEMENT OF CLIMB STEPS TO BE FILLED.
5. 90° SHORT SWEEPS UNDER ANTENNA ARM, ALL CABLES MUST TRANSITION ON THE INSIDE OR BOTTOM OF THE ARM (NO CABLE ON TOP OF ARM).
6. USE 90° CONNECTOR AT CABLE CONNECTION FOR OMNI DOWN ANTENNAS.
7. USE CABLE CLAMPS TO SECURE CABLE TO ARMS, PLACE 2' AT&T WIRELESS CABLE ID. TAGS ON BOTH SIDES OF ARMS.
8. USE 1/2" DIA. CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.
9. PLACE GPS ON ARM OF SOUTHERN SKY EXPOSURE AT MINIMUM 6' FROM TRANSMIT ANTENNA WHICH IS 24' AWAY FROM CENTER OF POLE.
10. FILL VOID AROUND CABLES AT CONDUIT OPENING WITH FOAM SEALANT TO PREVENT WATER INTRUSION.

GENERAL NOTES

LEGEND

PROPOSED ANTENNA	GROUT OR PLASTER	TELCO RUN	5/8" X 10'-0" CU. GND ROD IN TEST WELL 30" MIN. BELOW GRADE.
EXISTING ANTENNA	(E) BRICK	T/E POWER/TELCO RUN	CHEMICAL GROUND ROD (XIT GROUND ROD)
GROUND ROD	(E) MASONRY	G GROUNDING CONDUCTOR	CADWELD CONNECTION
GROUND BUS BAR	CONCRETE	GROUNDING CONDUCTOR	MECHANICAL CONNECTION
MECHANICAL GRND. CONN.	EARTH	CONDUIT UNDERGROUND	HALO GROUND CONNECTION
GROUND ACCESS WELL	GRAVEL	FUSE, SIZE AND TYPE AS INDICATED.	CIRCUIT BREAKER
ELECTRIC BOX	PLYWOOD	SAFETY SWITCH: 2P-240V-60A W/60A FUSES. NEMA 3R ENCLOSURE. SQ D CATALOG NO. H222NRB	UTILITY METER BASE
TELEPHONE BOX	SAND	MANUAL TRANSFER SWITCH: 2P-240V-200A. NO FUSE NEMA 3R ENCLOSURE	TRANSFORMER
LIGHT POLE	WOOD CONT.	LIGHTING FIXTURE: FLUORESCENT, 10.94' x 4'-0", 2/40W, SURFACE MOUNTING TYPE. HUBBELL LIGHTING CATALOG #WSW2321	STEPDOWN TRANSFORMER
PND. MONUMENT	WOOD BLOCKING	LIGHTING FIXTURE: FLUORESCENT, 10.94' x 8'-0", 2/75W, SURFACE MOUNTING TYPE. HUBBELL LIGHTING CATALOG #TWSW232T	RECEPTACLE: 2P-3W-125V-15A, DUPLEX, GROUND TYPE. HUBBEL CATALOG #5362
SPOT ELEVATION	STEEL	LIGHTING FIXTURE: HIGH PRESSURE SODIUM, 1/70W, WALL MOUNTING TYPE. HUBBELL LIGHTING CATALOG #NRG-307 OR 1/50W, HUBBELL LIGHTING CATALOG #NRG-121	TOGGLE SWITCH, 1P-125V-15A. HUBBELL CATALOG #HBL 1201CN
SET POINT	CENTERLINE	EXIT SIGN, THERMOPLASTIC LED, SINGLE FACE, UNIVERSAL MOUNTING, W/BATTERY PACK. HUBBELL LIGHTING CATALOG #PRB	S_{WP} TOGGLE SWITCH, 1P-120V-15A, "WP"
REVISION	PROPERTY/LEASE LINE	COMBINATION: EXIT SIGN & EMERGENCY LIGHTING. HUBBELL LIGHTING CATALOG #PRC	IONIZATION SMOKE DETECTOR W/ALARM HORN & AUXILIARY CONTACT. 120 VAC. GENTEX PART NO. 7100F
GRID REFERENCE	MATCH LINE	EMERGENCY LIGHTING, 2/50W, HUBBELL LIGHTING CATALOG #HE6-50-2-R91	POLE
DETAIL REFERENCE	WORK POINT	LIGHTING FIXTURE, INCANDESCENT, 1/100W, WALL MOUNTING TYPE. HUBBELL LIGHTING CATALOG #BRH-100-06-1	PROPOSED POLE MOUNTED XFMR
ELEVATION REFERENCE	GROUND CONDUCTOR	LIGHTING FIXTURE, HALOGEN, QUARTZ, 1/300W. HUBBELL LIGHTING CATALOG #QL-505	(E) POLE MOUNTED XFMR
SECTION REFERENCE	COAXIAL CABLE	LIGHTING FIXTURE, 1/175W, METAL HALIDE. HUBBELL CAT #MIC-0175H-336	PROPOSED PAD MOUNTED XFMER
	OVERHEAD SERVICE CONDUCTORS	5/8" X 10'-0" CU. GND ROD 30" MIN. BELOW GRADE.	(E) PAD MOUNTED XFMER
	CHAIN LINK FENCING		
	OVERHEAD ELEPHONE/OVERHEAD POWER		
	OVERHEAD TELEPHONE LINE		
	OVERHEAD POWER LINE		
	POWER RUN		

ABBREVIATIONS

A	AMPERE	HT.	HEIGHT
A.B.	ANCHOR BOLT	IGGB	ISOLATED COPPER GROUND BUS
ABV.	ABOVE	IN (")	INCH(ES)
ACCA	ANTENNA CABLE COVER ASSEMBLY	INT.	INTERIOR
ADD'L	ADDITIONAL	LB.(#)	POUND(S)
A.F.F.	ABOVE FINISHED FLOOR	L.B.	LAG BOLTS
A.F.G.	ABOVE FINISHED GRADE	L.F.	LINEAR FEET (FOOT)
AIC	AMPERE INTERRUPTING CAPACITY	LG.	LENGTH
ALUM.	ALUMINUM		LONG(ITUDINAL)
ALT.	ALTERNATE	LPS	LOW PRESSURE SODIUM
ANT.	ANTENNA	MAS.	MASONRY
APPROX.	APPROXIMATE(LY)	MAX.	MAXIMUM
ARCH.	ARCHITECT(URAL)	M.B.	MACHINE BOLT
AT	AMPERE TRIP	MECH.	MECHANICAL
AWG.	AMERICAN WIRE GAUGE	MFR.	MANUFACTURER
BATT.	BATTERY	MIN.	MINIMUM
BD.	BOARD	MISC.	MISCELLANEOUS
BLDG.	BUILDING	M.L.O.	MAIN LUGS ONLY
BLK.	BLOCK	MTD.	MOUNTED
BLKG.	BLOCKING	MTG.	MOUNTING
BM.	BEAM	MTL.	METAL
B.N.	BOUNDARY NAILING	MTS.	MANUAL TRANSFER SWITCH
BR.	BRANCH	N	NEUTRAL
BRKR.	BREAKER	PROPOSED	PROPOSED
BTC.W.	BARE TINNED COPPER WIRE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
BTS	BASE TRANSMISSION SYSTEM	NO.(#)	NUMBER
B.O.F.	BOTTOM OF FOOTING	N.T.S.	NOT TO SCALE
B/U	BACK-UP CABINET	O/H	OVERHEAD
C	CONDUIT	O.C.	ON CENTER
CAB.	CABINET	OPNG.	OPENING
CANT.	CANTILEVER(ED)	P	POLE
CB.	CIRCUIT BREAKER	PAC	PRECAST CONCRETE
C.I.P.	CAST IN PLACE	PCS	PERSONAL COMMUNICATION SERVICES
CKT.	CIRCUIT	PH	PHASE
CLG.	CEILING	PLY.	PLYWOOD
CLR.	CLEAR	PNLBD.	PANELBOARD
COL.	COLUMN	PPC	POWER PROTECTION CABINET
CONC.	CONCRETE	PRC	PRIMARY RADIO CABINET
CONN.	CONNECTION(OR)	PRI.	PRIMARY
CONST.	CONSTRUCTION	P.S.F.	POUNDS PER SQUARE FOOT
CONT.	CONTINUOUS	P.S.I.	POUNDS PER SQUARE INCH
d	PENNY (NAILS)	P.T.	PRESSURE TREATED
DBL.	DOUBLE	PWR.	POWER (CABINET)
DEM.	DEMAND	QTY.	QUANTITY
DEPT.	DEPARTMENT	RAD.(R)	RADIUS
D.F.	DOUGLAS FIR	RCPT.	RECEPTACLE
DIA.	DIAMETER	REF.	REFERENCE
DIAG.	DIAGONAL	REINF.	REINFORCE(MENTING)
DIM.	DIMENSION	REQ'D	REQUIRED
DWG.	DRAWING(S)	RGS	RIGID GALVANIZED STEEL
DWL.	DOWEL(ED)	SAF.	SAFETY
EA.	EACH	SCH.	SCHEDULE
EGR.	EMERGENCY GENERATOR RECEPTACLE	SDBC.	SOFT DRAWN BARE COPPER
EL.	ELEVATION	SEC.	SECONDARY
ELEC.	ELECTRICAL	SHT.	SHEET
ELEV.	ELEVATOR	SIM.	SIMILAR
EMT.	ELECTRICAL METALLIC TUBING	S.N.	SOLID NEUTRAL
E.N.	EDGE NAIL	SPEC.	SPECIFICATION(S)
ENCL.	ENCLOSURE	SQ.	SQUARE
ENG.	ENGINEER	S.S.	STAINLESS STEEL
EQ.	EQUAL	STD.	STANDARD
EXST.(E)	EXISTING	STL.	STEEL
EXP.	EXPANSION	STRUC.	STRUCTURAL
EXT.	EXTERIOR	SURF.	SURFACE
FAB.	FABRICATION(OR)	SW.	SWITCH
FAC.	FACTOR	TEL.	TELEPHONE
F/A	FIRE ALARM	TEMP.	TEMPORARY
F.F.	FINISH FLOOR	THK.	THICK(NESS)
F.G.	FINISH GRADE	T.N.	TOE NAIL
FIN.	FINISH(ED)	T.O.A.	TOP OF ANTENNA
FLR.	FLOOR	T.O.C.	TOP OF CURB
FLUOR.	FLUORESCENT	T.O.F.	TOP OF FOUNDATION
FDN.	FOUNDATION	T.O.P.	TOP OF PLATE (PARAPET)
F.O.C.	FACE OF CONCRETE	T.O.S.	TOP OF STEEL
F.O.M.	FACE OF MASONRY	T.O.W.	TOP OF WALL
F.O.S.	FACE OF STUD	TYP.	TYPICAL
F.O.W.	FACE OF WALL	U.G.	UNDER GROUND
F.S.	FINISH SURFACE	U.L.	UNDERWRITERS LABORATORY INC
FT.(')	FOOT (FEET)	U.N.O.	UNLESS NOTED OTHERWISE
FTG.	FOOTING	V.	VOLT
FU.	FUSE	VAC.	VOLT ALTERNATING CURRENT
G.	GROUND	V.I.F.	VERIFY IN FIELD
GR.	GROWTH (CABINET)	W.	WATT OR WIRE
GA.	GAUGE	WD.	WIDE(WIDTH)
GEN.	GENERATOR	W/	WITH
GI.	GALVANIZED	W/O	WITHOUT
G.F.C.I.	GROUND FAULT CIRCUIT INTERRUPTER	WD.	WOOD
GLB.	GLUE LAMINATED BEAM	W.P.	WEATHERPROOF
GND.	GROUND	WT.	WEIGHT
GPS	GLOBAL POSITIONING SYSTEM	XFER.	TRANSFER
GRND.	GROUND	XFMR.	TRANSFORMER
HDWE.	HARD DRAWN COPPER WIRE	XLPE.	CROSS-LINK POLYETHYLENE
HDR.	HEADER	℄	CENTERLINE
HGR.	HANGER	℗	PLATE PROPERTY LINE
HPS.	HIGH PRESSURE SODIUM		

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Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-023
PACE ID:
ROW AT 2701 TELEGRAPH AVE
OAKLAND, CA 94612
COUNTY: ALAMEDA

Site Name:

Professional Seal:

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Rev.	Date	Description
01	09/17/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

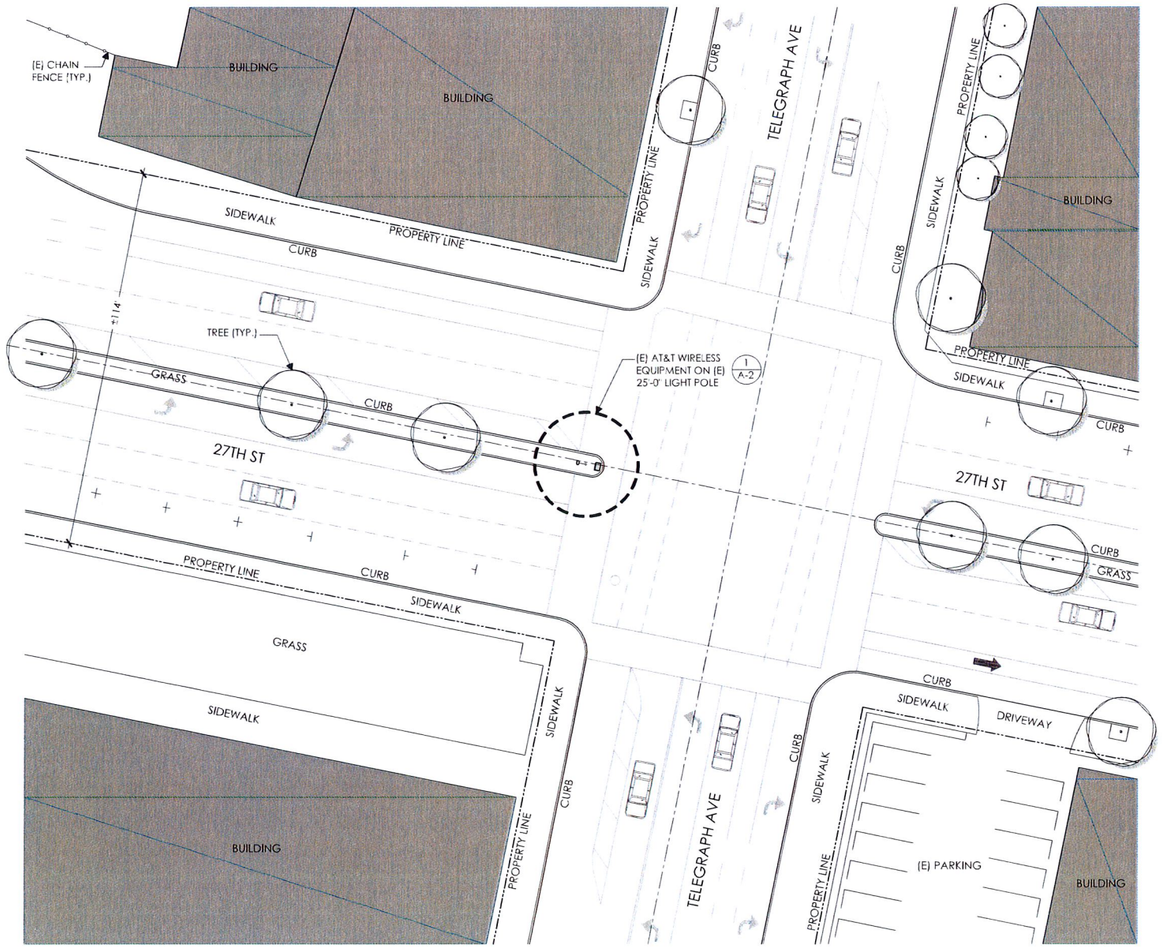
Designed By: JG Checked: RB

GENERAL NOTES
LEGEND
ABBREVIATIONS

Sheet Title:

T.1

Sheet No.:



NOTE:
THIS SITE PLAN WAS GENERATED WITHOUT THE USE OF A SURVEY. PROPERTY LINES, RIGHT-OF-WAYS, POWER & TELCO UTILITY POINT CONNECTIONS/ROUTES AND EASEMENTS SHOWN ON THESE PLANS ARE ESTIMATED. ALL ITEMS AND DIMENSIONS SHOULD BE VERIFIED IN THE FIELD.

UNDERGROUND UTILITIES NOTE:
THE LOCATIONS AND EXISTENCE OF ANY UNDERGROUND PIPES, STRUCTURES, OR CONDUITS SHOWN ON THIS PLAN WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THERE MAY BE EXISTING UTILITIES OTHER THAN THOSE SHOWN ON THIS PLAN. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT SHOWN ON THIS PLAN.

NORTH

OVERALL SITE PLAN

20' 10' 0 10' 20'

SCALE
1" = 20'

1

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OVERALL SITE PLAN

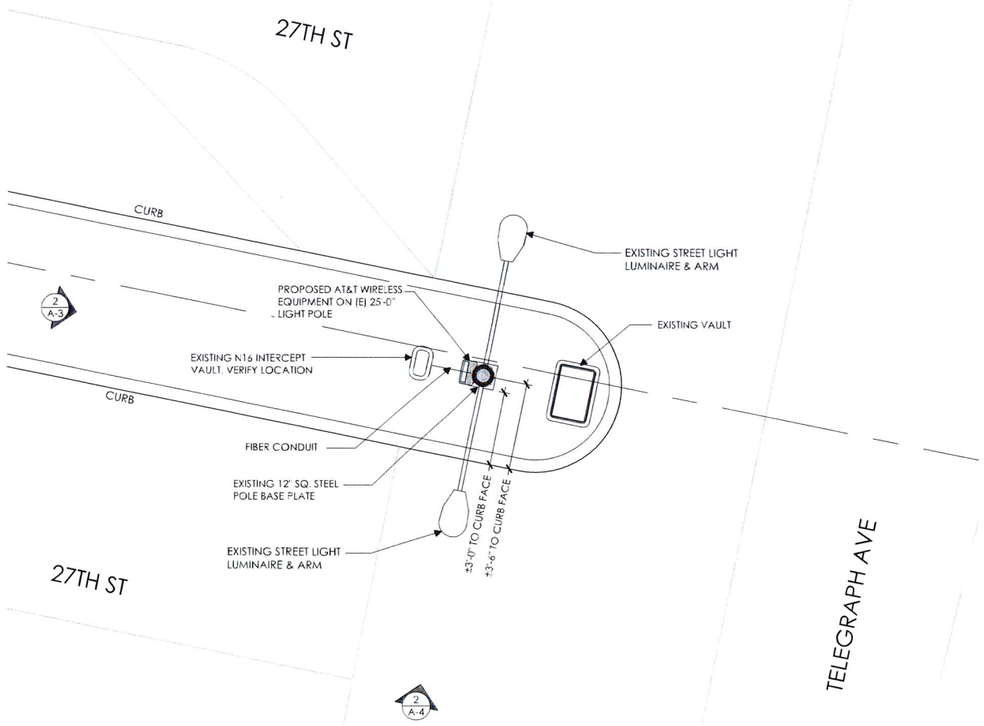
Sheet Title:

A.1

Sheet No.:

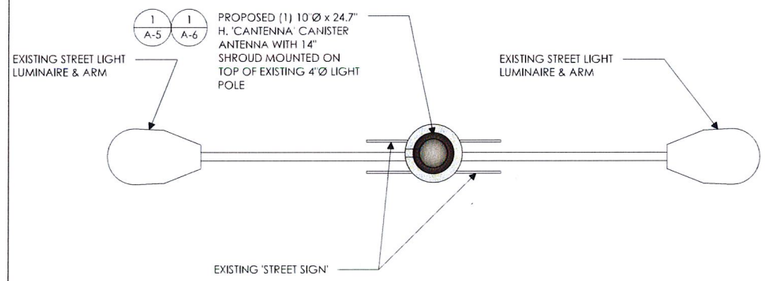
NOTES:

1. DURABLE PAINT: ANTENNAS, MOUNTING BRACKETS, CABLING, AND RADIO RELAY UNITS TO BE PAINTED TO MATCH THE EXISTING POLE USING A DURABLE PAINT (E.G. SHERWIN WILLIAMS, FRAZEE, KELLY MOORE, OR EQUIVALENT)
2. CABLING: CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS. ALL CABLING TO GROUND-MOUNTED BOXES AND ANTENNAS TO BE INSTALLED INSIDE POLE
3. LOGO REMOVAL: ALL EQUIPMENT LOGOS, OTHER THAN THOSE REQUIRED BY REGULATION (E.G. NODE IDENTIFICATION), SHALL BE PAINTED OVER OR REMOVED. RAISED/DEPRESSED TEXT ON RRUS OR OTHER EQUIPMENT, IF PRESENT, TO BE SANDED OFF OR SIMILARLY REMOVED AND/OR FILLED
4. SIGNAGE: FCC MANDATED RF WARNING SIGNAGE SHALL FACE CLIMBING SPACE. OPTIONAL SIGNAGE SHALL FACE OUT TO STREET WHEN PLACED IN FRONT OF OR NEAR A WINDOW. SIGNAGE SHALL FACE TOWARD BUILDING IF THERE IS NO WINDOW.



POLE PLAN ENLARGEMENT

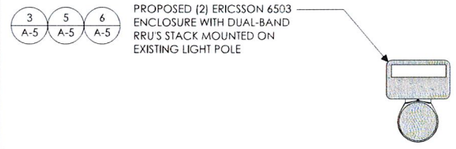
16' 8' 0 8' 16' SCALE 3/8" = 1'-0" 1



A. SECTION (CANISTER ANTENNA)

ANTENNA ENLARGEMENT PLAN

1' 6' 0 6' 1' SCALE 1" = 1'-0" 2



B. SECTION (RRUS)

EQUIPMENT ENLARGEMENT PLAN

1' 6' 0 6' 1' SCALE 1" = 1'-0" 3

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(E) LIGHT POLE
Drawing Phase:

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Designed By: JG Checked: RB

POLE PLAN
EQUIPMENT
ENLARGEMENTS

Sheet Title:

A.2

Sheet No.:

SCALE NOTE:

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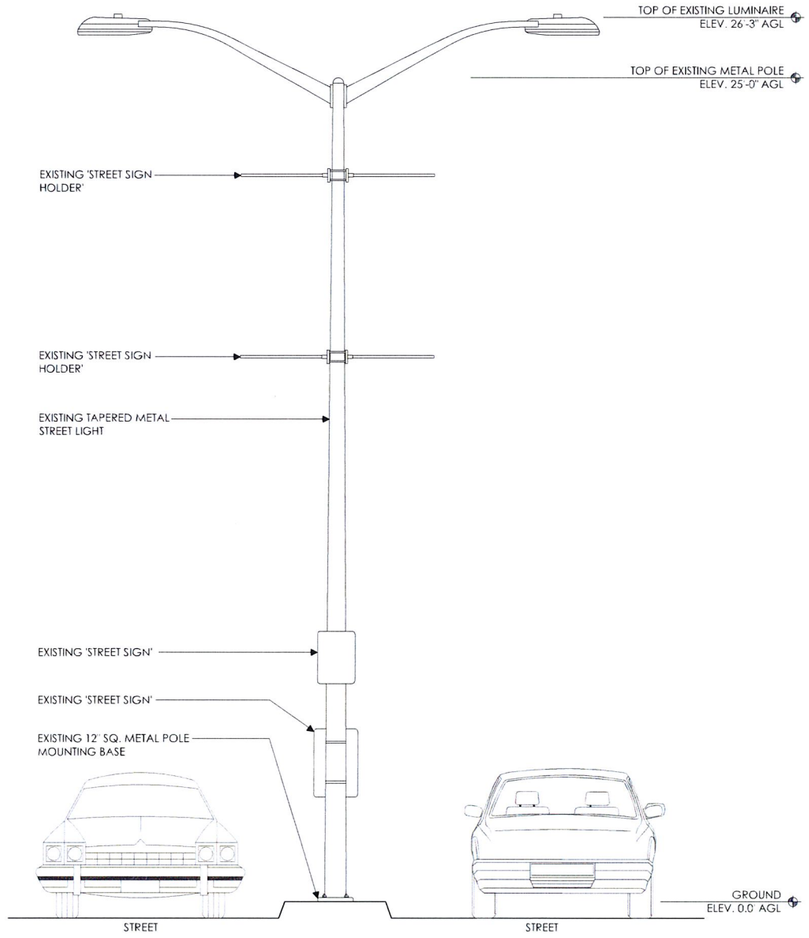
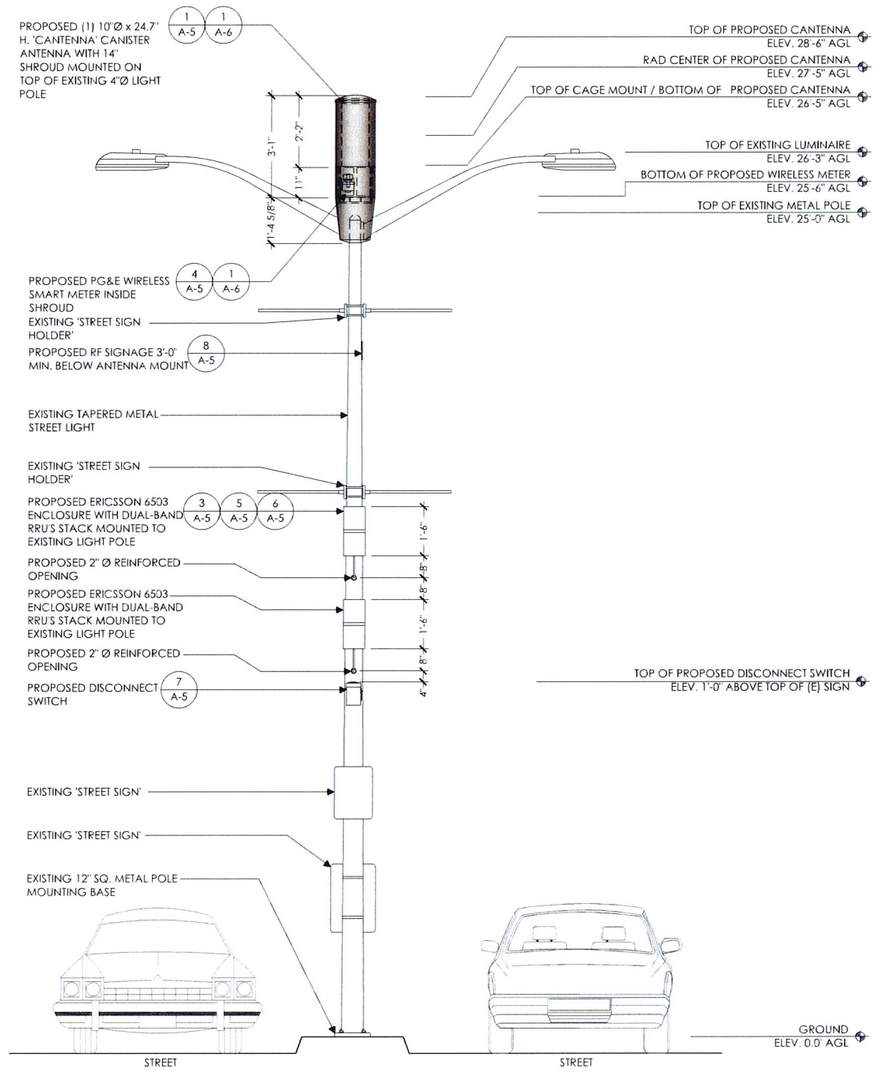


WEST ELEVATION - EXISTING

2 1 0 1' 2'

SCALE 1/2" = 1'-0"

1



WEST ELEVATION - PROPOSED

2 1 0 1 2

SCALE 1/2 = 1'-0"

2

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ELEVATIONS

Sheet Title:

A.3

Sheet No.:

SCALE NOTE:

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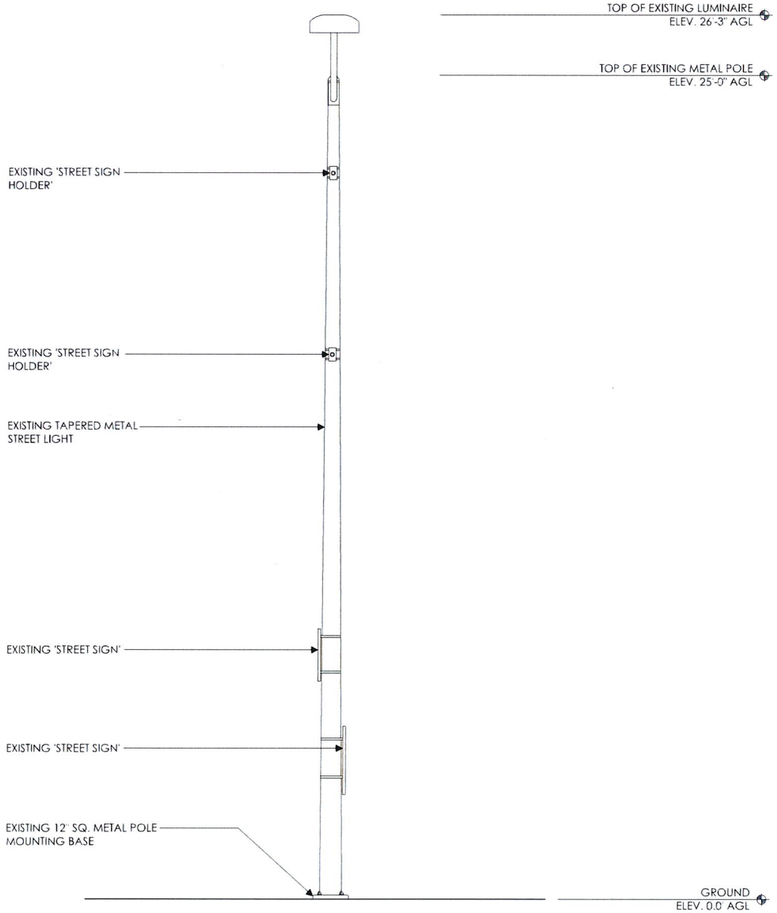
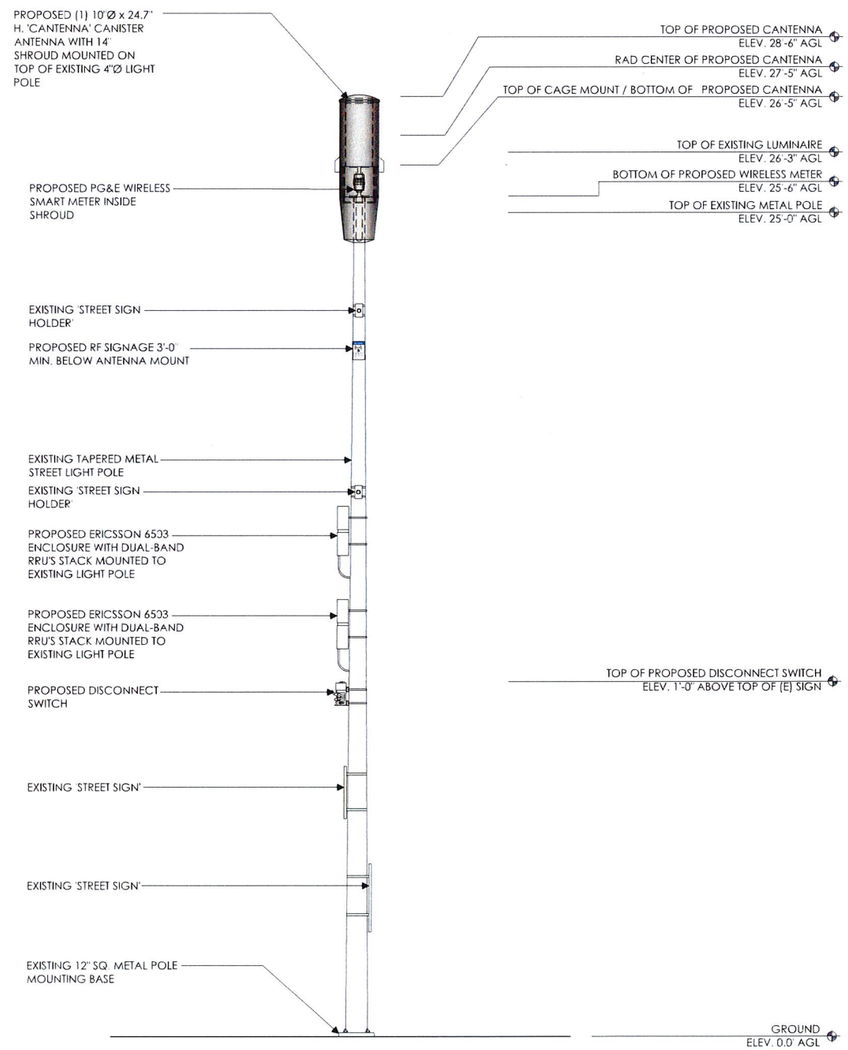


SOUTH ELEVATION - EXISTING

2' 1' 0 1' 2'

SCALE 1/2" = 1'-0"

1



SOUTH ELEVATION - PROPOSED

2' 1' 0 1' 2'

SCALE 1/2" = 1'-0"

2

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Designed By: JG Checked: RB

ELEVATIONS

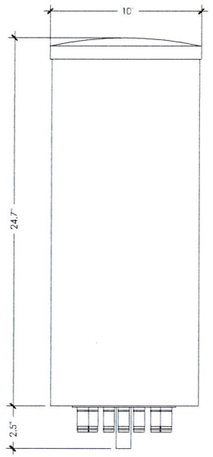
Sheet Title:

A.4

Sheet No.:

AT&T CANISTER ANTENNA 'CAN-TENNA'

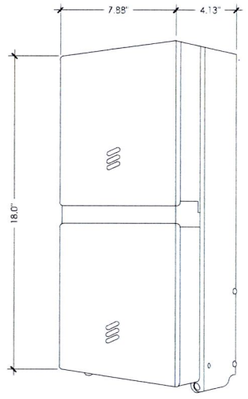
ANTENNA COLOR:	LIGHT GRAY
DIMENSIONS:	10.0"Ø x 24.7" TALL
NET WEIGHT:	19.0 LBS



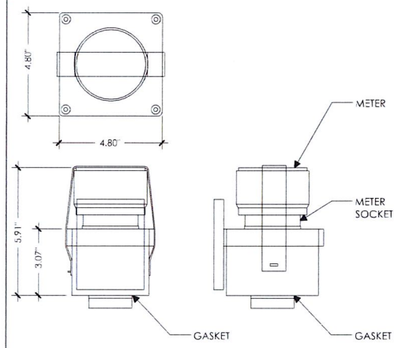
ANTENNA DETAIL | 1

ERICSSON 6503

SINGLE BAND 2203:	2 TX / 2 RX (AWS OR PCS)
DUAL BAND RRU (2 - 2203'S):	4 TX / 4 RX (AWS OR PCS)
MAXIMUM POWER CONSUMPTION:	<100W PER 2203 RADIO- ±95W PER SINGLE-BAND 2203 RADIO ±190W PER DUAL-BAND 2203 RRU
MAX FUSE RATING:	32A
WIRE SIZE:	#10 CU OR #8 ALU



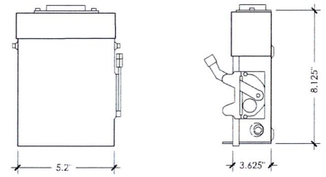
6503 RRU ENCLOSURE | 3



PG&E WIRELESS SMART METER | 4

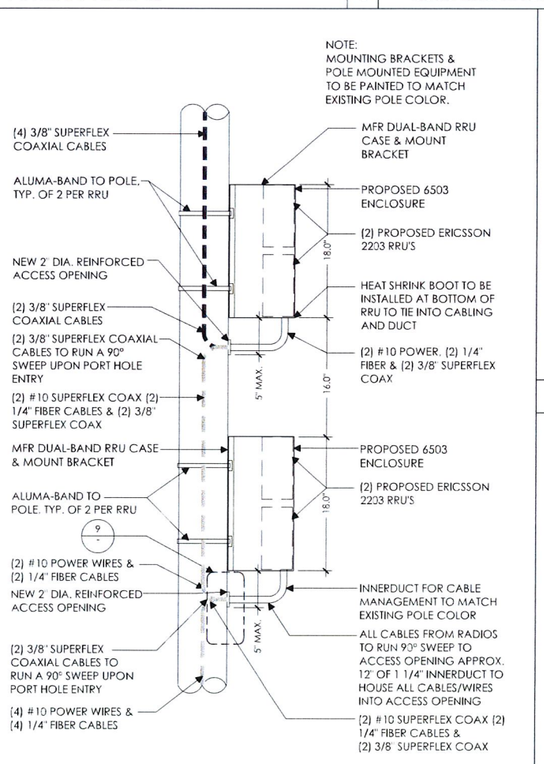
MURRAY LW002GRU SPECIFICATIONS

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



DISCONNECT SWITCH | 7

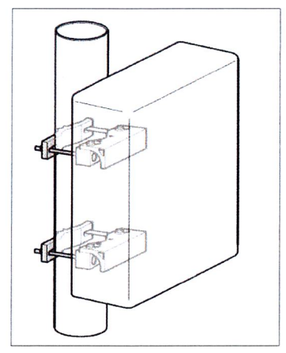
NOTICE SIGNAGE | 8



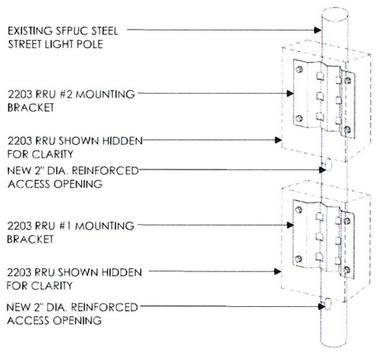
DUAL BAND RRU MOUNT | 2

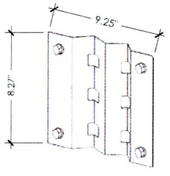
Technical Specifications Radio 2203

FREQUENCY BANDS	
Bands	3GPP Bands B1 (W/L), B3 (L), B3C (W/L), B8 (W/L), B66A (W/L), B5 (W/L), B2/B25 (W/L), B12 (L), B13 (L) and B7 (L)
RW CAPACITY	
Carrier capacity WCDMA	Up to 4 carriers
Carrier capacity LTE	Up to 40 MHz
IBW	B1, B3 and B66A 45 MHz, B2/B25 and B7 40 MHz, B3C, B8, B5, B12 and B13 Full band
MIMO	Yes, 2T/2R
Output power	Up to 2 x 5 W
INTERFACE SPECIFICATIONS	
Antenna Ports	2 x 4.3-10 (f)
CPRI	2 x 2.5/5/10 Gbps (exchangeable SFP modules)
Optical indicators	6
External alarms	2
Field ground	1
MECHANICAL SPECIFICATIONS	
W x H x D	200 mm x 200 mm x 100 mm, including mounting bracket and esthetic front cover
Weight	< 4.5 kg
Volume	4 l
Mounting	Wall and pole mount
ELECTRICAL SPECIFICATIONS	
Power Supply	-48 VDC or 100 - 250 VAC
ENVIRONMENTAL SPECIFICATIONS	
Normal operating temp.	-40 °C to +55 °C (cold start at -40 °C)
Relative Humidity	5 - 100%
Environment	Outdoor class with IP65



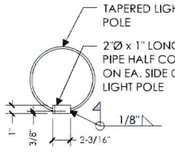
ERICSSON 2203 RRU | 5





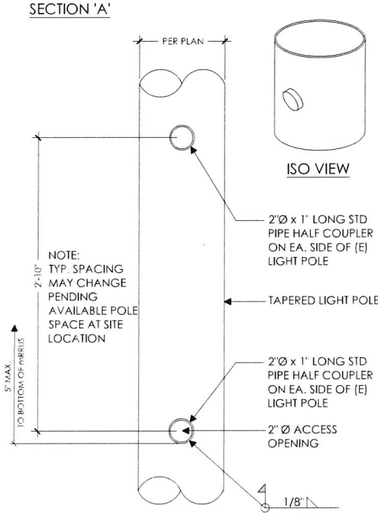
8.27"L x 9.25"W HOSE PLATE (ALUMA-BAND TO POLE)

6503 RRU-POLE MOUNTING DETAILS | 6



SECTION 'A'

NOTE:
ANY DRILLED HOLES WILL BE STRUCTURALLY WELDED AND REINFORCED. SEAMS AND BOLTS/SCREWS AT ANTENNA AND SHROUD ASSEMBLY AREA SHALL BE FABRICATED AND INSTALLED IN A MANNER SO AS TO REDUCE THEIR VISIBILITY FROM SIDEWALK LEVEL



SECTION 'A'

VERTICAL ACCESS PORT | 9

AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:

Meridian Management LLC
785 Oak Grove Road E2
Suite 251
Concord, CA 94518
T 707.592.5924
www.meridian.management

Project Architect:

VINCULUMS
575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-023
PACE ID:
ROW AT 2701 TELEGRAPH AVE
OAKLAND, CA 94612
COUNTY: ALAMEDA

Site Name:

Professional Seal:

Rev.	Date	Description
01	09/17/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

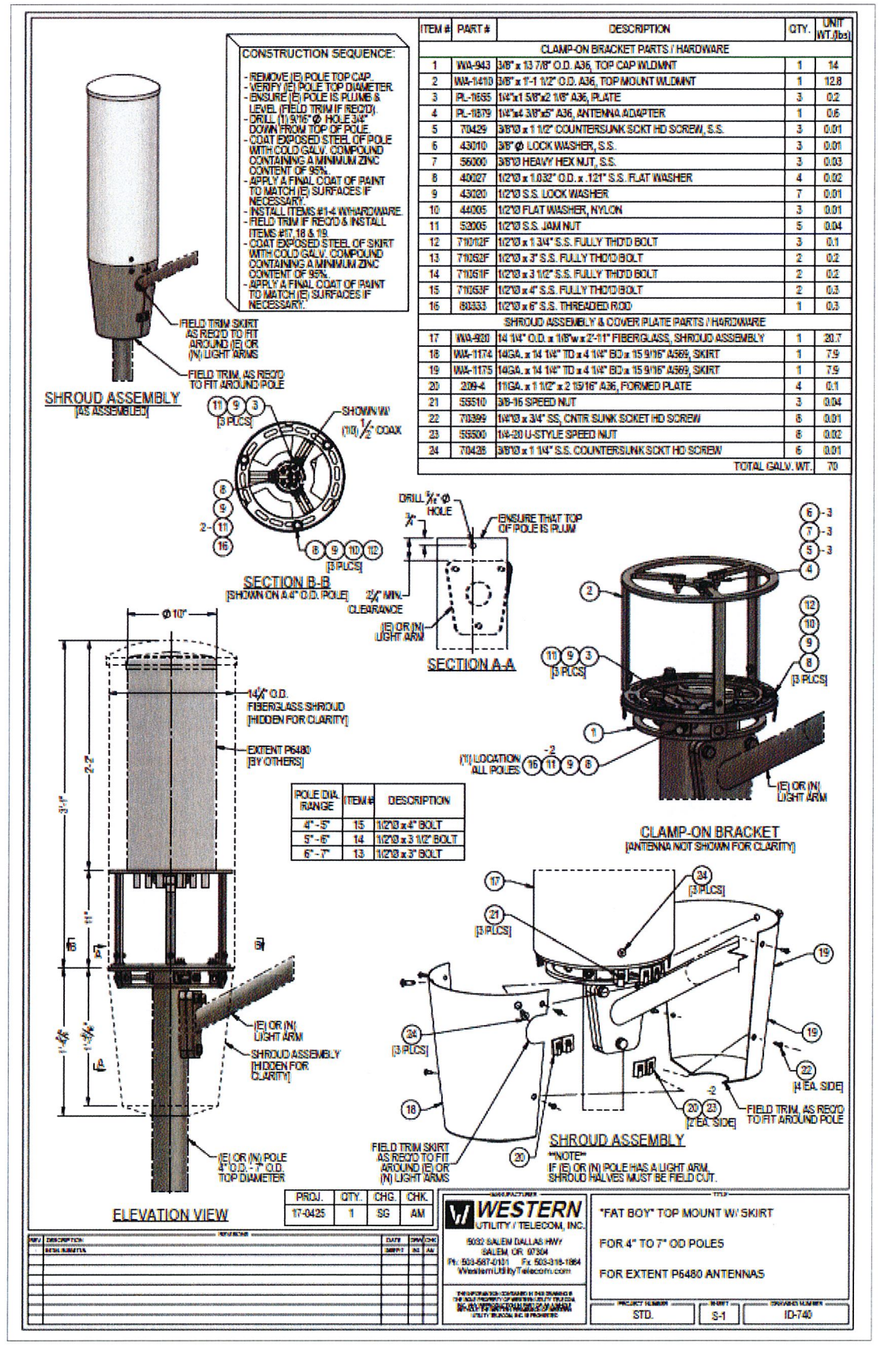
Designed By: JG Checked: RB

EQUIPMENT DETAILS

Sheet Title:

A.5

Sheet No.:



ITEM #	PART #	DESCRIPTION	QTY.	UNIT WT.(lbs)
		CLAMP-ON BRACKET PARTS / HARDWARE		
1	WA-943	3/8" x 13 7/8" O.D. A36, TOP CAP W/DMNT	1	14
2	WA-1410	3/8" x 1'-1 1/2" O.D. A36, TOP MOUNT W/DMNT	1	12.8
3	PL-1695	1/4"x1 5/8"x2 1/8" A36, PLATE	3	0.2
4	PL-1879	1/4"x4 3/8"x5" A36, ANTENNA ADAPTER	1	0.6
5	70429	3/8"Ø x 1 1/2" COUNTERSUNK SCKT HD SCREW, S.S.	3	0.01
6	430010	3/8" Ø LOCK WASHER, S.S.	3	0.01
7	56000	3/8"Ø HEAVY HEX NUT, S.S.	3	0.03
8	40027	1/2"Ø x 1.032" O.D. x .121" S.S. FLAT WASHER	4	0.02
9	43020	1/2"Ø S.S. LOCK WASHER	7	0.01
10	44005	1/2"Ø FLAT WASHER, NYLON	3	0.01
11	53005	1/2"Ø S.S. JAM NUT	5	0.04
12	71012F	1/2"Ø x 1 3/4" S.S. FULLY THD'D BOLT	3	0.1
13	71032F	1/2"Ø x 3" S.S. FULLY THD'D BOLT	2	0.2
14	71031F	1/2"Ø x 3 1/2" S.S. FULLY THD'D BOLT	2	0.2
15	71053F	1/2"Ø x 4" S.S. FULLY THD'D BOLT	2	0.3
16	80333	1/2"Ø x 6" S.S. THREADED ROD	1	0.3
		SHROUD ASSEMBLY & COVER PLATE PARTS / HARDWARE		
17	WA-920	14 1/4" O.D. x 1/8"w x 2'-11" FIBERGLASS, SHROUD ASSEMBLY	1	20.7
18	WA-1174	14GA. x 14 1/4" TD x 4 1/4" BD x 15 9/16" A569, SKIRT	1	7.9
19	WA-1175	14GA. x 14 1/4" TD x 4 1/4" BD x 15 9/16" A569, SKIRT	1	7.9
20	209-4	11GA. x 1 1/2" x 2 15/16" A36, FORMED PLATE	4	0.1
21	55510	3/8-16 SPEED NUT	3	0.04
22	70399	1/4"Ø x 3/4" SS, CNTR SUNK SOCKET HD SCREW	8	0.01
23	55500	1/4-20 U-STYLE SPEED NUT	8	0.02
24	70428	3/8"Ø x 1 1/4" S.S. COUNTERSUNK SCKT HD SCREW	6	0.01
		TOTAL GALV. WT.:		70

POLE DIA. RANGE	ITEM #	DESCRIPTION
4" - 5"	15	1/2"Ø x 4" BOLT
5" - 6"	14	1/2"Ø x 3 1/2" BOLT
6" - 7"	13	1/2"Ø x 3" BOLT

PROJ.	QTY.	CHG.	CHK.
17-0425	1	SG	AM

MANUFACTURER
WESTERN UTILITY / TELECOM, INC.
5032 SALEM DALLAS HWY
SALEM, OR 97304
Ph: 503-587-0131 Fx: 503-316-1964
WesternUtilityTelecom.com

"FAT BOY" TOP MOUNT W/ SKIRT
FOR 4" TO 7" OD POLES
FOR EXTENT P6480 ANTENNAS

PROJECT NUMBER	SHEET	DRAWING NUMBER
STD.	S-1	ID-740

POLE TOP MOUNT W/ SKIRT ASSEMBLY DETAIL

1

AT&T

AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:

Meridian Management LLC
785 Oak Grove Road E2
Suite 251
Concord, CA 94518
T 717.592.5924
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Project Architect:

VINCULUMS
575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

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95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-023
PACE ID:
ROW AT 2701 TELEGRAPH AVE
OAKLAND, CA 94612
COUNTY: ALAMEDA

Site Name:

Professional Seal:

Rev.	Date	Description
01	09/17/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

EQUIPMENT DETAILS

Sheet Title:

A.6

Sheet No.:

view from 27th Street looking northeast at site

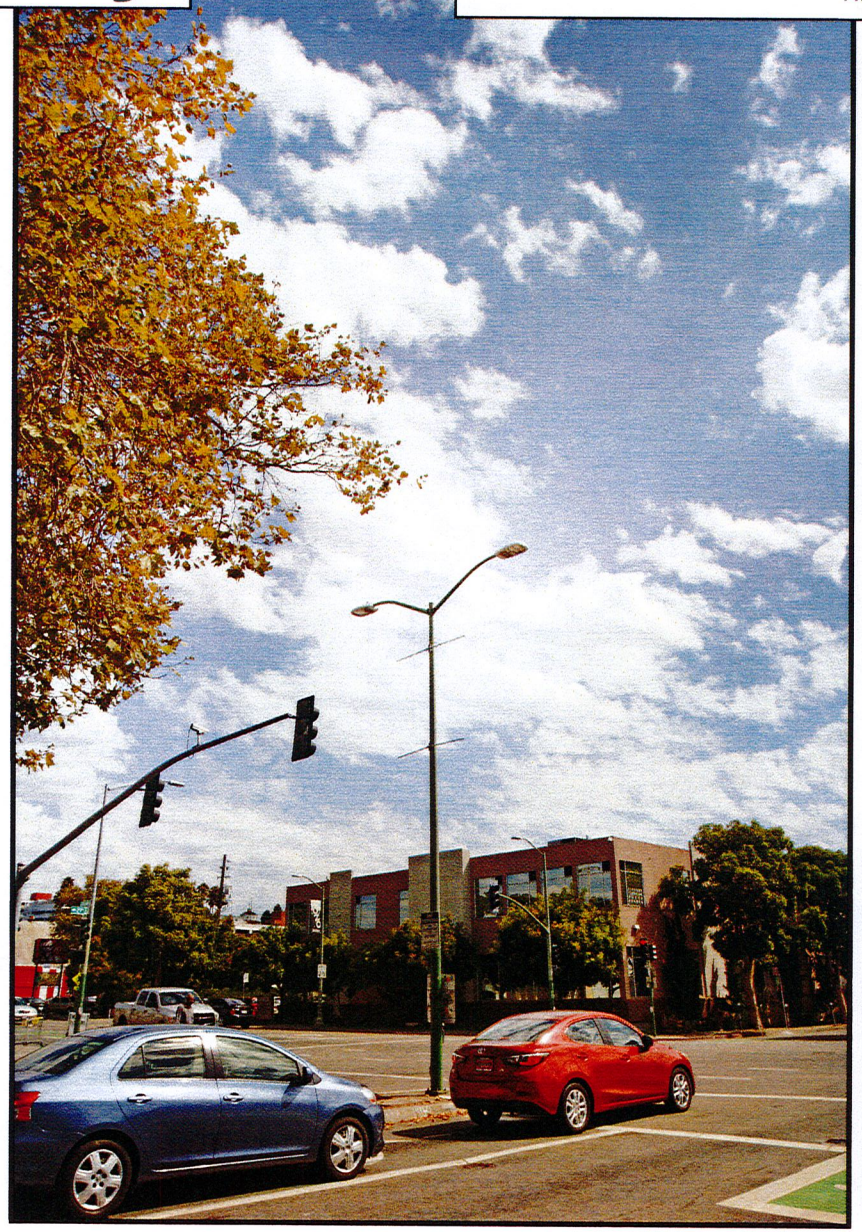
AT&T Wireless

CRAN-RSFR-SFOK6-023

ROW at 2701 Telegraph Avenue, Oakland, CA

Photosims Produced on 9-22-2017

Existing



Proposed

AdvanceSim

Photo Simulation Solutions

Contact (925) 202-8507

Existing

Proposed

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507

view from 27th Street looking west at site

AT&T Wireless

CRAN-RSFR-SFOK6-023
ROW at 2701 Telegraph Avenue, Oakland, CA
Photosims Produced on 9-22-2017

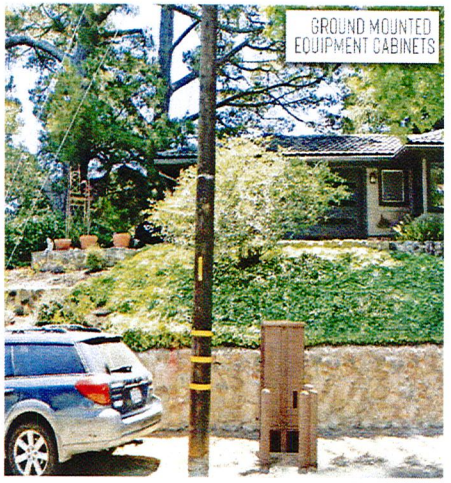
ALTERNATIVE DESIGN ANALYSIS

Full-Sized Tower:

- Too big/bulky.
- Requires 300' sq. area.
- Does not nestle coverage/capacity.

Shrouded Pole Equipment:

- Too big/bulky.
- Adds unnecessary equipment.
- Small cell equipment is already sleek.



Equipment Cabinet:

- Too big/bulky.
- Adds unnecessary ROW equipment.
- Pole-mounted equipment blends in with pole.

Alternative Site Analysis – SFOK6_023

Node 23A:

- Primary candidate
- Preferred due to adjacent commercial uses and for best meeting AT&T's RF needs.

Node 23B:

- Potentially viable alternative
- Less preferred considering ornamental pole, presence of banners & signs.

Node 23C:

- Potentially viable alternative
- Less preferred considering ornamental pole, presence of banners & signs.

AT&T Mobility • Proposed Small Cell (No. CRAN-RSFR-SFOK6-023)
2701 Telegraph Avenue • Oakland, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of AT&T Mobility, a personal wireless telecommunications carrier, to evaluate its small cell (No. CRAN-RSFR-SFOK6-023) proposed to be sited in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

AT&T proposes to install an omnidirectional cylindrical antenna on a light pole sited in the public right-of-way at 2701 Telegraph Avenue in Oakland. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

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

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

General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are typically mounted on the support pole or placed in a cabinet at ground level, and they are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means

that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

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

Site and Facility Description

Based upon information provided by AT&T, including drawings by Meridian Management LLC, dated September 17, 2017, it is proposed to install one Galtronics Model P6480, 2-foot tall, omnidirectional cylindrical antenna, on top of an existing light pole sited in the public right-of-way at the east end of the median strip on 27th Street in Oakland, at the west side of the intersection with Telegraph Avenue. The antenna would employ no downtilt and would be mounted at an effective height of about 27½ feet above ground. The maximum effective radiated power in any direction would be 80 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 AT&T operation is calculated to be 0.0011 mW/cm^2, which is 0.11% of the applicable public exposure limit. The maximum calculated level at any nearby building is 0.29% 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.

No Recommended Mitigation Measures

Due to its mounting location and height, the AT&T antenna would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. The occupational limit is calculated to extend 4 inches from the antenna and, due to this short distance, the proposed operation is considered intrinsically compliant with that limit.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by AT&T Mobility at 2701 Telegraph Avenue in Oakland, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating small cells.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2019. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

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

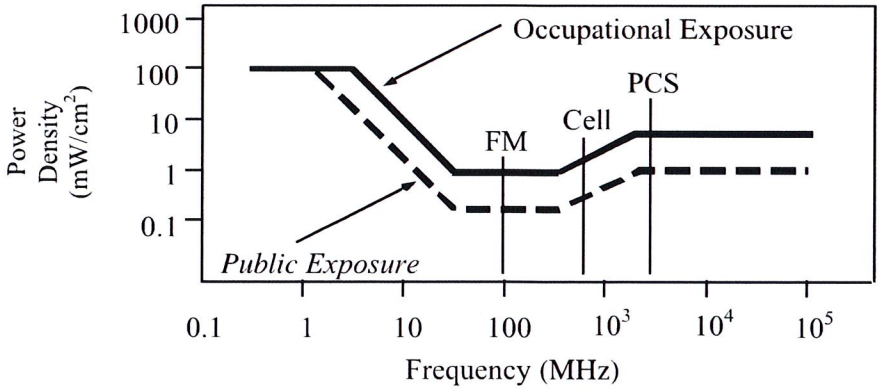
November 15, 2017

FCC Radio Frequency Protection Guide

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

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

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



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

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

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

Near Field.

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

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

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

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

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

Far Field.

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

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

where ERP = total ERP (all polarizations), in kilowatts,
RFF = relative field factor at the direction to the actual point of calculation, and
D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

California Public Utilities Commission

Utility Contact System Search

The Utility Contact System (UCS) is the Communications Division's database for the primary regulatory contact for each telephone corporation operating in California. The Communications Division sends impo regulatory notices to the regulatory contact for each telephone corporation via e-mail, so it is important for primary regulatory contacts to update their UCS record if their e-mail address changes.

Telephone corporations may update UCS contact information using the form on the following page: **Carrier Reporting Requirements**

A description of the different utility types (granted authorities) are listed on the following page: **Utility Type Descriptions**

Search Utility Name Search Utility Number 3060 Search Clear

Utility Name	Alias (DBA Name)	Utility Number	Street Address	City	State	Zip	Phone Number	Email	Utility Type	CPCN Appro
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	430 BUSH STREET	SAN FRANCISCO	CA	94108	(415) 778-1299	att-regulatory-ca@att.com	CEC	12-21-1995
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	7405 GREENHAVEN DRIVE	SACRAMENTO	CA	95831	(800) 498-1912	west.region.oopsac@awsmail.att.com	CEC	12-21-1995
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	11760 US HIGHWAY ONE, WEST TOWER	NORTH PALM BEACH	FL	33048	770-240-8849		CEC	12-21-1995

Save Search Results as CSV Spreadsheet

Comments & Feedback


California Penal
Code 647 (c)
REAL ESTATE Investor
Seeking Students
Unlimited Income Potential
916-562-0358
PUBLIC NOTICE
CITY OF OAKLAND
ATTACHMENT H
3a

PROJECT TEAM

APPLICANT:
AT&T
5001 Executive Parkway
San Ramon, Ca 94583

ARCHITECT/ENGINEER:
Rodney Barnes
Meridian Management LLC
785 Oak Grove Road E2
Suite 251
Concord, CA 94518
T 707.592.5924
rodney@meridian.management

ZONING CONTACT
Matt Yergovich
Vinculums Services
575 Lennon Lane
Suite 125
Walnut Creek, CA 94598
T 415.596.3474
myergo@gmail.com

LEASING CONTACT:
Matt Yergovich
Vinculums Services
575 Lennon Lane
Suite 125
Walnut Creek, CA 94598
T 415.596.3474
myergo@gmail.com

CONSTRUCTION MANAGER:
Vinculums Services
575 Lennon Lane
Suite 125
Walnut Creek, CA 94598

GENERAL NOTES

1. THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR THE AT&T WIRELESS NETWORK CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON AN EXISTING METAL LIGHT POLE IN THE PUBLIC RIGHT-OF-WAY. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
2. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.
3. CHANGES FROM THE APPROVED PLANS DURING THE COURSE OF CONSTRUCTION SHALL CAUSE CONSTRUCTION TO BE SUSPENDED UNTIL SUCH TIME AS THE PLANS CAN BE AMENDED BY THE DESIGNER AND SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL

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. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

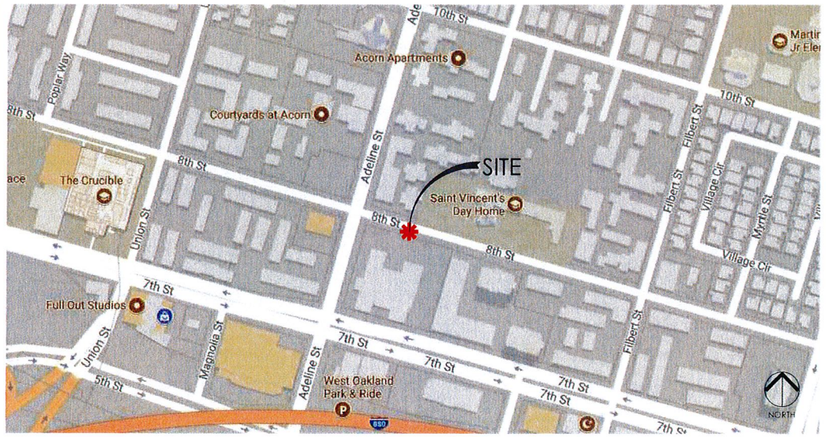
- CALIFORNIA CODES
- 2016 CALIFORNIA BUILDING CODE
- 2016 CALIFORNIA MECHANICAL CODE
- 2016 CALIFORNIA PLUMBING CODE
- 2016 CALIFORNIA ELECTRIC CODE
- 2016 GREEN BUILDING CODE
- 2016 EDITION OF TITLE 24 ENERGY STANDARDS
- ANY LOCAL BUILDING CODE AMENDMENTS TO THE ABOVE
- CITY / COUNTY ORDINANCES
- CITY OF OAKLAND PUBLIC WORKS DEPARTMENT
- GENERAL ORDER 95 (JUNE 2009 EDITION)

AT&T

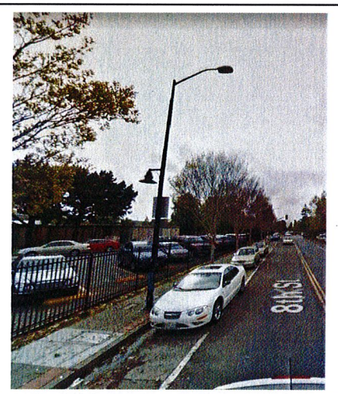
5001 EXECUTIVE PARKWAY, SAN RAMON, CA 94583

CRAN-RSFR-SFOK6-035

PACE ID:
ROW AT 1103 8TH ST, OAKLAND, CA 94607
COUNTY: ALAMEDA
SITE TYPE: METAL STREET LIGHT POLE
FA:14307065 HUB:19 USID:192883



SITE IMAGE



DRIVING DIRECTIONS

FROM AT&T WIRELESS OFFICE AT 5001 EXECUTIVE PARKWAY, SAN RAMON, CA

1. Head north-east on Bishop Dr towards Sunset Dr
2. Turn right onto Sunset Dr
3. Use the right 2 lanes to turn right onto Bollinger Canyon Rd
4. Use the right 2 lanes to merge onto I-680 N via the slip road to Sacramento
5. Merge onto I-680 N
6. Use the right 2 lanes to take exit 46A for State Route 24 towards Oakland/Lafayette
7. Continue onto CA-24 W
8. Keep left at the fork to stay on CA-24 W
9. Continue onto I-980 W
10. Use the right lane to take exit 1C for 12th S
11. Use the right lane to merge onto Brush St
12. Continue straight to stay on Brush St
13. Turn right onto 7th St
14. Turn right at the 2nd cross street onto Filbert St
15. Turn left at the 1st cross street onto 8th St

INDEX

DRAWING SIGN-OFF

VINCULUMS

	Signature	Date
SITE ACQUISITION:		
PLANNING:		
CONSTRUCTION:		
MANAGEMENT:		

AT&T

	Signature	Date
CONSTRUCTION:		
REAL ESTATE:		
RF ENGINEER:		
EQUIPMENT ENGINEER:		
MW ENG/TRANSPORT:		
OWNER:		

PROJECT DESCRIPTION

THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR THE AT&T WIRELESS NETWORK CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON A REPLACEMENT EXISTING SEMI-DECORATIVE METAL LIGHT POLE IN THE PUBLIC RIGHT-OF-WAY.

SCOPE OF WORK & SITE COMPLETION CHECKLIST:

1. ANTENNA & ASSOCIATED EQUIPMENT BOXES: INSTALL A NEW TELECOMMUNICATION ANTENNA AND 2 EQUIPMENT BOXES ON AN EXISTING METAL LIGHT POLE
2. DURABLE PAINT: ANTENNAS, MOUNTING BRACKETS, CABLING, AND RADIO RELAY UNITS TO BE PAINTED TO MATCH THE EXISTING POLE USING A DURABLE PAINT (E.G. SHERWIN WILLIAMS, FRAZEE, KELLY MOORE, OR EQUIVALENT)
3. CABLING: CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS
4. LOGO REMOVAL: ALL EQUIPMENT LOGOS, OTHER THAN THOSE REQUIRED BY REGULATION (E.G. NODE IDENTIFICATION), SHALL BE PAINTED OVER OR REMOVED. RAISED/DEPRESSED TEXT ON RRUS OR OTHER EQUIPMENT, IF PRESENT, TO BE SANDED OFF OR SIMILARLY REMOVED AND/OR FILLED
5. SIGNAGE: FCC MANDATED RF WARNING SIGNAGE SHALL FACE CLIMBING SPACE. OPTIONAL SIGNAGE SHALL FACE OUT TO STREET WHEN PLACED IN FRONT OF OR NEAR A WINDOW. SIGNAGE SHALL FACE TOWARD BUILDING IF THERE IS NO WINDOW.
6. UTILITY LINES: PROPOSED UTILITY LINES BETWEEN EXISTING POINT OF CONNECTION TO BE IN CONDUIT INSIDE POLE

SITE INFORMATION

OWNER:	CITY OF OAKLAND
APPLICANT:	AT&T 5001 EXECUTIVE PARKWAY SAN RAMON, CA 94583
LATTITUDE:	37.8046300 (NAD 83)
LONGITUDE:	-122.2871200 (NAD 83)
GROUND ELEVATION:	20' AMSL
ADJACENT APN#:	(IFO) 4-29-10-1
ZONING JURISDICTION:	CITY OF OAKLAND
CURRENT ZONING:	PUBLIC ROW
PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & FIELD 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

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Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-035
PACE ID:
ROW AT 1103 8TH ST
OAKLAND, CA 94607
COUNTY: ALAMEDA

Site Name:

Professional Seal:

Rev.	Date	Description
01	09/21/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

TITLE SHEET

Sheet Title:

T.1

Sheet No.:

GENERAL CONSTRUCTION NOTES

1. PLANS ARE INTENDED TO BE DIAGRAMMATIC OUTLINE ONLY. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
2. THE CONTRACTOR SHALL OBTAIN, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
3. CONTRACTOR SHALL CONTACT USA (UNDERGROUND SERVICE ALERT) AT (800) 227-2600 FOR UTILITY LOCATIONS, 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
4. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CBC / UBC'S REQUIREMENTS REGARDING EARTHQUAKE RESISTANCE, FOR, BUT NOT LIMITED TO, PIPING, LIGHT FIXTURES, CEILING GRID, INTERIOR PARTITIONS, AND MECHANICAL EQUIPMENT. ALL WORK MUST COMPLY WITH LOCAL EARTHQUAKE CODES AND REGULATIONS.
6. REPRESENTATIONS OF TRUE NORTH, OTHER THAN THOSE FOUND ON THE PLOT OF SURVEY DRAWINGS, SHALL NOT BE USED TO IDENTIFY OR ESTABLISH BEARING OF TRUE NORTH AT THE SITE. THE CONTRACTOR SHALL RELY SOLELY ON THE PLOT OF SURVEY DRAWINGS AND ANY SURVEYOR'S MARKINGS AT THE SITE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ARCHITECT / ENGINEER PRIOR TO PROCEEDING WITH THE WORK IF ANY DISCREPANCY IS FOUND BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPICTED ON THE CIVIL SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ARCHITECT / ENGINEER.
7. THE BUILDING DEPARTMENT ISSUING THE PERMITS SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK, OR AS OTHERWISE STIPULATED BY THE CODE ENFORCEMENT OFFICIAL HAVING JURISDICTION.
8. DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
9. ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON THE PLAN HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT / ENGINEER AND THE OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR THE ACCURACY OF THE INFORMATION SHOWN ON THE PLANS, OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTORS SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTORS SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING EXISTING UTILITIES.
10. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES, BOTH HORIZONTAL AND VERTICALLY, PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT / ENGINEER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT / ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS/HER OWN RISK AND EXPENSE.
11. ALL PROPOSED AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
12. ANY DRAIN AND/OR FIELD TILE ENCOUNTERED / DISTURBED DURING CONSTRUCTION SHALL BE RETURNED TO IT'S ORIGINAL CONDITION PRIOR TO COMPLETION OF WORK. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON "AS-BUILT" DRAWINGS BY GENERAL CONTRACTOR, AND ISSUED TO THE ARCHITECT / ENGINEER AT COMPLETION OF PROJECT.
13. ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
14. INCLUDE MISC. ITEMS PER AT&T WIRELESS SPECIFICATIONS.

GENERAL NOTES FOR EXISTING CELL SITES

1. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
2. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
3. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW (USUALLY IN LOW TRAFFIC PERIODS) AFTER MIDNIGHT.
4. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
5. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD PROPOSED TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
6. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

APPLICABLE CODES, REGULATIONS AND STANDARDS:

1. SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION.
2. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
3. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
4. - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION.
   - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES
   - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRICAL EQUIPMENT.
   IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")
5. TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS TELCORDIA GR-63 NETWORK EQUIPMENT-BUILDING SYSTEM (NEBS): PHYSICAL PROTECTION
   TELCORDIA GR-347 CENTRAL OFFICE POWER WIRING
   TELCORDIA GR-1275 GENERAL INSTALLATION REQUIREMENTS
   TELCORDIA GR-1503 COAXIAL CABLE CONNECTIONS
6. ANY AND ALL OTHER LOCAL & STATE LAWS AND REGULATIONS.
7. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

GENERAL TRENCHING NOTES

1. MAINTAIN 40" MINIMUM COVER FOR ALL ELECTRICAL CONDUITS.
2. MAINTAIN 30" MINIMUM COVER FOR ALL TELECOMMUNICATIONS CONDUITS.
3. MINIMUM 1" SAND SHADING BELOW CONDUITS AND 6" COVERING ON TOP OF CONDUITS REQUIRED.
4. ALL ELECTRICAL CONDUITS FROM POWER COMPANY FROM ANY POLE, TRANSFORMER OR OTHER LOCATIONS WILL BE SLURRY BACKFILLED.
5. IN STREET SLURRY TO GRADE AND VLL DOWN 1-1/2" FOR AC CAP.
6. IN DIRT SLURRY 18" FROM GRADE AND FILL 95% COMPACTION NATIVE SOIL FOR BALANCE.
7. WARNING TAPE TO BE PLACED IN TRENCH 12" ABOVE ALL CONDUITS AND #18 WARNING TAPE ABOVE PNG.

GENERAL GROUNDING NOTES

1. 5/8" X 8' ROD, CAD WELD BELOW GRADE.
2. GROUND TESTED AT 5 OHMS OR LESS.
3. #6 GROUND AND BOND WIRE.
4. GROUNDS 3' FROM POLE.
5. PLACE 3 #10 GA WIRES FROM TESCO BREAKER TO PBMO OR STRONG BOX.
6. WOOD MOLDING, STAPLED EVERY 3' AND AT EACH END.

GENERAL CONDUIT NOTES

1. ALL CONDUITS WILL BE MANDRELED AND EQUIPPED WITH 3/8" PULL ROPE.
2. SCHEDULE 40 CONDUIT FOR UNDERGROUND USE.
3. SCHEDULE 80 CONDUIT FOR RISER USE.
4. 2" GALVANIZED STEEL CONDUIT FOR ANY CONDUIT UNDER 3'. STUB UP 10' THEN CONVERT TO SCHEDULE 80.
5. CONVERT 4" CONDUIT TO 5" AT BASE OF POLE.
6. CONTRACTOR TO STUB UP POLE 10' w/ 3" POWER CONDUIT. POWER COMPANY TO CONVERT FROM 3" STUB SCHEDULE 80 TO 2" SCHEDULE 80 FROM TOP OF STUB UP.
7. INSTALL STEPS PER PG&E REQUIREMENTS.

TYPICAL R.O.W. POLE CONSTRUCTION NOTES

1. CABLE NOT TO IMPEDE 15" CLEAR SPACE OFF POLE FACE.
2. ALL CLIMB STEPS NEXT TO CONDUIT SHALL HAVE EXTENDED STEPS.
3. NO BOLT THREADS TO PROTRUDE MORE THAN 1-1/2".
4. ALL HOLES IN POLE LEFT FROM REARRANGEMENT OF CLIMB STEPS TO BE FILLED.
5. 90° SHORT SWEEPS UNDER ANTENNA ARM. ALL CABLES MUST TRANSITION ON THE INSIDE OR BOTTOM OF THE ARM (NO CABLE ON TOP OF ARM).
6. USE 90° CONNECTOR AT CABLE CONNECTION FOR OMNI DOWN ANTENNAS.
7. USE CABLE CLAMPS TO SECURE CABLE TO ARMS. PLACE 2" AT&T WIRELESS CABLE ID TAGS ON BOTH SIDES OF ARMS.
8. USE 1/2" DIA. CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.
9. PLACE GPS ON ARM OF SOUTHERN SKY EXPOSURE AT MINIMUM 6' FROM TRANSMIT ANTENNA WHICH IS 24" AWAY FROM CENTER OF POLE.
10. FILL VOID AROUND CABLES AT CONDUIT OPENING WITH FOAM SEALANT TO PREVENT WATER INTRUSION.

GENERAL NOTES

LEGEND

PROPOSED ANTENNA	GROUT OR PLASTER	TELCO RUN	5/8" X 10'-0" CU. GND ROD IN TEST WELL 30" MIN. BELOW GRADE.
EXISTING ANTENNA	(E) BRICK	T/E POWER/TELCO RUN	CHEMICAL GROUND ROD (KIT GROUND ROD)
GROUND ROD	(E) MASONRY	G GROUNDING CONDUCTOR	CADWELD CONNECTION
GROUND BUS BAR	CONCRETE	GROUNDING CONDUCTOR	MECHANICAL CONNECTION
MECHANICAL GRND. CONN.	EARTH	CONDUIT UNDERGROUND	HALO GROUND CONNECTION
GROUND ACCESS WELL	GRAVEL	FUSE, SIZE AND TYPE AS INDICATED.	CIRCUIT BREAKER
ELECTRIC BOX (E)	PLYWOOD	SAFETY SWITCH: 2P-240V-60A W/60A FUSES, NEMA 3R ENCLOSURE, SQ D CATALOG NO. H222NRB	UTILITY METER BASE
TELEPHONE BOX (T)	SAND	MANUAL TRANSFER SWITCH: 2P-240V-200A, NO FUSE NEMA 3R ENCLOSURE	TRANSFORMER
LIGHT POLE	WOOD CONT.	LIGHTING FIXTURE, FLUORESCENT, 10.94' x 4'-0", 2/40W, SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG #WSW2321	STEPDOWN TRANSFORMER
END, MONUMENT	WOOD BLOCKING	LIGHTING FIXTURE, FLUORESCENT, 10.94' x 8'-0", 2/95W, SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG #TWSM2321	RECEPTACLE: 2P-3W-125V-15A, DUPLEX, GROUND TYPE, HUBBEL CATALOG #5362
SPOT ELEVATION	STEEL	LIGHTING FIXTURE, HIGH PRESSURE SODIUM, 1/70W, WALL MOUNTING TYPE, HUBBELL LIGHTING CATALOG #NRG-307 OR 1/50W, HUBBELL LIGHTING CATALOG #NRG-121	TOGGLE SWITCH: 1P-125V-15A, HUBBELL CATALOG #HBL 1201CN
SET POINT	CENTERLINE	EXIT SIGN, THERMOPLASTIC LED, SINGLE FACE, UNIVERSAL MOUNTING, W/BATTERY PACK, HUBBELL LIGHTING CATALOG #PRB	TOGGLE SWITCH: 1P-120V-15A, "WP"
REVISION	PROPERTY/LEASE LINE	COMBINATION, EXIT SIGN & EMERGENCY LIGHTING, HUBBELL LIGHTING CATALOG #PRC	IONIZATION SMOKE DETECTOR W/ALARM, HORN & AUXILIARY CONTACT, 120 VAC, GENTEX PART NO. 7100F
GRID REFERENCE	MATCH LINE	EMERGENCY LIGHTING, 2/50W, HUBBELL LIGHTING CATALOG #HHE6-50-2-R91	POLE
DETAIL REFERENCE	WORK POINT	LIGHTING FIXTURE, INCANDESCENT, 1/100W, WALL MOUNTING TYPE, HUBBELL LIGHTING CATALOG #BRH-100-06-1	PROPOSED POLE MOUNTED XFMR
ELEVATION REFERENCE	GROUND CONDUCTOR	LIGHTING FIXTURE, HALOGEN, QUARTZ, 1/300W, HUBBELL LIGHTING CATALOG #QL-505	(E) POLE MOUNTED XFMR
SECTION REFERENCE	COAXIAL CABLE	LIGHTING FIXTURE, 1/175W, METAL HALIDE, HUBBELL CAT #MIC-0175H-336	PROPOSED PAD MOUNTED XFMER
	OVERHEAD SERVICE CONDUCTORS	5/8" X 10'-0" CU. GND ROD 30" MIN. BELOW GRADE.	(E) PAD MOUNTED XFMER
	CHAIN LINK FENCING		
	OVERHEAD ELEPHONE/OVERHEAD POWER		
	OVERHEAD TELEPHONE LINE		
	OVERHEAD POWER LINE		
	POWER RUN		

ABBREVIATIONS

A	AMPERE	HT	HEIGHT
A.B.	ANCHOR BOLT	IGSB	ISOLATED COPPER GROUND BUS
ABV.	ABOVE	IN (")	INCH(ES)
ACCA	ANTENNA CABLE COVER ASSEMBLY	INT.	INTERIOR
ADDL	ADDITIONAL	LB (#)	POUND(S)
A.F.F.	ABOVE FINISHED FLOOR	LB.	LAG BOLTS
A.F.G.	ABOVE FINISHED GRADE	LF.	LINEAR FEET (FOOT)
AIC	AMPERE INTERRUPTING CAPACITY	LG.	LENGTH
ALUM	ALUMINUM	-	LONGITUDINAL)
ALT.	ALTERNATE	LPS	LOW PRESSURE SODIUM
ANT.	ANTENNA	MAS	MASONRY
APPROX	APPROXIMATE(LY)	MAX	MAXIMUM
ARCH.	ARCHITECT(URAL)	M.B.	MACHINE BOLT
AT.	AMPERE TRIP	MECH.	MECHANICAL
AWG	AMERICAN WIRE GAUGE	MFR	MANUFACTURER
BATT.	BATTERY	MIN.	MINIMUM
BD.	BOARD	MISC.	MISCELLANEOUS
BLDG	BUILDING	M.O.	MAIN LUGS ONLY
BLK.	BLOCK	MTD.	MOUNTED
BLKG.	BLOCKING	MTG	MOUNTING
BM.	BEAM	MTL.	METAL
B.N.	BOUNDARY NAILING	MTS.	MANUAL TRANSFER SWITCH
BR.	BRANCH	N.	NEUTRAL
BRKR.	BREAKER	PROPOSED	PROPOSED
BTDW	BARE TINNED COPPER WIRE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
BTS	BASE TRANSMISSION SYSTEM	NO.(#)	NUMBER
B.O.F.	BOTTOM OF FOOTING	N.T.S.	NOT TO SCALE
B/U	BACK-UP CABINET	OH	OVERHEAD
C	CONDUIT	O.C.	ON CENTER
CAB.	CABINET	OPNG.	OPENING
CANT.	CANTILEVER(ED)	P	POLE
CB.	CIRCUIT BREAKER	PVC	PRECAST CONCRETE
C.I.P.	CAST IN PLACE	PCS	PERSONAL COMMUNICATION SERVICES
CKT.	CIRCUIT	PH	PHASE
CLG.	CEILING	PLY.	PLYWOOD
CLR.	CLEAR	PNLBD	PANELBOARD
COL.	COLUMN	PPC	POWER PROTECTION CABINET
CONC.	CONCRETE	PRC	PRIMARY RADIO CABINET
CONN.	CONNECTION(OR)	PRI.	PRIMARY
CONST.	CONSTRUCTION	P.S.F.	POUNDS PER SQUARE FOOT
CONT.	CONTINUOUS	P.S.I.	POUNDS PER SQUARE INCH
d	PENNY (NAIL)	P.T.	PRESSURE TREATED
DBL.	DOUBLE	PWR.	POWER (CABINET)
DEM.	DEMAND	QTY.	QUANTITY
DEPT.	DEPARTMENT	RAD.(R)	RADIUS
D.F.	DOUGLAS FIR	RCPT.	RECEPTACLE
DIA.	DIAMETER	REF.	REFERENCE
DIAG.	DIAGONAL	REINF.	REINFORCE(MENTING)
DIV.	DIVERSION	REQ'D.	REQUIRED
DWG.	DRAWING(S)	RGS	RIGID GALVANIZED STEEL
DWL.	DOWEL(S)	SAF.	SAFETY
EA.	EACH	SCH.	SCHEDULE
EGR.	EMERGENCY GENERATOR RECEPTACLE	SDBC.	SOFT DRAWN BARE COPPER
EL.	ELEVATION	SEC.	SECONDARY
ELEC.	ELECTRICAL	SHT.	SHEET
ELEV.	ELEVATOR	SIM.	SIMILAR
EMT.	ELECTRICAL METALLIC TUBING	S.N.	SOLID NEUTRAL
E.N.	EDGE NAIL	SPEC.	SPECIFICATION(S)
ENCL.	ENCLOSURE	SQ.	SQUARE
ENG.	ENGINEER	S.S.	STAINLESS STEEL
EQ.	EQUAL	STD.	STANDARD
EXST.(E)	EXISTING	STL.	STEEL
EXP.	EXPANSION	STRUC.	STRUCTURAL
EXT.	EXTERIOR	SURF.	SURFACE
FAB.	FABRICATION(OR)	SW.	SWITCH
FACT.	FACTOR	TEL.	TELEPHONE
F/A	FIRE ALARM	TEMP.	TEMPORARY
F.F.	FINISH FLOOR	THK.	THICK(NESS)
F.G.	FINISH GRADE	T.N.	TOE NAIL
FIN.	FINISH(ED)	T.O.A.	TOP OF ANTENNA
FLR.	FLOOR	T.O.C.	TOP OF CURB
FLUOR.	FLUORESCENT	T.O.F.	TOP OF FOUNDATION
FDN.	FOUNDATION	T.O.P.	TOP OF PLATE (PARAPET)
F.O.C.	FACE OF CONCRETE	T.O.S.	TOP OF STEEL
F.O.M.	FACE OF MASONRY	T.O.W.	TOP OF WALL
F.O.S.	FACE OF STUD	TYP.	TYPICAL
F.O.W.	FACE OF WALL	U.G.	UNDER GROUND
F.S.	FINISH SURFACE	U.L.	UNDERWRITERS LABORATORY INC.
FT.(')	FOOT (FEET)	U.N.O.	UNLESS NOTED OTHERWISE
FTG.	FOOTING	V.	VOLT
FU.	FUSE	VAC.	VOLT ALTERNATING CURRENT
G.	GROUND	V.I.F.	VERIFY IN FIELD
GR.	GROWTH (CABINET)	W.	WATT OR WIRE
GA.	GAUGE	WD.	WIDE(WIDTH)
GEN.	GENERATOR	W/	WITH
GI.	GALVANIZED	W/O	WITHOUT
G.F.C.I.	GROUND FAULT CIRCUIT INTERRUPTER	WD.	WOOD
GLB.	GLUE LAMINATED BEAM	W.P.	WEATHERPROOF
GND.	GROUND	WT.	WEIGHT
GPS	GLOBAL POSITIONING SYSTEM	XFER.	TRANSFER
GRND.	GROUND	XFMR.	TRANSFORMER
HDWD.	HARD DRAWN COPPER WIRE	XLPE	CROSS-LINK POLYETHYLENE
HDR.	HEADER	℄	CENTERLINE
HGR.	HANGER	℗	PLATE, PROPERTY LINE
HPS.	HIGH PRESSURE SODIUM		

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Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-035
PACE ID:
ROW AT 1103 8TH ST
OAKLAND, CA 94607
COUNTY: ALAMEDA

Site Name:

Professional Seal:

It is a violation of law for any person, unless they are acting under the direction of a licensed Professional Architect/Engineer, to alter this document.

Rev.	Date	Description
01	09/21/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

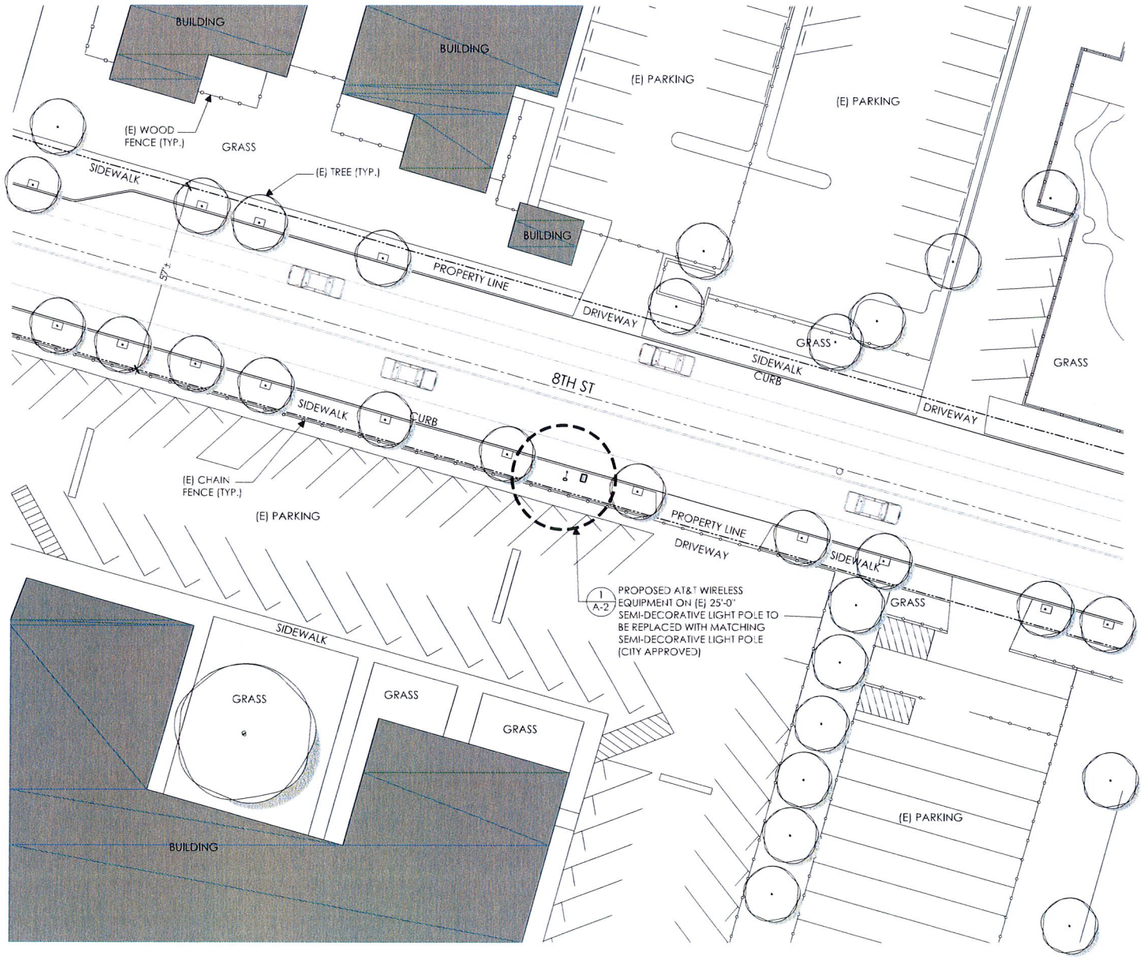
Designed By: JG Checked: RB

GENERAL NOTES
LEGEND
ABBREVIATIONS

Sheet Title:

T.2

Sheet No.:



NOTE:
THIS SITE PLAN WAS GENERATED WITHOUT THE USE OF A SURVEY. PROPERTY LINES, RIGHT-OF-WAYS, POWER & TELCO UTILITY POINT CONNECTIONS/ROUTES AND EASEMENTS SHOWN ON THESE PLANS ARE ESTIMATED. ALL ITEMS AND DIMENSIONS SHOULD BE VERIFIED IN THE FIELD.

UNDERGROUND UTILITIES NOTE:
THE LOCATIONS AND EXISTENCE OF ANY UNDERGROUND PIPES, STRUCTURES, OR CONDUITS SHOWN ON THIS PLAN WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THERE MAY BE EXISTING UTILITIES OTHER THAN THOSE SHOWN ON THIS PLAN. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT SHOWN ON THIS PLAN.

NORTH

OVERALL SITE PLAN

20' 10' 0 10' 20' SCALE 1" = 20'

1

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Project Architect:

VINCULUMS
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T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-035
PACE ID:
ROW AT 1103 8TH ST
OAKLAND, CA 94607
COUNTY: ALAMEDA

Site Name:

Professional Seal:

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Rev.	Date	Description
01	09/21/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

OVERALL SITE PLAN

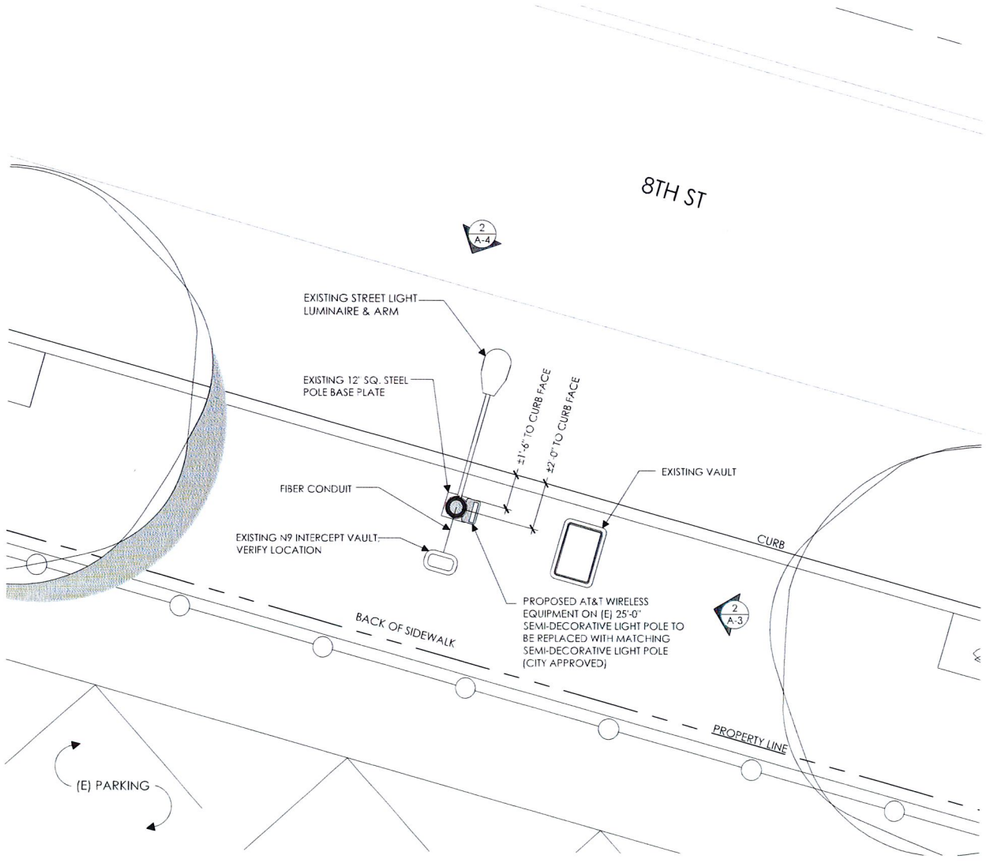
Sheet Title:

A.1

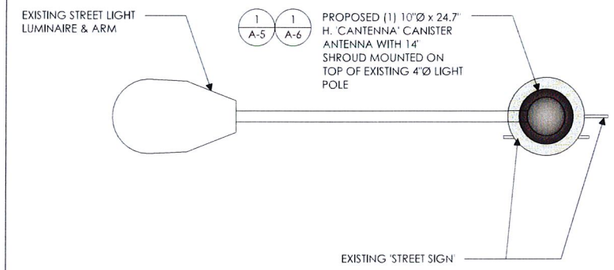
Sheet No.:

NOTES:

1. DURABLE PAINT: ANTENNAS, MOUNTING BRACKETS, CABLING, AND RADIO RELAY UNITS TO BE PAINTED TO MATCH THE EXISTING POLE USING A DURABLE PAINT (E.G. SHERWIN WILLIAMS, FRAZEE, KELLY MOORE, OR EQUIVALENT)
2. CABLING: CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS. ALL CABLING TO GROUND-MOUNTED BOXES AND ANTENNAS TO BE INSTALLED INSIDE POLE
3. LOGO REMOVAL: ALL EQUIPMENT LOGOS, OTHER THAN THOSE REQUIRED BY REGULATION (E.G. NODE IDENTIFICATION), SHALL BE PAINTED OVER OR REMOVED. RAISED/DEPRESSED TEXT ON RRUS OR OTHER EQUIPMENT, IF PRESENT, TO BE SANDED OFF OR SIMILARLY REMOVED AND/OR FILLED
4. SIGNAGE: FCC MANDATED RF WARNING SIGNAGE SHALL FACE CLIMBING SPACE. OPTIONAL SIGNAGE SHALL FACE OUT TO STREET WHEN PLACED IN FRONT OF OR NEAR A WINDOW. SIGNAGE SHALL FACE TOWARD BUILDING IF THERE IS NO WINDOW.

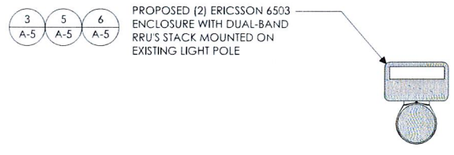


POLE PLAN ENLARGEMENT — 16' 8' 0 8' 16' — SCALE 3/8" = 1'-0" — 1



A. SECTION (CANISTER ANTENNA)

ANTENNA ENLARGEMENT PLAN — 1' 6' 0 6' 1' — SCALE 1" = 1'-0" — 2



B. SECTION (RRUS)

EQUIPMENT ENLARGEMENT PLAN — 1' 6' 0 6' 1' — SCALE 1" = 1'-0" — 3

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Site Agent:

95% Zoning Drawings

(E) LIGHT POLE
Drawing Phase:

CRAN-RSFR-SFOK6-035
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Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

POLE PLAN
EQUIPMENT
ENLARGEMENTS

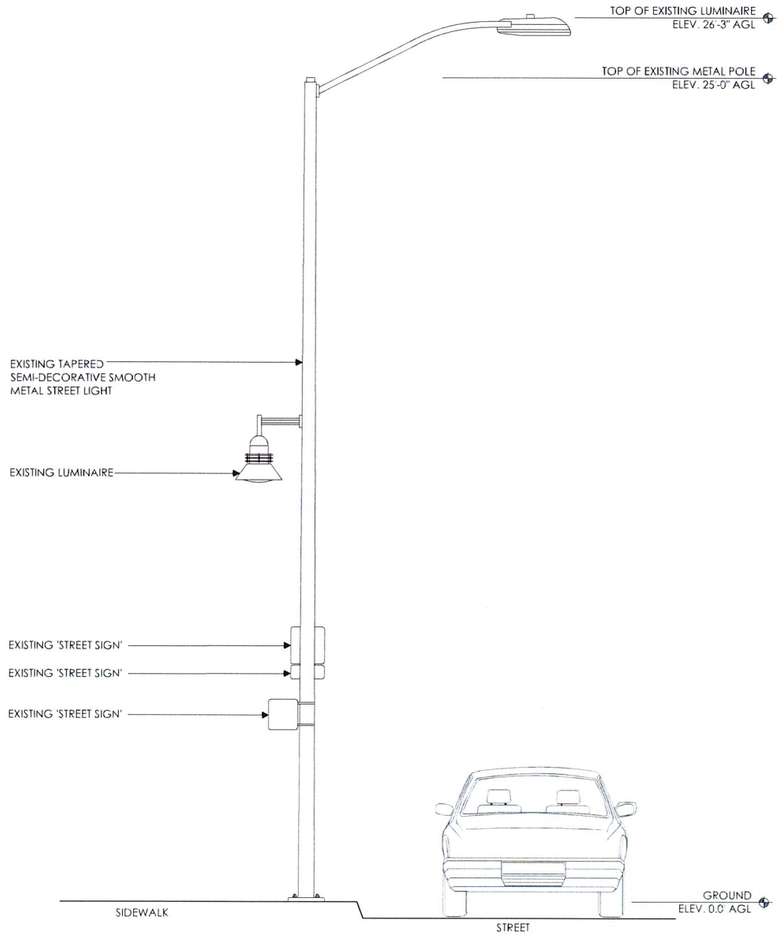
Sheet Title:

A.2

Sheet No.:

SCALE NOTE:

IF DIMENSIONS SHOWN ON PLAN DO NOT SCALE CORRECTLY, CHECK FOR REDUCTION OR ENLARGEMENT FROM ORIGINAL PLANS.

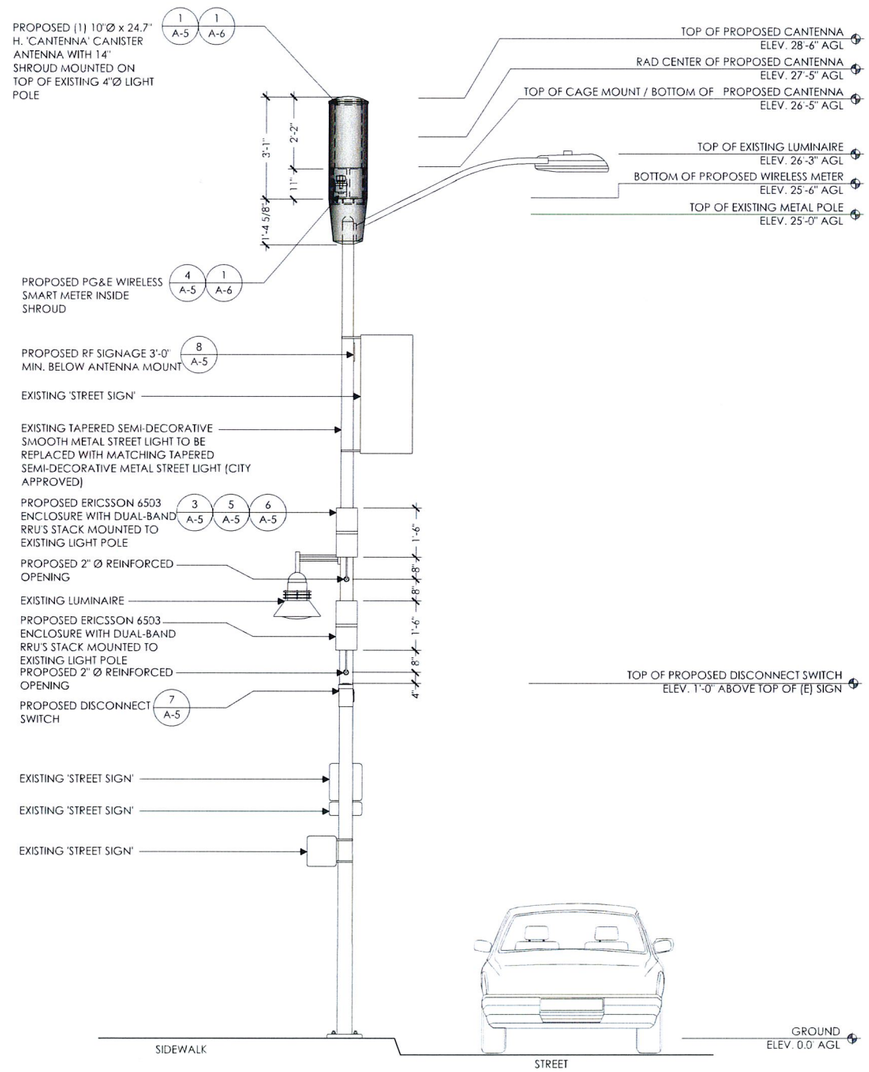


SOUTHEAST ELEVATION - EXISTING

2' 1' 0 1' 2'

SCALE 1/2" = 1'-0"

1



SOUTHEAST ELEVATION - PROPOSED

2 1' 0 1' 2

SCALE 1/2" = 1'-0"

2

AT&T

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Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

ELEVATIONS

Sheet Title:

A.3

Sheet No.:

SCALE NOTE:

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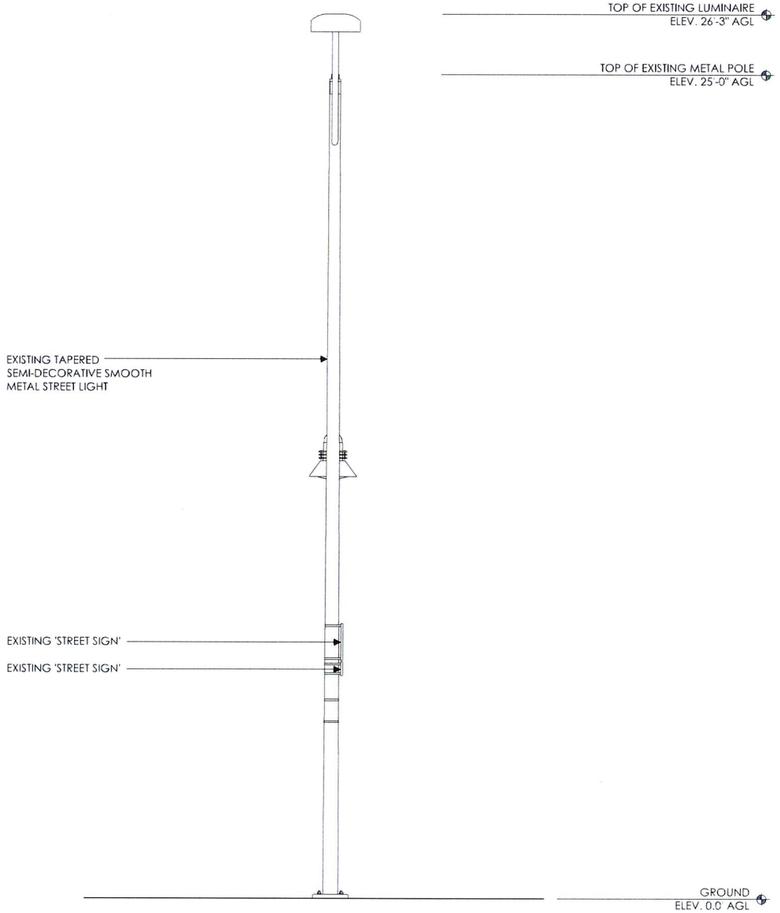
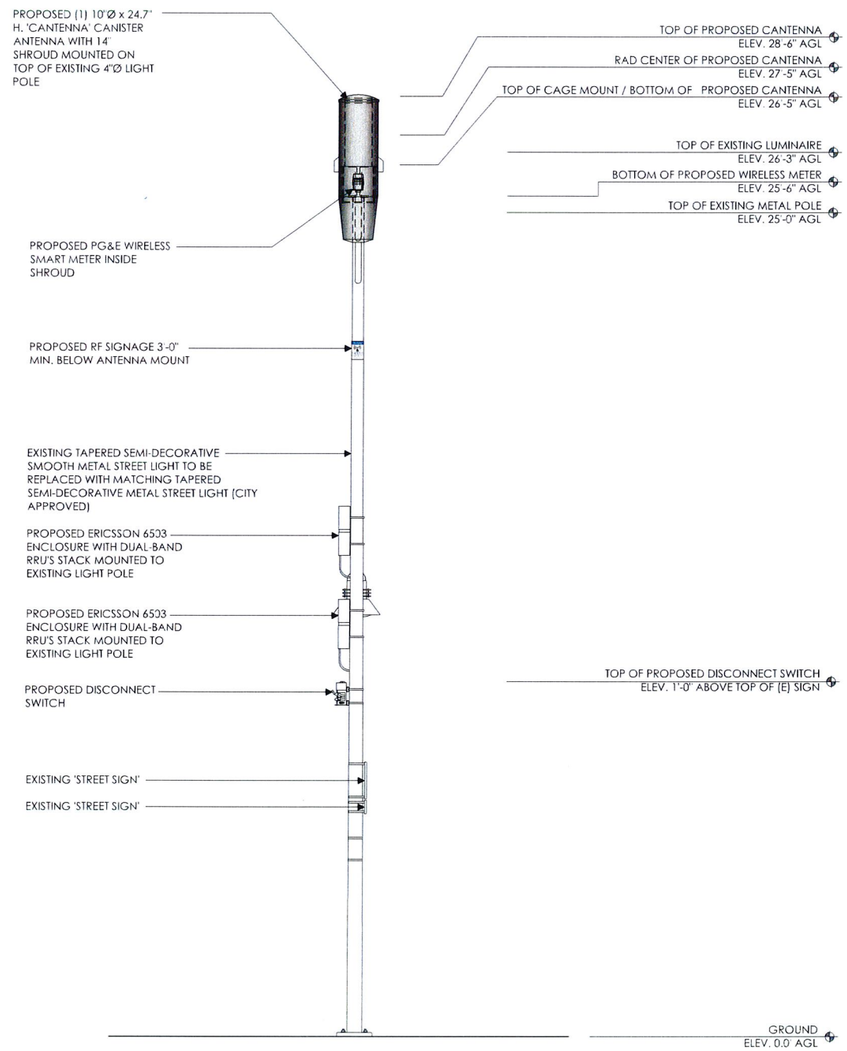


NORTHEAST ELEVATION - EXISTING

2' 1' 0 1' 2'

SCALE 1/2" = 1'-0"

1



NORTHEAST ELEVATION - PROPOSED

2' 1' 0 1' 2'

SCALE 1/2" = 1'-0"

2

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Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

ELEVATIONS

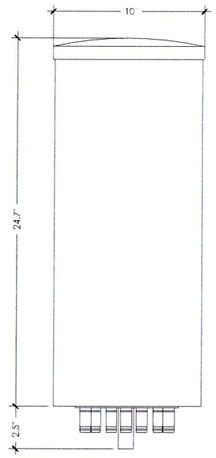
Sheet Title:

A.4

Sheet No.:

AT&T CANISTER ANTENNA 'CAN-TENNA'

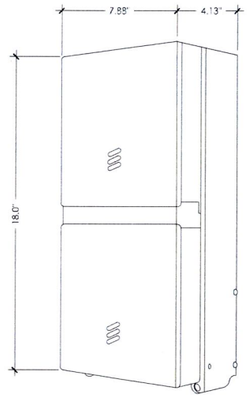
ANTENNA COLOR:	LIGHT GRAY
DIMENSIONS:	10.0"Ø x 24.7" TALL
NET WEIGHT:	19.0 LBS



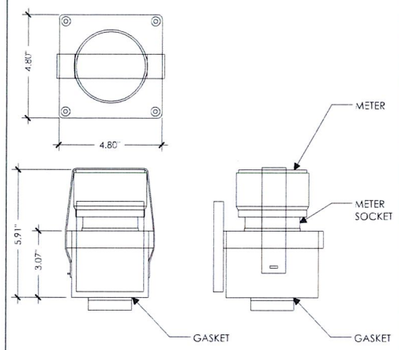
ANTENNA DETAIL | 1

ERICSSON 6503

SINGLE BAND 2203:	2 TX / 2 RX (AWS OR PCS)
DUAL BAND RRU (2 - 2203'S):	4 TX / 4 RX (AWS OR PCS)
MAXIMUM POWER CONSUMPTION:	<100W PER 2203 RADIO- ±95W PER SINGLE-BAND 2203 RADIO ±190W PER DUAL-BAND 2203 RRU
MAX FUSE RATING:	32A
WIRE SIZE:	#10 CU OR #8 ALU



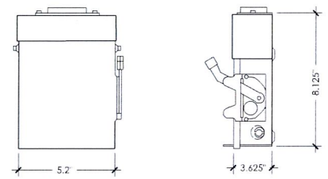
6503 RRU ENCLOSURE | 3



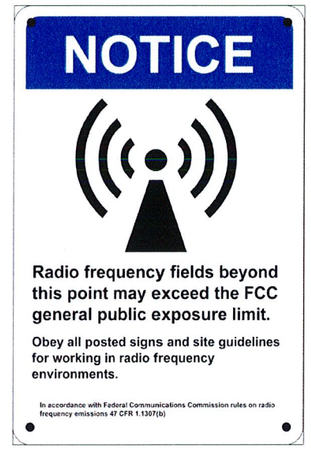
PG&E WIRELESS SMART METER | 4

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



DISCONNECT SWITCH | 7



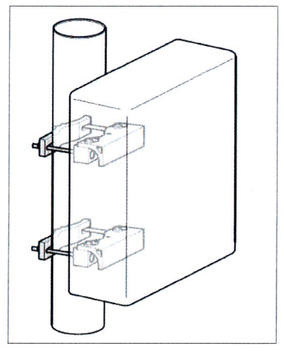
NOTICE SIGNAGE | 8

NOTE:
MOUNTING BRACKETS & POLE MOUNTED EQUIPMENT TO BE PAINTED TO MATCH EXISTING POLE COLOR.

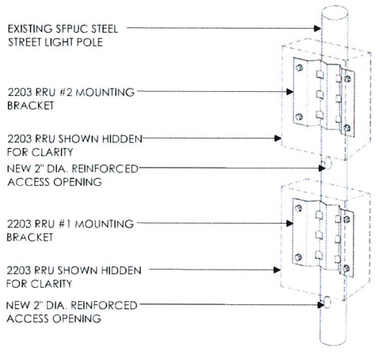
DUAL BAND RRU MOUNT | 2

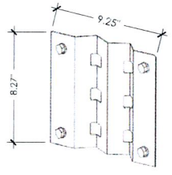
Technical Specifications Radio 2203

FREQUENCY BANDS	
Bands:	3GPP Bands B1 (W/L), B3 (L), B3C (W/L), B8 (W/L), B66A (W/L), B5 (W/L), B2/B25 (W/L), B12 (L), B13 (L) and B7 (L)
HW CAPACITY	
Carrier capacity WCDMA:	Up to 4 carriers
Carrier capacity LTE:	Up to 40 MHz
IBW:	B1, B3 and B66A 45 MHz. B2/B25 and B7 40 MHz. B3C, B8, B5, B12 and B13 Full band
MIMO:	Yes, 2T/2R
Output power:	Up to 2 x 5 W
INTERFACE SPECIFICATIONS	
Antenna Ports:	2 x 4.3-10 (f)
CPRI:	2 x 2.5/5/10 Gbps (exchangeable SFP modules)
Optical indicators:	6
External alarms:	2
Field ground:	1
MECHANICAL SPECIFICATIONS	
W x H x D:	200 mm x 200 mm x 100 mm, including mounting bracket and esthetic front cover
Weight:	< 4.5 kg
Volume:	4 l
Mounting:	Wall and pole mount
ELECTRICAL SPECIFICATIONS	
Power Supply:	-48 VDC ex 100 - 250 VAC
ENVIRONMENTAL SPECIFICATIONS	
Normal operating temp.:	-40 °C to +55 °C (cold start at -40 °C)
Relative Humidity:	5 - 100%
Environment:	Outdoor class with IP65



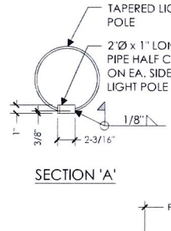
ERICSSON 2203 RRU | 5





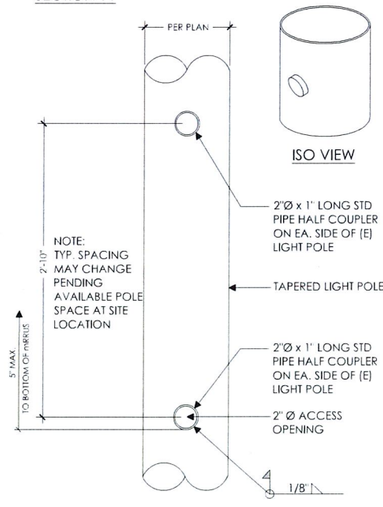
8.27"L x 9.25"W HOSE PLATE (ALUMA-BAND TO POLE)

6503 RRU-POLE MOUNTING DETAILS | 6



NOTE:
ANY DRILLED HOLES WILL BE STRUCTURALLY WELDED AND REINFORCED. SEAMS AND BOLTS/SCREWS AT ANTENNA AND SHROUD ASSEMBLY AREA SHALL BE FABRICATED AND INSTALLED IN A MANNER SO AS TO REDUCE THEIR VISIBILITY FROM SIDEWALK LEVEL

SECTION 'A'



SECTION 'A'

VERTICAL ACCESS PORT | 9

AT&T

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02	10/06/17	Zoning Dwgs 95%

Project No.:

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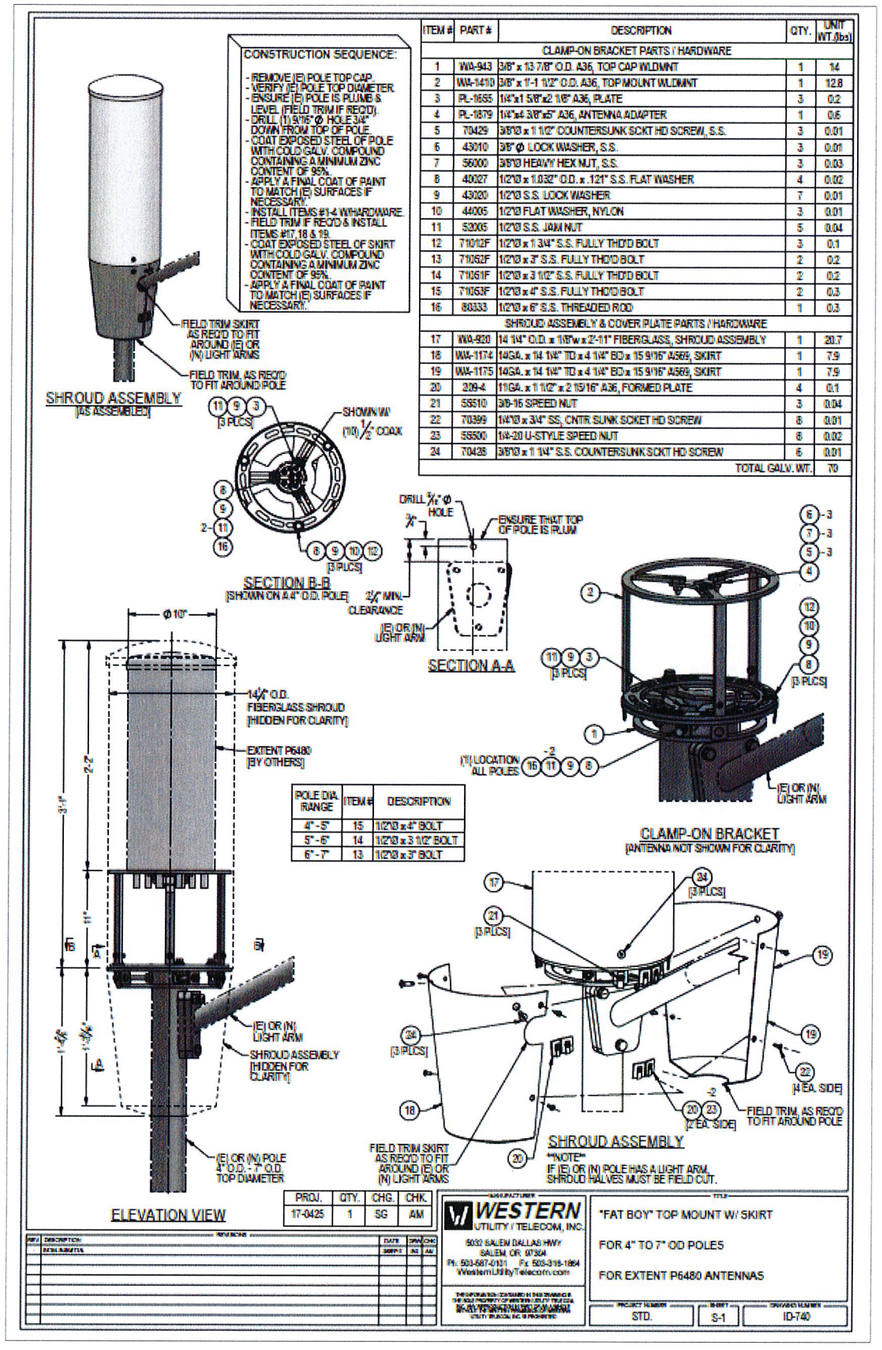
EQUIPMENT DETAILS

Sheet Title:

A.5

Sheet No.:



ITEM #	PART #	DESCRIPTION	QTY.	UNIT WT./(lbs)
		CLAMP-ON BRACKET PARTS / HARDWARE		
1	WA-943	3/8" x 13 7/8" O.D. A36, TOP CAP W/DMNT	1	14
2	WA-1410	3/8" x 1'-1 1/2" O.D. A36, TOP MOUNT W/DMNT	1	12.8
3	PL-1655	1/4"x1 5/8"x2 1/8" A36, PLATE	3	0.2
4	PL-1679	1/4"x4 3/8"x5" A36, ANTENNA ADAPTER	1	0.6
5	70429	3/8"Ø x 1 1/2" COUNTERSUNK SCKT HD SCREW, S.S.	3	0.01
6	43010	3/8" Ø LOCK WASHER, S.S.	3	0.01
7	56000	3/8"Ø HEAVY HEX NUT, S.S.	3	0.03
8	43027	1/2"Ø x 1.032" O.D. x .121" S.S. FLAT WASHER	4	0.02
9	43020	1/2"Ø S.S. LOCK WASHER	7	0.01
10	44005	1/2"Ø FLAT WASHER, NYLON	3	0.01
11	53005	1/2"Ø S.S. JAM NUT	5	0.04
12	71012F	1/2"Ø x 1 3/4" S.S. FULLY THD'D BOLT	3	0.1
13	71062F	1/2"Ø x 3" S.S. FULLY THD'D BOLT	2	0.2
14	71061F	1/2"Ø x 3 1/2" S.S. FULLY THD'D BOLT	2	0.2
15	71053F	1/2"Ø x 4" S.S. FULLY THD'D BOLT	2	0.3
16	80333	1/2"Ø x 6" S.S. THREADED ROD	1	0.3
		SHROUD ASSEMBLY & COVER PLATE PARTS / HARDWARE		
17	WA-920	14 1/4" O.D. x 1/8"w x 2'-11" FIBERGLASS, SHROUD ASSEMBLY	1	20.7
18	WA-1174	14GA. x 14 1/4" TD x 4 1/4" BD x 15 9/16" A569, SKIRT	1	7.9
19	WA-1175	14GA. x 14 1/4" TD x 4 1/4" BD x 15 9/16" A569, SKIRT	1	7.9
20	209-4	11GA. x 1 1/2" x 2 15/16" A36, FORMED PLATE	4	0.1
21	55510	3/8-16 SPEED NUT	3	0.04
22	70399	1/4"Ø x 3/4" SS, CNTR SUNK SOCKET HD SCREW	6	0.01
23	55500	1/4-20 U-STYLE SPEED NUT	6	0.02
24	70428	3/8"Ø x 1 1/4" S.S. COUNTERSUNK SCKT HD SCREW	6	0.01
		TOTAL GALV. WT.		70

POLE DIA. RANGE	ITEM #	DESCRIPTION
4" - 5"	15	1/2"Ø x 4" BOLT
5" - 6"	14	1/2"Ø x 3 1/2" BOLT
6" - 7"	13	1/2"Ø x 3" BOLT

PROJ.	QTY.	CHG.	CHK.
17-0425	1	SG	AM

WESTERN UTILITY / TELECOM, INC.
5032 SALEM DALLAS HWY
SALEM, OR 97304
Ph: 503-587-0101 Fx: 503-316-1864
WesternUtilityTelecom.com

"FAT BOY" TOP MOUNT W/ SKIRT

FOR 4" TO 7" OD POLES

FOR EXTENT P6480 ANTENNAS

PROJECT NUMBER	SHEET	DRAWING NUMBER
STD.	S-1	ID-740

POLE TOP MOUNT W/ SKIRT ASSEMBLY DETAIL

1

AT&T

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EQUIPMENT DETAILS

Sheet Title:

A.6

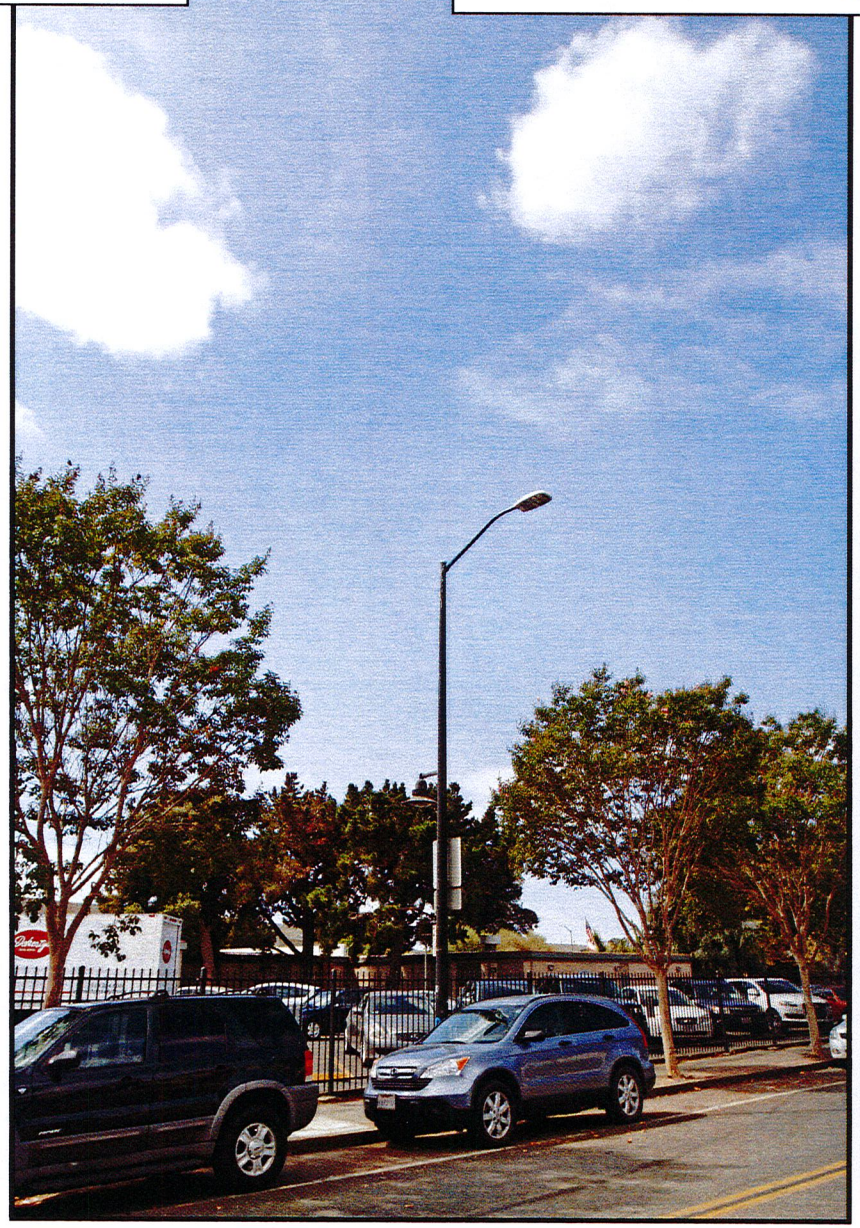
Sheet No.:

view from 8th Street looking southwest at site

AT&T Wireless

CRAN-RSFR-SFOK6-035
ROW at 1103 8th Street, Oakland, CA
Photosims Produced on 9-25-2017

Existing



Proposed

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507

Existing

Proposed

AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507

view from 8th Street looking southeast at site

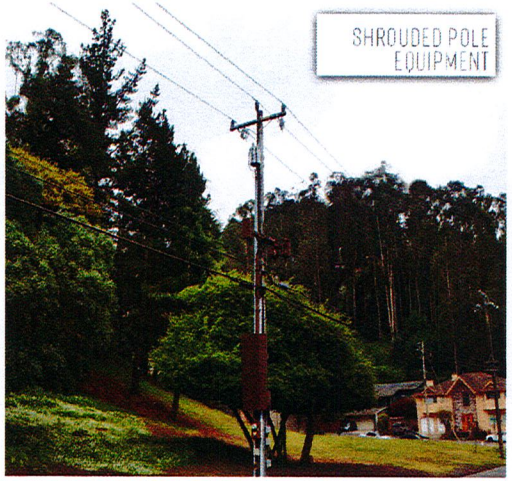
AT&T Wireless

CRAN-RSFR-SFOK6-035
ROW at 1103 8th Street, Oakland, CA
Photosims Produced on 9-25-2017

ALTERNATIVE DESIGN ANALYSIS

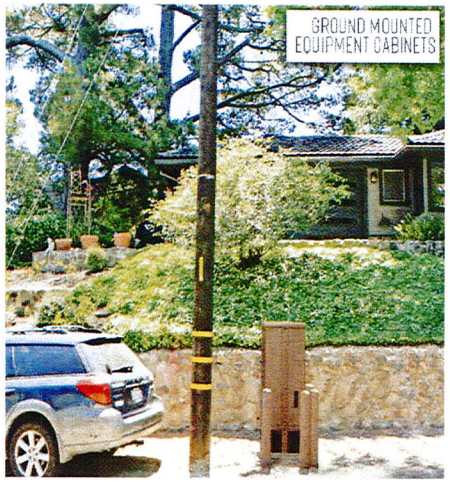
Full-Sized Tower:

- Too big/bulky.
- Requires 300' sq. area.
- Does not nestle coverage/capacity.



Shrouded Pole Equipment:

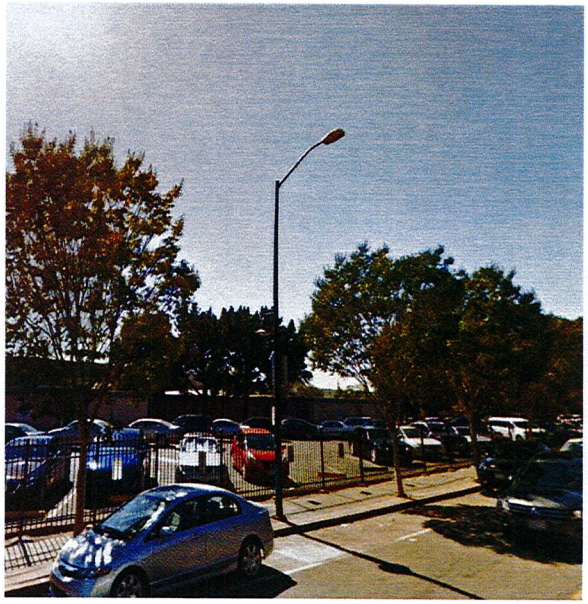
- Too big/bulky.
- Adds unnecessary equipment.
- Small cell equipment is already sleek.



Equipment Cabinet:

- Too big/bulky.
- Adds unnecessary ROW equipment.
- Pole-mounted equipment blends in with pole.

Alternative Site Analysis – SFOK6_035

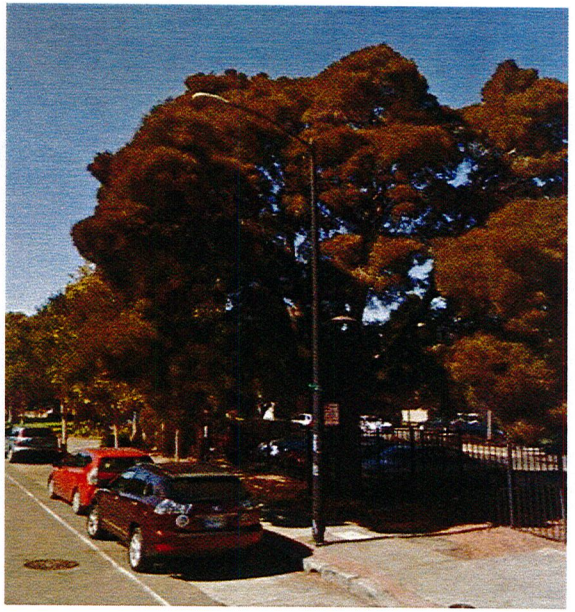


Node 35A:

- Primary candidate
- Preferred due to location near parking lot and for best meeting AT&T's RF needs.

Node 35B:

- Potentially viable alternative
- Less preferred due to proximity to apartment complex.



Node 35C:

- Potentially viable alternative
- Less preferred as tree may partially block signal rendering making this site less desirable for RF.

AT&T Mobility • Proposed Small Cell (No. CRAN-RSFR-SFOK6-035)
1103 Eighth Street • Oakland, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of AT&T Mobility, a personal wireless telecommunications carrier, to evaluate its small cell (No. CRAN-RSFR-SFOK6-035) proposed to be sited in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

AT&T proposes to install an omnidirectional cylindrical antenna on a light pole sited in the public right-of-way at 1103 Eighth 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^2	1.00 mW/cm^2
BRS (Broadband Radio)	2,600	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.35	0.47
[most restrictive frequency range]	30–300	1.00	0.20

General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are typically mounted on the support pole or placed in a cabinet at ground level, and they are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means

that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

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

Site and Facility Description

Based upon information provided by AT&T, including drawings by Meridian Management LLC, dated September 21, 2017, it is proposed to install one Galtronics Model P6480, 2-foot tall, omnidirectional cylindrical antenna, on top of an existing light pole sited in the public right-of-way on the south side of Eighth Street, next to the parking lot for the building located at 700 Adeline Street. The antenna would employ no downtilt and would be mounted at an effective height of about 27½ feet above ground. The maximum effective radiated power in any direction would be 80 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 AT&T operation is calculated to be 0.0011 mW/cm^2, which is 0.11% of the applicable public exposure limit. The maximum calculated level at any nearby building is 0.40% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

No Recommended Mitigation Measures

Due to its mounting location and height, the AT&T antenna would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. The occupational limit is calculated to extend 4 inches from the antenna and, due to this short distance, the proposed operation is considered intrinsically compliant with that limit.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by AT&T Mobility at 1103 Eighth 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.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2019. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

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

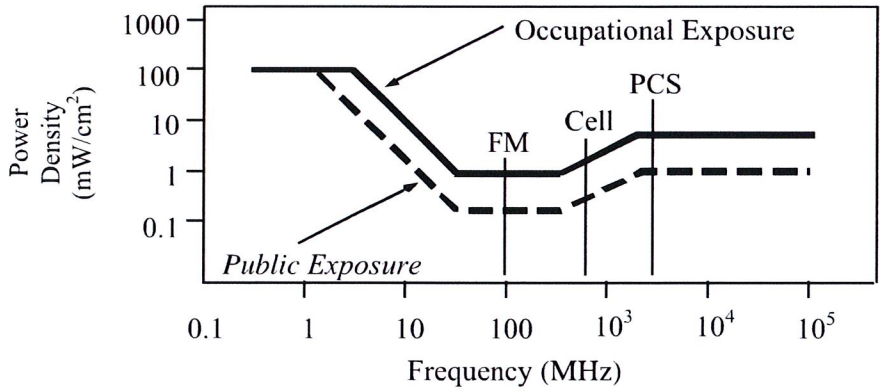
November 3, 2017

FCC Radio Frequency Protection Guide

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

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

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



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

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

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

Near Field.

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

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

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

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

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

Far Field.

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

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

where ERP = total ERP (all polarizations), in kilowatts,
RFF = relative field factor at the direction to the actual point of calculation, and
D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

California Public Utilities Commission

Utility Contact System Search

The Utility Contact System (UCS) is the Communications Division's database for the primary regulatory contact for each telephone corporation operating in California. The Communications Division sends impo regulatory notices to the regulatory contact for each telephone corporation via e-mail, so it is important for primary regulatory contacts to update their UCS record if their e-mail address changes.

Telephone corporations may update UCS contact information using the form on the following page: **Carrier Reporting Requirements**

A description of the different utility types (granted authorities) are listed on the following page: **Utility Type Descriptions**

Search Utility Name Search Utility Number 3060 Search Clear

Utility Name ▲	Alias (DBA Name)	Utility Number	Street Address	City	State	Zip	Phone Number	Email	Utility Type	CPCN Appro
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	430 BUSH STREET	SAN FRANCISCO	CA	94108	(415) 778-1299	att-regulatory-ca@att.com	CEC	12-21-1995
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	7405 GREENHAVEN DRIVE	SACRAMENTO	CA	95831	(800) 498-1912	west.region.oopsac@awsmail.att.com	CEC	12-21-1995
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	11760 US HIGHWAY ONE, WEST TOWER	NORTH PALM BEACH	FL	33048	770-240-8849		CEC	12-21-1995

Save Search Results as CSV Spreadsheet

Comments & Feedback

ATTACHMENT H

36

PROJECT TEAM

APPLICANT:
AT&T
5001 Executive Parkway
San Ramon, Ca 94583

ARCHITECT/ENGINEER:
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785 Oak Grove Road E2
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rodney@meridian.management

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myergo@gmail.com

LEASING CONTACT:
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Vinculums Services
575 Lennon Lane
Suite 125
Walnut Creek, CA 94598
T 415.596.3474
myergo@gmail.com

CONSTRUCTION MANAGER:
Vinculums Services
575 Lennon Lane
Suite 125
Walnut Creek, CA 94598

GENERAL NOTES

1. THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR THE AT&T WIRELESS NETWORK CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON AN EXISTING METAL LIGHT POLE IN THE PUBLIC RIGHT-OF-WAY. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
2. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT DRAINAGE, NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.
3. CHANGES FROM THE APPROVED PLANS DURING THE COURSE OF CONSTRUCTION SHALL CAUSE CONSTRUCTION TO BE SUSPENDED UNTIL SUCH TIME AS THE PLANS CAN BE AMENDED BY THE DESIGNER AND SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL

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. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

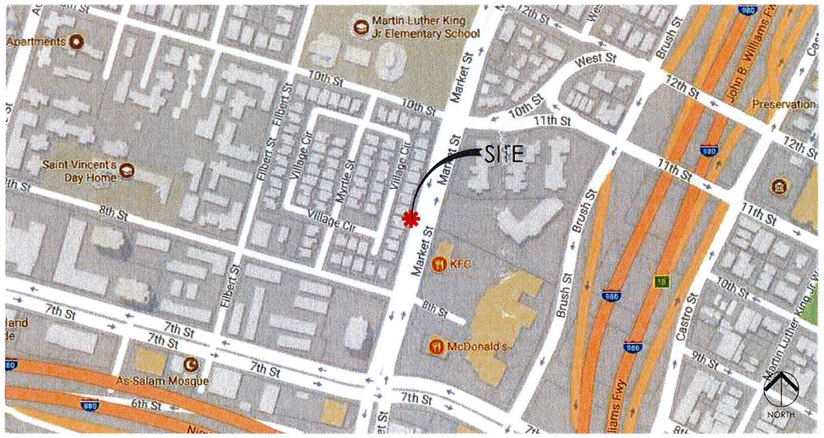
- CALIFORNIA CODES
- 2016 CALIFORNIA BUILDING CODE
- 2016 CALIFORNIA MECHANICAL CODE
- 2016 CALIFORNIA PLUMBING CODE
- 2016 CALIFORNIA ELECTRIC CODE
- 2016 GREEN BUILDING CODE
- 2016 EDITION OF TITLE 24 ENERGY STANDARDS
- ANY LOCAL BUILDING CODE AMENDMENTS TO THE ABOVE
- CITY / COUNTY ORDINANCES
- CITY OF OAKLAND PUBLIC WORKS DEPARTMENT
- GENERAL ORDER 95 (JUNE 2009 EDITION)

AT&T

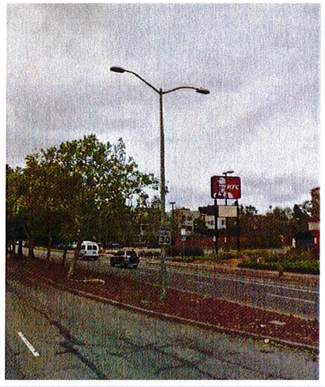
5001 EXECUTIVE PARKWAY, SAN RAMON, CA 94583

CRAN-RSFR-SFOK6-034

PACE ID:
ROW AT 845 MARKET ST, OAKLAND, CA 94607
COUNTY: ALAMEDA
SITE TYPE: METAL STREET LIGHT POLE
FA:14307065 HUB:19 USID:192882



SITE IMAGE



DRIVING DIRECTIONS

FROM AT&T WIRELESS OFFICE AT 5001 EXECUTIVE PARKWAY, SAN RAMON, CA

1. Head north-east on Bishop Dr towards Sunset Dr
2. Turn right onto Sunset Dr
3. Use the right 2 lanes to turn right onto Bollinger Canyon Rd
4. Use the right 2 lanes to merge onto I-680 N via the slip road to Sacramento
5. Merge onto I-680 N
6. Use the right 2 lanes to take exit 46A for State Route 24 towards Oakland/Lafayette
7. Continue onto CA-24 W
8. Keep left at the fork to stay on CA-24 W
9. Continue onto I-980 W
10. Use the right lane to take exit 1C for 12th St
11. Turn right onto 12th St
12. Keep right to stay on 12th St
13. Turn left onto Market St

INDEX

DRAWING SIGN-OFF

VINCULUMS

	Signature	Date
SITE ACQUISITION:		
PLANNING:		
CONSTRUCTION:		
MANAGEMENT:		

AT&T

	Signature	Date
CONSTRUCTION:		
REAL ESTATE:		
RF ENGINEER:		
EQUIPMENT ENGINEER:		
MW ENG/TRANSPORT:		
OWNER:		

PROJECT DESCRIPTION

THIS IS AN UNMANNED TELECOMMUNICATIONS FACILITY FOR THE AT&T WIRELESS NETWORK CONSISTING OF THE INSTALLATION AND OPERATION OF AN ANTENNA AND ASSOCIATED EQUIPMENT ON AN EXISTING METAL LIGHT POLE IN THE PUBLIC RIGHT-OF-WAY.

SCOPE OF WORK & SITE COMPLETION CHECKLIST:

1. ANTENNA & ASSOCIATED EQUIPMENT BOXES: INSTALL A NEW TELECOMMUNICATION ANTENNA AND 2 EQUIPMENT BOXES ON AN EXISTING METAL LIGHT POLE
2. DURABLE PAINT: ANTENNAS, MOUNTING BRACKETS, CABLING, AND RADIO RELAY UNITS TO BE PAINTED TO MATCH THE EXISTING POLE USING A DURABLE PAINT (E.G. SHERWIN WILLIAMS, FRAZEE, KELLY MOORE, OR EQUIVALENT)
3. CABLING: CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS
4. LOGO REMOVAL: ALL EQUIPMENT LOGOS, OTHER THAN THOSE REQUIRED BY REGULATION (E.G. NODE IDENTIFICATION), SHALL BE PAINTED OVER OR REMOVED. RAISED/DEPRESSED TEXT ON RRUS OR OTHER EQUIPMENT, IF PRESENT, TO BE SANDED OFF OR SIMILARLY REMOVED AND/OR FILLED
5. SIGNAGE: FCC MANDATED RF WARNING SIGNAGE SHALL FACE CLIMBING SPACE. OPTIONAL SIGNAGE SHALL FACE OUT TO STREET WHEN PLACED IN FRONT OF OR NEAR A WINDOW. SIGNAGE SHALL FACE TOWARD BUILDING IF THERE IS NO WINDOW.
6. UTILITY LINES: PROPOSED UTILITY LINES BETWEEN EXISTING POINT OF CONNECTION TO BE IN CONDUIT INSIDE POLE

SITE INFORMATION

OWNER:	CITY OF OAKLAND
APPLICANT:	AT&T 5001 EXECUTIVE PARKWAY SAN RAMON, CA 94583
LATTITUDE:	37.8041700 (NAD 83)
LONGITUDE:	-122.2824600 (NAD 83)
GROUND ELEVATION:	22' AMSL
ADJACENT APN#:	(IFO) 4-7-64
ZONING JURISDICTION:	CITY OF OAKLAND
CURRENT ZONING:	PUBLIC ROW
PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS & FIELD 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

USA NORTH 811 Call 811 Before You Dig

AT&T

AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:

Meridian Management LLC
785 Oak Grove Road E2
Suite 251
Concord, CA 94518
T 707.592.5924
www.meridianmanagement

Project Architect:

VINCULUMS
575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-034
PACE ID:
ROW AT 845 MARKET ST,
OAKLAND, CA 94607
COUNTY: ALAMEDA

Site Name:

Professional Seal:

Rev.	Date	Description
01	09/18/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

TITLE SHEET

Sheet Title:

T.1

Sheet No.:

GENERAL CONSTRUCTION NOTES

1. PLANS ARE INTENDED TO BE DIAGRAMMATIC, OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
2. THE CONTRACTOR SHALL OBTAIN, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
3. CONTRACTOR SHALL CONTACT USA (UNDERGROUND SERVICE ALERT) AT (800) 227-2600 FOR UTILITY LOCATIONS 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
4. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE, OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CBC / UBC'S REQUIREMENTS REGARDING EARTHQUAKE RESISTANCE, FOR, BUT NOT LIMITED TO, PIPING, LIGHT FIXTURES, CEILING GRID, INTERIOR PARTITIONS, AND MECHANICAL EQUIPMENT. ALL WORK MUST COMPLY WITH LOCAL EARTHQUAKE CODES AND REGULATIONS.
6. REPRESENTATIONS OF TRUE NORTH, OTHER THAN THOSE FOUND ON THE PLOT OF SURVEY DRAWINGS, SHALL NOT BE USED TO IDENTIFY OR ESTABLISH BEARING OF TRUE NORTH AT THE SITE. THE CONTRACTOR SHALL REFER SOLELY ON THE PLOT OF SURVEY DRAWING AND ANY SURVEYOR'S MARKINGS AT THE SITE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ARCHITECT / ENGINEER PRIOR TO PROCEEDING WITH THE WORK IF ANY DISCREPANCY IS FOUND BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPICTED ON THE CIVIL SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ARCHITECT / ENGINEER.
7. THE BUILDING DEPARTMENT ISSUING THE PERMITS SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK OR AS OTHERWISE STIPULATED BY THE CODE ENFORCEMENT OFFICIAL HAVING JURISDICTION.
8. DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
9. ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON THE PLAN HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT / ENGINEER AND THE OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR THE ACCURACY OF THE INFORMATION SHOWN ON THE PLANS, OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTORS SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTORS SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING EXISTING UTILITIES.
10. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES, BOTH HORIZONTAL AND VERTICALLY, PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT / ENGINEER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT / ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS/HER OWN RISK AND EXPENSE.
11. ALL PROPOSED AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
12. ANY DRAIN AND/OR FIELD TILE ENCOUNTERED / DISTURBED DURING CONSTRUCTION SHALL BE RETURNED TO ITS ORIGINAL CONDITION PRIOR TO COMPLETION OF WORK. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON "AS-BUILT" DRAWINGS BY GENERAL CONTRACTOR, AND ISSUED TO THE ARCHITECT / ENGINEER AT COMPLETION OF PROJECT.
13. ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
14. INCLUDE MISC. ITEMS PER AT&T WIRELESS SPECIFICATIONS

GENERAL NOTES FOR EXISTING CELL SITES

1. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
2. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
3. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
4. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
5. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND TI CABLES, GROUNDING CABLES AS SHOWN ON THE POWER GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD PROPOSED TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
6. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

APPLICABLE CODES, REGULATIONS AND STANDARDS:

1. SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION.
2. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
3. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
4. - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION.
   - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES.
   - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999), RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRICAL EQUIPMENT.
   - IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY 'C3' AND 'HIGH SYSTEM EXPOSURE')
5. TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS TELCORDIA GR-63 NETWORK EQUIPMENT-BUILDING SYSTEM (NEBS): PHYSICAL PROTECTION.
   TELCORDIA GR-347 CENTRAL OFFICE POWER WIRING.
   TELCORDIA GR-1275 GENERAL INSTALLATION REQUIREMENTS.
   TELCORDIA GR-1503 COAXIAL CABLE CONNECTIONS.
6. ANY AND ALL OTHER LOCAL & STATE LAWS AND REGULATIONS.
7. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

GENERAL TRENCHING NOTES

1. MAINTAIN 40" MINIMUM COVER FOR ALL ELECTRICAL CONDUITS.
2. MAINTAIN 30" MINIMUM COVER FOR ALL TELECOMMUNICATIONS CONDUITS.
3. MINIMUM 1" SAND SHADING BELOW CONDUITS AND 6" COVERING ON TOP OF CONDUITS REQUIRED.
4. ALL ELECTRICAL CONDUITS FROM POWER COMPANY FROM ANY POLE, TRANSFORMER OR OTHER LOCATIONS WILL BE SLURRY BACKFILLED IN STREET SLURRY TO GRADE AND MILL DOWN 1-1/2" FOR AC CAP.
5. IN DIRT SLURRY 18" FROM GRADE AND FILL WITH COMPACTION NATIVE SOIL FOR BALANCE.
6. WARNING TAPE TO BE PLACED IN TRENCH 12" ABOVE ALL CONDUITS AND "18 WARNING TAPE ABOVE RING.

GENERAL GROUNDING NOTES

1. 5/8" x 8' ROD, CAD WELD BELOW GRADE.
2. GROUND TESTED AT 5 OHMS OR LESS.
3. #6 GROUND AND BOND WIRE.
4. GROUNDS 3' FROM POLE.
5. PLACE 3 #10 GA WIRES FROM TESCO BREAKER TO PSMO OR STRONG BOX.
6. WOOD MOLDING, STAPLED EVERY 2' AND AT EACH END.

GENERAL CONDUIT NOTES

1. ALL CONDUITS WILL BE MANDRELED AND EQUIPPED WITH 3/8" PULL ROPE.
2. SCHEDULE 40 CONDUIT FOR UNDERGROUND USE.
3. SCHEDULE 80 CONDUIT FOR RISER USE.
4. 2" GALVANIZED STEEL CONDUIT FOR ANY CONDUIT UNDER 3'. STUB UP 10' THEN CONVERT TO SCHEDULE 80.
5. CONVERT 4" CONDUIT TO 3" AT BASE OF POLE.
6. CONTRACTOR TO STUB UP POLE 10" W/ 3" POWER CONDUIT. POWER COMPANY TO CONVERT FROM 3" STUB SCHEDULE 80 TO 2" SCHEDULE 80 FROM TOP OF STUB UP.
7. INSTALL STEPS PER PG&E REQUIREMENTS

TYPICAL R.O.W. POLE CONSTRUCTION NOTES

1. CABLE NOT TO IMPEDE 15" CLEAR SPACE OFF POLE FACE.
2. ALL CLIMB STEPS NEXT TO CONDUIT SHALL HAVE EXTENDED STEPS.
3. NO BOLT THREADS TO PROTRUDE MORE THAN 1-1/2.
4. ALL HOLES IN POLE LEFT FROM REARRANGEMENT OF CLIMB STEPS TO BE FILLED.
5. 90° SHORT SWEEPS UNDER ANTENNA ARM, ALL CABLES MUST TRANSITION ON THE INSIDE OR BOTTOM OF THE ARM (NO CABLE ON TOP OF ARM).
6. USE 90° CONNECTOR AT CABLE CONNECTION FOR OMNI DOWN ANTENNAS.
7. USE CABLE CLAMPS TO SECURE CABLE TO ARMS, PLACE 2 AT&T WIRELESS CABLE I.D. TAGS ON BOTH SIDES OF ARMS.
8. USE 1/2" DIA. CABLE ON ANTENNAS UNLESS OTHERWISE SPECIFIED.
9. PLACE GPS ON ARM OF SOUTHERN SKY EXPOSURE AT MINIMUM 6' FROM TRANSMIT ANTENNA WHICH IS 24' AWAY FROM CENTER OF POLE.
10. FILL VOID AROUND CABLES AT CONDUIT OPENING WITH FOAM SEALANT TO PREVENT WATER INTRUSION.

GENERAL NOTES

LEGEND

PROPOSED ANTENNA	GROUT OR PLASTER
EXISTING ANTENNA	(E) BRICK
GROUND ROD	(E) MASONRY
GROUND BUS BAR	CONCRETE
MECHANICAL GRND. CONN.	EARTH
GROUND ACCESS WELL	GRAVEL
ELECTRIC BOX	PLYWOOD
TELEPHONE BOX	SAND
LIGHT POLE	WOOD CONT.
FND. MONUMENT	WOOD BLOCKING
SPOT ELEVATION	STEEL
SET POINT	CENTERLINE
REVISION	PROPERTY/LEASE LINE
GRID REFERENCE	MATCH LINE
DETAIL REFERENCE	WORK POINT
ELEVATION REFERENCE	GROUND CONDUCTOR
SECTION REFERENCE	COAXIAL CABLE
	OVERHEAD SERVICE CONDUCTORS
	CHAIN LINK FENCING
	OVERHEAD ELEPHONE/OVERHEAD POWER
	OVERHEAD TELEPHONE LINE
	OVERHEAD POWER LINE
	POWER RUN
	TELCO RUN
	POWER/TELCO RUN
	GROUNDING CONDUCTOR
	GROUNDING CONDUCTOR
	CONDUIT UNDERGROUND
	FUSE, SIZE AND TYPE AS INDICATED.
	SAFETY SWITCH, 2P-240V-60A W/60A FUSES, NEMA 3R ENCLOSURE, SQ D CATALOG NO. H222NRB
	MANUAL TRANSFER SWITCH, 2P-240V-200A, NO FUSE, NEMA 3R ENCLOSURE
	LIGHTING FIXTURE, FLUORESCENT, 10.94' x 4'-0", 2/40W, SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG #WSW2321
	LIGHTING FIXTURE, FLUORESCENT, 10.94' x 8'-0", 2/95W, SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG #TWSW232T
	LIGHTING FIXTURE, HIGH PRESSURE SODIUM, 1/70W, WALL MOUNTING TYPE, HUBBELL LIGHTING CATALOG #NRG-307 OR 1/50W, HUBBELL LIGHTING CATALOG #NRG-121
	EXIT SIGN, THERMOPLASTIC LED, SINGLE FACE, UNIVERSAL MOUNTING, W/BATTERY PACK, HUBBELL LIGHTING CATALOG #PRB
EXIT	COMBINATION, EXIT SIGN & EMERGENCY LIGHTING, HUBBELL LIGHTING CATALOG #PRC
	EMERGENCY LIGHTING, 2/50W, HUBBELL LIGHTING CATALOG #HEa-50-2-R91
	LIGHTING FIXTURE, INCANDESCENT, 1/100W, WALL MOUNTING TYPE, HUBBELL LIGHTING CATALOG #BRH-100-06-1
	LIGHTING FIXTURE, HALOGEN, QUARTZ 1/300W, HUBBELL LIGHTING CATALOG #QL-505
	LIGHTING FIXTURE, 1/175W, METAL HALIDE, HUBBELL CAT #MIC-017514-336
	5/8" X 10'-0", CU. GND ROD 30" MIN. BELOW GRADE.
	5/8" X 10'-0", CU. GND ROD IN TEST WELL 30" MIN. BELOW GRADE.
	CHEMICAL GROUND ROD (KIT GROUND ROD)
	CADWELD CONNECTION
	MECHANICAL CONNECTION
	HALO GROUND CONNECTION
	CIRCUIT BREAKER
	UTILITY METER BASE
	TRANSFORMER
	STEPDOWN TRANSFORMER
	RECEPTACLE, 2P-3W-125V-15A, DUPLEX GROUND TYPE, HUBBEL CATALOG #5362
S	TOGGLE SWITCH, 1P-125V-15A, HUBBELL CATALOG #HBL 1201CN
S_{WP}	TOGGLE SWITCH, 1P-120V-15A, WP
S	IONIZATION SMOKE DETECTOR W/ALARM HORN & AUXILIARY CONTACT, 120 VAC, GENTEX PART NO. 7100F
	POLE
	PROPOSED POLE MOUNTED XFMER
	(E) POLE MOUNTED XFMR
	PROPOSED PAD MOUNTED XFMER
	(E) PAD MOUNTED XFMER

ABBREVIATIONS

A	AMPERE	HT	HEIGHT
A.B.	ANCHOR BOLT	IGGB	ISOLATED COPPER GROUND BUS
ABV.	ABOVE	IN.(")	INCHES()
ACCA	ANTENNA CABLE COVER ASSEMBLY	INT.	INTERIOR
ADDL.	ADDITIONAL	LB.(#)	POUND(S)
A.F.F.	ABOVE FINISHED FLOOR	LB.	LAG BOLTS
A.F.G.	ABOVE FINISHED GRADE	L.F.	LINEAR FEET (FOOT)
AIC	AMPERE INTERRUPTING CAPACITY	LG.	LENGTH
ALUM.	ALUMINUM	L	LONGITUDINAL()
ALT.	ALTERNATE	LPS	LOW PRESSURE SODIUM
ANT.	ANTENNA	MAS.	MASONRY
APPROX.	APPROXIMATELY	MAX.	MAXIMUM
ARCH.	ARCHITECTURAL()	M.B.	MACHINE BOLT
AT.	AMPERE TRIP	MECH.	MECHANICAL
AWG.	AMERICAN WIRE GAUGE	MFR.	MANUFACTURER
BATT.	BATTERY	MIN.	MINIMUM
BD.	BOARD	MISC.	MISCELLANEOUS
BLDG.	BUILDING	M.LO.	MAIN LUGS ONLY
BLK.	BLOCK	MTD.	MOUNTED
BLKG.	BLOCKING	MTG.	MOUNTING
BM.	BEAM	MTL.	METAL
B.N.	BOUNDARY NAILING	MTS	MANUAL TRANSFER SWITCH
BR.	BRANCH	N.	NEUTRAL
BRKR.	BREAKER	PROPOSED	PROPOSED
BTCW.	BARE TINNED COPPER WIRE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
BTS.	BASE TRANSMISSION SYSTEM	NO.(#)	NUMBER
B.O.F.	BOTTOM OF FOOTING	N.T.S.	NOT TO SCALE
B/U	BACK-UP, CABINET	OH	OVERHEAD
C.	CONDUIT	O.C.	ON CENTER
CAB.	CABINET	OPNG.	OPENING
CANT.	CANTILEVER(ED)	P.	POLE
CB.	CIRCUIT BREAKER	P/C	PRECAST CONCRETE
C.I.P.	CAST IN PLACE	PCS	PERSONAL COMMUNICATION SERVICES
CKT.	CIRCUIT	PH.	PHASE
CLG.	CEILING	PLY.	PLYWOOD
CLR.	CLEAR	PNLBD.	PANELBOARD
COL.	COLUMN	PPC	POWER PROTECTION CABINET
CONC.	CONCRETE	PRC	PRIMARY RADIO CABINET
CONN.	CONNECTION(OR)	PRI.	PRIMARY
CONST.	CONSTRUCTION	P.S.F.	POUNDS PER SQUARE FOOT
CONT.	CONTINUOUS	P.S.I.	POUNDS PER SQUARE INCH
d	PENNY (NAILS)	P.T.	PRESSURE TREATED
DBL.	DOUBLE	PWR.	POWER (CABINET)
DEMA.	DEMARCATION	QTY.	QUANTITY
DEPT.	DEPARTMENT	RAD.(IR)	RADIUS
D.F.	DOUGLAS FIR	RCPT.	RECEPTACLE
DIA.	DIAMETER	REF.	REFERENCE
DIAG.	DIAGONAL	REINF.	REINFORCEMENT(ING)
DIM.	DIMENSION	REQ'D.	REQUIRED
DWG.	DRAWING(S)	RGS	RIGID GALVANIZED STEEL
DWL.	DOWEL(S)	SAF.	SAFETY
EA.	EACH	SCH.	SCHEDULE
EGR.	EMERGENCY GENERATOR RECEPTACLE	SD&C	SOFT DRAWN BARE COPPER
EL.	ELEVATION	SEC.	SECONDARY
ELEC.	ELECTRICAL	SHT.	SHEET
ELEV.	ELEVATOR	SIM.	SIMILAR
EMT.	ELECTRICAL METALLIC TUBING	S.N.	SOLID NEUTRAL
E.N.	EDGE NAIL	SPEC.	SPECIFICATION(S)
ENCL.	ENCLOSURE	SQ.	SQUARE
ENG.	ENGINEER	S.S.	STAINLESS STEEL
EQ.	EQUAL	STD.	STANDARD
EXST.(E)	EXISTING	STL.	STEEL
EXP.	EXPANSION	STRUC.	STRUCTURAL
EXT.	EXTERIOR	SURF.	SURFACE
FAB.	FABRICATION(OR)	SW.	SWITCH
FAC.	FACTOR	TEL.	TELEPHONE
F/A	FIRE ALARM	TEMP.	TEMPORARY
F.F.	FINISH FLOOR	THK.	THICKNESS
F.G.	FINISH GRADE	T.N.	TOE NAIL
FIN.	FINISH(ED)	T.O.A.	TOP OF ANTENNA
FLR.	FLOOR	T.O.C.	TOP OF CURB
FLUOR.	FLUORESCENT	T.O.F.	TOP OF FOUNDATION
FDN.	FOUNDATION	T.O.P.	TOP OF PLATE (PARAPET)
F.O.C.	FACE OF CONCRETE	T.O.S.	TOP OF STEEL
F.O.M.	FACE OF MASONRY	T.O.W.	TOP OF WALL
F.O.S.	FACE OF STUD	TYP.	TYPICAL
F.O.W.	FACE OF WALL	U.G.	UNDER GROUND
F.S.	FINISH SURFACE	UL	UNDERWRITERS LABORATORY INC.
FT.(')	FOOT (FEET)	U.N.O.	UNLESS NOTED OTHERWISE
FTG.	FOOTING	V.	VOLT
FU.	FUSE	VAC.	VOLT, ALTERNATING CURRENT
G.	GROUND	V.I.F.	VERIFY IN FIELD
GR.	GROWTH (CABINET)	W.	WATT OR WIRE
GA.	GAUGE	WD.	WIDE(WIDTH)
GEN.	GENERATOR	W/	WITH
GI.	GALVANIZED	W/O	WITHOUT
G.F.C.I.	GROUND FAULT CIRCUIT INTERRUPTER	WD.	WOOD
GLB.	GLUE LAMINATED BEAM	W.P.	WEATHERPROOF
GND.	GROUND	WT.	WEIGHT
GPS.	GLOBAL POSITIONING SYSTEM	XFER.	TRANSFER
GRND.	GROUND	XFMR.	TRANSFORMER
HDWC.	HARD DRAWN COPPER WIRE	XLPE	CROSS-LINK POLYETHYLENE
HDR.	HEADER	C	CENTERLINE
HGR.	HANGER	P	PLATE, PROPERTY LINE
HPS.	HIGH PRESSURE SODIUM		

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95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-034
PACE ID:
ROW AT 845 MARKET ST,
OAKLAND, CA 94607
COUNTY: ALAMEDA

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Rev.	Date	Description
01	09/18/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

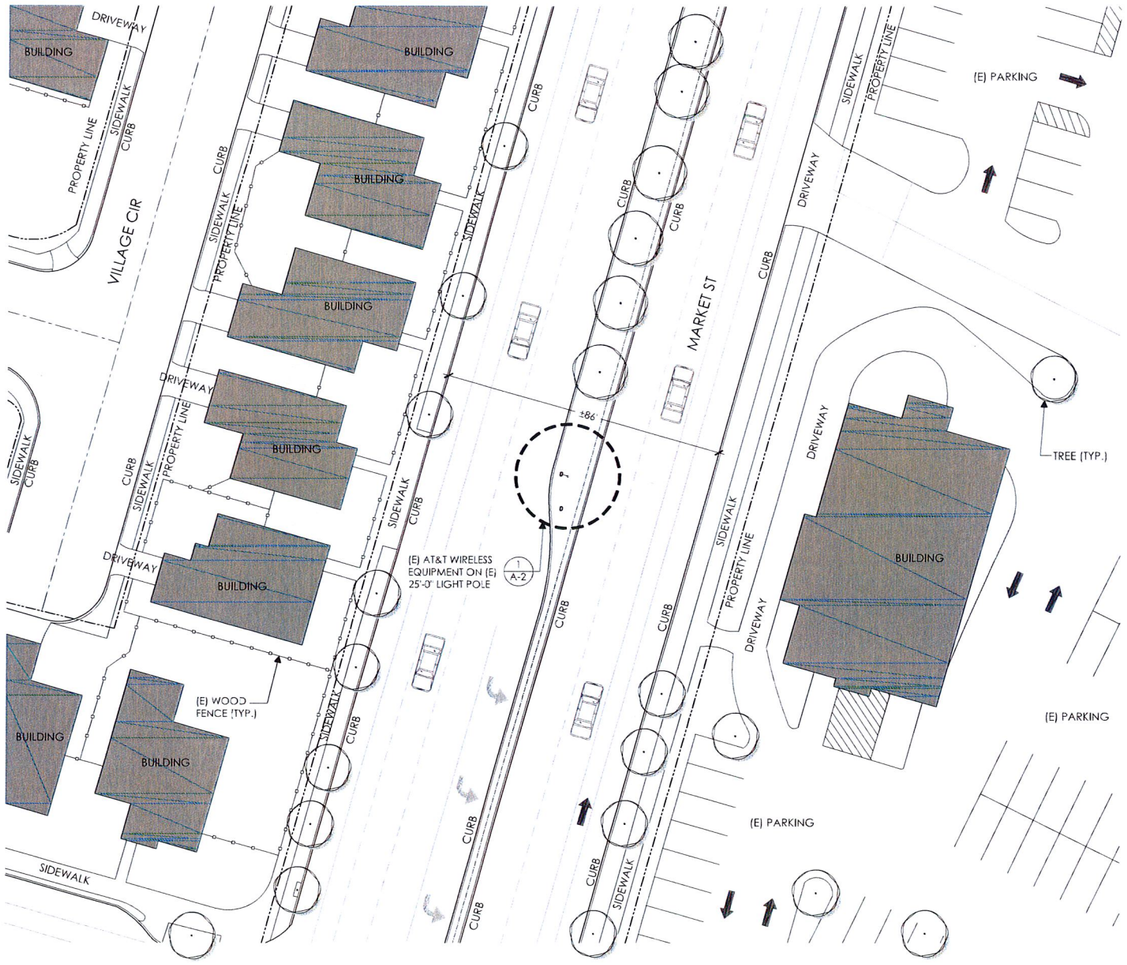
Designed By: JG Checked: RB

GENERAL NOTES
LEGEND
ABBREVIATIONS

Sheet Title:

T.2

Sheet No.:



NOTE:
THIS SITE PLAN WAS GENERATED WITHOUT THE USE OF A SURVEY. PROPERTY LINES, RIGHT-OF-WAYS, POWER & TELCO UTILITY POINT CONNECTIONS/ROUTES AND EASEMENTS SHOWN ON THESE PLANS ARE ESTIMATED. ALL ITEMS AND DIMENSIONS SHOULD BE VERIFIED IN THE FIELD.

UNDERGROUND UTILITIES NOTE:
THE LOCATIONS AND EXISTENCE OF ANY UNDERGROUND PIPES, STRUCTURES, OR CONDUITS SHOWN ON THIS PLAN WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THERE MAY BE EXISTING UTILITIES OTHER THAN THOSE SHOWN ON THIS PLAN. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT SHOWN ON THIS PLAN.

NORTH

OVERALL SITE PLAN

20 10 0 10 20 | SCALE 1" = 20 | 1

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OVERALL SITE PLAN

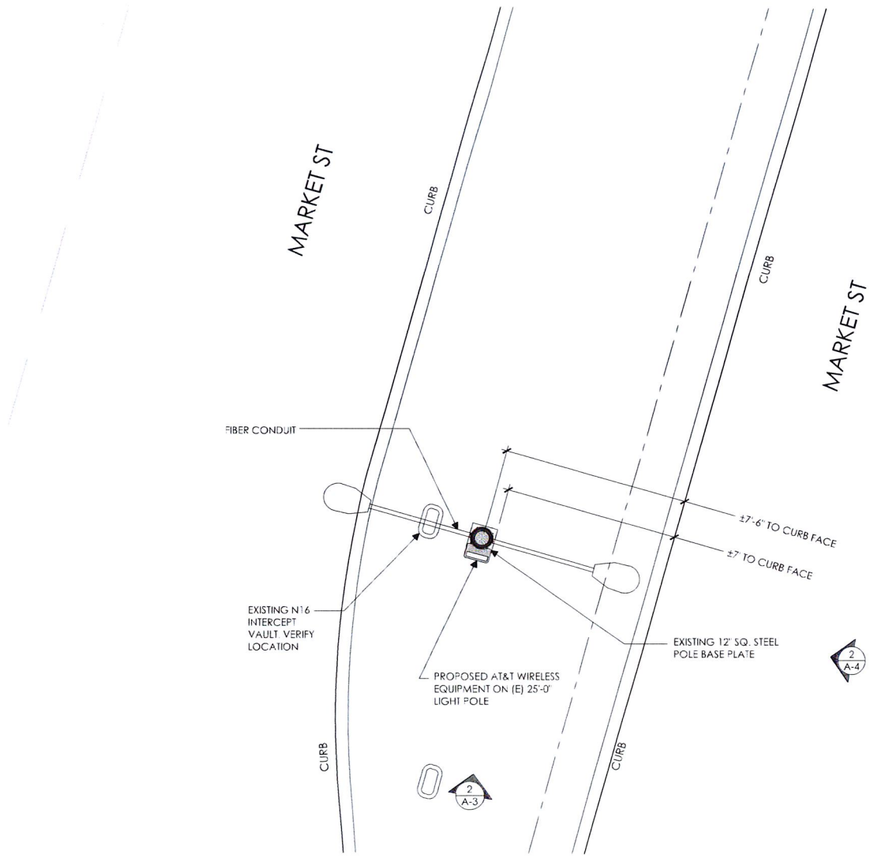
Sheet Title:

A.1

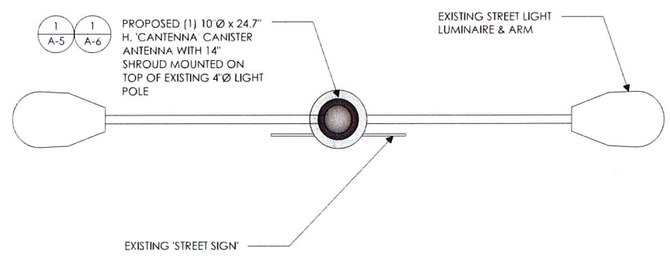
Sheet No.:

NOTES:

1. DURABLE PAINT: ANTENNAS, MOUNTING BRACKETS, CABLING, AND RADIO RELAY UNITS TO BE PAINTED TO MATCH THE EXISTING POLE USING A DURABLE PAINT (E.G. SHERWIN WILLIAMS, FRAZEE, KELLY MOORE, OR EQUIVALENT)
2. CABLING: CABLING TO BE INSTALLED IN A TIDY MANNER WITHOUT EXCESS CABLE LOOPS. ALL CABLING TO GROUND-MOUNTED BOXES AND ANTENNAS TO BE INSTALLED INSIDE POLE
3. LOGO REMOVAL: ALL EQUIPMENT LOGOS, OTHER THAN THOSE REQUIRED BY REGULATION (E.G. NODE IDENTIFICATION), SHALL BE PAINTED OVER OR REMOVED. RAISED/DEPRESSED TEXT ON RRUS OR OTHER EQUIPMENT, IF PRESENT, TO BE SANDED OFF OR SIMILARLY REMOVED AND/OR FILLED
4. SIGNAGE: FCC MANDATED RF WARNING SIGNAGE SHALL FACE CLIMBING SPACE, OPTIONAL SIGNAGE SHALL FACE OUT TO STREET WHEN PLACED IN FRONT OF OR NEAR A WINDOW. SIGNAGE SHALL FACE TOWARD BUILDING IF THERE IS NO WINDOW.

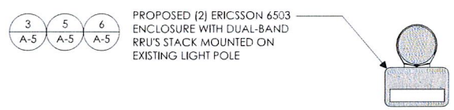


POLE PLAN ENLARGEMENT | 16' 8' 0 8' 16' | SCALE 3/8" = 1'-0" | 1



A. SECTION (CANISTER ANTENNA)

ANTENNA ENLARGEMENT PLAN | 1' 6" 0 6" 1' | SCALE 1" = 1'-0" | 2



B. SECTION (RRUS)

EQUIPMENT ENLARGEMENT PLAN | 1' 6" 0 6" 1' | SCALE 1" = 1'-0" | 3

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95% Zoning Drawings

[E] LIGHT POLE
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POLE PLAN
EQUIPMENT
ENLARGEMENTS

Sheet Title:

A.2

Sheet No.:

SCALE NOTE:

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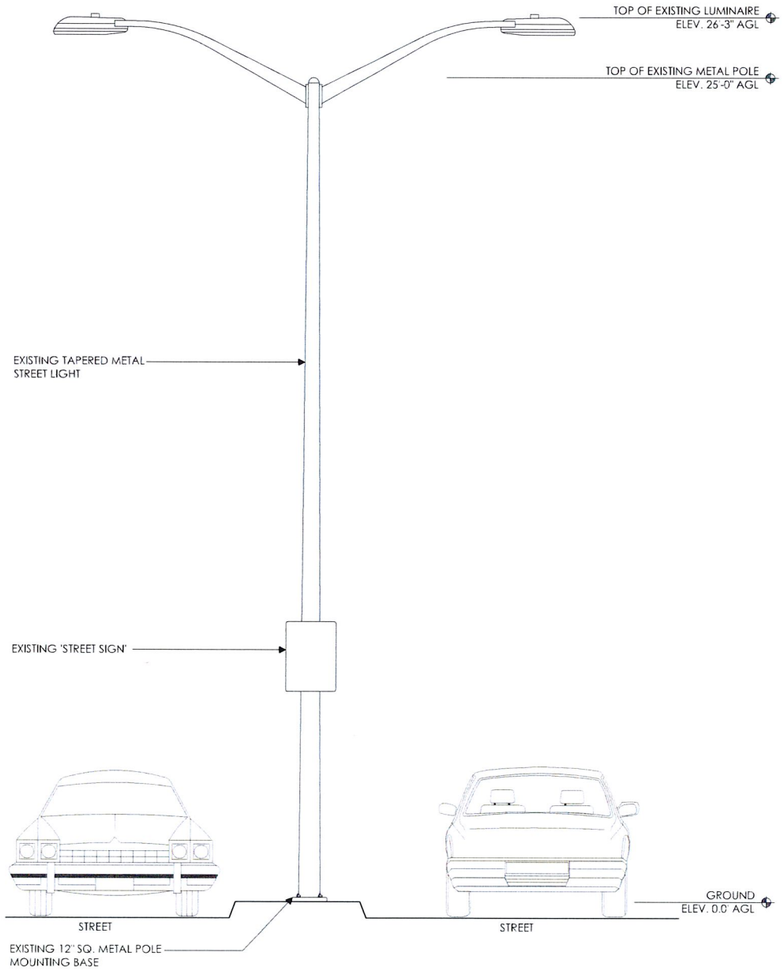
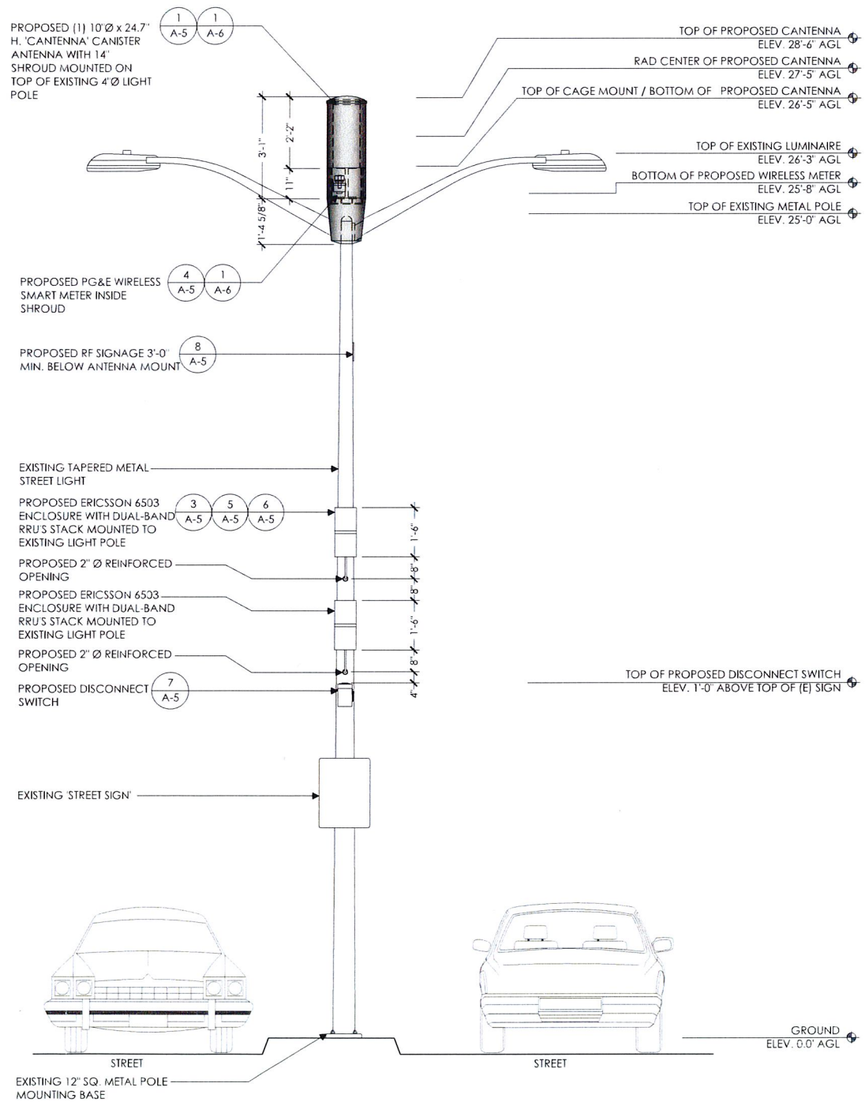


SOUTHWEST ELEVATION - EXISTING

SCALE 1/2" = 1'-0"

1



SOUTHWEST ELEVATION - PROPOSED

SCALE 1/2" = 1'-0"

2

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ELEVATIONS

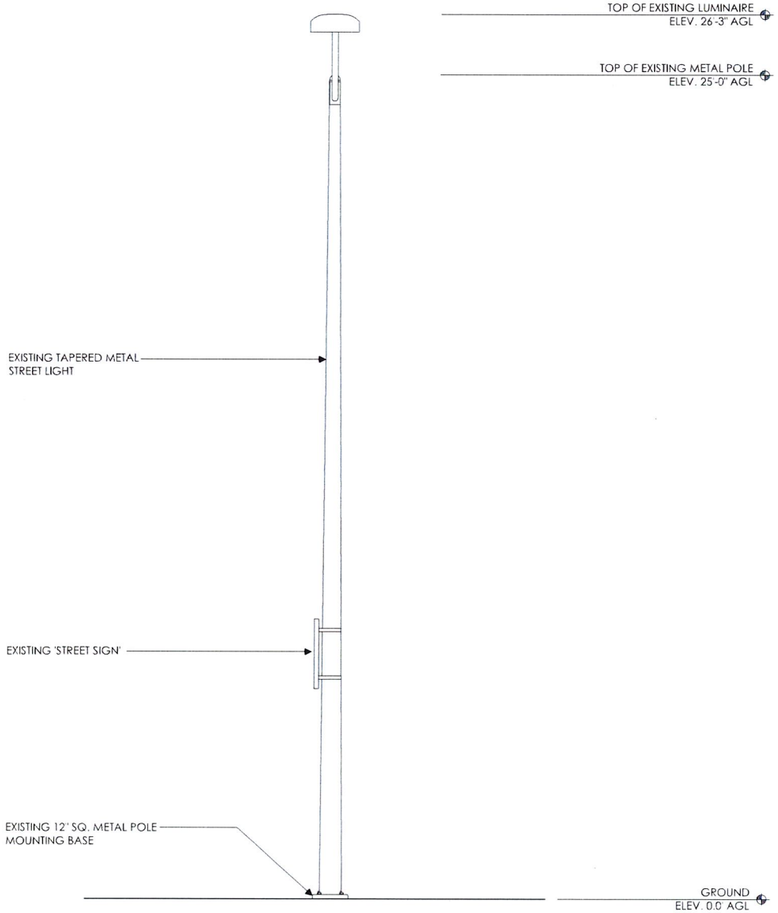
Sheet Title:

A.3

Sheet No.:

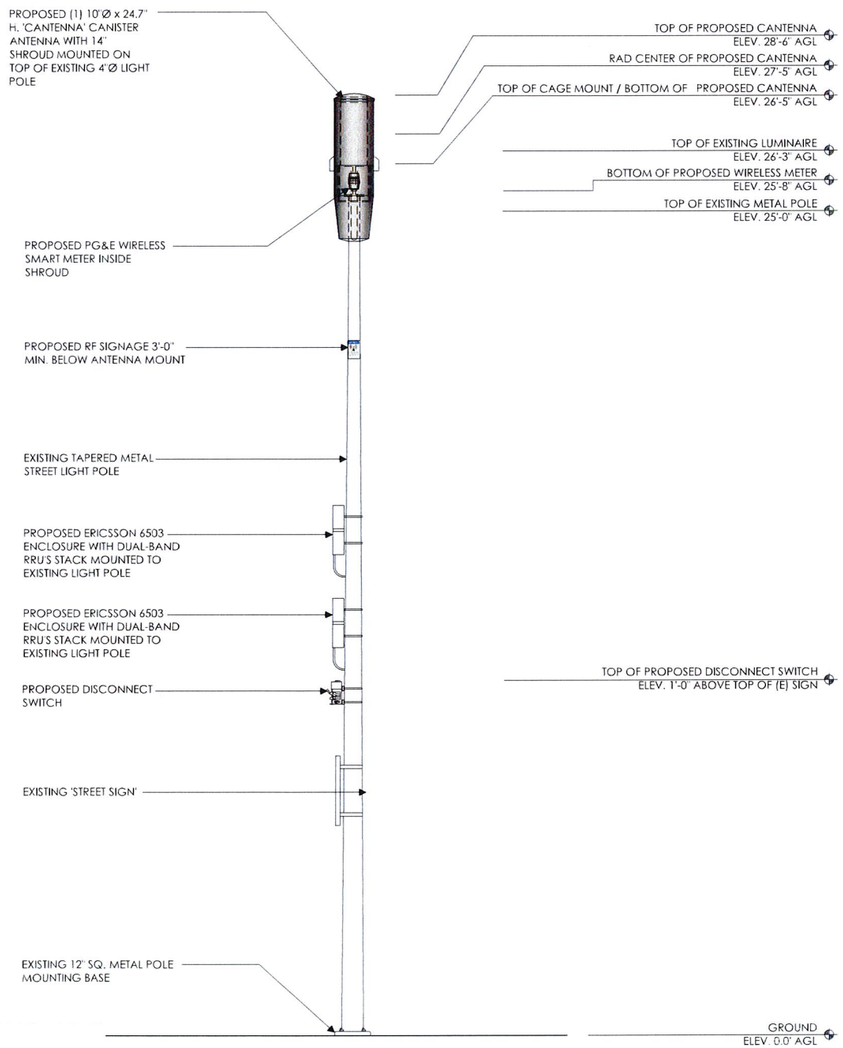
SCALE NOTE:

IF DIMENSIONS SHOWN ON PLAN DO NOT SCALE CORRECTLY, CHECK FOR REDUCTION OR ENLARGEMENT FROM ORIGINAL PLANS.



SOUTHEAST ELEVATION - EXISTING

SCALE 1/2" = 1'-0" 1



SOUTHEAST ELEVATION - PROPOSED

SCALE 1/2" = 1'-0" 2

AT&T

AT&T Wireless
5001 Executive Parkway
San Ramon, CA 94583

Client:

Meridian Management LLC
785 Oak Grove Road E2
Suite 251
Concord, CA 94518
T 707.592.5924
www.meridian.management

Project Architect:

VINCULUMS
575 LENNON LANE
SUITE 125
WALNUT CREEK, CA 94598
T 925.482.8500

Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-034
PACE ID:
ROW AT 845 MARKET ST,
OAKLAND, CA 94607
COUNTY: ALAMEDA

Site Name:

Professional Seal:

Rev.	Date	Description
01	09/18/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

ELEVATIONS

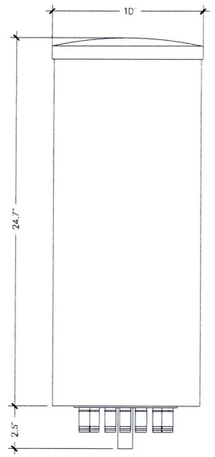
Sheet Title:

A.4

Sheet No.:

AT&T CANISTER ANTENNA 'CAN-TENNA'

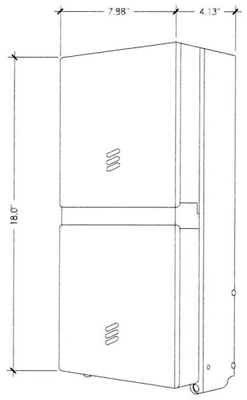
ANTENNA COLOR:	LIGHT GRAY
DIMENSIONS:	10.0"Ø x 24.7" TALL
NET WEIGHT:	19.0 LBS



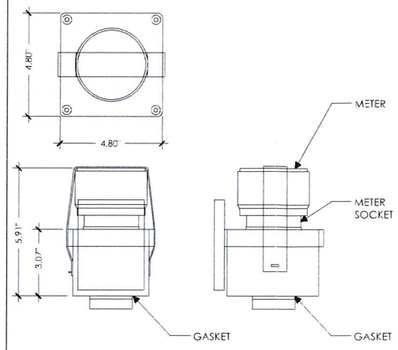
ANTENNA DETAIL | 1

ERICSSON 6503

SINGLE BAND 2203:	2 TX / 2 RX (AWS OR PCS)
DUAL BAND RRU (2 - 2203'S):	4 TX / 4 RX (AWS OR PCS)
MAXIMUM POWER CONSUMPTION:	<100W PER 2203 RADIO- ±95W PER SINGLE-BAND 2203 RADIO ±190W PER DUAL-BAND 2203 RRU
MAX FUSE RATING:	32A
WIRE SIZE:	#10 CU OR #8 ALU



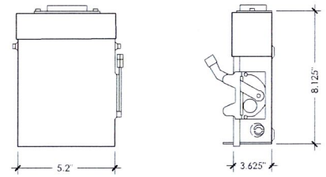
6503 RRU ENCLOSURE | 3



PG&E WIRELESS SMART METER | 4

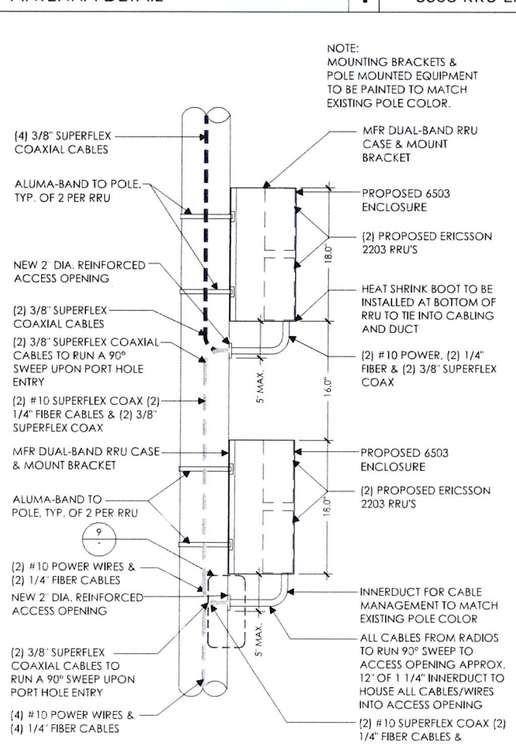
MURRAY LW002GRU SPECIFICATIONS

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



DISCONNECT SWITCH | 7

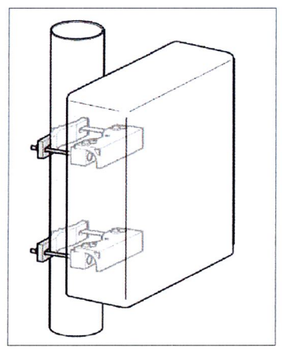
NOTICE SIGNAGE | 8



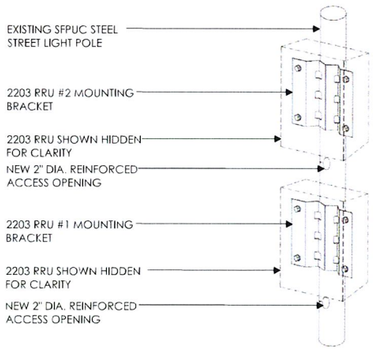
DUAL BAND RRU MOUNT | 2

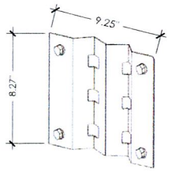
Technical Specifications Radio 2203

FREQUENCY BANDS	
Bands:	3GPP Bands B1 (WL), B3 (L), B3C (WL), B8 (WL), B66A (WL), B5 (WL), B2/B25 (WL), B12 (L), B13 (L) and B7 (L)
HW CAPACITY	
Carrier capacity WCDMA:	Up to 4 carriers
Carrier capacity LTE:	Up to 40 MHz
IBW:	B1, B3 and B66A 45 MHz, B2/B25 and B7 40 MHz, B3C, B8, B5, B12 and B13: Full band
MIMO:	Yes, 2T2R
Output power:	Up to 2 x 5 W
INTERFACE SPECIFICATIONS	
Antenna Ports	2 x 4.3-10 (f)
CPRI:	2 x 2.5/5/10 Gbps (exchangeable SFP modules)
Optical indicators	6
External alarms	2
Field ground	1
MECHANICAL SPECIFICATIONS	
W x H x D:	200 mm x 200 mm x 100 mm, including mounting bracket and esthetic front cover
Weight:	< 4.5 kg
Volume:	4 l
Mounting:	Wall and pole mount
ELECTRICAL SPECIFICATIONS	
Power Supply:	-48 VDC or 100 - 250 VAC
ENVIRONMENTAL SPECIFICATIONS	
Normal operating temp.:	-40 °C to +55 °C (cold start at -40 °C)
Relative Humidity	5 - 100%
Environment:	Outdoor class with IP65



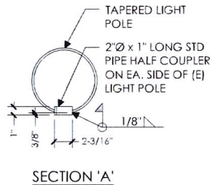
ERICSSON 2203 RRU | 5





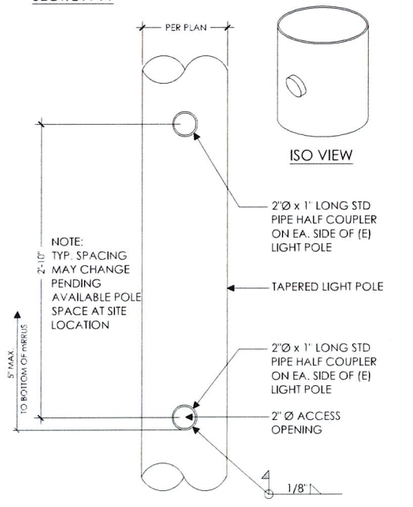
8.27"L x 9.25"W HOSE PLATE (ALUMA-BAND TO POLE)

6503 RRU-POLE MOUNTING DETAILS | 6



NOTE:
ANY DRILLED HOLES WILL BE STRUCTURALLY WELDED AND REINFORCED. SEAMS AND BOLTS/SCREWS AT ANTENNA AND SHROUD ASSEMBLY AREA SHALL BE FABRICATED AND INSTALLED IN A MANNER SO AS TO REDUCE THEIR VISIBILITY FROM SIDEWALK LEVEL

SECTION 'A'



SECTION 'A'

VERTICAL ACCESS PORT | 9

AT&T

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Site Agent:

95% Zoning Drawings

Drawing Phase:

CRAN-RSFR-SFOK6-034
PACE ID:
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OAKLAND, CA 94607
COUNTY: ALAMEDA

Site Name:

Professional Seal:

Rev.	Date	Description
01	09/18/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

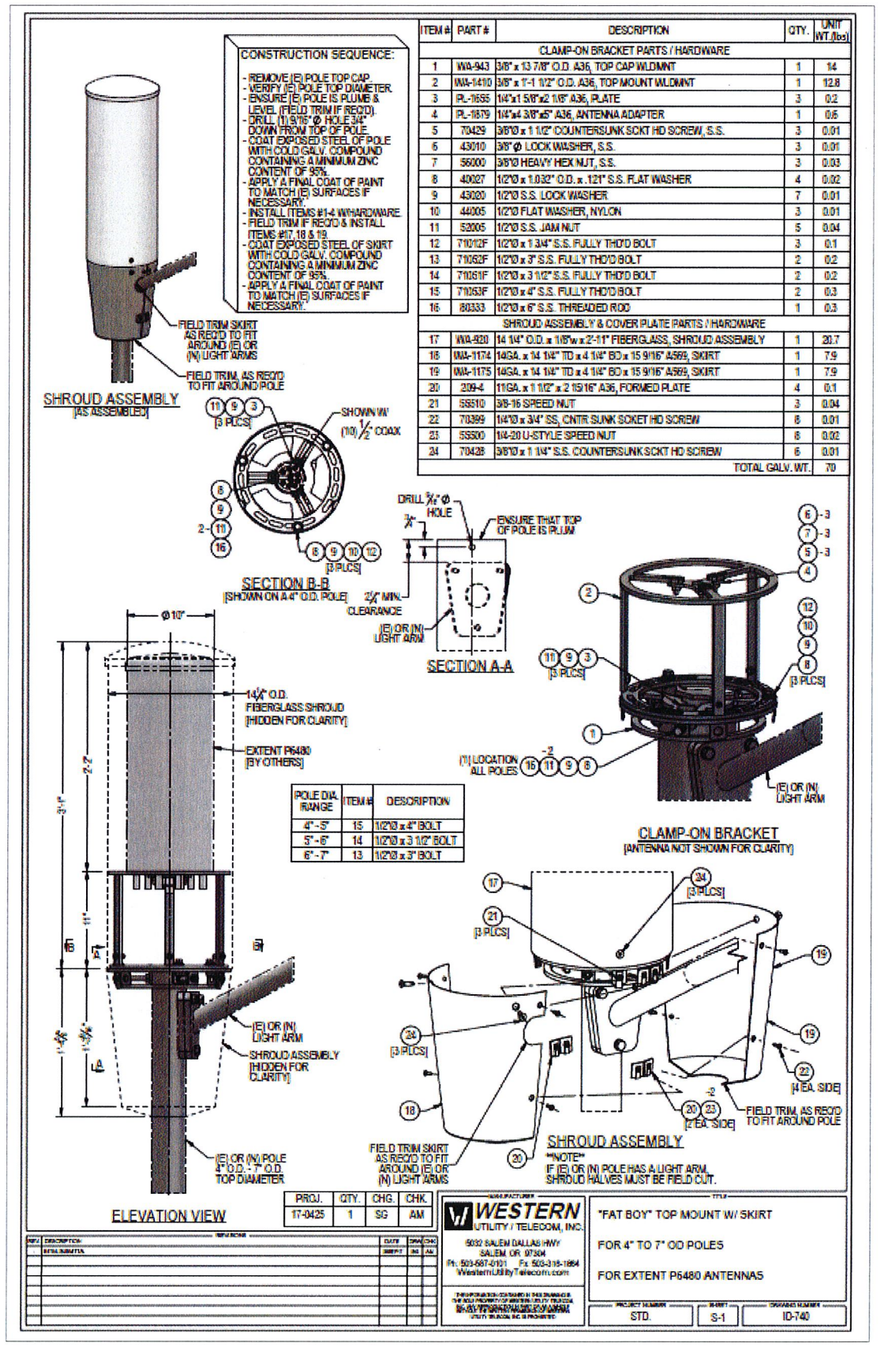
Designed By: JG Checked: RB

EQUIPMENT DETAILS

Sheet Title:

A.5

Sheet No.:



ITEM #	PART #	DESCRIPTION	QTY.	UNIT WT.(lbs)
		CLAMP-ON BRACKET PARTS / HARDWARE		
1	WA-943	3/8" x 13 7/8" O.D. A36, TOP CAP W.DMNT	1	14
2	WA-1410	3/8" x 17-1 1/2" O.D. A36, TOP MOUNT W.DMNT	1	12.8
3	PL-1655	1/4"x1 5/8"x2 1/8" A36, PLATE	3	0.2
4	PL-1679	1/4"x4 3/8"x5" A36, ANTENNA ADAPTER	1	0.5
5	70429	3/8"Ø x 1 1/2" COUNTERSUNK SCKT HD SCREW, S.S.	3	0.01
6	43010	3/8" Ø LOCK WASHER, S.S.	3	0.01
7	56000	3/8"Ø HEAVY HEX NUT, S.S.	3	0.03
8	43027	1/2"Ø x 1.032" O.D. x .121" S.S. FLAT WASHER	4	0.02
9	43020	1/2"Ø S.S. LOCK WASHER	7	0.01
10	44005	1/2"Ø FLAT WASHER, NYLON	3	0.01
11	52005	1/2"Ø S.S. JAM NUT	5	0.04
12	71012F	1/2"Ø x 1 3/4" S.S. FULLY THD'D BOLT	3	0.1
13	71032F	1/2"Ø x 3" S.S. FULLY THD'D BOLT	2	0.2
14	71031F	1/2"Ø x 3 1/2" S.S. FULLY THD'D BOLT	2	0.2
15	71053F	1/2"Ø x 4" S.S. FULLY THD'D BOLT	2	0.3
16	80333	1/2"Ø x 6" S.S. THREADED ROD	1	0.3
		SHROUD ASSEMBLY & COVER PLATE PARTS / HARDWARE		
17	WA-920	14 1/4" O.D. x 1/8"w x 2'-11" FIBERGLASS, SHROUD ASSEMBLY	1	20.7
18	WA-1174	14GA. x 14 1/4" TD x 4 1/4" BD x 15 9/16" A569, SKIRT	1	7.9
19	WA-1175	14GA. x 14 1/4" TD x 4 1/4" BD x 15 9/16" A569, SKIRT	1	7.9
20	209-4	11GA. x 1 1/2" x 2 15/16" A36, FORMED PLATE	4	0.1
21	SS810	3/8-16 SPEED NUT	3	0.04
22	70399	1/4"Ø x 3/4" SS, CNTR SUNK SCKET HD SCREW	8	0.01
23	SS500	1/4-20 U-STYLE SPEED NUT	6	0.02
24	70428	3/8"Ø x 1 1/4" S.S. COUNTERSUNK SCKT HD SCREW	6	0.01
		TOTAL GALV. WT.		70

PROJ.	QTY.	CHG.	CHK.
17-0425	1	SG	AM

WESTERN UTILITY / TELECOM, INC.
5032 SALEM DALLAS HWY
SALEM, OR 97304
Ph: 503-587-0101 Fx: 503-315-1864
WesternUtility@telecom.com

"FAT BOY" TOP MOUNT W/ SKIRT
FOR 4" TO 7" OD POLES
FOR EXTENT P6480 ANTENNAS

PROJECT NUMBER	SHEET	DRAWING NUMBER
STD.	S-1	ID-740

POLE TOP MOUNT W/ SKIRT ASSEMBLY DETAIL

1

AT&T

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San Ramon, CA 94583

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COUNTY: ALAMEDA

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Rev.	Date	Description
01	09/18/17	Zoning Dwgs 90%
02	10/06/17	Zoning Dwgs 95%

Project No.:

Date: 10/06/17 Job No.:

Scale: AS SHOWN CAD File:

Designed By: JG Checked: RB

EQUIPMENT DETAILS

Sheet Title:

A.6

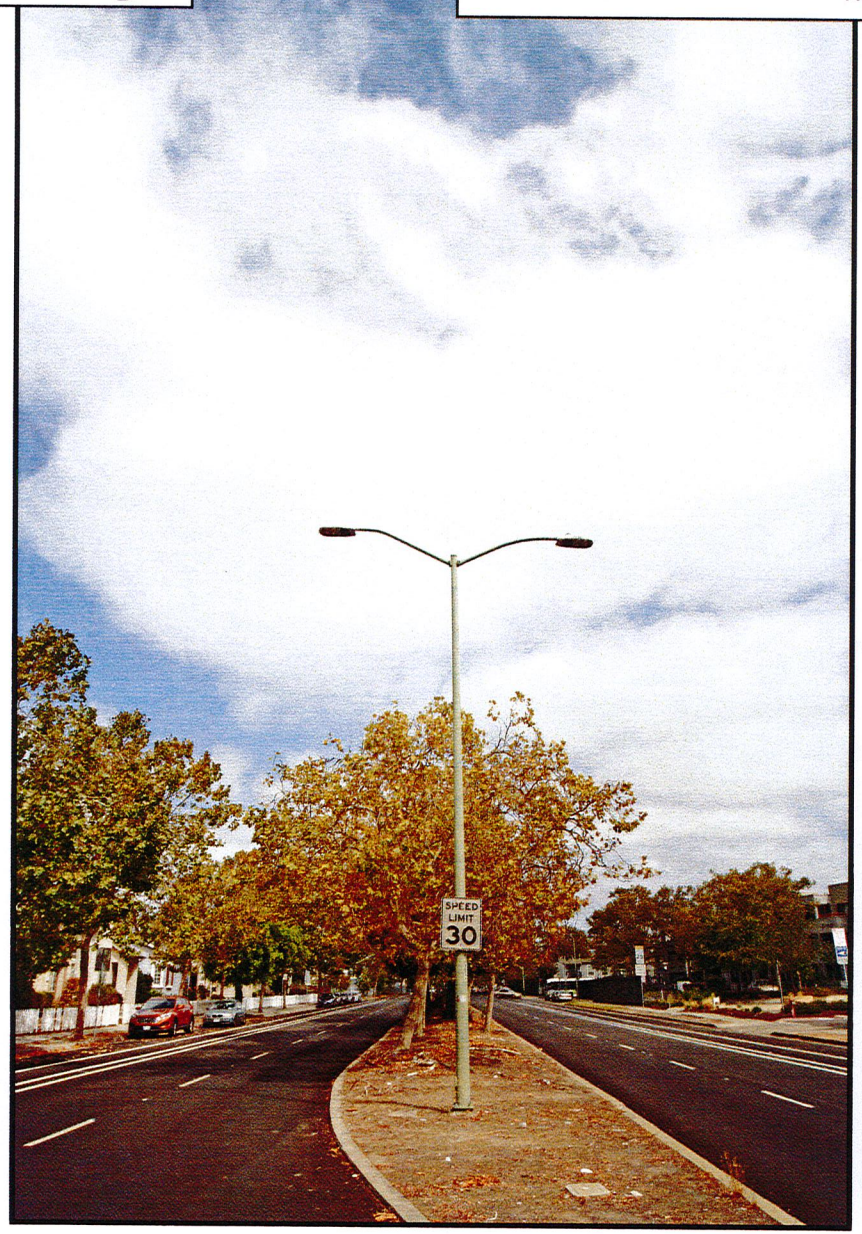
Sheet No.:

view from Market Street looking north at site

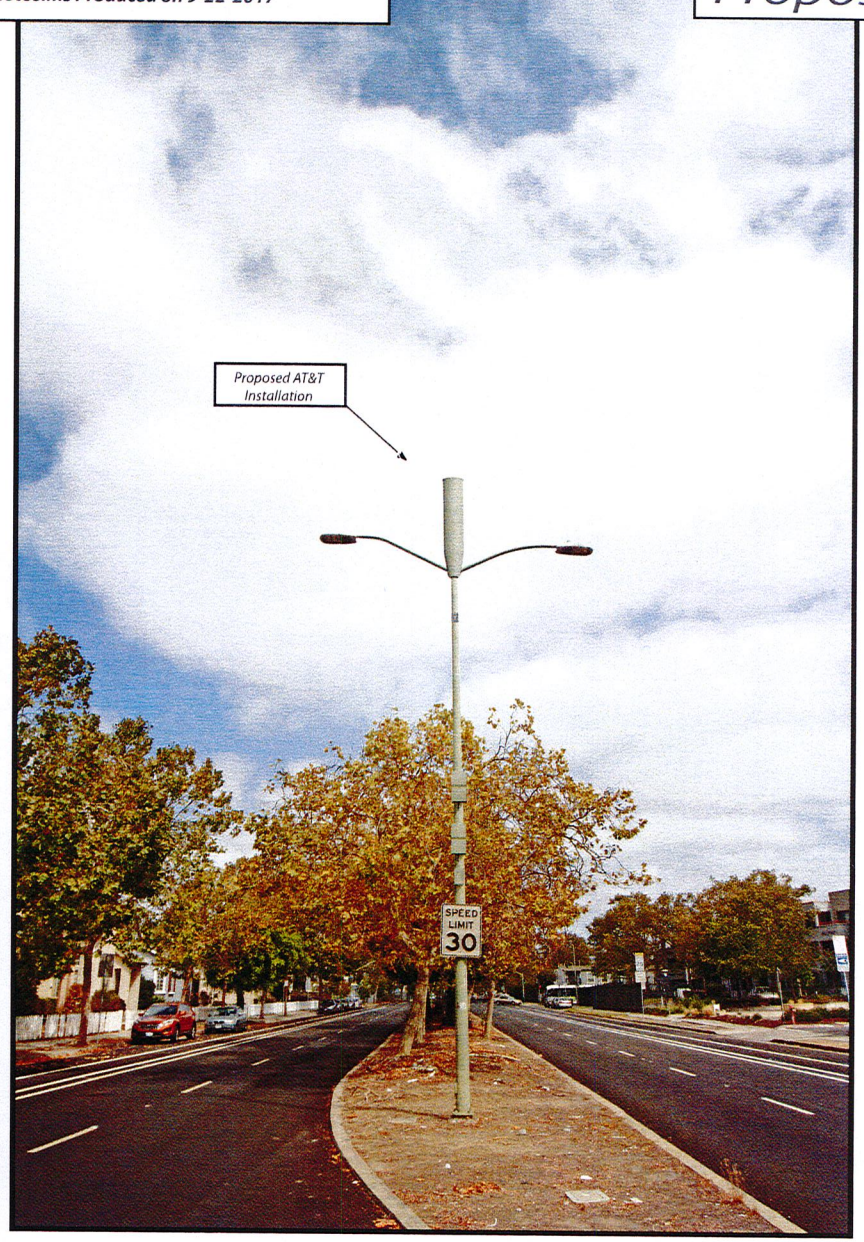
AT&T Wireless

CRAN-RSFR-SFOK6-034
ROW at 845 Market Street, Oakland, CA
Photosims Produced on 9-22-2017

Existing



Proposed



AdvanceSim
Photo Simulation Solutions
Contact (925) 202-8507

Existing

Proposed

view from Market Street looking southwest at site

AT&T Wireless

CRAN-RSFR-SFOK6-034
ROW at 845 Market Street, Oakland, CA
Photosims Produced on 9-22-2017

AdvanceSim
Photo Simulation Solutions
Contact : 925) 202-8507

Alternative Site Analysis – SFOK6_034

Node 34A:

- Primary candidate
- Preferred due to adjacent commercial use and for best meeting AT&T's RF needs.

Node 34B:

- Potentially viable alternative
- Less preferred as tree may partially block signal rendering making this site less desirable for RF.

Node 34C:

- Potentially viable alternative
- Less preferred due to proximity to apartment complex.

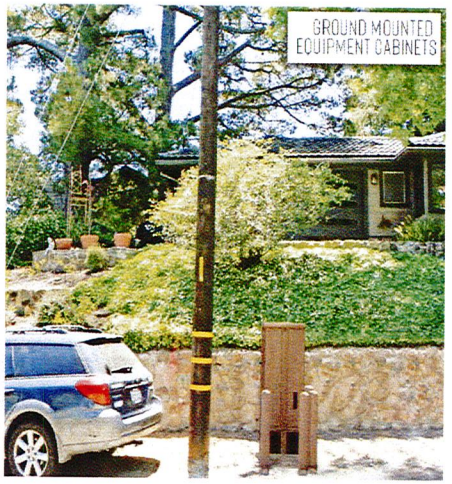
ALTERNATIVE DESIGN ANALYSIS

Full-Sized Tower:

- Too big/bulky.
- Requires 300' sq. area.
- Does not nestle coverage/capacity.

Shrouded Pole Equipment:

- Too big/bulky.
- Adds unnecessary equipment.
- Small cell equipment is already sleek.



Equipment Cabinet:

- Too big/bulky.
- Adds unnecessary ROW equipment.
- Pole-mounted equipment blends in with pole.

AT&T Mobility • Proposed Small Cell (No. CRAN-RSFR-SFOK6-034)
845 Market Street • Oakland, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of AT&T Mobility, a personal wireless telecommunications carrier, to evaluate its small cell (No. CRAN-RSFR-SFOK6-034) proposed to be sited in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

AT&T proposes to install an omnidirectional cylindrical antenna on a light pole sited in the public right-of-way at 845 Market 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^2	1.00 mW/cm^2
BRS (Broadband Radio)	2,600	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.35	0.47
[most restrictive frequency range]	30–300	1.00	0.20

General Facility Requirements

Small cells typically consist of two distinct parts: the electronic transceivers (also called "radios") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are typically mounted on the support pole or placed in a cabinet at ground level, and they are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means

that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

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

Site and Facility Description

Based upon information provided by AT&T, including drawings by Meridian Management LLC, dated September 18, 2017, it is proposed to install one Galtronics Model P6480, 2-foot tall, omnidirectional cylindrical antenna, on top of an existing light pole sited at the median strip of Market Street, opposite the residence located at 845 Market Street. The antenna would employ no downtilt and would be mounted at an effective height of about 27½ feet above ground. The maximum effective radiated power in any direction would be 80 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 AT&T operation is calculated to be 0.0011 mW/cm^2, which is 0.11% of the applicable public exposure limit. The maximum calculated level at any nearby building is 0.18% 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.

No Recommended Mitigation Measures

Due to its mounting location and height, the AT&T antenna would not be accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. The occupational limit is calculated to extend 4 inches from the antenna and, due to this short distance, the proposed operation is considered intrinsically compliant with that limit.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the small cell proposed by AT&T Mobility at 845 Market 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.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2019. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

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

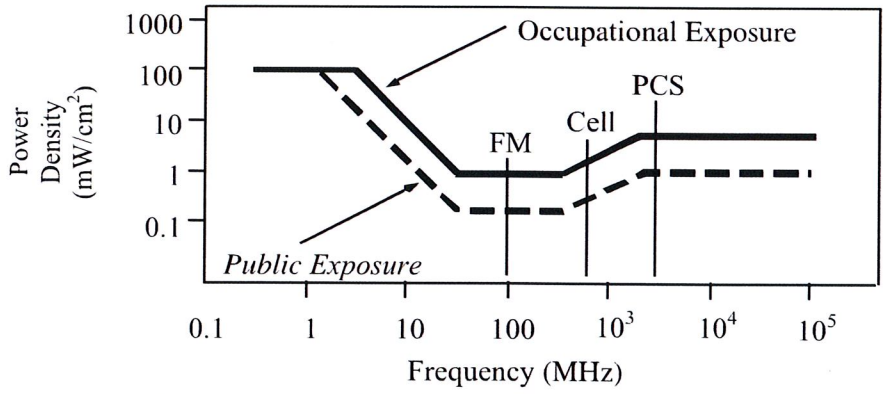
November 3, 2017

FCC Radio Frequency Protection Guide

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

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

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



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

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

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

Near Field.

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

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

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

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

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

Far Field.

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

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

where ERP = total ERP (all polarizations), in kilowatts,
RFF = relative field factor at the direction to the actual point of calculation, and
D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

California Public Utilities Commission

Utility Contact System Search

The Utility Contact System (UCS) is the Communications Division's database for the primary regulatory contact for each telephone corporation operating in California. The Communications Division sends impo regulatory notices to the regulatory contact for each telephone corporation via e-mail, so it is important for primary regulatory contacts to update their UCS record if their e-mail address changes.

Telephone corporations may update UCS contact information using the form on the following page: **Carrier Reporting Requirements**

A description of the different utility types (granted authorities) are listed on the following page: **Utility Type Descriptions**

Search Utility Name Search Utility Number 3060 Search Clear

Utility Name ▲	Alias (DBA Name)	Utility Number	Street Address	City	State	Zip	Phone Number	Email	Utility Type	CPCN Appro
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	430 BUSH STREET	SAN FRANCISCO	CA	94108	(415) 778-1299	att-regulatory-ca@att.com	CEC	12-21-1995
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	7405 GREENHAVEN DRIVE	SACRAMENTO	CA	95831	(800) 498-1912	west.region.oopsac@awsmail.att.com	CEC	12-21-1995
New Cingular Wireless Pcs, LLC	CINGULAR WIRELESS	3060	11760 US HIGHWAY ONE, WEST TOWER	NORTH PALM BEACH	FL	33048	770-240-8849		CEC	12-21-1995

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Comments & Feedback

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