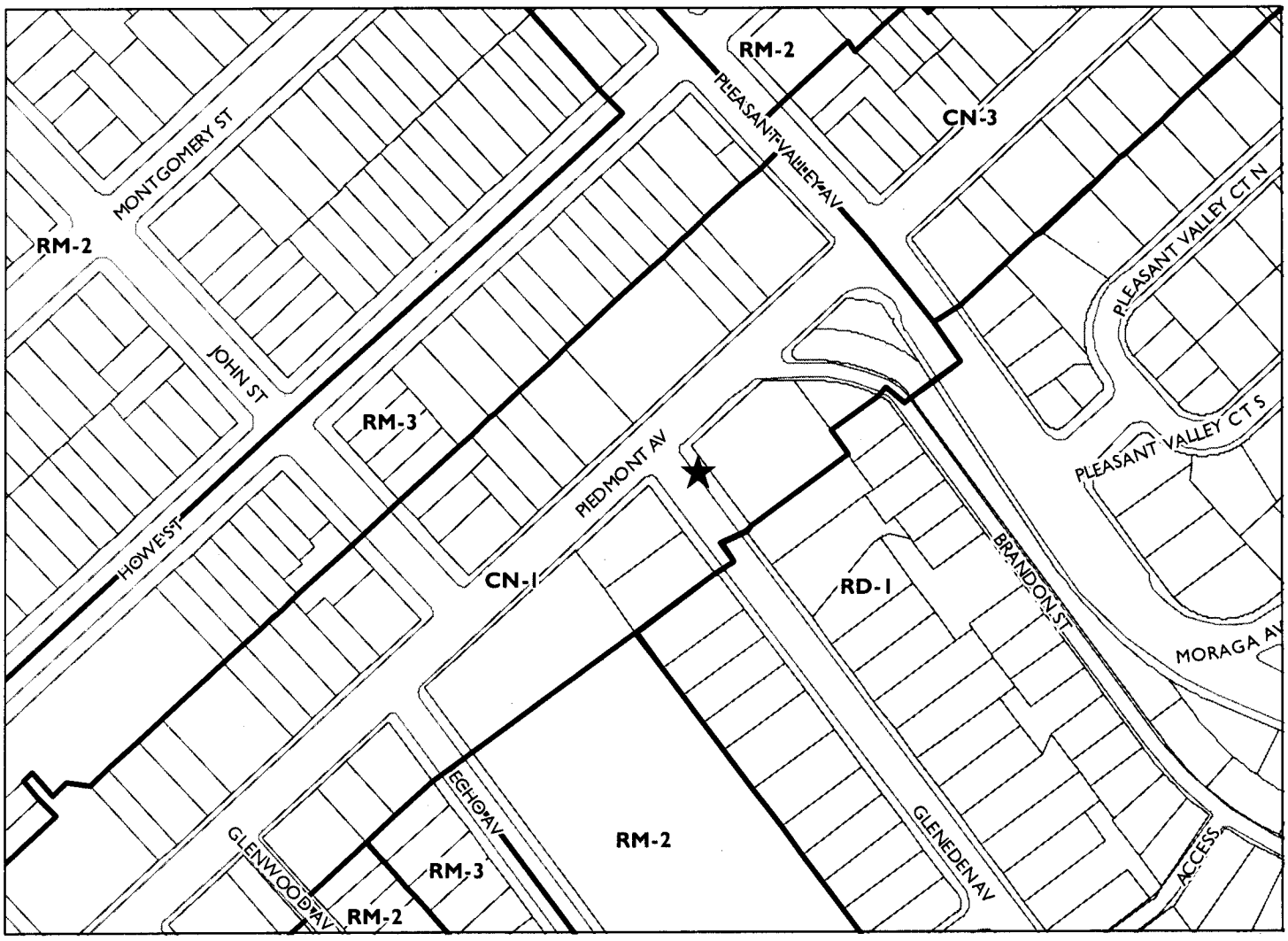
Case File Number: PLN15-390 **February 3, 2016**

Location:	**The Public Right-of-Way adjacent to 4364 Piedmont Avenue and Glen Eden Avenue. (See map on reverse)**
Assessors Parcel Numbers:	**Nearest adjacent lot (013-1120-001-03)**
Proposal:	The project involves the installation of a new wireless Telecommunication facility (Crown Castle) on an existing 39'-4" tall PG&E utility pole located in the public right-of-way; installation of one panel antenna (24" wide) mounted at 37'-4" above the ground; an associated equipment box, one battery backup and meter boxes within an 8 feet long by 2 feet wide equipment shroud mounted on the pole at 8 feet above the ground.
Applicant:	Crown Castle
Contact Person/ Phone Number:	Bob Gundermann & Jason Osborn (925)899-1999
Owner:	Pacific Gas & Electric. PG&E.
Case File Number:	**PLN15-390**
Planning Permits Required:	Major Design Review to install a wireless Telecommunication Macro Facility on the existing PG&E pole in the CN-1 zone.
General Plan:	Neighborhood Center Mixed Use.
Zoning:	CN-1 Neighborhood Center Zone.
Environmental Determination:	Exempt, Section 15301and 15303 of the State CEQA Guidelines; minor additions and alterations to an existing facility. Exempt, Section 15183 of the State CEQA Guidelines; projects consistent with a Community Plan, General Plan or Zoning.
Historic Status:	Not a Potential Designated Historic Property; Survey rating: n/a
Service Delivery District:	2
City Council District:	1
Finality of Decision:	Appealable to City Council within 10 Days
For Further Information:	Contact case planner Jason Madani at **(510) 238-4790** or jmadani@oaklandnet.com

SUMMARY

The proposal is to install a new wireless Telecommunications Facility on an existing 39'-4" tall PG&E utility pole located in the public right-of-way near 4364 Piedmont Avenue and Glen Eden Avenue. Crown Castle is proposing to install one panel antenna (24" wide) mounted at 37'-4" above the ground; an associated equipment box, one battery backup and meter boxes within an 8 feet long by 2 feet wide equipment shroud mounted on the pole at 8 feet above the ground. Major Design Review is required for the installation of a new Macro Telecommunications Facility in the CN-1 zone. Staff believes that since the existing PG&E utility pole is located adjacent to the parking lot of a commercial building that it is an appropriate location for the proposed telecommunication facility and would not significantly increase negative visual impacts to adjacent neighboring properties, and the project meets all the required findings listed below for approval of the project.

CITY OF OAKLAND PLANNING COMMISSION



Case File: PLN15-390
Applicant: Crown Castle
Address: The public Right of Way adjacent to 2 Glen Eden Avenue and 4364 Piedmont Avenue
Zone: CN-1

BACKGROUND

Limitations on Local Government Zoning Authority under the Telecommunications Act of 1996 Section 704 of the Telecommunications Act of 1996 (TCA) provides federal standards for the sitting 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. Under Section 253 of the TCA, no state or local regulation or other legal requirement can prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service. Further, Section 704 of the TCA imposes limitations on what local and state governments can do. Section 704 prohibits any state and local government action which unreasonably discriminates among personal wireless providers. Local governments must ensure that its wireless ordinance does not contain requirements in the form of regulatory terms or fees which may have the "effect" of prohibiting the placement, construction, or modification of personal wireless services. Section 704 also preempts any local zoning regulation purporting to regulate the placement, construction and modification of personal wireless service facilities on the basis, either directly or indirectly, on the environmental effects of radio frequency emissions (RF) of such facilities, which otherwise comply with FCC standards in this regard. See, 47 U.S.C. 332(c) (7) (B) (iv) (1996). This means that local authorities may not regulate the sitting 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 sitting applications to place, construct, or modify a facility within a reasonable time. 47 U.S.C.332(c) (7) (B) (ii). See FCC Shot Clock ruling setting forth "reasonable time" standards for applications deemed complete. Section 704 also mandates that the FCC provide technical support to local governments in order to encourage them to make property, rights-of-way, and easements under their jurisdiction available for the placement of new spectrum-based telecommunications services. This proceeding is currently at the comment stage. For more information on the FCC's jurisdiction in this area, contact Steve Markendorff, Chief of the Broadband Branch, Commercial Wireless Division, Wireless Telecommunications Bureau, at (202) 418-0640 or e-mail "smarkend@fcc.gov".

PROJECT DESCRIPTION

The applicant (Crown Castle) is proposing to install a new wireless telecommunications facility on an existing 39'-4" tall PG&E utility pole located in the public right-of-way near at 4364 Piedmont Avenue. The project involves the installation of one panel antenna (24 inches wide) mounted at 37'-4" above the ground; an associated equipment box, one battery backup and meter boxes within an 8-feet long by 2- feet wide equipment shroud, mounted on the pole at 8 feet above the ground (See Attachment A).

PROPERTY DESCRIPTION

The subject site is located in the City of Oakland public right-of-way near the parking lot of a commercial building located at 4364 Piedmont Avenue and Glen Eden Avenue and is more than 100' away from residential buildings located on Glen Eden Avenue.

GENERAL PLAN ANALYSIS

The subject property is located within the Neighborhood Center Mixed Use General Plan designation. The Neighborhood Center Mixed Use land use classification is intended to identify, create, maintain and enhance mixed use neighborhood commercial centers. These centers are typically characterized by smaller scale pedestrian-oriented, continuous street frontage with a mix of retail, housing, office, active open space, eating and drinking places, personal and business services, and smaller scale educational, cultural, or entertainment uses. The proposed unmanned wireless telecommunication facility will not adversely affect and detract from the characteristics of the neighborhood. The proposal will be located on an existing PG&E utility pole and will not likely affect the general quality and character of the neighborhood. The proposed project is not expected to have a significant visual impact on the existing structure and surrounding area.

ZONING ANALYSIS

The subject property is located in the CN-1 Neighborhood Center Mixed Use. The intent of the CN-1 zone is to maintain and enhance vibrant commercial districts with a wide range of retail establishments serving both short and long term needs in attractive settings oriented to pedestrian comparison shopping. The project requires Major Design Review. Staff finds that the proposed application meets the applicable CN-1 Zoning and City of Oakland Telecommunications Regulations as discussed under "Findings" of this report.

ENVIRONMENTAL DETERMINATION

The California Environmental Quality Act (CEQA) Guidelines lists the projects that qualify as categorical exemptions from environmental review. The proposed project is categorically exempt from the environmental review requirements pursuant to Section 15301, 15303 for installation of telecommunication facility on the existing public utility pole, and small structures. In addition, the project is also exempt per Section15183, for projects consistent with a community plan, general plan or zoning.

KEY ISSUES AND IMPACTS

1. Regular Design Review

Section 17.136.040 and 17.128.070 of the City of Oakland Planning Code requires Major Design Review to install or to expand a Macro Telecommunication facility fully attached to the existing PG&E pole in the CN-1 zone, or within one hundred (100) feet of the boundary of any residential zone. The required findings for Regular Design Review findings are listed and included in staff's evaluation as part of this report.

2. Project Site

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

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

*Facilities 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.

Since the proposed project involves the installation of a new antenna on an existing PG&E utility pole within CN-1 zone and provides 100' separation from residential zone, the proposed project meets (B), hence a site alternatives analysis is not required.

Alternative Site Analysis:

Crown Castle considered alternative sites on other utility poles in this area but none of these sites are as desirable from a coverage perspective or from an aesthetics perspective to minimize visual impact. The proposed location is approximately equidistant from other DAS nodes proposed in the surrounding area so that service coverage can be evenly distributed.

Staff agrees that no other sites are more suitable. The project has met alternative site analysis (C) since, the proposed one (1) new antenna is mounted on the PG&E utility pole 37'-4" above ground and associated equipment box will be attached to the pole at 8' height above ground.

3. Project Design

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

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

The project meets design criteria (C) since the one (1) new antenna is mounted at 37'-4" high on the existing PG&E utility pole, and the associated equipment box is attached to the pole at 8' height above ground within CN-1 zone. Facilities designed to meet 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:

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

Alternative Design Analysis:

Crown Castle evaluated whether the equipment could be under grounded but unfortunately this is not possible because there is insufficient right-of-way space for the necessary equipment access and the equipment would be compromised from saturation by rainwater. The proposed antenna design is approximately equidistant from other DAS nodes proposed in the surrounding area so that service coverage can be evenly distributed. The proposed design is a good option because it sits at a spot that a signal can be adequately propagated without obstruction, which could not have been the case if the antenna was designed on a building.

Planning staff has reviewed the applicant's written evidence of alternative design analysis (see attachment A) and determined that the site selected conforms to the telecommunication regulation requirements.

4. Project Radio Frequency Emissions Standards

Section 17.128.130 of the City of Oakland Telecommunication Regulations requires that the applicant submit the following verifications including requests for modifications to existing facilities:
a. The Telecommunications regulations require that the applicant submit written documentation demonstrating that the emission from the proposed project are within the limits set by the Federal Communications Commission. In the document (attachment B) prepared by Jerrold T. Bushberg Health and Medical Physics Consulting, Inc. the proposed project was evaluated for compliance with appropriate guidelines limiting human exposure to radio frequency electromagnetic fields. According to the report on the proposal, the project will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, the proposed site will operate within the current acceptable thresholds as established by the Federal Government or any such agency that may be subsequently authorized to establish such standards.

b. Prior to final building permit sign off, an RF emissions report indicating that the site is actually operating within the acceptable thresholds as established by the Federal government or any such agency who may be subsequently authorized to establish such standards.
The information submitted with the initial application was an RF emissions report, prepared by Jerrold T. Bushberg Health and Medical Physics Consulting, Inc. (Attachment B). The report states that the proposed project will comply with the prevailing standards for limiting public

exposure to radio frequency energy and, therefore, will not cause a significant impact on the environment. Additionally, staff recommends that prior to the final building permit sign off; the applicant submits certified RF emissions report stating that the facility is operating within acceptable thresholds established by the regulatory federal agency.

CONCLUSION

The proposed project meets all of the required findings for approval. The proposal will provide an essential telecommunication services to the community and the City of Oakland at large. It will also be available to emergency services such as police, Fire and health response teams. Staff has provided the findings for approval to support this application.

RECOMMENDATIONS:

1. Affirm staff's environmental determination
2. Approve Major Design Review application PLN15-390 subject to the attached findings and conditions of approval.

Prepared by:

Jason Madani
Planner II

Reviewed by:

Scott Miller
Zoning Manager

Reviewed By:

Darin Ranelletti, Deputy Director
Bureau of Planning and Building

Approved for forwarding to the
City Planning Commission

Rachel Flynn, Director
Bureau of Planning and Building

ATTACHMENTS:

A. Project Plans & Photo simulations & Alternative Site Analysis
B. Jerrold T. Bushberg Health and Medical Physics Consulting, Inc. Engineering RF Emissions Report

FINDINGS FOR APPROVAL

This proposal meets the required findings under Section 17.136.050 (B) (Non-Residential Design Review criteria); and, 17.128.060(B) (Telecommunications Macro Facilities 17.128.070 (B), as set forth below. Required findings are shown in **bold** type; reasons proposal satisfies them are shown in normal type.

17.136.050(B) – NONRESIDENTIAL DESIGN REVIEW CRITERIA:

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

The project involves the installation of a new wireless Telecommunication facility on an existing 39'-4" tall PG&E utility pole located in the public right-of-way. The project consists of one panel antenna (24 inches wide) mounted at 37'-4" above the ground; an associated equipment box, one battery backup and meter boxes within an 8 feet long by 2 feet wide equipment shroud mounted on the pole at 8 feet above the ground. The proposed antennas and equipment cabinet attached to the utility pole will be painted to match wooden PG&E utility pole.

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

The associated equipment box, one battery backup and meter boxes will be within a 8 foot long by 2 foot wide equipment shroud antennas and painted to match the wooden utility pole. Therefore, the proposed unmanned wireless telecommunication facility will blend in with an existing PG&E utility pole, and will not adversely affect and detract from commercial and residential characteristics of the neighborhood.

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

The subject property is located within the Neighborhood Center Mixed Use General Plan designation. The Neighborhood Center Mixed Use land use classification is intended to identify, create, maintain and enhance mixed use neighborhood commercial centers. These centers are typically characterized by smaller scale pedestrian-oriented, continuous street frontage with a mix of retail, housing, office, active open space, eating and drinking places, personal and business services, and smaller scale educational, cultural, or entertainment uses. The proposed unmanned wireless telecommunication facility will not adversely affect and detract from the characteristics of the neighborhood. The proposal will be located on an existing PG&E utility pole and will not likely affect the general quality and character of the neighborhood. The

proposed project is not expected to have a significant visual impact on the existing structure and surrounding area.

17.128.070(B) DESIGN REVIEW CRITERIA FOR MACRO FACILITIES

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

The antennas and equipment will be painted brown to match the existing wooden utility pole to minimize the potential visual impact.

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

The proposed antenna and equipment will not be mounted onto an architecturally significant structure. The proposed antennas and equipment are consistent with existing utility pole.

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

The proposal antennas will be placed above, and vertically in line with, the existing utility pole.

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

The associated equipment cabinets will be located within a shroud attached to the existing utility pole and painted to match the wooden pole to minimize visual impacts on the neighboring properties.

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

See above finding # 4

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

N/A

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

The antennas will be mounted at a height of 37'-4"on an existing PG&E utility pole and will not be accessible to the public due to its location. The equipment cabinet shroud will be attached to the pole 8' above the ground.

CONDITIONS OF APPROVAL
PLN15-390

STANDARD CONDITIONS:

1. Approved Use
Ongoing

a) The project shall be constructed and operated in accordance with the authorized use as described in the application materials for case number **PLN15-105**, and the plans dated **March 24, 2015** and submitted on **December 7th, 2015** and as amended by the following conditions. Any additional uses or facilities other than those approved with this permit, as described in the project description and the approved plans, will require a separate application and approval. Any deviation from the approved drawings, Conditions of Approval or use shall required prior written approval from the Director of City Planning or designee.

b) This action by the City Planning Commission ("this Approval") includes the approvals set forth below. **The project involves the installation of a new wireless Telecommunication facility (Crown Castle) on an existing 39'-4" tall PG&E utility pole located in the public right-of-way; installation of one panel antenna (24" wide) mounted at 37'-4" above the ground; an associated equipment box, one battery backup and meter boxes within an 8 feet long by 2 feet wide equipment shroud mounted on the pole at 8 feet above the ground.**

2. Effective Date, Expiration, Extensions and Extinguishment
Ongoing

Unless a different termination date is prescribed, this Approval shall expire **two calendar years** from the approval date, 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 permit, 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 for this project may invalidate this Approval if the said extension period has also expired.

3. Scope of This Approval; Major and Minor Changes
Ongoing

The project is approved pursuant to the **Oakland Planning Code** only. Minor changes to approved plans may be approved administratively by the Director of City Planning or designee. Major changes to the approved plans shall be reviewed by the Director of City Planning or designee to determine whether such changes require submittal and approval of a revision to the approved project by the approving body or a new, completely independent permit.

4. Conformance with other Requirements
Prior to issuance of a demolition, grading, P-job, or other construction related permit

a) The project applicant shall comply with all other applicable federal, state, regional and/or local codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency.

b) The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

5. Conformance to Approved Plans; Modification of Conditions or Revocation
Ongoing

a) Site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within 60-90 days of approval, unless an earlier date is specified elsewhere.

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

c) Violation of any term, conditions or project description relating to the Approvals 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 Approvals 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.

6. Signed Copy of the Conditions
With submittal of a demolition, grading, and building permit
A copy of the approval letter and conditions shall be signed by the property owner, notarized, and submitted with each set of permit plans to the appropriate City agency for this project.

7. Indemnification

a) ***Ongoing*** The project applicant shall defend (with counsel reasonably acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the City of Oakland Redevelopment Agency, the Oakland City Planning Commission and their respective agents, officers, and employees (hereafter collectively called the City) from any claim, action, or proceeding (including legal costs and attorney's fees) against the City to attack, set aside, void or annul this Approval, or any related approval by the City. The City shall promptly notify the project applicant of any claim, action or proceeding and the City shall cooperate fully in such defense. The City may elect, in its sole discretion, to participate in the defense of said claim, action, or proceeding. The project applicant shall reimburse the City for its reasonable legal costs and attorney's fees.

b) Within ten (10) calendar days of the filing of a claim, action or proceeding to attack, set aside, void, or annul this Approval, or any related approval by the City, the project applicant shall execute a Letter Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations and this condition of approval.

This condition/obligation shall survive termination, extinguishment, or invalidation of this, or any related approval. Failure to timely execute the Letter Agreement does not relieve the project applicant of any of the obligations contained in 7(a) above, or other conditions of approval.

8. Compliance with Conditions of Approval
Ongoing
The project applicant shall be responsible for compliance with the recommendations in any submitted and approved technical report and all the Conditions of Approval set forth below at its sole cost and expense, and subject to review and approval of the City of Oakland.

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

10. Job Site Plans
Ongoing throughout demolition, grading, and/or construction
At least one (1) copy of the stamped approved plans, along with the Approval Letter and Conditions of Approval, shall be available for review at the job site at all times.

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

12. Days/Hours of Construction Operation
Ongoing throughout demolition, grading, and/or construction
The project applicant shall require construction contractors to limit standard construction activities as follows:

a) Construction activities are limited to between 7:00 AM and 7:00 PM Monday through Friday, except that pile driving and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday.

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

only be allowed with the prior written authorization of the Building Services Division.

c) Construction activity shall not occur on Saturdays, with the following possible exceptions:

i. Prior to the building being enclosed, requests for Saturday construction for special activities (such as concrete pouring which may require more continuous amounts of time), shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened. Such construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division.

ii. After the building is enclosed, requests for Saturday construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.

d) No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.

e) No construction activity shall take place on Sundays or Federal holidays.

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

PROJECT SPECIFIC CONDTIONS:

13. Radio Frequency Emissions
Prior to the final building permit sign off.
The applicant shall submit a certified RF emissions report stating the facility is operating within the acceptable standards established by the regulatory Federal Communications Commission.

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

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

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

CROWN CASTLE

ATTACHMENT A

PIEDMONT AVE

PROW ADJACENT TO:
2 GLEN EDEN AVE (PA06m)
OAKLAND, CA

CROWN CASTLE TO INSTALL THE FOLLOWING:

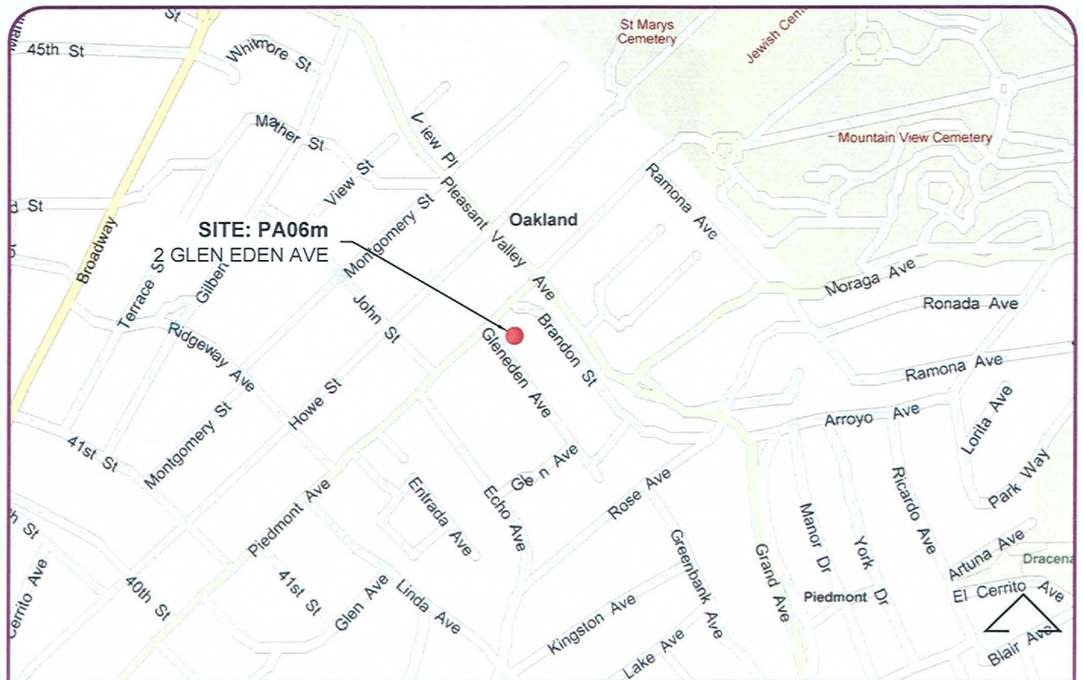
- **SMALL CELL ANTENNA AND ITS ANCILLARY EQUIPMENT ON WOOD POLE.**
- INSTALL 2" X 2" X 24" STAND-OFF BRACKETS (TYPICAL) ACCORDING TO UTILITY STANDARDS AND PRACTICES.
- INSTALL (1) 2" SCHEDULE 80 COMM RISER.
- INSTALL (1) 1" SCHEDULE 80 POWER RISER.
- INSTALL CROWN CASTLE FIBER WITH DOWNGUY AT 24' 4"
- INSTALL VGR.
- INSTALL MPE PLACARD.

PROJECT SUMMARY

PROJECT MANAGER:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
JOHN GRIFFITHS
(408) 468-5524
JOHN.GRIFFITHS@CROWNCASTLE.COM

NODE ENGINEER:
COASTAL COMMUNICATIONS
5841 EDISON PL., STE. 110
CARLSBAD, CA 92008
TODD THREW
(760) 929-0910 ext. 101
TODD@COASTALCOMMINC.COM

PROJECT TEAM



VICINITY MAP

SHEET NUMBER:	DESCRIPTION
T-1	TITLE SHEET
D-1	DETAILS & NOTES
D-2	DETAILS & NOTES
D-3	DETAILS & NOTES
D-4	DETAILS & NOTES
P-1.1	PA06m PHOTOS
P-1.2	PA06m PHOTO SIM
P-1.3	PA06m PROFILE
SP-1	PA06m SITE PLAN

SHEET INDEX

1. STREET USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.
2. ALL WORK TO BE CONDUCTED IN THE RIGHT OF WAY.
3. ALL DISTURBED LANDSCAPING SHALL BE REPLACED TO SIMILAR EXISTING CONDITION.
4. ANY SIDEWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNING WILL BE PLACED.
5. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.
6. CLEANUP OF SITE WILL BE COMPLETED EACH EVENING AND THE SITE WILL BE RETURNED TO EXISTING CONDITIONS AT THE COMPLETION OF CONSTRUCTION AT EACH SITE.

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

GENERAL CONTRACTOR NOTES

PA06m

CROWN CASTLE PROJECT NO.
V243288

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 110
CARLSBAD, CA 92008
PHONE: (760) 929-0910
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www.coastalcomminc.com

DIGALERT
1-800-227-2600
CALL AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
TICKET #_____

REVISION / ISSUE	DATE
SET UP INDIVIDUAL PACKET	9/29/15

SITE NAME & ADDRESS:
PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA

TITLE SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AC	03/24/15	SY

SHEET NO.
T-1

LEGEND

SYMBOL	DESCRIPTION
	PROPOSED
	2' X 3' VAULT
	CABINET
	NEW WOOD POLE
	NEW STREET LIGHT
	PCC SIDEWALK
	TRENCH AND FIBER CONDUIT (PVT)
	EXISTING
	EXISTING UTILITY POLE
	EXISTING STREET LIGHT
	EXISTING VAULT, HANDHOLE
	EXISTING PEDESTAL
	STEEL POLE
	STATION POINTS (100' INCREMENTS)
	EXISTING CURB RAMP
C&G	EXISTING CURB & GUTTER
R/W	EXISTING RIGHT OF WAY
℄	EXISTING CENTER LINE
℄	EXISTING CENTER LINE

ABBREVIATIONS

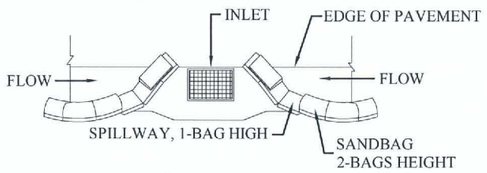
A/C	ASPHALT CURB
B.O.C.	BACK OF CURB
B/EOP	BACK OF EDGE OF PAVEMENT
C&G	CURB & GUTTER
CL	CENTERLINE
EX.	EXISTING
EOP	EDGE OF PAVEMENT
F.O.C.	FACE OF CURB
F/EOP	FACE OF EDGE OF PAVEMENT
PL	PROPERTY LINE
R/W	RIGHT OF WAY
S/B	SUBDIVISION BOUNDARY

EROSION AND SEDIMENT CONTROL NOTES:

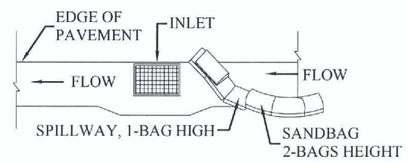
TEMPORARY EROSION/SEDIMENT CONTROL, PRIOR TO COMPLETION OF FINAL IMPROVEMENTS, SHALL BE PERFORMED BY THE CONTRACTOR OR QUALIFIED PERSON AS INDICATED BELOW:

1. ALL REQUIREMENTS OF THE CITY ''LAND DEVELOPMENT MANUAL, STORM WATER STANDARDS" MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED PUBLIC IMPROVEMENTS CONSISTENT WITH THE EROSION CONTROL PLAN AND/OR WATER POLLUTION CONTROL PLAN (WPCP), IF APPLICABLE.
2. FOR STORM DRAIN INLETS, PROVIDE A GRAVEL BAG SILT BASIN IMMEDIATELY UPSTREAM OF INLET AS INDICATED ON DETAILS.
3. THE CONTRACTOR OR QUALIFIED PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF SILT AND MUD ON ADJACENT STREET(S) AND STORM DRAIN SYSTEM DUE TO CONSTRUCTION ACTIVITY.
4. THE CONTRACTOR SHALL REMOVE SILT AND DEBRIS AFTER EACH MAJOR RAINFALL.
5. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON.
6. THE CONTRACTOR SHALL RESTORE ALL EROSION/SEDIMENT CONTROL DEVICES TO WORKING ORDER TO THE SATISFACTION OF THE CITY ENGINEER OR RESIDENT ENGINEER AFTER EACH RUN-OFF PRODUCING RAINFALL.
7. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION/SEDIMENT CONTROL MEASURES AS MAY BE REQUIRED BY THE RESIDENT ENGINEER DUE TO UNFORESEEN CIRCUMSTANCES, WHICH MAY ARISE.
8. ALL EROSION/SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED IMPROVEMENT PLAN SHALL BE INCORPORATED HEREON. ALL EROSION/SEDIMENT CONTROL FOR INTERIM CONDITIONS SHALL BE DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
9. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN RAIN IS IMMINENT.
10. THE CONTRACTOR SHALL ARRANGE FOR WEEKLY MEETINGS DURING OCTOBER 1ST TO APRIL 30TH FOR PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER AND THE RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION/SEDIMENT CONTROL MEASURES AND OTHER RELATED CONSTRUCTION ACTIVITIES.

STORMDRAIN INLET PROTECTION



TYPICAL PROTECTION FOR INLET WITH OPPOSING FLOW DIRECTIONS



TYPICAL PROTECTION FOR INLET WITH SINGLE FLOW DIRECTION

NOTES:
1. INTENDED FOR SHORT - TERM USE.
2. USE TO INHIBIT NON - STORM WATER FLOW.
3. ALLOW FOR PROPER MAINTENANCE AND CLEANUP.
4. BAGS MUST BE REMOVED AFTER ADJACENT OPERATION IS COMPLETED.
5. NOT APPLICABLE IN AREAS WITH HIGH SILTS AND CLAYS WITHOUT FILTER FABRIC.

NOTES:

1. CONTRACTOR TO POTHOLE ALL UTILITY CROSSINGS.
2. CONTRACTOR TO PLACE SANDBAGS AROUND ANY/ALL STORM DRAIN INLETS TO PREVENT CONTAMINATED WATER.
3. SPOILS PILE WILL BE COVERED AND CONTAINED AND STREET WILL BE SWEPT AND CLEANED AS NEEDED.
4. CONTRACTOR TO REPAIR DAMAGED PUBLIC IMPROVEMENTS TO THE SATISFACTION OF THE CITY ENGINEER.
5. CURB & GUTTER TO BE PROTECTED IN PLACE. SIDEWALK TO BE REPLACED TO THE SATISFACTION OF THE CITY ENGINEER.
6. THE CONTRACTOR SHALL RESTORE THE ROADWAY BACK TO ITS ORIGINAL CONDITION SATISFACTORY TO THE CITY ENGINEER INCLUDING, BUT NOT LIMITED TO PAVING, STRIPING, BIKE LANES, PAVEMENT LEGENDS, SIGNS, AND TRAFFIC LOOP DETECTORS.
7. SIDEWALK SHALL BE RESTORED/REPLACED PER CITY STANDARD DRAWINGS.
8. PEDESTRIAN RAMP WILL NOT BE DISTURBED.

ROW GROUND CONSTRUCTION NOTES:

1. GROUND CONSTRUCTION TO REMOVE/CLEAN ALL DEBRIS, NAILS, STAPLES, OR NON-USED VERTICALS OFF THE POLE.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MUNICIPAL, COUNTY, STATE, FEDERAL, GO95 AND GO128 STANDARDS AND REGULATIONS.
3. CALL USA 48 HOURS PRIOR TO EXCAVATING AT (800) 227-2600 OR 811.
4. ALL LANDSCAPING TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.
5. ALL EQUIPMENT TO BE BONDED.
6. METERING CABINET REQUIRES 36" CLEARANCE AT DOOR OPENING.
7. CAULK CABINET BASE AT PAD.

NORMAL LOCATION OF UNDERGROUND UTILITIES NOTES:

1. LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDIVIDER AND SHOWN ON ANY PLANS SUBMITTED TO THE DEPT. OF PUBLIC WORKS FOR APPROVAL.
2. CHANGES MAY BE PERMITTED BY THE DEPT. OF PUBLIC WORKS IN CASES OF CONFLICTING FACILITIES.
3. CONFLICTS BETWEEN UTILITY COMPANIES FACILITIES, EXISTING AND PROPOSED, MUST BE MUTUALLY RESOLVED BY THE UTILITY COMPANIES.
4. FOR COMMERCIAL SIDEWALKS, THE FIRE HYDRANT SHALL BE PLACED WITHIN THE SIDEWALK 1'-6" BEHIND FACE OF CURB.
5. MAXIMUM 2" DIAMETER GAS MAINS MAY BE PLACED IN JOINT UTILITIES TRENCH SUBJECT TO APPROVAL OF CITY ENGINEER (IN TRACTS).

CALIFORNIA STATE CODE COMPLIANCE:

ALL WORK AND MATERIALS SHALL BE PREFORMED 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 ADMINISTRATIVE CODE (INCLUDING TITLES 24 & 25) 2010
- 2010 CALIFORNIA BUILDING CODES WHICH ADOPTS THE 2010 UBC, 2010 UMC, 2010 UPC AND THE 2010 NEC.
- BUILDING OFFICIALS & CODE ADMINISTRATORS (BOCA)
- 2010 CALIFORNIA MECHANICAL CODE
- ANSI/EIA-222-F LIFE SAFETY CODE NFPA-101
- 2010 CALIFORNIA PLUMBING CODE
- 2010 CALIFORNIA ELECTRICAL CODE
- 2010 LOCAL BUILDING CODE
- CITY/COUNTY ORDINANCES

ACCESSIBILITY REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS DO NOT APPLY IN ACCORDANCE WITH THE 2010 CALIFORNIA BUILDING CODE.

FCC NOTE:
THIS WIRELESS COMMUNICATION FACILITY COMPLIES WITH FEDERAL STANDARDS FOR RADIO FREQUENCY IN ACCORDANCE WITH THE TELECOMMUNICATION ACT OF 1996 AND SUBSEQUENT AMENDMENTS AND ANY OTHER REQUIREMENTS IMPOSED BY STATE OR FEDERAL REGULATORY AGENCIES.

PA06m

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V243288

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MAXIMUM PERMISSIBLE EXPOSURE (MPE) PLACARD

NOTICE

Radio Frequency fields beyond this point may exceed the FCC general public exposure limit.

Obey all posted signs and site guidelines for working in radio frequency environments.

In accordance with Federal Communications Commission rules on radio frequency emissions 47 CFR 1.1307(b)

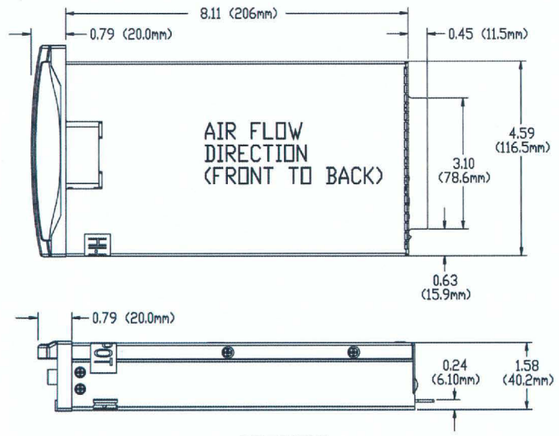
1 SCALE N.T.S.

AMPHENOL 65° TRI BAND FET PANEL ANTENNA
(Model # HTXCWW63111414Fxy0)

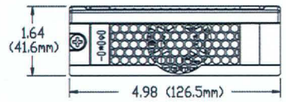
Electrical Characteristics	696-960 MHz		2 x 1710-2170 MHz		
Frequency bands (MHz)	696-806	806-960	1710-1880	1850-1990	1900-2170
Polarization	±45°		±45°		
Horizontal beamwidth	75°	70°	65°	70°	75°
Vertical beamwidth	42°	40°	18°	16°	14°
Gain	10.5 dBi	11.0 dBi	13.5 dBi	14.0 dBi	14.0 dBi
Electrical downtilt (Other tilts available upon request)	(x) 0		(y) 0		
Impedance	50Ω		50Ω		
VSWR	≤1.5:1		≤1.5:1		
Front-to-back ratio	> 20 dB	> 20 dB	> 25 dB	> 25 dB	> 25 dB
Isolation between ports	> 25 dB		> 25 dB		
Input power	500 W		300 W		
IM3 (2x20W carriers)	< -150 dBc		< -150 dBc		
Lightning protection	Direct Ground				
Connector(s)	6 Ports / 7/16 DIN / Female / Bottom				
Mechanical Characteristics					
Dimensions Length x Width x Depth	569 x 305 x 180 mm		23.2 x 12.0 x 7.1 in		
Weight without mounting brackets	5.9 kg		13 lbs		
Survival wind speed	241 km/hr		150 mph		
Wind area	Front: 0.18 m²; Side: 0.11 m²		Front: 1.9 ft²; Side: 1.1 ft²		
Wind loads (160 km/hr or 100 mph)	Front: 219 N; Side: 129 N		Front: 49 lbf; Side: 29 lbf		

2 SCALE N.T.S.

SPS TE RECTIFIER



SIDE VIEW



FRONT VIEW

3 SCALE N.T.S.

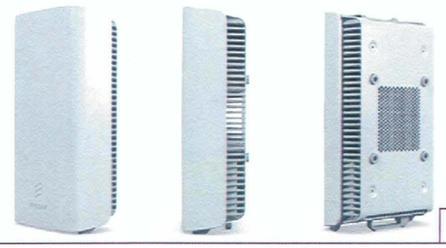
ERICSSON MRRU
(MICRO RADIO REMOTE UNIT)

Specifications

- Band 4
- Outdoor or indoor installation
- Output power 2x125mW -> 2 x 5 W
- 2 CPRI ports
- 2 external alarm inputs
- Dimensions: 16.5" x 9.8" x 6.5" (HWD)
- Weight: 10 Kgs/22 lbs, Volume: 11L
- Temperature range: -40° to +131° F
- Environmental protection at IP55
- DC -48V or integrated AC Power Supply

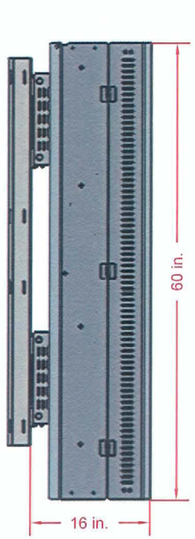
Recommended Clearance Distance

- Side-by-side (2 units): preliminary 50 mm
- Above-below (2 units on top of each other): preliminary 400 mm
- Top-ceiling: preliminary 400 mm
- Bottom-floor: preliminary 300 mm

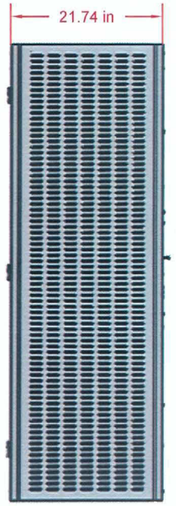


4 SCALE N.T.S.

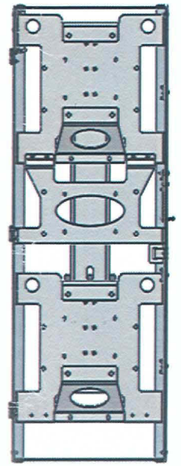
MUSH-41 RADIO UNIT ENCLOSURE
(N.T.S)



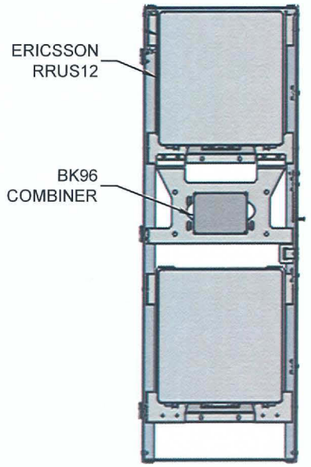
SIDE VIEW



FRONT VIEW



INTERNAL FRAME



INTERNAL FRAME
(WITH EQUIPMENT)

OPTIONAL MOUNTS

FLUSH MOUNT

6 in STAND OFF MOUNT

U-BOLT MOUNT
(2 NEEDED FOR ASSEMBLY)

5 SCALE N.T.S.

PA06m

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PROPRIETARY INFORMATION

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY AND CONFIDENTIAL TO VERIZON. ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO VERIZON IS STRICTLY PROHIBITED.

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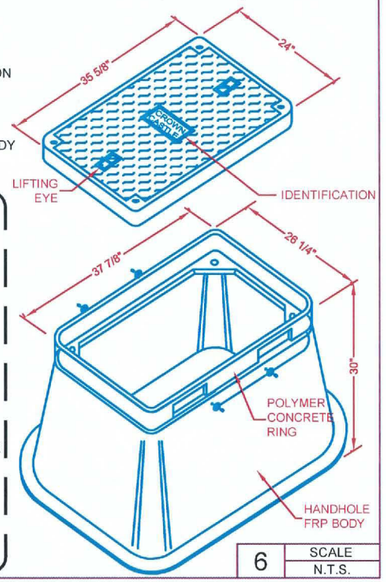
SHEET NO.
D-2

COVER FEATURES:
* PW - 10,400 LBS. WHEEL LOAD ON 10" X 10" PLATE.
* APPROX. WT. = 72 LBS.
* POLYMER CONCRETE
* ONE PIECE COVER
* FOUR BOLT DOWN
* COLOR: CONCRETE GREY
* NON - SKID SURFACE
* LID TO HAVE H-20 TRAFFIC LOAD FRICTION COEFFICIENT TO BE 0.5 OR MORE

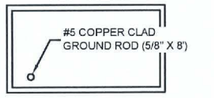
HANDHOLE FEATURES:
* POLYMER CONCRETE RING AND FIBERGLASS REINFORCED POLYMER BODY
* COLOR OF RING:CONCRETE GREY
* APPROX. WT. = 123 LBS.

VAULT DETAIL
(FLUSH MOUNT)
(PRIVATE)

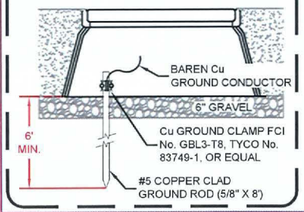


GROUND ROD INSTALLATION

TOP VIEW

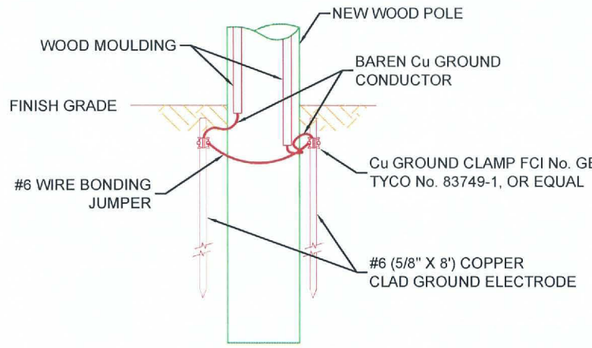


SIDE VIEW



6	SCALE N.T.S.

GROUND ROD INSTALLATION FOR WOOD POLES
TYPICAL SECTION: N.T.S.



GROUND ROD INSTALLATION FOR UTILITY POLES GND-1

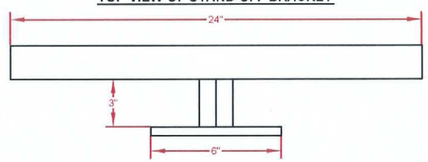
NOTE:
UTILITY POLE GROUND SHALL COMPLY WITH PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA GENERAL ORDER No. 95 (SECTION 59.4, 92.4)

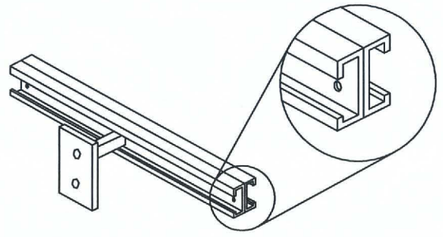
7	SCALE N.T.S.

STAND-OFF BRACKET

FRONT VIEW OF STAND-OFF BRACKET

TOP VIEW OF STAND-OFF BRACKET



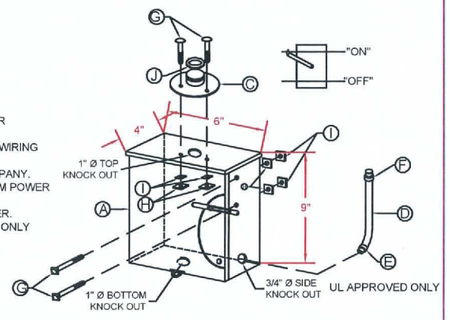


3D VIEW OF STAND-OFF BRACKET

8	SCALE N.T.S.

DISCONNECT BOX
TYPICAL SECTION: N.T.S.

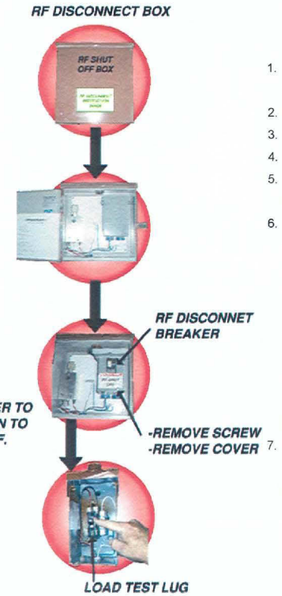
NOTES:
1. MAIN DISCONNECT BREAKER.
2. MANUFACTURER SQUARE D - (OR EQUIVALENT).
3. BREAKER SIZE AND INCIDENTAL WIRING SPECIFIED BY CLIENT.
4. KAIC SPECIFIED BY POWER COMPANY.
5. 1" CLOSE NIPPLE FOR FEED FROM POWER SOURCE.
6. 3/4" LIQUID FLEX TO TRANSCEIVER.
7. CABINET LOCKABLE FOR CLIENT ONLY



PARTS LIST		
CALLOUT	QTY	DESCRIPTION
A	1	CABINET WATER PART #
B	1	BREAKER AMP KAIC 2 POLE 120/140 VAC SINGLE PHASE
C	1	1" CLOSE NIPPLE STRAIGHT
D	1	3/4" X 4' LIQUID TIGHT METALLIC FLEX CONDUIT WITH CONNECTOR
E	1	3/4" Ø LIQUID TIGHT FLEX CONNECTOR 45°
F	1	3/4" Ø LIQUID TIGHT FLEX CONNECTOR - STRAIGHT
G	4	5/6" X 1" BOLT - STAINLESS STEEL
H	4	5/6" LOCK WASHER - STAINLESS STEEL
I	4	5/16" NUT - STAINLESS STEEL
J	1	1" LOCK NUT

9	SCALE N.T.S.

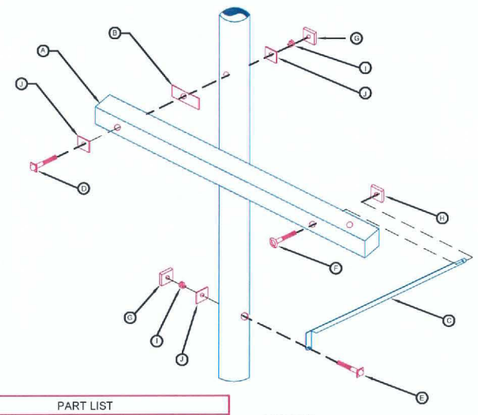
PG&E SHUTDOWN PROCEDURES
(INSTRUCTIONS FOR DE -ENERGIZING THE SITE)



1. CALL CROWN CASTLE NETWORK OPERATIONS CENTER AT 1-888-632-0931.
2. IDENTIFY **RF DISCONNECT BOX**.
3. OPEN **RF DISCONNECT BOX**.
4. OPEN COVER FOR RF DISCONNECT BREAKER.
5. TURN RF DISCONNECT BREAKER TO THE OFF POSITION TO DE-ENERGIZE NODE.
6. TO CONFIRM THAT THE SITE HAS BEEN DE-ENERGIZED, PG&E CREW / TECHNICIAN CAN REMOVE THE SINGLE SCREW ON THE BOTTOM RIGHT COVER OF THE RF DISCONNECT BREAKER AND REMOVE THE COVER TO EXPOSE THE SOURCE AND LOAD TERMINALS ON THE SWITCH AND THEN CHECK FOR NO POTENTIAL BETWEEN THE LOAD TERMINAL AND GROUND TO VERIFY THAT NO RF SIGNAL CAN BE GENERATED.
7. NOTIFY CROWN CASTLE NETWORK OPERATIONS CENTER THAT WORK IS COMPLETE.

10	SCALE N.T.S.

4' CROSS EXTENSION ARM
TYPICAL SECTION: N.T.S.



PART LIST		
CALL OUT	QTY	DESCRIPTION
A	1	WOOD CROSS ARM 4' X 3 3/4" X 4 1/2"
B	1	GAIN PLATE 4 1/2" X 4 1/2"
C	1	EXTENSION ARM BRACE 47" X 13/4" X 3/16"
D	1	MACHINE BOLT 16" X 5/8"
E	1	MACHINE BOLT 14" X 5/8"
F	1	CARRIAGE BOLT 6" X 1/2"
G	2	SQUARE NUT 5/8"
H	1	SQUARE NUT 1/2"
I	2	DOUBLE COIL SPRING WASHER
J	3	FLAT SQUARE WASHER 2 1/4" X 2 1/4" X 3/16"

NOTES:
1. CROSS ARM AND BRACE MAY VARY IN LENGTH AND DIMENSION.
2. 5/8" MACHINE BOLTS WILL VARY DUE TO POLE DIAMETER.
3. ALL LINE HARDWARE TO BE HOT DIPPED GALVANIZED IRON.
4. BRACE MAY BE REVERSED DUE TO POLE CONDITIONS.

11	SCALE N.T.S.

PA06m

CROWN CASTLE PROJECT NO.
V243288

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 110
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcomminc.com

DIGALERT
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UNDERGROUND SERVICE ALERT
TICKET #_____

REVISION / ISSUE	DATE
SET UP INDIVIDUAL PACKET	9/29/15

SITE NAME & ADDRESS:

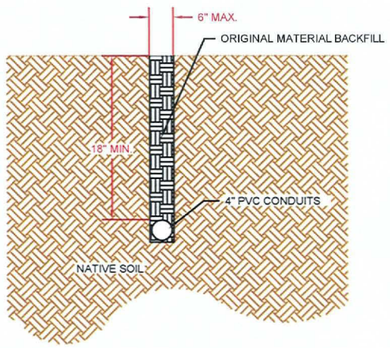
PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA

DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AC	03/24/15	SY

SHEET NO.
D-3

IN DIRT - PRIVATE
TYPICAL SECTION
(N.T.S.)



INSTALLATION NOTES:

-CUT 6" MAX. WIDTH X 18" + DEPTH TRENCH
-BACKFILL WITH THE ORIGINAL MATERIAL FROM THE TRENCH
-RESTORE THE SURFACE

12	SCALE
	N.T.S.

PA06m

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V243288

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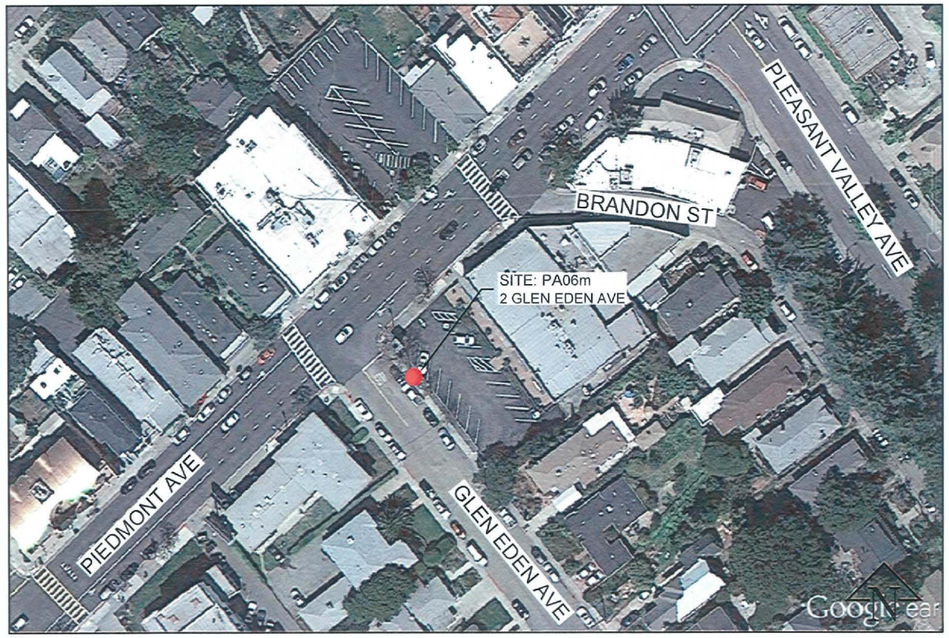
PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA

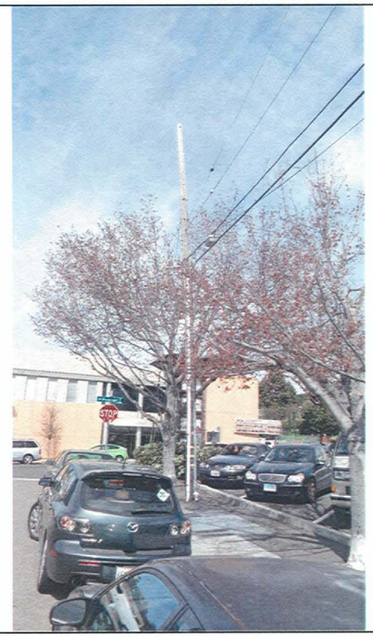
DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AC	03/24/15	SY

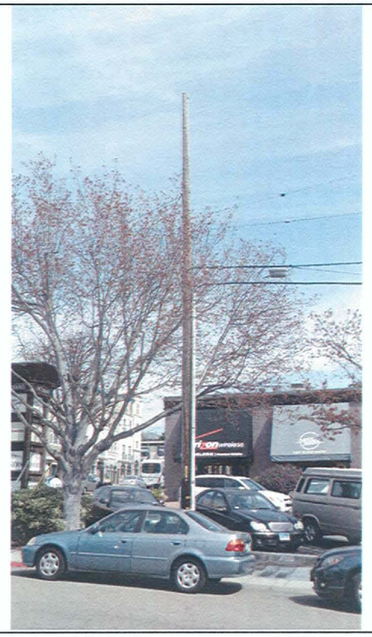
SHEET NO.
D-4



A | **KEY MAP**



B | **9 O'CLOCK VIEW**



C | **12 O'CLOCK VIEW**

D | **3 O'CLOCK VIEW**

PA06m

CROWN CASTLE PROJECT NO.
V243288

CLIENT:

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TICKET #_____

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SET UP INDIVIDUAL PACKET	9/29/15

SITE NAME & ADDRESS:

PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA

PHOTOS

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AC	03/24/15	SY

SHEET NO.
P-1.1

Existing Site

PA06m
PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA

Proposed Site

PA06m

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V243288

CLIENT:

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PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA

PHOTO SIM

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AC	03/24/15	SY

SHEET NO.
P-1.2

POLE #110107270

TOP OF EXISTING POLE: 39' 4"

TOP OF ANTENNA: 38' 4"

RAD CENTER: 37' 4"

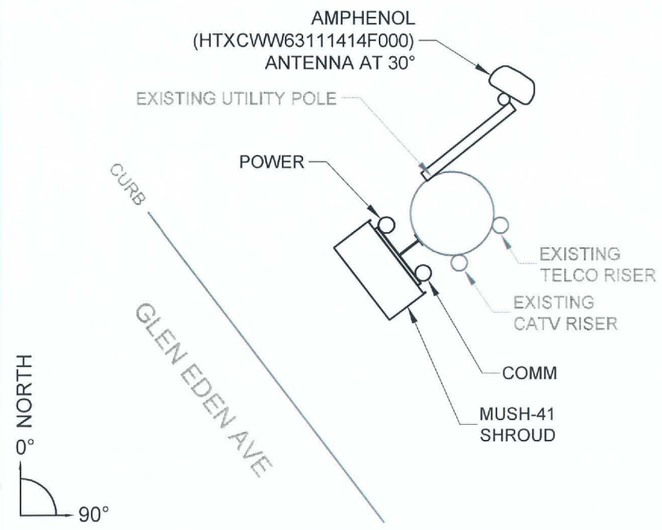
AZIMUTHS: 30°

PROFILE VIEW: 3 O' CLOCK

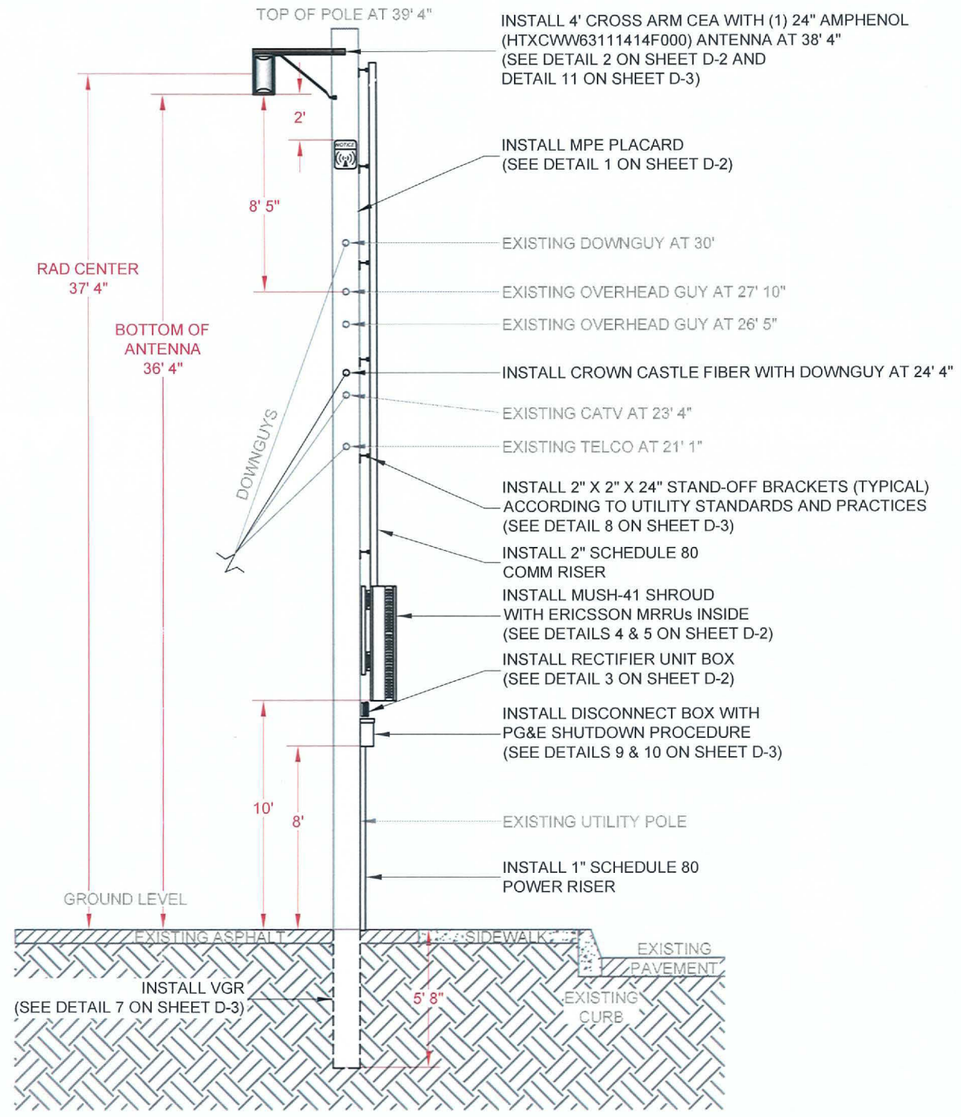
A NOTES

- INSTALL 2" X 2" X 24" STAND-OFF BRACKETS (TYPICAL) ACCORDING TO UTILITY STANDARDS AND PRACTICES.
- INSTALL MUSH-41 SHROUD WITH ERICSSON MRRUs INSIDE.
- INSTALL DISCONNECT BOX WITH PG&E SHUTDOWN PROCEDURE.
- INSTALL RECTIFIER UNIT BOX.
- INSTALL (1) 2" SCHEDULE 80 COMM RISER.
- INSTALL (1) 1" SCHEDULE 80 POWER RISER.
- INSTALL 4' CROSS ARM CEA WITH (1) 55" AMPHENOL (HTXCWW63111414F000) ANTENNA AT 38' 4".
- ANTENNAS & EQUIPMENT TO BE PAINTED TO MATCH POLE.
- INSTALL CROWN CASTLE FIBER WITH DOWNGUY AT 24' 4"
- INSTALL VGR.
- INSTALL MPE PLACARD.

B NEW CONSTRUCTION NOTES



C TOP VIEW N.T.S.



D PROFILE N.T.S.

PA06m

CROWN CASTLE PROJECT NO.
V243288

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
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PREPARED BY:
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REVISION / ISSUE	DATE
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PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA

PROFILE

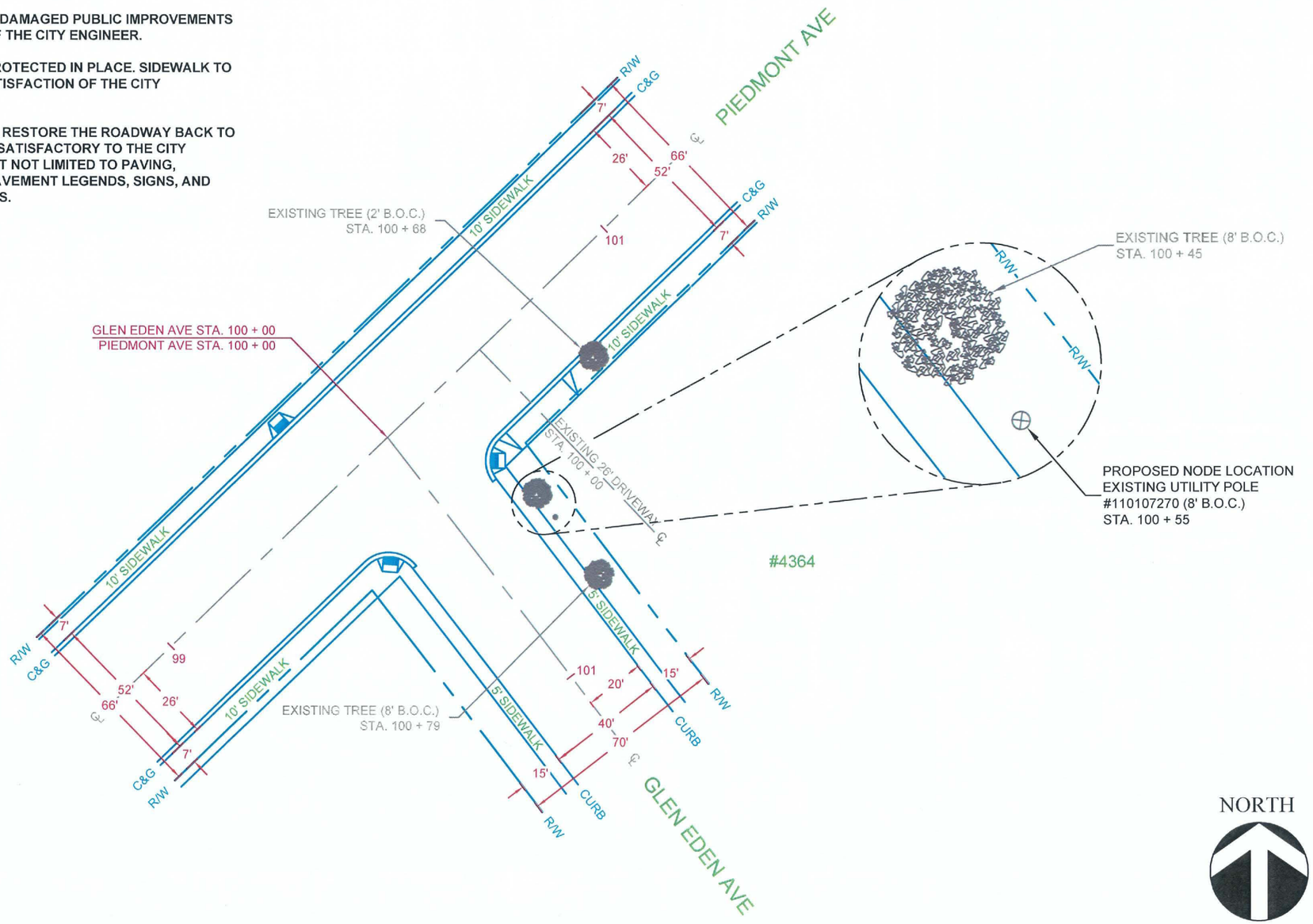
DRAWN BY:	DRAFT DATE:	APPROVED BY:
AC	03/24/15	SY

SHEET NO.
P-1.3

NOTES:

1. CONTRACTOR TO POTHOLE ALL UTILITY CROSSINGS.
2. CONTRACTOR TO PLACE SANDBAGS AROUND ANY/ALL STORM DRAIN INLETS TO PREVENT CONTAMINATED WATER.
3. SPOILS PILE WILL BE COVERED AND CONTAINED AND STREET WILL BE SWEPT AND CLEANED AS NEEDED.
4. CONTRACTOR TO REPAIR DAMAGED PUBLIC IMPROVEMENTS TO THE SATISFACTION OF THE CITY ENGINEER.
5. CURB & GUTTER TO BE PROTECTED IN PLACE. SIDEWALK TO BE REPLACED TO THE SATISFACTION OF THE CITY ENGINEER.
6. THE CONTRACTOR SHALL RESTORE THE ROADWAY BACK TO ITS ORIGINAL CONDITION SATISFACTORY TO THE CITY ENGINEER INCLUDING, BUT NOT LIMITED TO PAVING, STRIPING, BIKE LANES, PAVEMENT LEGENDS, SIGNS, AND TRAFFIC LOOP DETECTORS.

COORDINATES	
LATITUDE:	37.82949°
LONGITUDE:	-122.24809°



NORTH

SCALE: 1" = 40'

PA06m

CROWN CASTLE PROJECT NO.
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REVISION / ISSUE	DATE
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SITE NAME & ADDRESS:

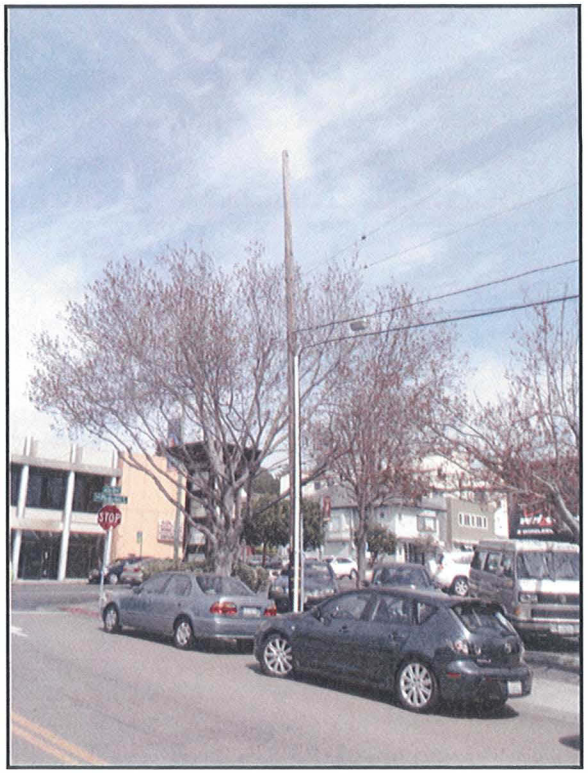
PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA

SITE PLAN

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AC	03/24/15	SY

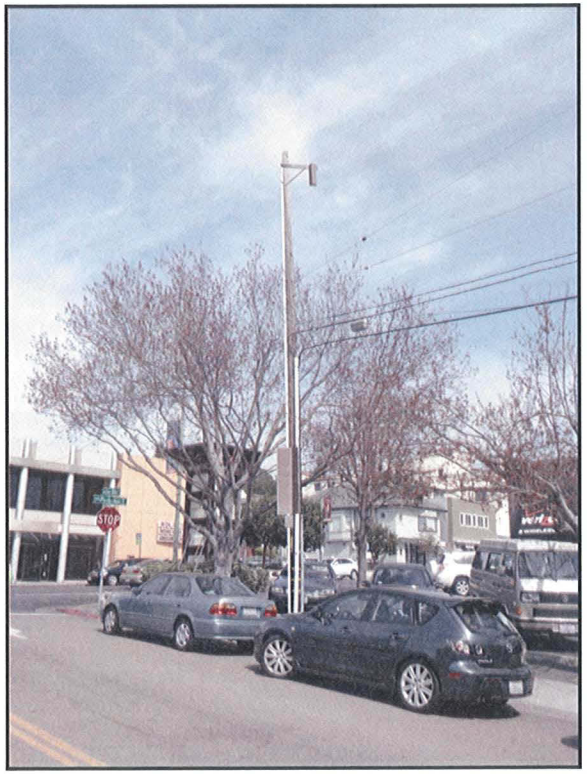
SHEET NO.
SP-1

ATTACHMENT A



Existing Site

PA06m
PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA



Proposed Site

PA06m

CROWN CASTLE PROJECT NO.
V243288

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
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TICKET # _____

REVISION / ISSUE	DATE
SET UP INDIVIDUAL PACKET	9/29/15

SITE NAME & ADDRESS:
PROW ADJACENT TO
2 GLEN EDEN AVE
OAKLAND, CA

PHOTO SIM

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AC	03/24/15	SY

SHEET NO.
P-1.2

CROWN CASTLE

PIEDMONT AVE (OPTION B)

PROW ADJACENT TO:
5 YOSEMITE AVE (PA01)
5 MONTELL ST (PA02)
4037 PIEDMONT AVE (IN ALLEY) (PA03)
3 LINDA AVE (PA04)
3 GLENWOOD AVE (PA05)
2 GLENWOOD AVE (PA06)
156 41st ST (CABINET LOCATION)
OAKLAND, CA

SHEET NUMBER:	DESCRIPTION
T-1	TITLE SHEET
D-1	DETAILS & NOTES
D-2	DETAILS & NOTES
D-3	DETAILS & NOTES
D-4	DETAILS & NOTES
P-1.1	PA01 PHOTOS
P-1.2	PA01 PROFILE
SP-1	PA01 SITE PLAN
P-2.1	PA02 PHOTOS
P-2.2	PA02 PROFILE
SP-2	PA02 SITE PLAN
P-3.1	PA03 PHOTOS
P-3.2	PA03 PROFILE
SP-3	PA03 SITE PLAN
P-4.1	PA04 PHOTOS
P-4.2	PA04 PROFILE
SP-4	PA04 SITE PLAN
P-5.1	PA05 PHOTOS
P-5.2	PA05 PROFILE
SP-5	PA05 SITE PLAN
P-6.1	PA06 PHOTOS
P-6.2	PA06 PROFILE
SP-6	PA06 SITE PLAN
CP-1	CABINET LOCATION PHOTOS
CSP-1	CABINET LOCATION SITE PLAN

SHEET INDEX

CROWN CASTLE TO PERFORM THE FOLLOWING:

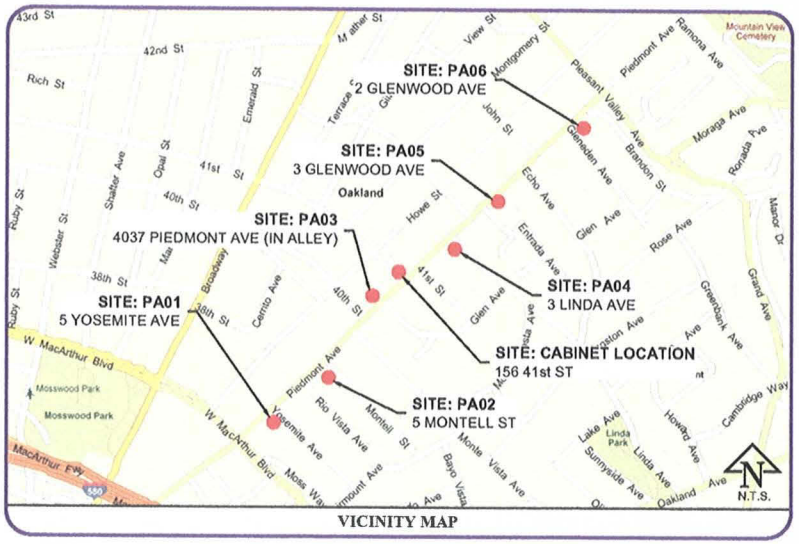
- REMOVE AND RESTORE CONCRETE SIDEWALK PANEL.
- INSTALL CROWN CASTLE 2' X 3' VAULT.
- 3' DIRT TRENCH
- INSTALL 24' ROUND STEEL STREET LIGHT.
- INSTALL 30' ROUND STEEL POLE.
- INSTALL SMALL CELL ANTENNAS AND ITS ANCILLARY EQUIPMENT ON STREET LIGHT POLE.
- STREET LIGHT, ANTENNAS, & EQUIPMENT TO BE PLAINTED TO MATCH SURROUNDING POLES.
- INSTALL CROWN CASTLE CABINET WITH POWER METER.

PROJECT SUMMARY

PROJECT MANAGER:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
MARTIN HEVEZI
(510) 760-6579
MARTIN.HEVEZI@CROWNCASTLE.COM

NODE ENGINEER:
COASTAL COMMUNICATIONS
5841 EDISON PL, STE. 110
CARLSBAD, CA 92008
TODD THREW
(760) 929-0910 ext. 101
TODD@COASTALCOMMINC.COM

PROJECT TEAM



VICINITY MAP

1. STREET USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.
2. ALL WORK TO BE CONDUCTED IN THE RIGHT OF WAY.
3. ALL DISTURBED LANDSCAPING SHALL BE REPLACED TO SIMILAR EXISTING CONDITION.
4. ANY SIDEWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNING WILL BE PLACED.
5. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.
6. CLEANUP OF SITE WILL BE COMPLETED EACH EVENING AND THE SITE WILL BE RETURNED TO EXISTING CONDITIONS AT THE COMPLETION OF CONSTRUCTION AT EACH SITE.

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

GENERAL CONTRACTOR NOTES

PIEDMONT AVE (OPTION B)

CROWN CASTLE PROJECT NO.
V243288

CLIENT:
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SAN JOSE, CA 95134
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PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcommInc.com

PROPRIETARY INFORMATION

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY AND CONFIDENTIAL TO VERIZON. ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO VERIZON IS STRICTLY PROHIBITED.

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REVISION / ISSUE	DATE

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156 41st ST (CABINET LOCATION)
OAKLAND, CA

TITLE SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AC	03/24/15	SY

SHEET NO.
T-1

ATTACHMENT A

Zoning Analysis

Crown Castle is full facilities based local exchange carrier, they have been granted a certificate of public convenience and necessity (CPNC). Crown Castle has the same rights as any other public utility. The same rights that are granted to PG&E, Comcast and AT&T need to be shared by Crown Castle. As a public utility these projects are technically exempt from any discretionary planning review. Crown cannot be discriminated in any way and needs to be afforded the same rights as any other public utility. Crown Castle is submitting this application to the city to allow for comment and review. Crown wants to maintain a good relationship with the city and continue to work with them on the design and location.

Alternative Site Analysis

No rooftop locations or other alternative locations were sought. Mr. Scott Miller, Planning Manager, expressed the desire of the City of Oakland that Crown Castle locate these small cell installations off of Piedmont Avenue. Therefore, this project and the remaining 4 small-cell projects will be installed on poles not directly on Piedmont Avenue, along with (1) project which is only an equipment cabinet install to power the NODE system. The proposal of these particular projects are to cover a very small concentrated area, and are designed to be innocuous to blend into the surrounding public infrastructure.

Compliance with Federal Regulations

Please be advised that Crown Castle reserves all of its rights under California Public Utilities Code § 7901, the federal Telecommunications Act, Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 (codified at 47 U.S.C. § 1455(a)), the Federal Communications Commission ("FCC") declaratory ruling In Re: Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review, Etc., FCC 09-99 (FCC November 18, 2009), and the FCC rules adopted in In Re: Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, Etc., FCC 14-153 (FCC October 17, 2014), the licenses granted to it by the FCC, and all of its other rights that arise under any federal or state statute, regulation, or other legal authority (collectively, "Federal and State Rights"). Among other Federal and State Rights, we note that California Public Utilities Code § 7901 grants a statewide franchise to telephone corporations to place telephone equipment in the public rights- of-way and that use of the rights-of-way by telephone corporations is a matter of statewide concern that is not subject to local regulation except for limited regulation of the time, place, and manner of such use. In addition, the Telecommunications Act limits the authority of local jurisdictions by, among other restrictions, requiring approval within a reasonable period of time. In submitting this application, Crown Castle expressly reserves all of its Federal and State Rights, including, without limitation, its rights under federal and state law to challenge the requirement for a discretionary permit for its proposed installation in the public right-of-way. Neither the act of submitting the application nor anything contained therein shall be construed as a waiver of any such rights.

Please send all written requests for additional information regarding this application to:
Bob Gundermann / Jason Osborne
Beacon Development, LLC
925-899-1999 / 415-559-2121
bob@beacondev.net & Jason@beacondev.net

Sincerely,

Sharon James
Manager / Government Relations
Small Cell Solutions
(408) 426-6629

ATTACHMENT B

JERROLD T. BUSHBERG Ph.D., DABMP, DABSNM, FAAPM, FHPS
♦HEALTH AND MEDICAL PHYSICS CONSULTING♦

7784 Oak Bay Circle Sacramento, CA 95831
(800) 760-8414–jbushberg@hampc.com

Ernesto Figueroa
Sr. RF Engineer
Crown Castle
695 River Oaks Parkway
San Jose, CA 95134

July 19, 2015

Introduction

At your request, I have reviewed the technical specifications and calculated the maximum radiofrequency, (RF), power density from the proposed Crown Castle nodes to be located in the public right-of-way. These nodes will be used for wireless telecommunications transmission and reception utilizing one directional Amphenol antennae model #HTXCWW63111414 mounted to a street light, traffic light or similar structure. Each of the panel antennae used in this network is designed to transmit with a maximum input power of up to 6.32 watts, with a gain of up to 8.35 dBd at approximately 700 MHz and 6.32 watts with a gain of up to 11.85 dBd at approximately 2,100 MHz. The distance from the antenna center to the ground for all nodes will be at least 22.0 feet. An example of the site configurations is shown in attachment one. The antenna specification details are depicted in attachment two. This analysis represent the worst case of any of the proposed nodes that are utilizing these transmission and antennae specifications. There will be 5 nodes of this configuration proposed for Oakland, CA (see Appendix A-0).

Calculation Methodology

Calculations at the level of the antenna were made in accordance with the cylindrical model recommendations for near-field analysis contained in the Federal Communications Commission, Office of Engineering and Technology Bulletin 65 (OET 65) entitled "Evaluating Compliance with FCC-Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." RF exposure calculations at ground level were made using equation 10 from the same OET document. Several assumptions were made in order to provide the most conservative or "worse case" projections of power densities. Calculations were made assuming that all channels were operating simultaneously at their maximum design effective radiated power. Attenuation (weakening) of the signal that would result from surrounding foliage or buildings was ignored. Buildings or other structures can reduce the signal strength by a factor of 10 (i.e., 10 dB) or more depending upon the construction material. In addition, for ground level calculations, the ground or other surfaces were considered to be perfect reflectors (which they are not) and the RF energy was assumed to overlap and interact constructively at all locations (which they would not) thereby resulting in the calculation of the maximum potential exposure. In fact, the accumulations of all these very conservative assumptions, will significantly overestimate the actual exposures that would typically be expected from such a facility. However, this method is a prudent approach that errs on the side of safety.

RF Safety Standards

The two most widely recognized standards for protection against RF field exposure are those published by the American National Standards Institute (ANSI) C95.1 and the National Council on Radiation Protection and measurement (NCRP) report #86.

The NCRP is a private, congressionally chartered institution with the charge to provide expert analysis of a variety of issues (especially health and safety recommendations) on radiations of all forms. The scientific analyses of the NCRP are held in high esteem in the scientific and regulatory community both nationally and internationally. In fact, the vast majority of the radiological health regulations currently in existence can trace their origin, in some way, to the recommendations of the NCRP.

All RF exposure standards are frequency-specific, in recognition of the differential absorption of RF energy as a function of frequency. The most restrictive exposure levels in the standards are associated with those frequencies that are most readily absorbed in humans. Maximum absorption occurs at approximately 80 MHz in adults. The NCRP maximum allowable continuous occupational exposure at this frequency is 1,000 $\mu W/cm^2$. This compares to 5,000 $\mu W/cm^2$ at the most restrictive of the PCS frequencies (~1,800 MHz) that are absorbed much less efficiently than exposures in the VHF TV band.

The traditional NCRP philosophy of providing a higher standard of protection for members of the general population compared to occupationally exposed individuals, prompted a two-tiered safety standard by which levels of allowable exposure were substantially reduced for "uncontrolled " (e.g., public) and continuous exposures. This measure was taken to account for the fact that workers in an industrial environment are typically exposed no more than eight hours a day while members of the general population in proximity to a source of RF radiation may be exposed continuously. This additional protection factor also provides a greater margin of safety for children, the infirmed, aged, or others who might be more sensitive to RF exposure. After several years of evaluating the national and international scientific and biomedical literature, the members of the NCRP scientific committee selected 931 publications in the peer-reviewed scientific literature on which to base their recommendations. The current NCRP recommendations limit continuous public exposure at PCS frequencies to 1,000 $\mu W/cm^2$.

The 1992 ANSI standard was developed by Scientific Coordinating Committee 28 (SCC 28) under the auspices of the Institute of Electrical and Electronic Engineers (IEEE). This standard, entitled "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" (IEEE C95.1-1991), was issued in April 1992 and subsequently adopted by ANSI. A complete revision of this standard (C95.1-2005) was completed in October 2005 by SCC 39 the IEEE International Committee on Electromagnetic Safety. The current version, including minor revisions, was published in March 2010. Their recommendations are similar to the NCRP recommendation for the maximum permissible exposure (MPE) to the public PCS frequencies (950 $\mu W/cm^2$ for continuous exposure at 1,900 MHz) and incorporates the convention of providing for a greater margin of safety for public as compared with occupational exposure. Higher whole body exposures are allowed for brief periods provided that no 30 minute time-weighted average exposure exceeds these aforementioned limits.

On August 9, 1996, the Federal Communications Commission (FCC) established a RF exposure standard that is a hybrid of the current ANSI and NCRP standards. The maximum permissible exposure values used to assess environmental exposures are those of the NCRP (i.e., maximum public continuous exposure at PCS frequencies of 1,000 $\mu W/cm^2$). The FCC issued these standards in order to address its responsibilities under the National Environmental Policy Act (NEPA) to consider whether its actions will "significantly affect the

quality of the human environment." In as far as there was no other standard issued by a federal agency such as the Environmental Protection Agency (EPA), the FCC utilized their rulemaking procedure to consider which standards should be adopted. The FCC received thousands of pages of comments over a three-year review period from a variety of sources including the public, academia, federal health and safety agencies (e.g., EPA & FDA) and the telecommunications industry. The FCC gave special consideration to the recommendations by the federal health agencies because of their special responsibility for protecting the public health and safety. In fact, the maximum permissible exposure (MPE) values in the FCC standard are those recommended by EPA and FDA. The FCC standard incorporates various elements of the 1992 ANSI and NCRP standards which were chosen because they are widely accepted and technically supportable. There are a variety of other exposure guidelines and standards set by other national and international organizations and governments, most of which are similar to the current ANSI/IEEE or NCRP standard, figure one.

The FCC standards "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation" (Report and Order FCC 96-326) adopted the ANSI/IEEE definitions for controlled and uncontrolled environments. In order to use the higher exposure levels associated with a controlled environment, RF exposures must be occupationally related (e.g., PCS company RF technicians) and they must be aware of and have sufficient knowledge to control their exposure. All other environmental areas are considered uncontrolled (e.g., public) for which the stricter (i.e., lower) environmental exposure limits apply. All carriers were required to be in compliance with the new FCC RF exposure standards for new telecommunications facilities by October 15, 1997. These standards applied retroactively for existing telecommunications facilities on September 1, 2000.

The task for the physical, biological, and medical scientists that evaluate health implications of the RF data base has been to identify those RF field conditions that can produce harmful biological effects. No panel of experts can guarantee safe levels of exposure because safety is a null concept, and negatives are not susceptible to proof. What a dispassionate scientific assessment can offer is the presumption of safety when RF-field conditions do not give rise to a demonstrable harmful effect.

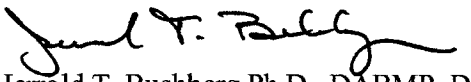
Summary & Conclusions

All Crown Castle antenna systems operating with the maximal exposure conditions characteristics as specified above and observing a 5 foot public exclusion zone directly in front of and at the same elevation as the antenna, will be in full compliance with FCC RF public and occupational safety exposure standards. These transmitters, by design and operation, are low-power devices (see appendix A-1). An RF safety notice sign, as depicted in appendix A-2 should be placed near the antenna. This sign should contain appropriate contact information and indicate that RF exposures at 5 feet or closer to the face of the antenna may exceed the FCC public exposure standard. Thus only qualified RF workers may work within the 5 foot public exclusion zone. The maximum RF exposure at ground level will not be in excess of 1.24% of the FCC public safety standard, (see appendix A-3). A chart of the electromagnetic spectrum and a comparison of RF power densities from various common sources is presented in figures two and three respectively in order to place exposures from wireless telecommunications systems in perspective.

Given the low levels of radiofrequency fields that would be generated from all Crown Castle directional antenna installations of this configuration, (e.g., antenna specification and input power); where the center of the antenna is at least 22.0 above grade, and the 5 foot (public) exclusion zone directly in front and at the same elevation as the antenna are observed, there is no scientific basis to conclude that harmful effects will attend the utilization of these proposed wireless telecommunications facilities. This conclusion is supported by a large numbers of scientists that have participated in standard-setting activities in the United States who

are overwhelmingly agreed that RF radiation exposure below the FCC exposure limits has no demonstrably harmful effects on humans. These findings are based on my professional evaluation of the scientific issues related to the health and safety of non-ionizing electromagnetic radiation and my analysis of the technical specification as provided by Crown Castle Networks. The opinions expressed herein are based on my professional judgement and are not intended to necessarily represent the views of any other organization or institution. Please contact me if you require any additional information.

Sincerely,



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Enclosures: Figures 1-3; Attachment 1,2; Appendix A-0, A-1, A-2, A-3 and Statement of Experience.