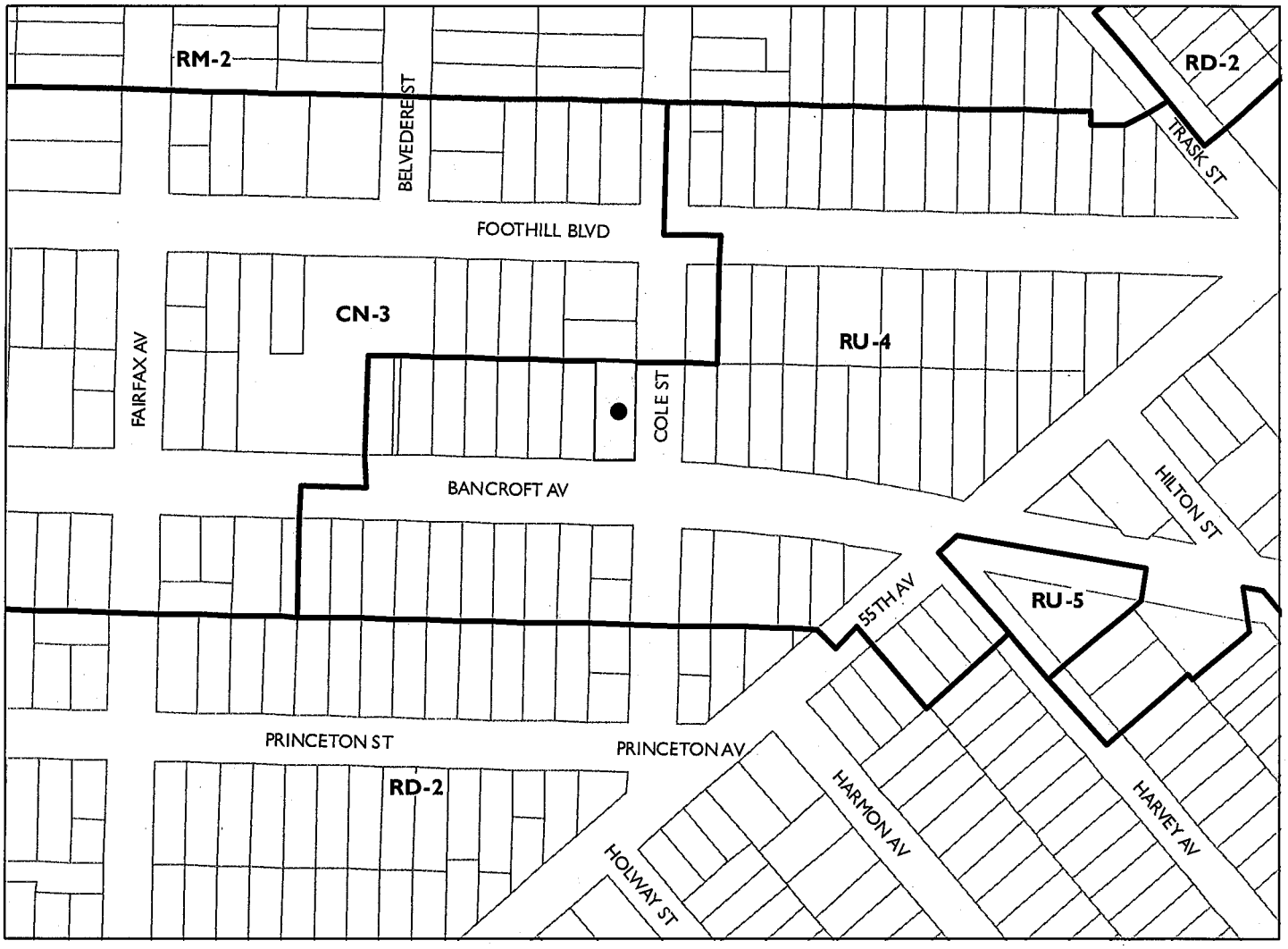
Case File Number: PLN14155 **November 19, 2014**

Location:	**5460 Bancroft Avenue (See map on reverse)**
Assessors Parcel Numbers:	**(035-2389-003-00)**
Proposal:	To install 3 new antennas and 3 new Remote Radio Heads (RRH's) to an existing roof top Mini Telecommunications Facility. (associated equipment cabinets are on the ground floor)
Applicant:	Phil Gamick (for Sprint)
Contact Person/ Phone Number:	same (530)386-5253
Owner:	Charles H. Joe & Shryel J. Joe by T10 Unison Site Management LLC, its agent and attorney in fact
Case File Number:	PLN14155
Planning Permits Required:	Major Conditional Use Permit and Regular Design Review for Mini-telecommunication facility in a residential zone.
General Plan:	Urban Residential and Detached Unit Residential
Zoning:	RU-4 Garden Apartment Zone Regulations
Environmental Determination:	Exempt, Section 15301 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:	Survey rating: C3
Service Delivery District:	5
City Council District:	4
Date Filed:	5/19/14
Finality of Decision:	Appealable to City Council within 10 days
For Further Information:	Contact case planner **Moe Hackett** at **(510) 238-3973** or mhackett@oaklandnet.com

SUMMARY

The following staff report addresses the proposal for a new unmanned wireless telecommunication facility located on the roof of an existing multi-family residential building with an associated equipment cabinet located in the ground floor of the building. The project site already contains 3 telecommunication antennas and associated basement located equipment cabinets and this project would add three (3) additional antennas (with new screening) for a total of 6 antennas. Given the number of antennas, this would be considered a "Mini" Telecommunications Facility. The site is a rectangular-shaped with street frontage facing on the two sides (Bancroft Avenue and Cole Street.). The site is in the RU-4 Zone. The General Plan designation for the site is Urban Residential, with the rear of the lot abutting both the CN-3 and Neighborhood Commercial Mixed Use Zone and General Plan. The scope of work entails replacement of the existing screening device for a larger one designed to conceal the 3 reconfigured and 3 additional antennas (six) total, and the new total of 6 RRH's. The proposal would also require the installation of a new equipment cabinet and batteries (that would be located within an existing ground floor Sprit equipment room). The expanded penthouse structure will be located near the building's north side. The building is "U shaped" at this end

CITY OF OAKLAND PLANNING COMMISSION



Case File: PLN14155
Applicant: Sean Snyder / Phil Gamick (for: Sprint)
Address: 5460 Bancroft Avenue
Zone: RU-4

(the rear) and is approximately 10 feet (minimum) from the rear wall of the building. This penthouse expansion will be painted and textured to match the existing screening device and the existing building fenestration (Spanish tile /brick)

TELECOMMUNICATIONS BACKGROUND

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

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

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 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. 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 (Sprint) is proposing a co-location for the removal and relocation, and addition of what will be a total of 6 antennas with additional rooftop screening. The new portion of the stealth roof-top penthouse structure will be painted and textured to match the existing screen. This entire proposal will be located on roof top of an existing multi-unit residential structure. Through conditions of approval the antennas shall be enclosed and/or painted and textured to match the existing building. The proposal for the equipment cabinet is to locate on the ground floor of the building. All proposed antennas and associated equipment will not be accessible to the public. **(See Attachment A)**.

PROPERTY DESCRIPTION

The subject property is a through lot of approximately 6,000 square feet, with frontage on Bancroft Avenue and Cole Street. The subject property contains a multi-family unit residential facility (apartment building) with a 15-foot setback from the adjacent a lot. Currently there is a Micro Telecommunication facility with a single telecommunication provider (Sprint) on the property including existing screened antennas and equipment cabinets in a portion of the buildings ground floor.

GENERAL PLAN ANALYSIS

The subject property is located within the Urban Residential General Plan designation. The Urban Residential land use classification is intended to identify, create, maintain and enhance an area appropriate for multi-unit, mid-rise, or high-rise residential structures in locations with good access to public transit. The proposed unmanned wireless telecommunication facility will not adversely affect and detract from the residential or commercial characteristics of the neighborhood. The antennas will be mounted on the existing apartment building and visual impacts will be mitigated since the antennas will be enclosed and/or painted and textured to match the existing building. General Plan Policy N9.9 states that the City encourages rehabilitation efforts which respect the architectural integrity of a building's original style. The proposed project will have very minimal effect on the existing building.

ZONING ANALYSIS

The subject property is located within the RU-4 Zone. The RU-4 zone is intended to create, preserve, and enhance areas for single or two-family dwellings and garden apartments in spacious settings usually associated or low to medium residential density. The proposal is for a new unmanned wireless telecommunication facility on an existing Multi-Family Residential Facility and requires a Major Conditional Use Permit since the project is within a residential zone.

This proposal also requires the expansion of the existing roof top screening structure (penthouse) to allow for the new antenna panels. The proposed (expanded) penthouse projection would be 55 feet above ground level, with the tops of the antennas projecting an additional 6 inches to create the appearance of a chimney pipe (and also allowing for a slightly shorter screening device with less visual massing). The structure is 7 feet high (plus 6" for the faux "chimney

pipe" antenna) from the top of the parapet wall and is 55 ½ feet overall above ground level. Chapter 17.128.060A(3) allows for mini facilities to exceed the height limitations above the parapet at any height less than 15 feet.

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, additions and alterations to existing facilities, and 15183, projects consistent with a community plan, general plan or zoning.

KEY ISSUES AND IMPACTS

1. Conditional Use Permit

Section 17.46.080 of the City of Oakland Planning Code requires a conditional use permit to install or modify an existing Mini Telecommunication facility in the RU-4 zone. Furthermore, Section 17.134.020 of the Planning Code defines such facilities that are in or within 100' of a residential zone as Major Conditional Use Permits and subject to Planning Commission approval.

2. Project Site

Section 17.128.110 of the City of Oakland 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.
D. Existing commercial or industrial structures in residential zones.
E. Other non-residential uses in residential zones.
F. Residential uses in non-residential zones.
G. Residential uses in residential zones.

*Facilities locating on an A, B or C ranked preference do not require a site alternatives analysis.

Since the proposed project involves co-locating the installation of new antennas and associated equipment cabinets on an existing facility, the proposed project meets (A) co-locating on an existing structure or facility with existing wireless antennas.

4. 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.

* 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 higher preference design alternative can not 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).

City of Oakland Planning staff have reviewed and determined that the site selected is conforming to all other telecommunication regulation requirements. The project has met design criteria (A) since the antennas and/or dishes shall be mounted completely concealed behind an enclosure with paint and texture to match the existing building. (Note: the 6" extension of the antennas tops is both intentional and was a design consideration recommended by staff to both reduce the overall massing and height that a fully enclosed screening device would have created, and to create the appearance of a more realistic roof top chimney element which very often include chimney piped protruding above the stack enclosure.) Furthermore, to mitigate visual impacts the antennas will be mounted at approximately the same height and rooftop location above the public right of way. The associated equipment cabinet will have no visual impact since the equipment will be placed in a ground floor existing equipment room.

5. Project Radio Frequency Emissions Standards

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

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.

The applicant states that the proposed project meets the radio frequency (RF) emissions standards as required by the regulatory agency. Submitted with the initial application was a RF emissions report, prepared by EBI Consulting (**Attachment B**). The report states that the proposed project will comply with the Site Safety Plan 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 addition of new antennas to existing Telecommunications facilities is common and such co-location is often encouraged. Staff believes that the findings for approval can be made to support the Conditional Use Permit and Design Review. City of Oakland planning staff recommends the Planning Commission approve the project.

RECOMMENDATIONS:

1. Affirm staff's environmental determination and
2. Approve Conditional Use Permit, and Design Review application PLN14155 subject to the attached findings and conditions of approval.

Prepared by:

Moe Hackett
Planner II

Approved by:

for

Scott Miller
Zoning Manager

Approved for forwarding to the
City Planning Commission

Darin Ranelletti, Deputy Director
Department of Planning and Building

ATTACHMENTS:

A. Project Plans & Photo simulations
B. Hammett & Edison, INC. Consulting Engineers (Sprint Base Station No. SF36xc032 5460 Bancroft Avenue. Oakland California)

FINDINGS FOR APPROVAL

FINDINGS FOR APPROVAL:
This proposal meets all the required findings under Section 17.134.050, of the General Use Permit criteria; all the required findings under Section 17.136.050.(B), of the Non-Residential Design Review criteria; all the required findings under Section 17.128.060(B), of the telecommunication facilities (Mini) Design Review criteria; and all the required findings under Section 17.128.060.(C), of the telecommunication facilities (Mini) Conditional Use Permit criteria; and as set forth below and which are required to approve your application. Required findings are shown in **bold** type; reasons your proposal satisfies them are shown in normal type.

SECTION 17.134.050 – GENERAL USE PERMIT FINDINGS:

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 proposed telecommunications antennas will be co-located within a new penthouse on the roof top of an existing building and will not adversely affect the operating characteristic or livability of the existing area. The facility will be unmanned and will not create additional vehicular traffic in the area. The minor expansion of the existing penthouse screening devices will not create any noticeable or adverse impacts.

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

The proposal is a Telecommunications Facility on the roof of a residential building. It meets this finding by co-locating with existing carrier, reducing the need for more telecommunications facilities on other nearby properties. The equipment and antennas have been screened to match the building and such stealthing will help this facility blend in with the building and surroundings and make this facility more attractive than just normal antennas.

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 proposed development will enhance the successful operation of the surrounding area in its basic community function and will provide an essential service to the community or region. This will be achieved by improving the functional use of the site by providing a regional telecommunication facility for the community and will be available to police, fire, public safety organizations and the general public.

D. That the proposal conforms to all applicable design review criteria set forth in the DESIGN REVIEW PROCEDURE of Chapter 17.136 of the Oakland Planning Code.

The proposal conforms with all significant aspects of the design review criteria set forth in Chapter 17.136 of the Oakland Planning Code, as outlined below.

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

The proposal conforms in all significant aspects with the Oakland General Plan and with any other applicable plan or zoning maps adopted by the City of Oakland. The proposed mini-telecommunication facility in the Urban Residential Use General Plan designation will enhance and improve communication service for a mixture of residential, civic, commercial and institutional uses in the area.

17.136.050(B) – NON-RESIDENTIAL DESIGN REVIEW CRITERIA:

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

The proposal is the addition to a mini telecommunications facility which includes the addition of three (3) new panel antennas and removal and relocation of three (3) other antennas within an expanded penthouses at the roof of the existing building and one equipment cabinet located within an existing ground floor equipment room. The proposed antennas are consistent and well related to the surrounding area in scale, bulk, height, materials, and textures. The antennas will also be located approximately 55 feet 6 inches above, and 17 feet (approximate) away from the public right of way (the Cole Street Edge of the building).

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 design will be appropriate and compatible with current zoning and general plan land use designations. The proposal protects and preserves the surrounding neighborhood context by adding additional wireless telecommunication antennas to a commercial and residential area. The antennas will be concealed and disguised from public view and will not have any visual impact on 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 proposal conforms with the City of Oakland Comprehensive General Plan meeting specific General Plan policies and the Supplemental Report and Recommendations on Revisions to the Citywide Telecommunications Regulations. The proposal will conform to performance standards for noise set forth in Section 17.120.050 for decibels levels in residential areas for both day and nighttime use. The Project conforms to all macro-facility definitions set forth in Section 17.128.070 and meets all design review criteria to minimize all impacts throughout the neighborhood

17.128.060(B) DESIGN REVIEW CRITERIA FOR MINI FACILITIES

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

The proposed antennas will be completely concealed from public view behind a screening enclosure and/or painted and textured to match the existing structure and located at the roof top of an existing building. (In this case the colors will match the color of the buildings Spanish tile elements, and a grey or brown tone for the appearance of a chimney pipe.)

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 addition of the antennas and RRH's to the existing building will be mounted behind screening enclosure on the roof with the size, placement, configuration, materials, texture, and color to be submitted to the Planning and Zoning division for review and approval prior to the issuance of a building permit.

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

The proposed antennas shall be mounted behind enclosures with the size, placement, configuration, materials, texture, and color to be submitted to the Planning and Zoning division for review and approval prior to the issuance of a building permit. The cable trays shall be painted to match the color of the building.

4. Equipment shelters or cabinets shall be concealed from view or placed underground:

The equipment will be within the building in an existing ground floor Sprint equipment room and will not be visible from the street.

5. 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 to the roof and will not be accessible to the public due to its location. The equipment will be located with the building in a dedicated equipment room and will not be visible or accessible to the public.

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.

The proposed antennas and RRH's will be co-located on the roof top in a existing and (slightly) expanded penthouses designed to screen the facilities. The penthouse location will not be altered on the building's roof and shall be textured and painted to match the existing building. The new equipment screen achieves a greater than 1:1 ratio at no more than 7 ½ feet height over the lowest rooftop parapet wall edge. Due to the shape of the building, and the height and stealth design characteristics the proposal will not alter or degrade sight lines or view corridors.

Section 17.128.060(C) CONDITIONAL USE PERMIT (CUP) FINDINGS FOR MINI FACILITIES

1. The project must meet the special design review criteria listed in subsection B of this section (17.128.060B):

The proposed project meets the special design review criteria listed in section 17.128.060B.

2. The proposed project must not disrupt the overall community character:

Due to the proposed project co-locating with other existing telecommunication antennas and equipment, it will not disrupt the overall community character of the site.

CONDITIONS OF APPROVAL
PLN14155

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, PLN14155, and the revised plans submitted on **September 26, 2014** 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. This Approval includes: **The installation of a mini telecommunications facility located on the roof of an existing building at 5460 Bancroft Avenue (APN: 035-2389-003-00), under Oakland Municipal Code 17.128, 17.136 and 17.134.**

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 **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 laws/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. 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 of Approval #3.

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, elevated walking pathways, safety railings, emergency access and lighting.

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) Violation of any term, C**onditions of Approval** or **project description** relating to the **Conditions of 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 Approvals or alter these **conditions of approval** if it is found that there is violation of any of the C**onditions of Approval** 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 Conditions of Approval.

6. Signed Copy of the Conditions of Approval
Ongoing

A copy of the approval letter and **Conditions of Approval** 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
Ongoing

a) To the maximum extent permitted by law, the applicant shall defend (with counsel 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 its respective agents, officers, and employees (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, (1) an approval by the City relating to a development-related application or subdivision or (2) implementation of an approved development-related project. The City may elect, in its sole discretion, to participate in the defense of said Action and the 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 applicant shall execute a Letter of Agreement with the City, acceptable to the

Office of the City Attorney, which memorializes the above obligations. These obligations and the Letter of Agreement shall survive termination, extinguishment or invalidation of the approval. Failure to timely execute the Letter of Agreement does not relieve the applicant of any of the obligations contained in this condition or other requirements or Conditions of Approval that may be imposed by the City.

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

10. **Landscape Maintenance.**
Ongoing
All new landscaping shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements.

11. **Operational Noise-General**
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.

PROJECT SPECIFIC CONDITIONS FOR TELECOMMUNICATIONS FACILITIES

12. **Emissions Report**
Prior to a final inspection
The applicant shall provide an RF emissions report to the City of Oakland Zoning Division indicating that the site is actually operating within the acceptable thresholds as established by the Federal government or any such agency that may be subsequently authorized to establish such standards.

13. **Camouflaging**
Prior to building permit approval and ongoing
Plans and paint color samples shall be provided to Zoning during the building permit process to show the final color of all apparatus (including but not limited to antennas, screens, and

equipment). The selected paints shall consist of matte or non-reflective colors to match existing finishes. The final color of the antennas and screening device (penthouse /chimney) shall be partly or wholly repainted at the discretion of the Zoning Manager in order to achieve the intended appearance of a chimney with the actual antennas camouflaged to resemble smoke pipes above the screen.

APPROVED BY:
City Planning Commission:_____(date)_____(vote)
City Council:_____(date)_____(vote)

Sprint®

TM

PROJECT NAME: 2.5 EQUIPMENT DEPLOYMENT

SITE NAME: MELROSE PLACE

CASCADE #: SF36XC032-B

SITE ADDRESS: 5460 BANCROFT AVENUE
OAKLAND, CA 94601

SITE TYPE: ROOFTOP

ATTACHMENT A

SITE INFORMATION

Site Address:
5460 Bancroft Avenue
Oakland, CA 94601

Property Owner:
Chaslen H. Joe & Sheryl H. Joe
20993 Foothill Blvd
Hayward, CA 94541

Site Acquisition:
Forza Telecom
1330 North Broadway, Suite 202
Walnut Creek, Ca 94596
Planning contact: Sean Snyder
Leasing contact: Paige Noyes
email: planning.2.5@forzatelecom.com
ph: (925) 402-6312

Power Agency
PG&E

Telco Agency
AT&T

Latitude(NAD83):
37° 46' 19.2426" N
37.772012

Longitude (NAD83):
-122° 11' 55.3412" W
-122.198767

Construction Type:
II

Occupancy Type:
U

Owner Applicant:
Sprint
12657 Alcosta Blvd, Suite 300
San Ramon, Ca 94583
contact: Tony Poletti
ph: (916) 717-6823
email: anthony.poletti@sprint.com

Sprint Construction Manager:
Sprint
12657 Alcosta Blvd, Suite 300
San Ramon, Ca 94583
contact: Tony Pino
ph: (415) 760-4921
email: Nelson.Pino@sprint.com

RF Engineer:
Samsung
2603 Camino Ramon, Suite 350
San Ramon, Ca 94583
contact: Swaanil Tiwari
email: S1.Tiwari@sa.samsung.com
ph: (408) 355-8208

County:
Alameda

Zoning Jurisdiction:
Alameda County

Zoning District:
CC-2

APN:
035-2389-003-00

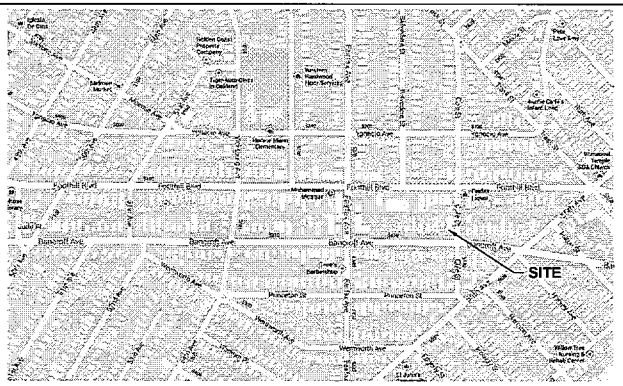
ACCESSIBILITY REQUIREMENTS

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. ACCESSIBILITY ACCESS AND REQUIREMENTS ARE NOT REQUIRED. IN ACCORDANCE WITH CALIFORNIA STATE ADMINISTRATIVE CODE, PART 2, TITLE 24, SECTION 11038.1, EXCEPTION 1 & SECTION 11345.2.1, EXCEPTION 4.

SPECIAL INSPECTIONS

1) POST INSTALLED EXPANSION ANCHORS

VICINITY MAP



LOCATION MAP

APPLICABLE CODES

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 CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1) 2013 CALIFORNIA ADMINISTRATIVE CODE, CHAPTER 10, PART 1, TITLE 24 CODE OF REGULATIONS- AFTER JULY 1, 2014
2) 2013 CALIFORNIA BUILDING CODE (CBC) WITH CALIFORNIA AMENDMENTS, BASED ON THE 2012 IBC (PART 2, VOL 1-2)
3) 2013 CALIFORNIA RESIDENTIAL CODE (CRC) WITH APPENDIX H, PATIO COVERS, BASED ON THE 2012 IRC (PART 2.5)
4) 2013 CALIFORNIA GREEN BUILDINGS STANDARDS CODE (CALGREEN) (PART 11) (AFFECTED ENERGY PROVISIONS ONLY)- AFTER JULY 1, 2014
5) 2013 CALIFORNIA FIRE CODE (CFC), BASED ON THE 2012 IFC, WITH CALIFORNIA AMENDMENTS (PART 9)
6) 2013 CALIFORNIA MECHANICAL CODE (CMC), BASED ON THE 2012 UMC (PART 4)
7) 2013 CALIFORNIA PLUMBING CODE (CPC), BASED ON THE 2012 UPC (PART 5)
8) 2013 CALIFORNIA ELECTRICAL CODE (CEC) WITH CALIFORNIA AMENDMENTS, BASED ON THE 2011 NEC (PART 3)
9) 2013 CALIFORNIA ENERGY CODE (CEC)- AFTER JULY 1, 2014 (PART 6)
10) ANSI / EIA-TIA-222-G
11) 2012 NFPA 101, LIFE SAFETY CODE
12) 2013 NFPA 72, NATIONAL FIRE ALARM CODE
13) 2013 NFPA 13, FIRE SPRINKLER CODE

PROJECT DESCRIPTION

MODIFICATION TO EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.

1. ADD NEW 2.5 EQUIPMENT INSIDE (E) AMMS CABINET
2. ADD NEW 2.5 BATTERIES INSIDE (E) BBU CABINET
3. ADD NEW HYBRID CABLES
4. ADD 1 NEW 2.5 ANTENNA AT EACH OF 3 SECTORS A, B, AND C
5. ADD 1 NEW 2.5 RRH AT EACH OF 3 SECTORS A, B, AND C
6. ADD NEW COAX JUMPER LINES FROM RRHS TO NEW ANTENNAS
7. REMOVE (E) STEALTH CHIMNEY AND REPLACE WITH (P) RF FRIENDLY STEALTH CHIMNEY

DRIVING DIRECTIONS FROM SPRINT, 12657 ALCOSTA BLVD SAN RAMON, CA

1. HEAD SOUTHEAST ON ALCOSTA BLVD TOWARD HOSPITAL PL
2. TURN RIGHT ONTO BOLLINGER CANYON RD
3. MERGE ONTO I-680 S VIA THE RAMP TO SAN JOSE
4. TAKE THE EXIT ONTO I-580 W TOWARD DUBLIN BOULEVARD/OAKLAND
5. KEEP RIGHT TO STAY ON I-580 W, FOLLOW SIGNS FOR OAKLAND/ SAN FRANCISCO
6. TAKE THE EXIT TOWARD MACARTHUR BOULEVARD/ HIGH STREET
7. TURN LEFT ONTO BUELL ST
8. TURN LEFT ONTO MACARTHUR BLVD
9. SLIGHT RIGHT TOWARD 55TH AVE
10. SLIGHT RIGHT ONTO 55TH AVE
11. TURN RIGHT ONTO BANCROFT AVE

DESTINATION WILL BE ON THE RIGHT

DRAWING INDEX

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET & PROJECT DATA
GN-1	GENERAL NOTES 1
GN-2	GENERAL NOTES 2
A-1	OVERALL SITE PLANS
A-2.1	ENLARGED EQUIPMENT PLANS
A-2.2	ENLARGED ANTENNA PLANS
A-3.1	ELEVATIONS
A-3.2	ELEVATIONS
A-4	EQUIPMENT DETAILS
A-5	STEALTH DETAILS
RF-1	ANTENNA SCHEDULE & PARTS LIST
E-1	SINGLE LINE DIAGRAM & POWER PANEL SCHEDULE
G-1	GROUNDING PLAN & NOTES
G-2	GROUNDING DETAILS

APPROVALS

	DATE
SITE ACQUISITION PLANNER–	
SITE ACQUISITION MANAGER–	
SPRINT CONSTRUCTION–	
SPRINT SITE ACQUISITION–	
RF ENGINEER–	
LANDLORD–	

Borges Architectural Group

PROJECT NO: 13065-108
DRAWN BY: HLH
CHECKED BY: B.K.W.

REV	DATE	DESCRIPTION
3	09/03/14	100% CD SUB REV 2
2	06/26/14	100% CD SUB REV 1
1	03/05/14	100% CD SUBMITTAL
0	01/29/14	90% CD SUBMITTAL

09/03/14
100% CD SUB REV 2

LICENSED ARCHITECT — BRIAN K. WONG — No. C31551 — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

SF36XC032-B
MELROSE PLACE
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
TITLE SHEET & PROJECT DATA

SHEET NUMBER
T-1

These outline specifications in conjunction with the sprint standard construction specifications, including contract documents and the construction drawings describe the work to be performed by the contractor.

Section 01 100 - Scope of Work

The Work:
Shall comply with applicable national codes and standards, latest edition, and portions thereof.

Precedence:
Should conflicts occur between the standard construction specifications for wireless sites including the standard construction details for wireless sites and the construction drawings, information on the construction drawings shall take precedence.

Site Familiarity:
Contractor shall be responsible for familiarizing himself with all contract documents, field conditions and dimensions prior to proceeding with construction.

On-Site Supervision:
The contractor shall supervise and direct the work and shall be responsible for construction means, methods, techniques, sequences, and procedures in accordance with the contract documents.

Drawings, Specifications and details required at jobsite:
The construction contractor shall maintain a full set of the construction drawings at the jobsite from mobilization through construction completion.

A. Details are intended to show design intent, provide all materials and labor as required to provide a complete and functioning system. Modifications may be required to suit job dimensions or conditions, and such modifications shall be included as part of the work.

B. Contractor shall notify sprint construction manager of any variations prior to proceeding with the work.dimensions shown are to finish surfaces unless noted otherwise. Modifications may be required to suit job dimensions or conditions, and such modifications shall be included as part of the work.

C. Mark the field set of drawings in red, documenting any changes from the construction documents.

Methods of Procedure (MOPs) for construction:
Contractor shall perform work as described in the following installation and commissioning mops.

A. Top Hat
B. How to install a new cabinet
C. Base Band Unit in existing unit
D. Installation of batteries
E. Installation of hybrid cable
F. Installation of RRH's
G. Cabling
H. TS-0200 Rev 4 - antenna line acceptance standards
I. Sprint cell site engineering notice - EN 2012-001, Rev 1.
J. Commissioning MOPs

Section 01 200 - Company furnished material and equipment

Company furnished material and equipment is identified on the RF data sheet in the construction drawings.

Contractor is responsible for Sprint provided material and equipment to ensure it is protected and handled properly throughout the construction duration.

Contractor responsible for receipt of Sprint furnished equipment at cell site or contractors location. Contractor to complete shipping and receipt documentation in accordance with company practice.

Section 01 300 - Cell Site Construction Co.

Notice to Proceed:
No work shall commence prior to company's written notice to proceed and the issuance of work order.

Site Cleanliness:
Contractor shall keep the site free from accumulating waste material, debris, and trash. At the completion of the work, contractor shall remove from the site all remaining rubbish, implements, temporary facilities, and surplus materials.

Section 01 400 - Submittals & Tests

Alternates:
At the company's request, any alternatives to the materials or methods specified shall be submitted to Sprints construction manager for approval. Sprint will review and approve only those requests made in writing. No verbal approvals will be considered.

Tests and Inspections:

A. The contractor shall be responsible for all construction tests, inspections and project documentation.

B. Contractor shall accomplish testing including but not limited to the following:

1. Coax Sweeps and Fiber tests per TS-0200 Rev 4 antenna line acceptance standards.
2. Agl, azimuth and downtilt provide an automated report uploaded to Siterra using a commercial made-for the purpose electronic Antenna Alignment Tool (AAT). Installed azimuth, centerline and downtilt must conform with RF configuration data
3. Contractor shall be responsible for any and all corrections to any work identified as unacceptable in site inspection activities and/or as a result of testing.
4. All testing required by applicable installation mops.

C. Required closeout documentation includes, but is not limited to the following:

1. Azimuth, downtilt, AGL from sunsight instruments - Antenna Alignment Tool (AAT)
2. Sweep and Fiber tests
3. Scanable barcode photographs of tower tag and inaccessible serialized equipment
4. All available jurisdictional information
5. PDF scan of redlines produced in field
6. A PDF scan of redline mark-ups suitable for use in electronic As-Built drawing production
7. Lien waivers
8. Final payment application
9. Required final construction photos
10. Construction and commissioning checklist complete with no deficient items
11. All post NTP tasks including document uploads completed in Siterra (Sprint's document repository of record).
12. Closeout photographs:

a Provide photographs of final project per the following list. Additional photographs may be required to support acceptance processes

(i) Back main hybrid cable route (minimum two photos)
(ii) Of each antenna and RRH
(iii) Manufacturer's name tag for all serialized equipment
(iv) Pull and distribution boxes intermediate between RRH's and MMBS (door open)
(v) MMBS Cabinet with door open showing modifications
(vi) Power cabinet, doors open, batteries installed
(vii) Break out cylinders
(viii) ASR Signage for Sprint owned towers
(ix) Radiation exposure warning signs
(x) Photograph from each sector from approximately RAD center of any new antenna at horizon.

b Load photos to Siterra project library 15. In 15 create new category; 2.5 Deployment, and section; Permanent Construction. label photos with site cascade and view being depicted. Cameras used to take photographs shall GPS enabled such that the GPS coordinates are included in the photo media-file information.

Commissioning:
Perform all commissioning as required by applicable MOPs

Integration:
Perform all integration activities as required by applicable MOPs

Section 09 900 - Painting

Quality Assurance:

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Comply with all environmental regulations for volatile organic compounds.

Materials:

A. Manufacturers: Benjamin Moore, Ici Devoe coatings, PPG, Sherwin Williams or approved equal. Provide premium grade, professional-quality products for coating systems

Paint Schedule:

A. Exterior antennae and antenna mounting hardware: One coat of primer and two finish coats. Paint for antennae shall be non-metallic based and contain no metallic particles. Provide colors and patterns as required to mask appearance of antennae on adjacent building surfaces and as acceptable to the owner. Refer to antenna manufacturer's instructions whenever possible.

B. Water Tanks: Touch up - prepare surfaces to be repaired. Follow industry standards and requirements of owner to match existing coating and finish.

Painting Application:

1. Inspect surfaces, report unsatisfactory conditions in writing; beginning work means acceptance of substrate.
2. Comply with manufacturer's instructions and recommendations for preparation, priming and coating work. Coordinate with work of other sections.
3. Match approved mock-ups for color, texture, and pattern. Re-coat or remove and replace work which does not match or shows loss of adhesion.
4. Clean up, touch up and protect work.

Touchup Painting:

1. Galvanizing damage and all bolts and nuts shall be touched up after tower erection with "Galvanox," "Dry Galv," or "Zinc-It."
2. Field touchup paint shall be done in accordance with the manufacturer's written instructions.
3. All metal components shall be handled with care to prevent damage to the components, their preservative treatment, or their protective coatings.

Section 11 700 - Antenna assembly, Remote Radio Units and cable installation

Summary:
This section specifies installation of antennas, RRH's, and cable equipment, installation, and testing of coaxial fiber cable.

Antennas and RRH's:
The number and type of antennas and RRH's to be installed is detailed on the construction drawings.

Hybrid Cable:
Hybrid Cable will be DC/fiber and furnished for installation at each site. Cable shall be installed per the construction drawings and the applicable manufacturer's requirements.

Jumpers and Connectors:
Furnish and install 1/2" coax jumper cables between the RRH's and antennas. Jumpers shall be type IDF 4, FLC 12-50, CR 540, or FXL 540. Super-Flex cables are not acceptable. Jumpers between the RRH's and antennas or tower top amplifiers shall consist of 1/2 inch foam dielectric, outdoor rated coaxial cable, min length for jumper shall be 10'-0".

Remote Electrical Tilt (RET) cables: insert spec

Miscellaneous:
Install splitters, combiners, filters per RF data sheet, furnished by Sprint.

Antenna installation:
The contractor shall assemble all antennas onsite in accordance with the instructions supplied by the manufacturer. Antenna height, azimuth, and feed orientation information shall be a designated on the construction drawings.

A. The contractor shall position the antenna on tower pipe mounts so that the bottom strut is level. the pipe mounts shall be plumb to within 1 degree.

B. Antenna mounting requirements: Provide antenna mounting hardware as indicated on the drawings.

Hybrid Cables installation:

A. The contractor shall route, test, and install all cables as indicated on the construction drawings and in accordance with the manufacturer's recommendations.

B. The installed radius of the cables shall not be less than the manufacturer's specifications for bending radii.

C. Extreme care shall be taken to avoid damage to the cables during handling and installation.

1. Fastening main hybrid cables: All cables shall be permanently fastened to the coax ladder at 4'-0" oc using non-magnetic stainless steel clips.
2. Fastening individual fiber and DC cables above breakout enclosure (medusa), within the MMBS cabinet and any intermediate distribution boxes:
   a. Fiber: Support fiber bundles using ½" velcro straps of the required length @ 18" oc. Straps shall be UV, oil and water resistant and suitable for industrial installations as manufactured by Textol or approved equal.
   b. DC: Support DC bundles with zip ties of the adequate length. Zip ties to be UV stabilized, black nylon, with tensile strength at 12,000 psi as manufactured by Nelco products or equal.
3. Fastening jumpers: Secure jumpers to the side arms or head frames using stainless steel tie wraps or stainless steel butterfly clips.
4. Cable installation:
   a. Inspect cable prior to use for shipping damage, notify the construction manager.
   b. Cable routing: Cable installation shall be planned to ensure that the lines will be properly routed in the cable envelop as indicated on the drawings. Avoid twisting and crossovers.
   c. Hoist cable using proper hoisting grips. Do not exceed manufactures recommended maximum bend radius.

Sprint
12657 Alcosta Blvd., Suite 300
San Ramon, CA 94583

1330 North Broadway
Suite 202
Walnut Creek, CA 94596

Borges Architectural Group

PROJECT NO:	13065-108
DRAWN BY:	HLH
CHECKED BY:	B.K.W.

REV	DATE	DESCRIPTION
3	09/03/14	100% CD SUB REV 2
2	06/26/14	100% CD SUB REV 1
1	03/05/14	100% CD SUBMITTAL
0	01/29/14	90% CD SUBMITTAL

09/03/14
100% CD SUB REV 2

LICENSED ARCHITECT BENJAMIN SARMIENTO No. C11536 STATE OF CALIFORNIA

SF36XC032-B
MELROSE PLACE
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
GENERAL NOTES 1

SHEET NUMBER
GN-1

Continue from GN-1

5. Grounding of transmission lines: All transmission lines shall be grounded as indicated on drawings.
6. Hybrid Cable color coding: All color coding shall be as required in TS 0200 Rev 4.
7. Hybrid Cable labeling: Individual Hybrid and DC bundles shall be labeled alpha-numerically according to Sprint cell site engineering notice - EN 2012-001, Rev 1

Weatherproofing exterior connectors and hybrid cable ground kits:

A. All fiber & coax connectors and ground kits shall be weatherproofed.

B. Weatherproofed using one of the following methods. All installations must be done in accordance with the manufacturer's recommendations and industry best practices.

1. Cold Shrink: Encompass connector in cold shrink tubing and provide a double wrap of 2" electrical tape extending 2" beyond tubing. Provide 3m cold shrink CXS series or equal.
2. Self-amalgamating tape: Clean surfaces. Apply a double wrap of self-amalgamating tape 2" beyond connector. Apply a second wrap of self-amalgamating tape in opposite direction. Apply double wrap of 2" wide electrical tape extending 2" beyond the self-amalgamating tape.
3. 3m slim lock closure 716: Substitutions will not be allowed.
4. Open flame on job site is not acceptable

Section 11 800 - Installation of Multimodal Base Stations (MMBS) and related equipment

Summary:

A. This section specifies MMBS cabinets, power cabinets, and internal equipment including by not limited to rectifiers, power distribution units, base band units, surge arrestors, batteries, and similar equipment furnished by the company for installation by the contractor (OFCI).

B. Contractor shall provide and install all miscellaneous materials and provide all labor required for installing equipment in existing cabinet or new cabinet as shown on drawings and as required by the applicable installation mops.

C. Comply with manufacturers installation and start-up requirements

DC Circuit Breaker labeling

A. Label circuit breakers according to Sprint cell site engineering notice - EN 2012-001, Rev 1.

Section 26 100 - Basic electrical requirements

Summary:
This section specifies basic electrical requirements for systems and components.

Quality Assurance:

A. All equipment furnished under division 26 shall carry UL labels and listings where such labels and listings are available in the industry.

B. Manufacturers of equipment shall have a minimum of three years experience with their equipment installed and operating in the field in a use similar to the proposed use for this project.

C. Materials and equipment: All materials and equipment specified in Division 26 of the same type shall be of the same manufacturer and shall be new, of the best quality and design, and free from defects

Supporting Devices:

A. All equipment furnished under Division 26 shall carry UL labels and listings where such labels and listings are available in the industry.

B. Manufacturers of equipment shall have a minimum of three years experience with their equipment installed and operating in the field in a use similar to the proposed use for this project.

C. Materials and equipment:
all materials and equipment specified in Division 26 of the same type shall be of the same manufacturer and shall be new, of the best quality and design, and free from defects

Supporting Devices:

A. Manufactured structural support materials: Subject to compliance with requirements, provide products by the following:

1. Allied Tube and Conduit
2. B-Line system
3. Sunistrut Diversified Products
4. Thomas & Betts

B. Fasteners: Types, materials, and construction features as follows:

1. Expansion anchors: Carbon steel wedge or sleeve type.
2. Power-driven threaded studs: Heat-treated steel, designed specifically for the intended service.
3. Fasten by means of wood screws on wood.
4. Toggle bolts on hollow masonry units.
5. Concrete inserts or expansion bolts on concrete or solid masonry.
6. Machine screws, welded threaded studs, or spring-tension clamps on steel.
7. Explosive devices for attaching hangers to structure shall not be permitted.
8. Do not weld conduit, pipe straps, or items other than threaded studs to steel structures.
9. In partitions of light steel construction, use sheet metal screws.

Supporting Devices:

A. Install supporting devices to fasten electrical components securely and permanently in accordance with NEC.

B. Coordinate with the building structural system and with other trades.

C. Unless otherwise indicated on the drawings, fasten electrical items and their supporting hardware securely to the structure in accordance with the following:

D. Ensure that the load applied by any fastener does not exceed 25 percent of the proof test load.

E. Use vibration and shock-resistant fasteners for attachments to concrete slabs.

Electrical Identification:

A. Update and provide typed circuit breaker schedules in the mounting bracket, inside doors of AC panel boards with any changes made to the AC system.

B. Branch circuits feeding aviation obstruction lighting equipment shall be clearly identified as such at the branch circuit panelboard.

Section 26 200 - Electrical materials and equipment

Conduit:

A. Rigid galvanized steel (RGS) conduit shall be used for exterior locations above ground and in unfinished interior locations and for encased runs in concrete. Rigid conduit and fittings shall be steel, coated with zinc exterior and interior by the hot dip galvanizing process. Conduit shall be produced to ANSI specifications C80.1, federal specification WW-C-581 and shall be listed with the underwriters' laboratories. Fittings shall be threaded - set screw or compression fittings will not be acceptable. RGS conduits shall be manufactured by Allied, Republic or Wheatland.

B. Underground conduit in concrete shall be Polyvinylchloride (PVC) suitable for direct burial as applicable. Joints shall be belled, and flush solvent welded in accordance with manufacturer's instructions. Conduit shall be Carlon electrical products or approved equal.

C. Transitions between PVC and rigid (RGS) shall be made with PVC coated metallic long sweep radius elbows.

D. EMT or rigid galvanized steel conduit may be used in finished spaces concealed in walls and ceilings. EMT shall be mild steel, electrically welded, electro-galvanized or hot-dipped galvanized and produced to ANSI specification C80.3, federal specification WW-C-563, and shall be UL listed. EMT shall be manufactured by Allied, Republic or Wheatland, or approved equal. Fittings shall be metallic compression. set screw connections shall not be acceptable.

E. Liquid tight flexible metallic conduit shall be used for final connection to equipment. Fittings shall be metallic gland type compression fittings, maintaining the integrity of conduit system. Set screw connections shall not be acceptable. Maximum length of flexible conduit shall not exceed 6-feet. LFMC shall be protected and supported as require by NEC. Manufacturers of flexible conduits shall be Carol, Anaconda Metal Hose or Universal Metal Hose, or approved equal.

F. Minimum size conduit shall be 3/4 inch (21mm).

Hubs and Boxes:

A. At entrances to cabinets or other equipment not having integral threaded hubs provide metallic threaded hubs of the size and configuration required. hub shall include locknut and neoprene o-ring seal. Provide impact resistant 105 degree c plastic bushings to protect cable insulation.

B. Cable termination fittings for conduit

1. Cable terminators for RGS conduits shall be type CRC by O-Z/Gedney or equal.
2. Cable terminators for LFMC shall be Etco - CL2075; or made for the purpose products by Roxtec.

C. Exterior pull boxes and pull boxes in interior industrial areas shall be plated cast alloy, heavy duty, weatherproof, dust proof, with gasket, plated iron alloy cover and stainless steel cover screws, crouse-hinds wab series or equal.

D. Conduit outlet bodies shall be plated cast alloy with similar gasketed covers. Outlet bodies shall be of the configuration and size suitable for the application. Provide crouse-hinds form 8 or equal.

E. Manufacturer for boxes and covers shall be Hoffman, Square "d", Crouse-Hinds, Cooper, Adalet, Appleton, O-Z Gedney, Raco, or approved equal.

Supplemental grounding system

A. Furnish and install a supplemental grounding system as indicated on the drawings. Support system with non-magnetic stainless steel clips with rubber grommets. Grounding connectors shall be tinned copper wire, sizes as indicated on the drawings. Provide stranded or solid bare or insulated conductors as indicated.

B. Supplemental grounding system: All connections to be made with cad welds, except at equipment use lugs or other available grounding means as required by manufacturer; at ground bars use two hole spades with no ox.

C. Stolen ground-bars: In the event of stolen ground bars, contact Sprint CM for replacement instruction using threaded rod kits.

Existing Structure:

A. Existing exposed wiring and all exposed outlets, receptacles, switches, devices, boxes, and other equipment that are not to be utilized in the completed project shall be removed or de-energized and capped in the wall, ceiling, or floor so that they are concealed and safe. wall, ceiling, or floor shall be patched to match the adjacent construction.

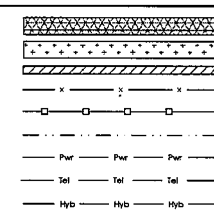
Conduit and Conductor installation:

A. Conduits shall be fastened securely in place with approved non-perforated straps and hangers. Explosive devices for attaching hangers to structure will not be permitted. Closely follow the lines of the structure, maintain close proximity to the structure and keep conduits in tight envelopes. Changes in direction to route around obstacles shall be made with conduit outlet bodies. Conduit shall be installed in a neat and workmanlike manner, parallel and perpendicular to structure wall and ceiling lines. All conduit shall be fished to clear obstructions. Ends of conduits shall be temporarily capped to prevent concrete, plaster or dirt from entering. Conduits shall be rigidly clamped to boxes by galvanized malleable iron bushing on inside and galvanized malleable iron locknut on outside and inside.

B. Conductors shall be pulled in accordance with accepted good practice.

Graphics Legend

Ice Bridge:
Cable Tray:
Wall/Partition:
Fence:
Wood/Iron Fence:
Lease Area:
Power:
Telco:
Hybrid:



Acronym Legend

BBU:	Battery Backup Unit	PPC:	Power Protection Cabinet
CAB:	Cabinet	PRI:	Legacy Primary Cabinet
CDMA:	Code Division Multiple Access	PWR:	Power
CMU:	Concrete Masonry Unit	RAD:	Radiation Center
(E):	Existing	RET:	Remote Electrical Tilt
GND:	Ground	RF:	Radio Frequency
GPS:	Global Positioning System	RFP:	Reinforced Fiberglass Panel
HVAC:	Heating Ventilation Air Conditioning	RRH:	Remote Radio Head
HYB:	Hybrid line	TEL:	Telco
MMBS:	Multi Modal Base Station	HFC:	Hydrogen Fuel Cell
(N):	New	HSM:	Hydrogen Storage Module
(P):	Proposed		

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Borges

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09/03/14
100% CD SUB REV 2

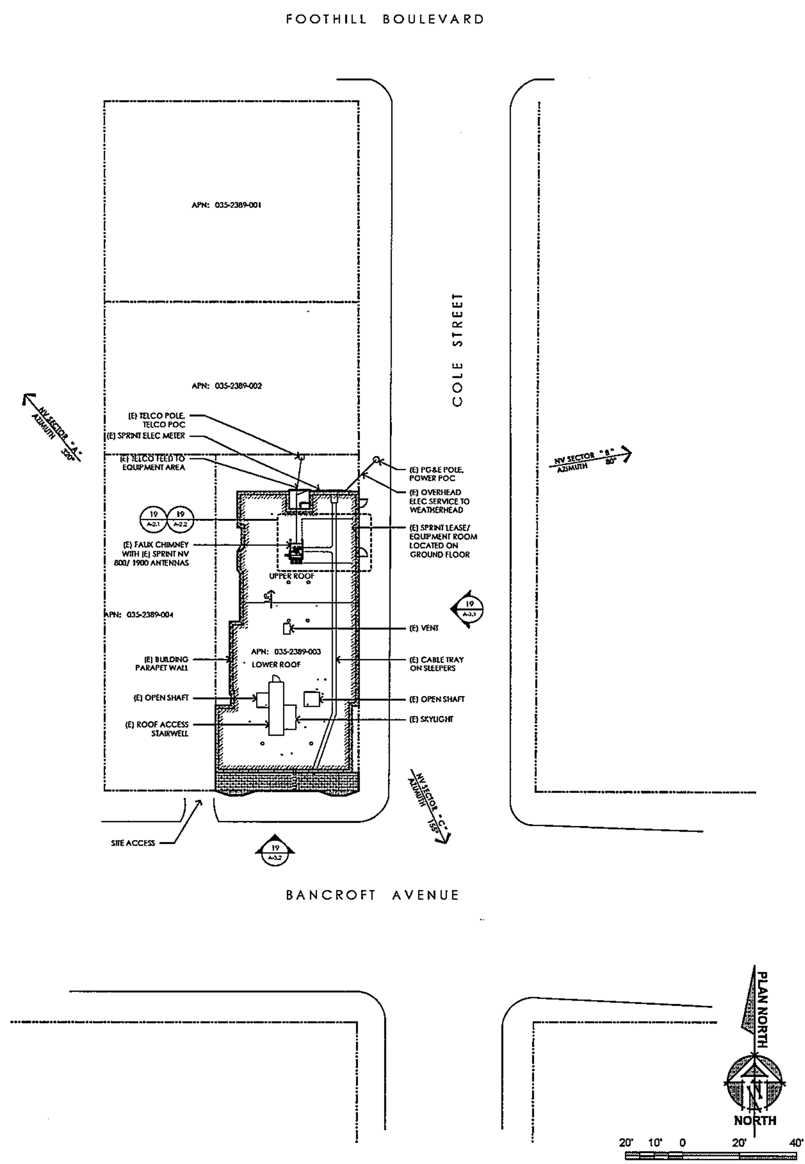
LICENSED ARCHITECT RICHARD SANDUCCI No. C11535 Ren. 09-30-15 STATE OF CALIFORNIA

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

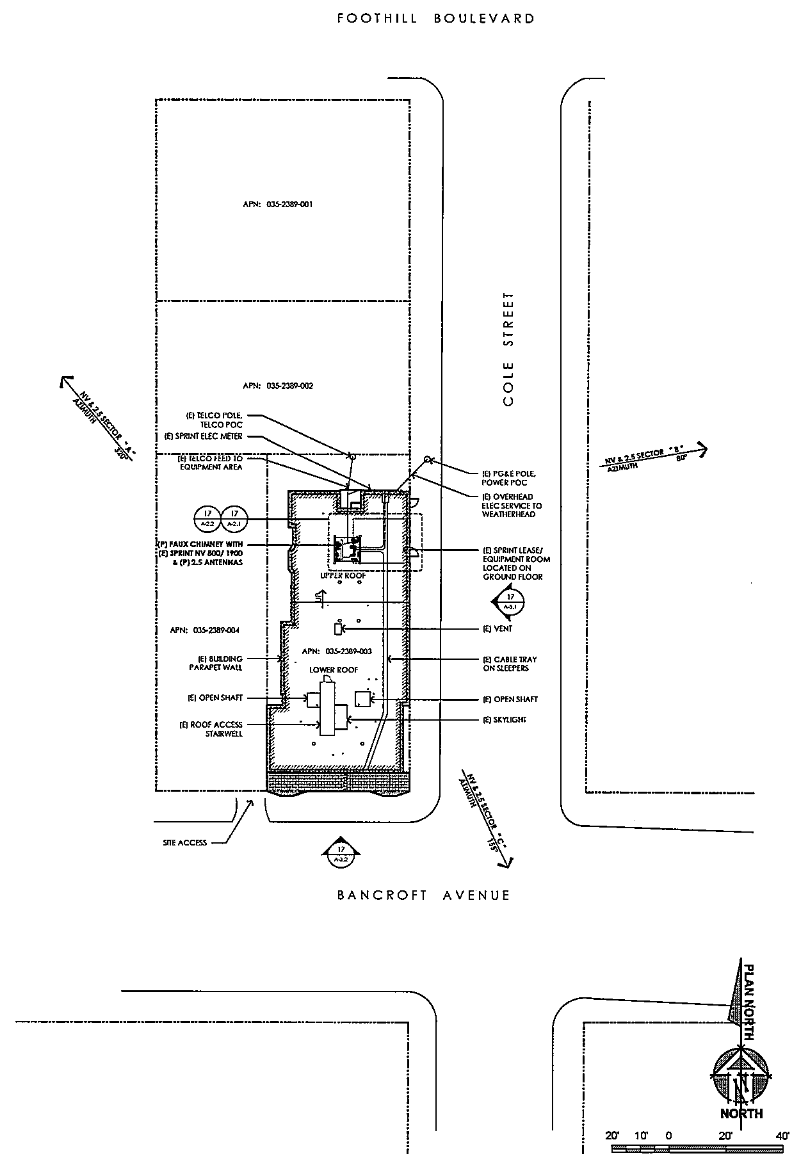
SF36XC032-B
MELROSE PLACE
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
GENERAL NOTES 2

SHEET NUMBER
GN-2


FOOTHILL BOULEVARD
COLE STREET
BANCROFT AVENUE
APN: 035-2389-001
APN: 035-2389-002
APN: 035-2389-003
APN: 035-2389-004
NV SECTOR "A" AZIMUTH 320°
NV SECTOR "B" AZIMUTH 80°
NV SECTOR "C" AZIMUTH 155°
(E) TELCO POLE, TELCO POC
(E) SPRINT ELEC METER
(E) TELCO FEED TO EQUIPMENT AREA
(E) FAUX CHIMNEY WITH (E) SPRINT NV 800/ 1900 ANTENNAS
(E) BUILDING PARAPET WALL
(E) OPEN SHAFT
(E) ROOF ACCESS STAIRWELL
SITE ACCESS
(E) PG&E POLE, POWER POC
(E) OVERHEAD ELEC SERVICE TO WEATHERHEAD
(E) SPRINT LEASE/ EQUIPMENT ROOM LOCATED ON GROUND FLOOR
UPPER ROOF
LOWER ROOF
(E) VENT
(E) CABLE TRAY ON SLEEPERS
(E) OPEN SHAFT
(E) SKYLIGHT
PLAN NORTH
NORTH
20' 10' 0 20' 40'
1"=20'-0"

17 EXISTING OVERALL SITE PLAN
1"=20'-0"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COLE STREET
BANCROFT AVENUE
APN: 035-2389-001
APN: 035-2389-002
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APN: 035-2389-004
NV & 2.5 SECTOR "A" AZIMUTH 320°
NV & 2.5 SECTOR "B" AZIMUTH 80°
NV & 2.5 SECTOR "C" AZIMUTH 155°
(E) TELCO POLE, TELCO POC
(E) SPRINT ELEC METER
(E) TELCO FEED TO EQUIPMENT AREA
(P) FAUX CHIMNEY WITH (E) SPRINT NV 800/ 1900 & (P) 2.5 ANTENNAS
(E) BUILDING PARAPET WALL
(E) OPEN SHAFT
(E) ROOF ACCESS STAIRWELL
SITE ACCESS
(E) PG&E POLE, POWER POC
(E) OVERHEAD ELEC SERVICE TO WEATHERHEAD
(E) SPRINT LEASE/ EQUIPMENT ROOM LOCATED ON GROUND FLOOR
UPPER ROOF
LOWER ROOF
(E) VENT
(E) CABLE TRAY ON SLEEPERS
(E) OPEN SHAFT
(E) SKYLIGHT
PLAN NORTH
NORTH
20' 10' 0 20' 40'
1"=20'-0"

9 PROPOSED OVERALL SITE PLAN
1"=20'-0"

Sprint
12657 Alcosta Blvd., Suite 300
San Ramon, CA 94583

1330 North Broadway
Suite 202
Walnut Creek, CA 94596

Borges

PROJECT NO:	13065-108
DRAWN BY:	HLH
CHECKED BY:	B.K.W.

REV	DATE	DESCRIPTION
3	09/03/14	100% CD SUB REV 2
2	06/26/14	100% CD SUB REV 1
1	03/05/14	100% CD SUBMITTAL
0	01/29/14	90% CD SUBMITTAL

09/03/14
100% CD SUB REV 2

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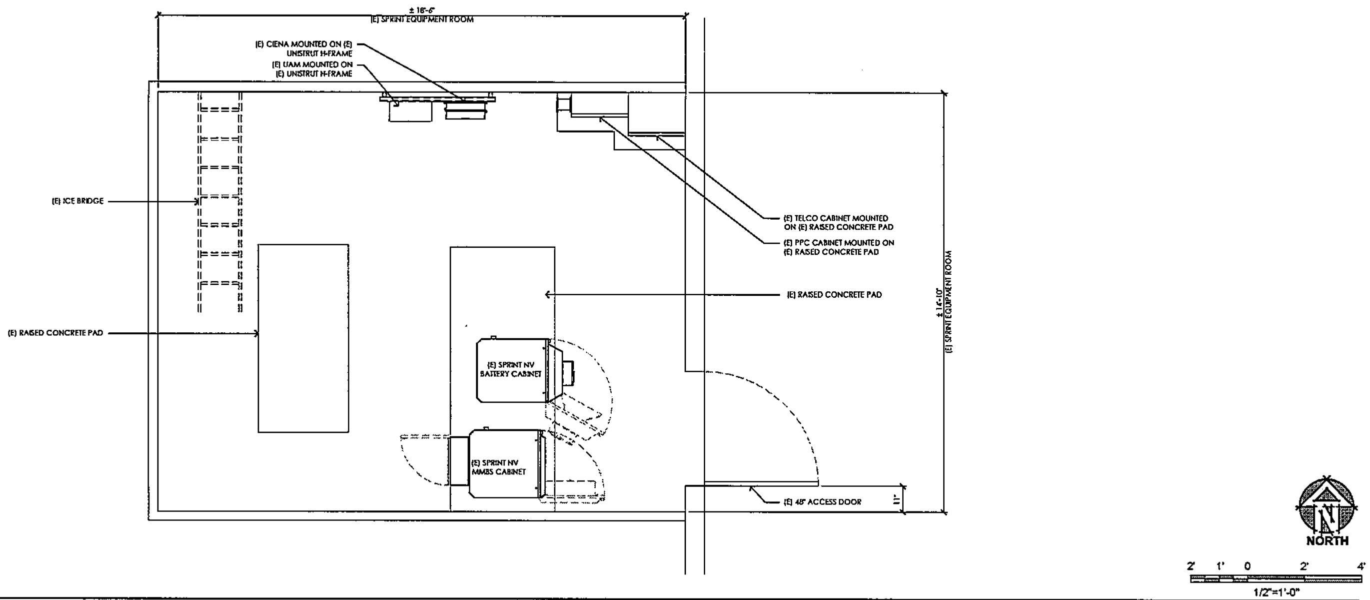
SF36XC032-B

MELROSE PLACE

5460 BANCROFT AVENUE
OAKLAND, CA 94601

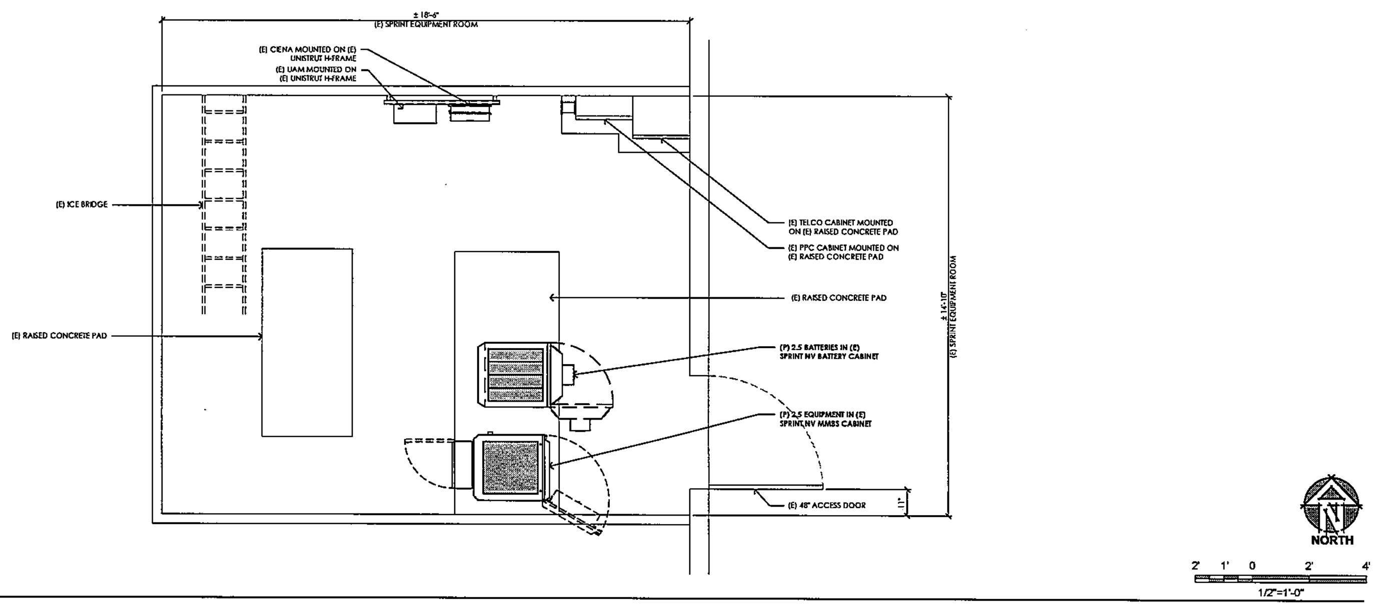
SHEET TITLE
OVERALL SITE PLANS

SHEET NUMBER
A-1



± 18'-6"
(E) SPRINT EQUIPMENT ROOM
(E) CIENA MOUNTED ON (E) UNISTRUT H-FRAME
(E) UAM MOUNTED ON (E) UNISTRUT H-FRAME
(E) ICE BRIDGE
(E) RAISED CONCRETE PAD
(E) TELCO CABINET MOUNTED ON (E) RAISED CONCRETE PAD
(E) PPC CABINET MOUNTED ON (E) RAISED CONCRETE PAD
(E) RAISED CONCRETE PAD
(E) SPRINT NV BATTERY CABINET
(E) SPRINT NV MMBS CABINET
± 14'-10"
(E) SPRINT EQUIPMENT ROOM
(E) 48" ACCESS DOOR
11"
NORTH
2' 1' 0 2' 4'
1/2"=1'-0"

19 EXISTING EQUIPMENT LAYOUT
1/2" = 1'-0"



± 18'-6"
(E) SPRINT EQUIPMENT ROOM
(E) CIENA MOUNTED ON (E) UNISTRUT H-FRAME
(E) UAM MOUNTED ON (E) UNISTRUT H-FRAME
(E) ICE BRIDGE
(E) RAISED CONCRETE PAD
(E) TELCO CABINET MOUNTED ON (E) RAISED CONCRETE PAD
(E) PPC CABINET MOUNTED ON (E) RAISED CONCRETE PAD
(E) RAISED CONCRETE PAD
(P) 2.5 BATTERIES IN (E) SPRINT NV BATTERY CABINET
(P) 2.5 EQUIPMENT IN (E) SPRINT NV MMBS CABINET
± 14'-10"
(E) SPRINT EQUIPMENT ROOM
(E) 48" ACCESS DOOR
11"
NORTH
2' 1' 0 2' 4'
1/2"=1'-0"

17 PROPOSED EQUIPMENT LAYOUT
1/2" = 1'-0"

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Borges

PROJECT NO:	13065-108
DRAWN BY:	HLH
CHECKED BY:	B.K.W.

REV	DATE	DESCRIPTION
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1	03/05/14	100% CD SUBMITTAL
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09/03/14
100% CD SUB REV 2

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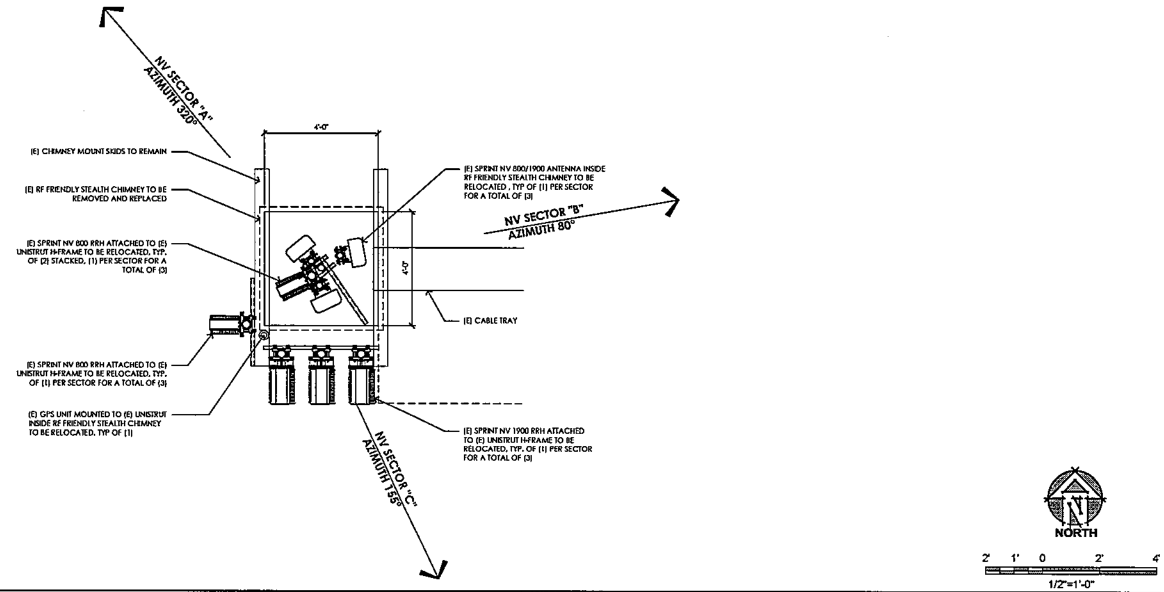
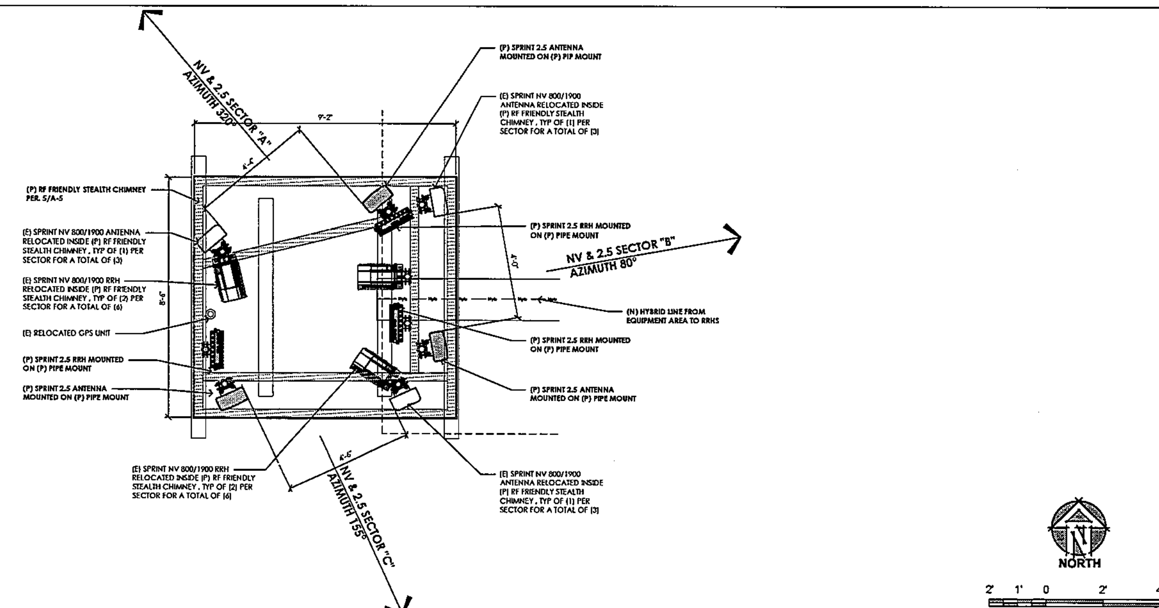
SF36XC032-B
MELROSE PLACE
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
ENLARGED EQUIPMENT PLANS

SHEET NUMBER
A-2.1


NV SECTOR "A"
AZIMUTH 320°
4'-0"
(E) CHIMNEY MOUNT SKIDS TO REMAIN
(E) RF FRIENDLY STEALTH CHIMNEY TO BE REMOVED AND REPLACED
(E) SPRINT NV 800 RRH ATTACHED TO (E) UNISTRUT H-FRAME TO BE RELOCATED, TYP. OF (2) STACKED, (1) PER SECTOR FOR A TOTAL OF (3)
(E) SPRINT NV 800 RRH ATTACHED TO (E) UNISTRUT H-FRAME TO BE RELOCATED, TYP. OF (1) PER SECTOR FOR A TOTAL OF (3)
(E) GPS UNIT MOUNTED TO (E) UNISTRUT INSIDE RF FRIENDLY STEALTH CHIMNEY TO BE RELOCATED. TYP. OF (1)
(E) SPRINT NV 800/1900 ANTENNA INSIDE RF FRIENDLY STEALTH CHIMNEY TO BE RELOCATED, TYP. OF (1) PER SECTOR FOR A TOTAL OF (3)
NV SECTOR "B"
AZIMUTH 80°
(E) CABLE TRAY
(E) SPRINT NV 1900 RRH ATTACHED TO (E) UNISTRUT H-FRAME TO BE RELOCATED, TYP. OF (1) PER SECTOR FOR A TOTAL OF (3)
NV SECTOR "C"
AZIMUTH 155°
NORTH
2' 1' 0 2' 4'
1/2"=1'-0"

(19) EXISTING ANTENNA LAYOUT
1/2" = 1'-0"


NV & 2.5 SECTOR "A"
AZIMUTH 320°
9'-2"
(P) RF FRIENDLY STEALTH CHIMNEY PER. 5/A-5
(E) SPRINT NV 800/1900 ANTENNA RELOCATED INSIDE (P) RF FRIENDLY STEALTH CHIMNEY, TYP. OF (1) PER SECTOR FOR A TOTAL OF (3)
(E) SPRINT NV 800/1900 RRH RELOCATED INSIDE (P) RF FRIENDLY STEALTH CHIMNEY, TYP. OF (2) PER SECTOR FOR A TOTAL OF (6)
(E) RELOCATED GPS UNIT
(P) SPRINT 2.5 RRH MOUNTED ON (P) PIPE MOUNT
(P) SPRINT 2.5 ANTENNA MOUNTED ON (P) PIPE MOUNT
(P) SPRINT 2.5 ANTENNA MOUNTED ON (P) PIP MOUNT
(E) SPRINT NV 800/1900 ANTENNA RELOCATED INSIDE (P) RF FRIENDLY STEALTH CHIMNEY, TYP. OF (1) PER SECTOR FOR A TOTAL OF (3)
(P) SPRINT 2.5 RRH MOUNTED ON (P) PIPE MOUNT
NV & 2.5 SECTOR "B"
AZIMUTH 80°
(N) HYBRID LINE FROM EQUIPMENT AREA TO RRHS
(P) SPRINT 2.5 RRH MOUNTED ON (P) PIPE MOUNT
(P) SPRINT 2.5 ANTENNA MOUNTED ON (P) PIPE MOUNT
(E) SPRINT NV 800/1900 RRH RELOCATED INSIDE (P) RF FRIENDLY STEALTH CHIMNEY, TYP. OF (2) PER SECTOR FOR A TOTAL OF (6)
(E) SPRINT NV 800/1900 ANTENNA RELOCATED INSIDE (P) RF FRIENDLY STEALTH CHIMNEY, TYP. OF (1) PER SECTOR FOR A TOTAL OF (3)
NV & 2.5 SECTOR "C"
AZIMUTH 155°
NORTH
2' 1' 0 2' 4'
1/2"=1'-0"

(17) PROPOSED ANTENNA LAYOUT
1/2" = 1'-0"

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PORTATELECOM, INC.
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Suite 202
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Borges Architectural Group

PROJECT NO:	13065-108
DRAWN BY:	HLH
CHECKED BY:	B.K.W.

REV	DATE	DESCRIPTION
3	09/03/14	100% CD SUB REV 2
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1	03/05/14	100% CD SUBMITTAL
0	01/29/14	90% CD SUBMITTAL

09/03/14
100% CD SUB REV 2

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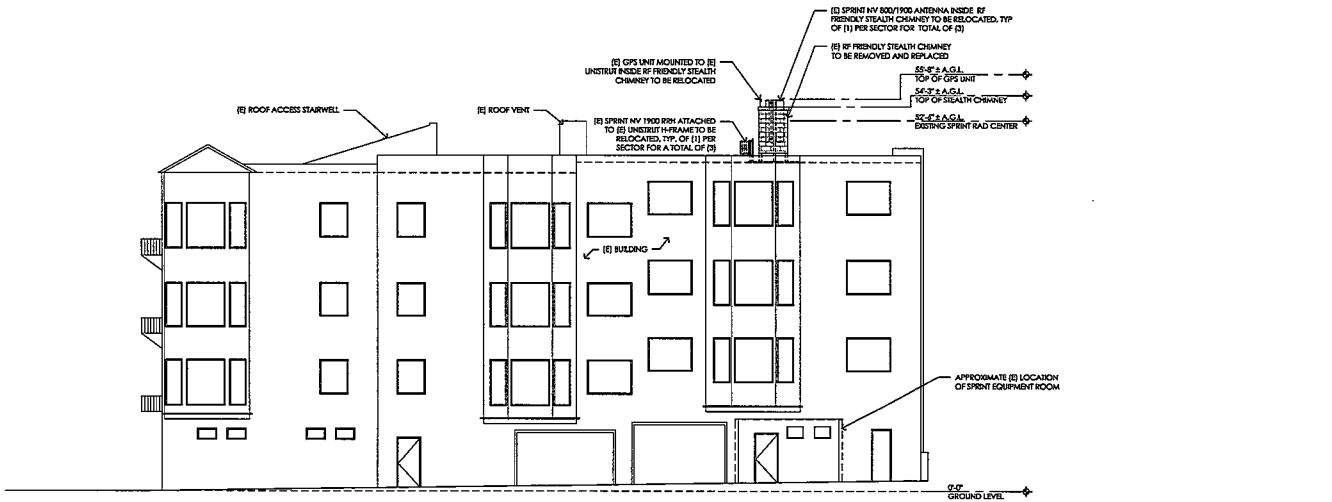
SF36XC032-B

MELROSE PLACE

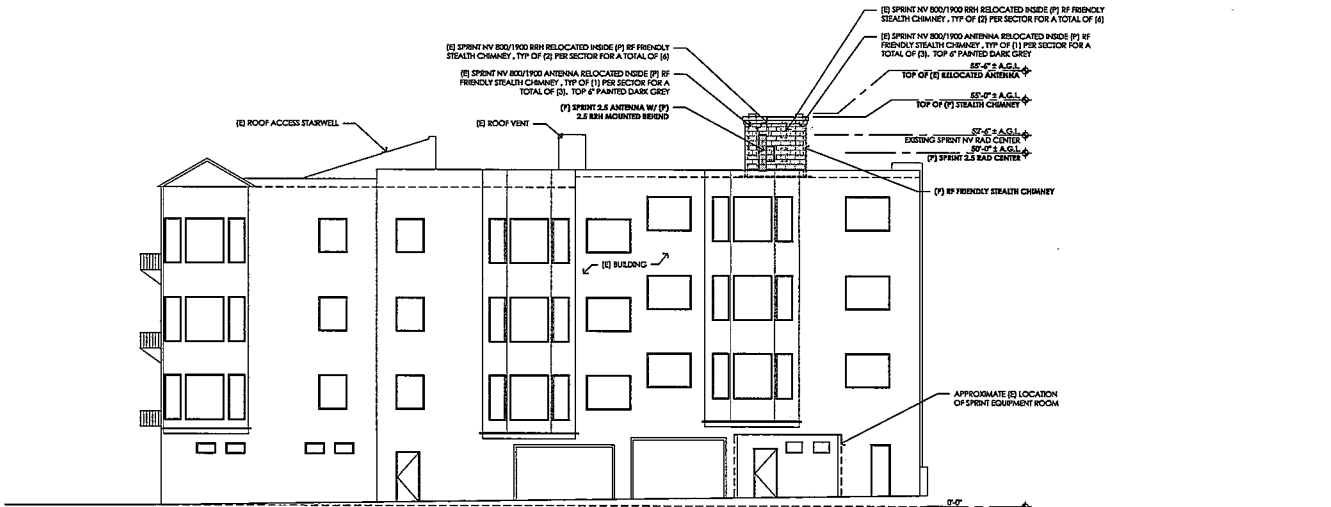
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
ENLARGED ANTENNA PLANS

SHEET NUMBER
A-2.2



19 EXISTING EAST ELEVATION
1/8" = 1'-0"



17 PROPOSED EAST ELEVATION
1/8" = 1'-0"

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San Ramon, CA 94583

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Walnut Creek, CA 94596

ARCHITECTURAL GROUP Borges

PROJECT NO:	13065-108
DRAWN BY:	HLH
CHECKED BY:	B.K.W.

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0	01/29/14	90% CD SUBMITTAL

09/03/14
100% CD SUB REV 2

LICENSED ARCHITECT RICHARD SABATINI No. C11535 REN. 08-31-2015 STATE OF CALIFORNIA

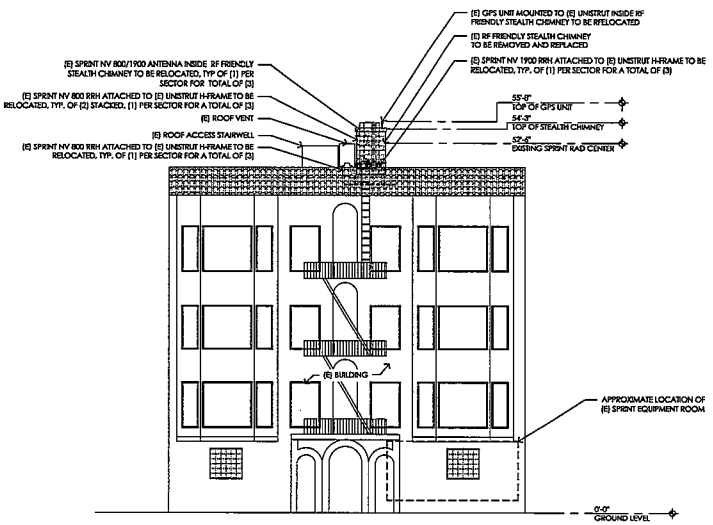
SF36XC032-B

MELROSE PLACE

5460 BANCROFT AVENUE
OAKLAND, CA 94601

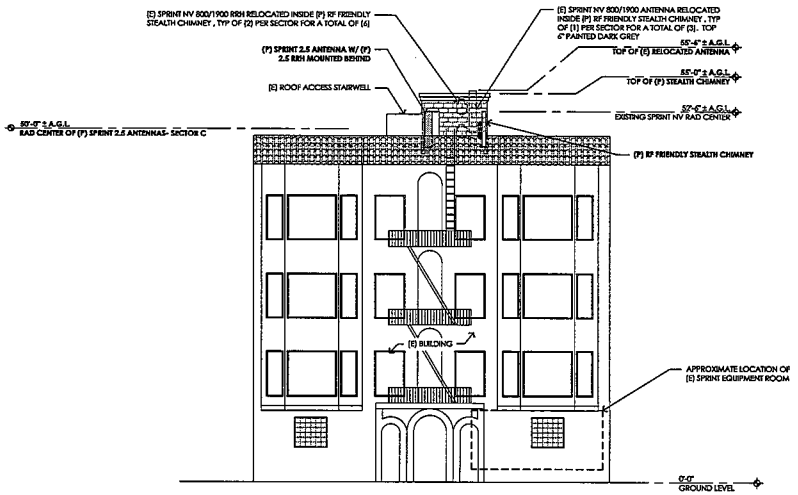
SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-3.1



19 EXISTING SOUTH ELEVATION
1/8" = 1'-0"

8' 4' 0 8' 16'
1/8"=1'-0"



17 PROPOSED SOUTH ELEVATION
1/8" = 1'-0"

8' 4' 0 8' 16'
1/8"=1'-0"

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Borges ARCHITECTURAL GROUP

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1	03/05/14	100% CD SUBMITTAL
0	01/29/14	90% CD SUBMITTAL

09/03/14
100% CD SUB REV 2

LICENSED ARCHITECT EDWARD SABRSULA No. C11035 STATE OF CALIFORNIA

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MELROSE PLACE

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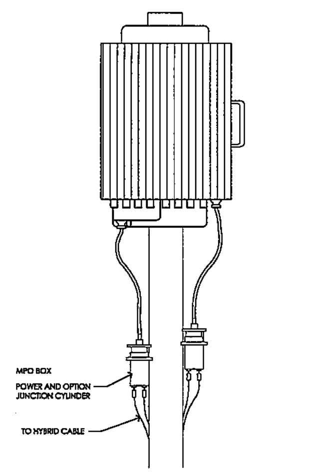
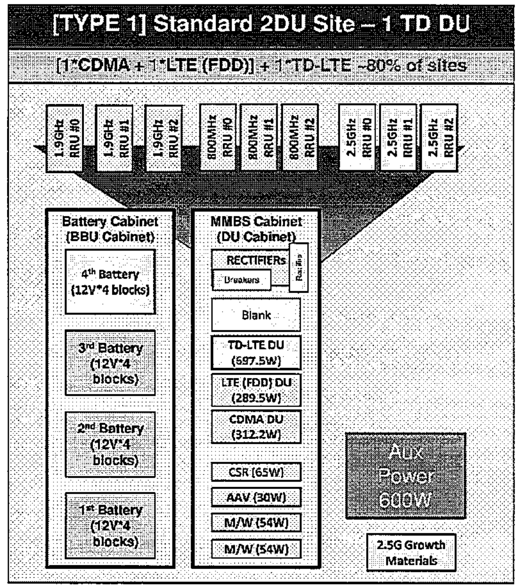
OAKLAND, CA 94601

SHEET TITLE
ELEVATIONS

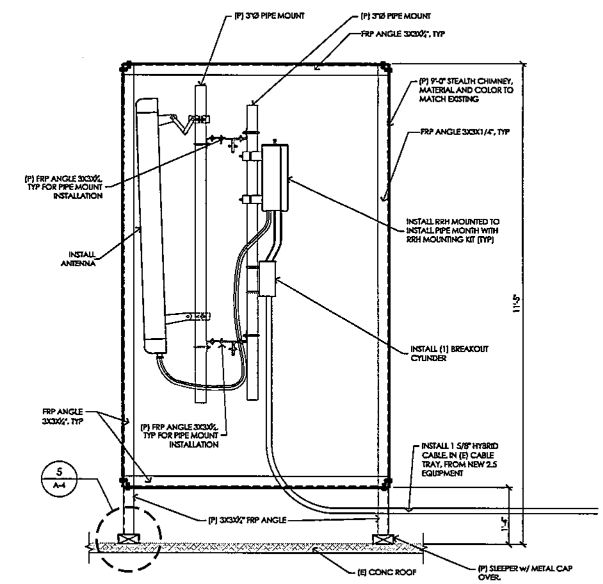
SHEET NUMBER
A-3.2



19 JUNCTION CYLINDER DETAIL
N.T.S.


[TYPE 1] Standard 2DU Site – 1 TD DU
[1*CDMA + 1*LTE (FDD)] + 1*TD-LTE ~80% of sites
1.9GHz RRU #0
1.9GHz RRU #1
1.9GHz RRU #2
800MHz RRU #0
800MHz RRU #1
800MHz RRU #2
2.5GHz RRU #0
2.5GHz RRU #1
2.5GHz RRU #2
Battery Cabinet (BBU Cabinet)
4th Battery (12V*4 blocks)
3rd Battery (12V*4 blocks)
2nd Battery (12V*4 blocks)
1st Battery (12V*4 blocks)
MMBS Cabinet (DU Cabinet)
RECTIFIERS
Breakers
Blank
TD-LTE DU (597.5W)
LTE (FDD) DU (289.5W)
CDMA DU (312.2W)
CSR (65W)
AAV (30W)
M/W (54W)
M/W (54W)
Aux Power 600W
2.5G Growth Materials

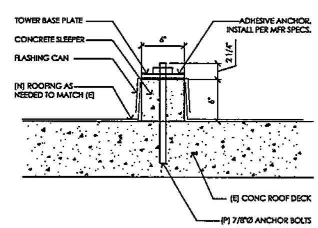
15 HW DIMENSIONING - TYPICAL 3 SECTOR- NV 2DU: TYPE 1


(P) 3"Ø PIPE MOUNT
(P) 3"Ø PIPE MOUNT
FRP ANGLE 3X3X¼", TYP
(P) 9'-0" STEALTH CHIMNEY, MATERIAL AND COLOR TO MATCH EXISTING
FRP ANGLE 3X3X1/4", TYP
(P) FRP ANGLE 3X3X¼, TYP FOR PIPE MOUNT INSTALLATION
INSTALL ANTENNA
INSTALL RRH MOUNTED TO INSTALL PIPE MONTH WITH RRH MOUNTING KIT (TYP)
INSTALL (1) BREAKOUT CYLINDER
11'-5"
FRP ANGLE 3X3X¼", TYP
(P) FRP ANGLE 3X3X¼, TYP FOR PIPE MOUNT INSTALLATION
INSTALL 1 5/8" HYBRID CABLE IN (E) CABLE TRAY, FROM NEW 2.5 EQUIPMENT
5 A-4
(P) 3X3X¼" FRP ANGLE
1'-4"
(E) CONC ROOF
(P) SLEEPER w/ METAL CAP OVER.

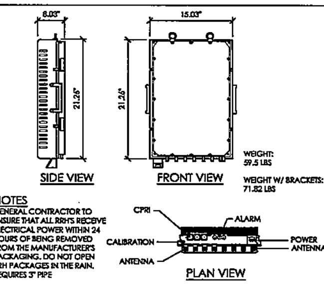
7 (P) ROOF MOUNTING DETAIL
3/4" = 1'-0"

CFC CHAPTER 6 COMPLIANCE				
TOTAL ELECTROLYTE = 16 BATTERIES X 2.49 GAL/BATTERY = 39.84 GAL (SINCE <50 GAL OF ELECTROLYTE, CFC CHAPTER 6, SECTION 608 NOT APPLICABLE)				
BATTERY INFORMATION (BATTERY ELECTROLYTE DATA - 12V MONOBLOCKS)				
BATTERY MODEL	TOTAL # OF BATTERY UNITS INSTALLED	TOTAL ELECTROLYTE VOLUME (GAL) PER UNIT	TOTAL ELECTROLYTE WEIGHT (LBS) PER UNIT	% SULFURIC ACID BY VOL = ACID VOLUME / UNIT / ELECTROLYTE VOLUME/UNIT
12DT190	16	2.49 GAL	27.35 LBS	58% = 1.45 GAL / 2.49 GAL
% SULFURIC ACID BY WEIGHT = TOTAL ACID WEIGHT / TOTAL ELECTROLYTE WEIGHT		TOTAL SULFURIC VOL (GAL) = TOTAL UNITS X SULFURIC VOL/UNIT		% SULFURIC ACID BY VOL = ACID VOLUME / UNIT / ELECTROLYTE VOLUME/UNIT
40.8% = 11.2 LBS/27.25 LBS		23.2 GAL = 16 UNITS X 1.45 / UNIT		177.98 LBS = 16 UNITS X 11.12 LBS

17 BATTERY DATA CHART
1 1/2" = 1'-0"

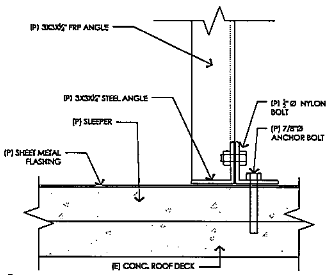


6 CONCRETE SLEEPER ANCHORAGE
1 1/2" = 1'-0"



NOTES
GENERAL CONTRACTOR TO ENSURE THAT ALL RRH'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRH PACKAGES IN THE RAIN. REQUIRES 3" PIPE

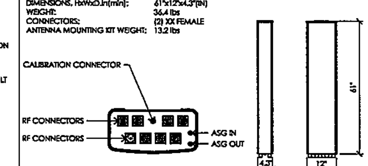
2 2.5 RRH
NOT TO SCALE



5 ENLARGED CURB DETAIL
3" = 1'-0"

ANTENNA MAKE AND MODE

MANUFACTURER:	KMW
MODEL:	ET-X-WM-18-65-8P
RADOME MATERIAL:	XXX
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD.In(mln):	61"x12"x4.3"(IN)
WEIGHT:	36.4 lbs
CONNECTORS:	(2) XX FEMALE
ANTENNA MOUNTING KIT WEIGHT:	13.2 lbs



1 2.5 ANTENNA
NOT TO SCALE

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ARCHITECTURAL GROUP Borges
ARCHITECTURE PLANNING INTERIORS

PROJECT NO:	13065-108
DRAWN BY:	HLH
CHECKED BY:	B.K.W.

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09/03/14
100% CD SUB REV 2

LICENSED ARCHITECT RICHARD SAMBUCETTI No. C11535 Ren. 09-30-15 STATE OF CALIFORNIA

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MELROSE PLACE

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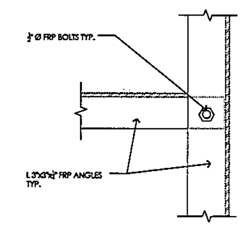
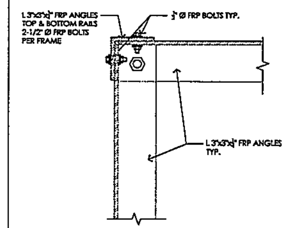
SHEET TITLE
EQUIPMENT DETAILS

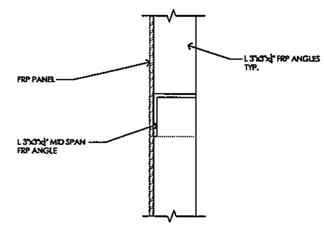
SHEET NUMBER
A-4



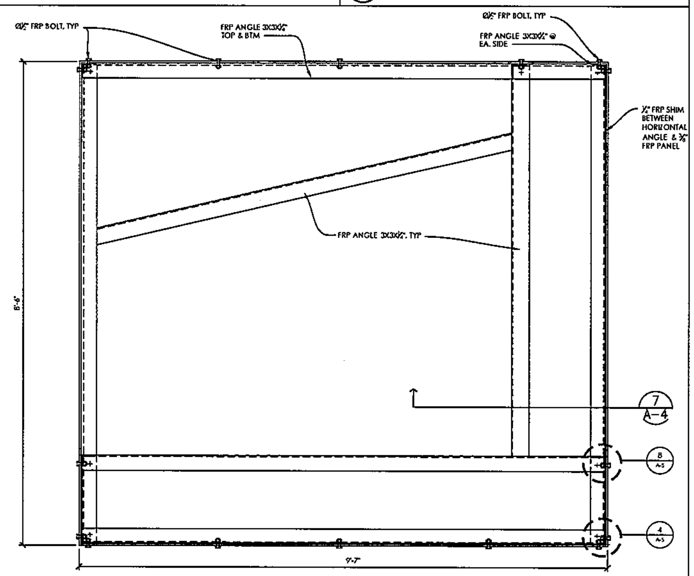
8 STEALTH 3X3 JOINT 3 DETAIL
3" = 1'-0"



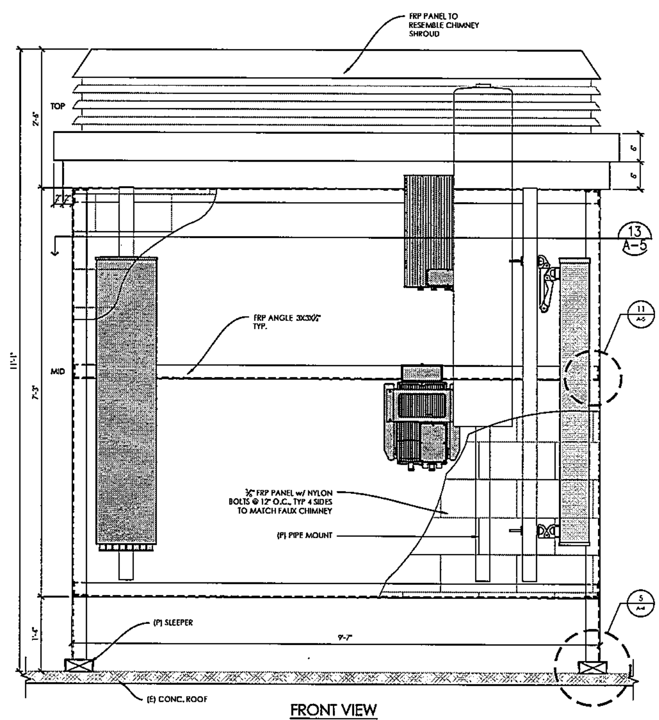
4 STEALTH 3X3 JOINT 2 DETAIL
3" = 1'-0"



11 MID SPAN DETAIL
3" = 1'-0"



13 FRP BOX PLAN VIEW
1" = 1'-0"



5 FRP BOX ELEVATION (FRONT)
1" = 1'-0"

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FORZA TELECOM, Inc.
1330 North Broadway
Suite 202
Walnut Creek, CA 94596

Borges
ARCHITECTURAL GROUP

PROJECT NO:	13065-108
DRAWN BY:	HLH
CHECKED BY:	B.K.W.

REV	DATE	DESCRIPTION
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09/03/14
100% CD SUB REV 2

LICENSED ARCHITECT
RICHARD SAMBUCETTI
No. C11555
STATE OF CALIFORNIA

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SF36XC032-B
MELROSE PLACE
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
STEALTH DETAILS

SHEET NUMBER
A-5

RFDS Sheet

General Site Information

Site ID	SF36XC032	Equipment Vendor	Samsung
Market	SF Bay	Lattitude	37.7721667
Region	West	Longitude	-122.1986667
MLA		LL SITE ID	
Structure Type	ROOFTOP		
BTS Type	STANDARD		

Transmit	2496 Mhz - 2690 Mhz	Siterra SR Equipment type	Outdoor Macro	Incremental Power Draw needed by added Equipment
Receive	2496 Mhz - 2690 Mhz	Equipment Vendor	Samsung	0

Base Equipment

BBU Kit	UADU	Top Hat	
BBU Kit Qty	1	Top Hat Qty	
BBU Dimensions	3.5" x 17.1" x 15.2"	Top Hat Dimenstions	
Growth Cabinet		Top Hat Weight (lbs)	
Growth Cabinet Qty			
Growth Cabinet Dimensions			
Growth Cabinet Weight			

RF Path Information

RRH	RRH-V3	
RRH Qty	3	
RRH Dimensions	15.5" x 18.6" x 7.48"	Specs as provided by Sprint is 15.03" x 21.26" x 8.03"
RRH Weight. lbs.	54	Weight: 59.5 LBS
RRH Mount Weight. Lbs.	12.32	
Power and Fiber Cable	e Solution derived from existing	
Cable Qty	NA	
Weight per foot. Lbs.	NA	
Diameter. Inches.	NA	
Length Ft.	60	(calculated as antenna height plus 20%)
Coax Jumper		
Coax Jumper Qty	27	
Coax Jumper Length. Feet.	8	
Coax Jumper Weight	TBD	GC to verify jumper length and quantity
Coax Jumper Diameter. Inches	0.5	
AISG Cable	Commscope ATCB-B01-006	
AISG Cable Qty	3	
AISG Diameter. Inches.	0.315	
AISG Cable length.	8	
Weight of entire AISG cable. Lbs.	1.3	

Antenna Sector Information

	Sector 1	Sector 2	Sector 3
Antenna make/model	KMW ET-X-WM-18-65-8P	KMW ET-X-WM-18-65-8P	KMW ET-X-WM-18-65-8P
Antenna qty	1	1	1
Antenna Dimensions. Inches	61" x 12" x 4"	61" x 12" x 4"	61" x 12" x 4"
Antenna Weight. Inches	36	36	36
Antenna Mounting Kit Weight. Lbs.	~11 lb estimate. TBD.	~11 lb estimate. TBD.	~11 lb estimate. TBD.
CL Height	50	50	50
Antenna Azimuth	320	80	140
Antenna Mechanical Downtilt	0	0	0
Antenna etilt	-2	-2	-2

Specs as provided by Sprint is 61" x 12" x 4.3"
Antenna Weight: 36.4 lbs
Antenna mounting kit weight: 13.2 lbs

ANTENNA SCHEDULE & PARTS LIST | NO SCALE | A

Sprint
12657 Alcosta Blvd., Suite 300
San Ramon, CA 94583

1330 North Broadway
Suite 202
Walnut Creek, CA 94596

Borges Architectural Group

PROJECT NO: 13065-108
DRAWN BY: HLH
CHECKED BY: B.K.W.

REV	DATE	DESCRIPTION
3	09/03/14	100% CD SUB REV 2
2	06/26/14	100% CD SUB REV 1
1	03/05/14	100% CD SUBMITTAL
0	01/29/14	90% CD SUBMITTAL

09/03/14
100% CD SUB REV 2

SF36XC032-B
MELROSE PLACE
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
ANTENNA SCHEDULE & PARTS LIST

SHEET NUMBER
RF-1

1. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL LOCAL AND STATE CODE, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.

2. CONTRACTOR SHALL COORDINATE WITH LOCAL POWER COMPANY FOR REQUIREMENTS OF POWER SERVICE LINE TO THE METER BASE. POWER SERVICE REQUIREMENT IS COMMERCIAL AC NOMINAL 120/208 VOLT OR 120/240 VOLT, SINGLE PHASE WITH 200 AMP RATING.

3. CONTRACTOR SHALL COORDINATE WITH LOCAL TELEPHONE COMPANY FOR REQUIREMENTS OF "T1" SERVICE LINE TO TERMINATE AT THE PPC CABINET.

4. CONTRACTOR SHALL FURNISH AND INSTALL ELECTRIC METER BASE AND 200A DISCONNECT SWITCH PER SITE PLAN AND DETAIL DRAWINGS. THE METER BASE SHOULD BE LOCATED IN A MANNER WHERE ACCESSIBLE BY THE LOCAL POWER COMPANY.

5. LOCAL POWER COMPANY SHALL PROVIDE 200 AMP ELECTRIC METER. CONTRACTOR SHALL COORDINATE INSTALLATION OF METER WITH LOCAL POWER COMPANY.

6. UNDERGROUND POWER AND TELCO SERVICE LINES SHALL BE ROUTED IN A COMMON TRENCH. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 AND CONDUIT EXPOSED ABOVE GROUND SHALL BE RIGID GALVANIZED STEEL UNLESS OTHERWISE INDICATED.

7. ALL TELCO CONDUIT LINES SHALL BE 4" SCH. 40 PVC CONDUIT UNLESS OTHERWISE INDICATED. THE TELCO CONDUIT FROM THE PPC SHALL BE ROUTED AND TERMINATED AT DESIGNATED TELCO DEMARCATION OR 2-FEET OUTSIDE FENCED AREA, NEAR UTILITY POLE (IN FENCED AREA), OR END CAP OFF AND PROVIDE MARKER STAKE PAINTED BRIGHT ORANGE WITH DESIGNATION FOR TELCO SERVICE.

8. CONDUITS INSTALLED AT PCS EQUIPMENT ENDS PRIOR TO THE EQUIPMENT INSTALLATION SHALL BE STUBBED AND CAPPED AT 6" ABOVE GRADE OR PLATFORM. IF SERVICE LINES CAN'T BE INSTALLED INITIALLY, PROVIDE NYLON PULL CORD IN CONDUITS.

9. THE SPRINT CABINET, INCLUDING 200 AMP LOAD PANEL AND TELCO PANEL, SHALL BE PROVIDED BY OWNER AND INSTALLED BY THE CONTRACTOR. CONTRACTOR IS TO INSTALL BREAKER(S) NOT PROVIDED BY MANUFACTURER. SEE PANEL SCHEDULE ON THIS SHEET FOR BREAKER REQUIREMENTS.

10. LOCATION OF ELECTRIC METER AND DISCONNECT SWITCH TO BE COORDINATED BY ELECTRICAL CONTRACTOR AND FIELD CONSTRUCTION MANAGER.

11. #2 WIRE TO BE UTILIZED IN ELECTRIC SERVICE RUNS EXCEEDING 100'.

12. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.

13. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.

14. THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE, EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.

15. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.

16. ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.

17. ALL CONDUIT TERMINATIONS SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.

18. ALL WIRE SHALL BE TYPE THWN, SOLID, ANNEALED COPPER UP TO SIZE #10 AWG (#8 AND LARGER SHALL BE CONCENTRIC STRANDED) 75 DEGREE C, (167 DEGREES F), 98% CONDUCTIVITY, MINIMUM #12.

19. ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS. ACTION CRAFT, BRADY, OR APPROVED EQUAL.

20. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.

21. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION TO CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.

22. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN NOT HAND WRITTEN.

23. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.

24. THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS. DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.

25. ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM (NO EXCEPTIONS.)

26. ALL ELECTRICAL DEVICES AND INSTALLATIONS OF THE DEVICES SHALL COMPLY WITH (ADA) AMERICANS WITH DISABILITIES ACT AS ADOPTED BY THE APPLICABLE STATE.

27. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

28. ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY VARY FROM DESIGN AS SHOWN ON THESE DRAWINGS).

29. LOCATION OF ALL OUTLET, BOXES, ETC., AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.

17 ELECTRICAL NOTES
NOT TO SCALE

NOTE:
1. ALL (E) LOADS FROM SITE MUST BE INCORPORATED INTO THE (N) INTEGRATED LOAD CENTER
2. ALL (E) CIRCUITS SHALL BE RELOCATED TO PROPOSED LOAD CENTER UPON COMPLETION OF EQUIPMENT MIGRATION
3. CONDUIT ROUTING IS DIAGRAMMATICALLY SHOWN ON PLANS AND ARE ONLY APPROXIMATIONS. THE EXACT LOCATION AND ROUTING SHALL BE FIELD VERIFIED.
4. ALL ELECTRICAL EQUIPMENT AND CONTROLLING DEVICES SHALL BE PROVIDED WITH LAMI COLD NAMEPLATES, INDICATING THE CIRCUITS ORIGINATION AND ALL EQUIPMENT TERMINATIONS
5. CONTRACTOR SHALL SUPPLY BREAKERS, CONDUITS AND CIRCUIT CONDUCTORS, AS REQUIRED FOR A COMPLETED SYSTEM AND SHALL BE IN COMPLIANCE WITH MANUFACTURER SPECIFICATIONS.

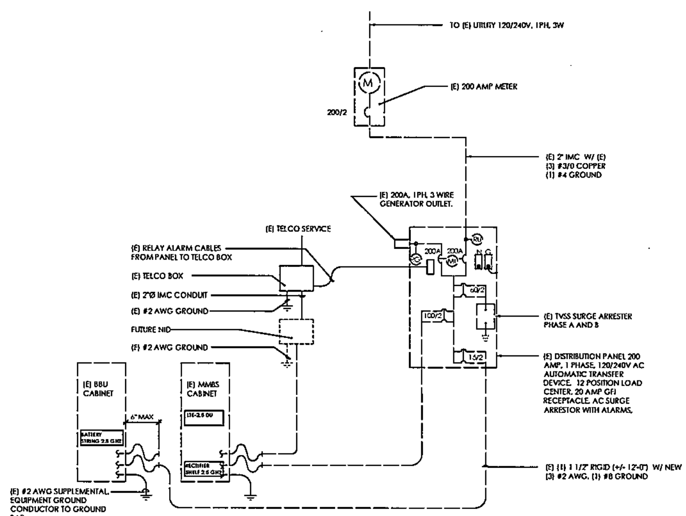
(E) SPRINT PANEL

VOLTAGE: 120/240 V, 1 PHASE, 3 WIRE				MOUNTING: SURFACE			ENCLOSURE: NEMA 3R
BUS: 200 AMPS				TYPE: 200/2 TRANSFER DEVICE			A/C RATING: 22,000
LOAD	KVA	CB	NO	NO	CB	KVA	LOAD
BBU-15AMP	0.80	15	1	2	40	0.12	SURGE PROTECTOR
		2	3	4	1		
MMBS-100AMP	17.50	100	5	6	60	0.00	SPARE
		2	7	8	2		
LIGHTS	0.50	15 / 1	9	10	20 / 1	0.12	GFI PLUG
TELCO FAN	0.18	15 / 1	11	12	20 / 1	0.18	COOLING FAN

CONNECTED LOAD 19.40
25% LIGHTING
25% LARGEST MOTOR 0.00
TOTAL CONNECTED LOAD 19.40
CONNECTED LOAD: 80.83 AMPERES

EXISTING ELECTRICAL PANEL SCHEDULE

PANEL SCHEDULE
NOT TO SCALE



13 ONE LINE DIAGRAM AND PANEL SCHEDULE
1" = 1'-0"

TYPICAL SYMBOLS

- LIGHTING FIXTURE, WALL MOUNTED
- EM NIGHT LIGHT - FIXTURES TAGGED "EM" TO HAVE EMERGENCY BATTERY BALLAST
- FLUORESCENT LIGHT FIXTURE, SEE FIXTURE SCHEDULE
- FLUORESCENT LIGHT FIXTURE, SEE FIXTURE SCHEDULE
- EXIT LIGHT FIXTURE, DIRECTIONAL ARROWS AS REQUIRED.
- EMERGENCY LIGHT. MOUNT AT 84" AFF.
- LIGHT FIXTURE TAG. SEE FIXTURE SCHEDULE.
- FIRE ALARM CONTROL PANEL
- FIRE PULL STATION AT +48"
- FIRE FLOW SWITCH
- FIRE TAMPER SWITCH
- JUNCTION BOX
- SINGLE POLE TOGGLE SWITCH, 20A, +48"
- TWO GANG TOGGLE SWITCH, 20A, +48" UON LETTERS DENOTE FIXTURES SERVED
- 2 POLE TOGGLE SWITCH, 20A, +48"
- 3 WAY TOGGLE SWITCH, 20A, +48"
- DIMMER SWITCH, 20A, +48"
- TIMER SWITCH 20A, @ +48"
- KEYED SWITCH, @ +48"
- PUSH BUTTON
- MOTION SENSOR SWITCH - SINGLE LEVEL LEVITON #6768 W +48"
- MOTION SENSOR SWITCH - DUAL LEVEL LEVITON #6772 W +48"
- CEILING HALLWAY MOUNTED OCCUPANT SENSING DEVICE, LEVITON #6787 W.
- CEILING MOUNTED OCCUPANT SENSING DEVICE "OS", LEVITON #16786 WITH POWER PACK "PP" LEVITON #6779-DT
- MOTION SENSOR SWITCH - CEILING MOUNTED
- POWER PACK FOR MOTION SENSORS
- FOURPLEX RECEPTACLE 15A, 125V, +18"AFF UON.
- DUPLEX RECEPTACLE OUTLET 20A, 125V, +18"AFF UON
- MOUNT OUTLET ABOVE COUNTER OR BACKSPLASH (VERIFY HEIGHT W/ARCHITECT)
- OUTLET MOUNTED IN FLOOR OR CEILING.
- SECURITY OUTLET WITH LOCKABLE COVER
- TELEPHONE OUTLET: +18"AFF UON, PROVIDE PULL WIRE OR 3/4" CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE.
- COMBINATION COMM/DATA OUTLET: +18"AFF UON, PROVIDE PULL WIRE OR 3/4" CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE.
- DATA OUTLET: +18" AFF UON, PROVIDE PULL WIRE OR 3/4: CONDUIT TO NEAREST ACCESSIBLE CEILING SPACE.
- TELEPHONE / DATA OUTLET MOUNTED IN FLOOR OR CEILING.
- MICROPHONE OUTLET MOUNTED IN FLOOR OR CEILING.
- MAIN SWITCHBOARD
- LIGHTING OR DISTRIBUTION PANEL
- SURFACE OR FLUSH TERMINAL CABINET
- DISTRIBUTION TRANSFORMER, MOUNTING AS NOTED
- DISCONNECT SWITCH SIZE & TYPE AS REQUIRED F=FUSED
- MOTOR SEE MECHANICAL PLANS AND SPECIFICATION
- EXHAUST FAN - SEE MECHANICAL PLANS AND SPECIFICATION
- MECHANICAL EQUIPMENT I.D. TAG - SEE MECHANICAL PLANS
- CIRCUIT CONCEALED IN CEILING OR WALL
- CIRCUIT CONCEALED IN FLOOR OR UNDERGROUND
- HOME RUN TO PANELBOARD OR TERMINAL CABINET
- DENOTES # OF #12 WIRES, NO MARKS = 2 #12, ½"C, CURVED HATCH DENOTES GROUND, OTHERS AS NOTED
- CONDUIT SEAL OFF
- TELEPHONE TERMINAL BOARD: SIZE AS SHOWN, FOURPLEX RECEPTACLE & 1 #6 CU TO GROUND.

NOTE: SYMBOLS INDICATED ABOVE MAY NOT NECESSARILY APPEAR AS PART OF THESE DRAWINGS IF NOT REQUIRED.

ABBREVIATIONS

BCW	BARE COPPER WIRE
C	CONDUIT
CEC	CALIFORNIA ELECTRICAL CODE
(E)	EXISTING
EG	EQUIPMENT GROUND
FACP	FIRE ALARM CONTROL PANEL
G	GROUND FAULT CIRCUIT INTERRUPTER
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
MCM	MILLION CIRCULAR MILLS
MP&S	SEE MECHANICAL PLANS & SPECIFICATIONS
(N)	NEW
NEC	NATIONAL ELECTRICAL CODE - NFPA 70
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NL	NIGHT LIGHT - FIXTURE TO BE UNSWITCHED
PFB	PROVISION FOR FUTURE BREAKER
PVC	POLYVINYL CHLORIDE CONDUIT
(R)	RELOCATE AS INDICATED
(RV)	REMOVE - RESTORE CONTINUITY TO REMAINING DEVICES.
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF
GFCI	GROUND FAULT CIRCUIT INTERRUPTER

Sprint
12657 Alcosta Blvd., Suite 300
San Ramon, CA 94583

FORZA TELECOM, INC.
1330 North Broadway
Suite 202
Walnut Creek, CA 94596

ARCHITECTURE PLANNING INTERIORS
Borges ARCHITECTURAL GROUP

PROJECT NO:	13065-108
DRAWN BY:	HLH
CHECKED BY:	B.K.W.

REV	DATE	DESCRIPTION
3	09/03/14	100% CD SUB REV 2
2	06/26/14	100% CD SUB REV 1
1	03/05/14	100% CD SUBMITTAL
0	01/29/14	90% CD SUBMITTAL

09/03/14
100% CD SUB REV 2

LICENSED ARCHITECT RICHARD SAMBUCETTI No. C11535 Ren. 09-30-15 STATE OF CALIFORNIA

SF36XC032-B
MELROSE PLACE
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
SINGLE LINE DIAGRAM & POWER PANEL SCHEDULE

SHEET NUMBER
E-1

CADWELD CONNECTIONS OR APPROVED EQUAL		BURNDY CONNECTIONS OR APPROVED EQUAL
PARALLEL HORIZONTAL CONDUCTORS PARALLEL THROUGH CONNECTION OF HORIZONTAL CABLES TYPE PT	HORIZONTAL STEEL SURFACE TO FLAT STEEL SURFACE OR HORIZONTAL PIPE TYPE HS	BOND JUMPER FIELD FABRICATED GREEN STRANDED INSULATED TYPE 2-YA-2
THROUGH CABLE TO GROUND ROD THROUGH CABLE TO TOP OF GROUND ROD TYPE GT	VERTICAL STEEL SURFACE CABLE DOWN AT 45° TO VERTICAL STEEL SURFACE INCLUDING PIPE TYPE VS	COPPER LUGS TWO HOLE - LONG BARREL LENGTH TYPE YA-2
VERTICAL PIPE CABLE DOWN AT 45° TO RANGE OF VERTICAL PIPES TYPE VS		

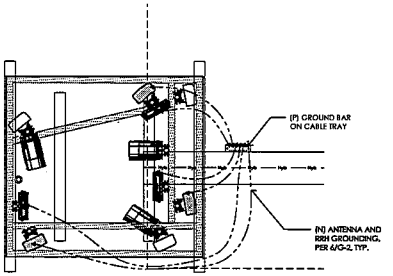
TYPICAL CADWELD TYPE CONNECTIONS
NO SCALE

GROUNDING NOTES

1. ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER SPECIFICATION.
2. IF THE AC PANEL IN THE POWER CABINET IS WIRED AS SERVICE ENTRANCE, THE AC SERVICE GROUND CONDUCTOR SHALL BE CONNECTED TO GROUND ELECTRODE SYSTEM. WHEN THE AC PANEL IN THE POWER CABINET IS CONSIDERED A SUB-PANEL, THE GROUND WIRE SHALL BE INSTALLED IN THE AC POWER CONDUIT. THE INSTALLATION SHALL BE PER LOCAL AND NATIONAL ELECTRIC CODE (NFPA-70).
3. EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL. OTHERWISE, THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP CLAMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH ANTIOXIDANT (COPPER SHIELD) BEFORE MAKING THE CONNECTIONS. THE MANUFACTURERS TORQUING RECOMMENDATIONS ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS SHALL BE FOLLOWED.
4. THE ANTENNA CABLES SHALL BE GROUNDED AT THE TOP AND BOTTOM OF THE VERTICAL RUN FOR LIGHTING PROTECTION. THE ANTENNA CABLE SHIELD SHALL BE BONDED TO A COPPER GROUND BUSS AT THE LOWER MOST POINT OF A VERTICAL RUN JUST BEFORE IT BEGINS TO BEND TOWARD THE HORIZONTAL PLANE. WIRE RUNS TO GROUND SHALL BE KEPT AS STRAIGHT AND SHORT AS POSSIBLE. ANTENNA CABLE SHIELD SHALL BE GROUNDED JUST BEFORE ENTERING THE CELL CABINET. ANY ANTENNA CABLES OVER 200 FEET IN LENGTH SHALL ALSO BE EQUIPPED WITH ADDITIONAL GROUNDING AT MID-POINT.
5. ALL GROUNDING CONDUCTORS INSIDE THE BUILDING SHALL BE RUN IN CONDUIT RACEWAY SYSTEM, AND SHALL BE INSTALLED AS STRAIGHT AS PRACTICAL WITH MINOR BENDS TO AVOID OBSTRUCTIONS. THE BENDING RADIUS OF ANY #2 GROUNDING CONDUCTOR IS 8". PVC RACEWAY MAY BE FLEXIBLE OR RIGID PER THE FIELD CONDITIONS. GROUNDING CONDUCTORS SHALL NOT MAKE CONTACT WITH ANY METALLIC CONDUITS, SURFACES OR EQUIPMENT.
6. PROVIDE PVC SLEEVES WHERE GROUNDING CONDUCTORS PASS THROUGH THE BUILDING WALLS AND /OR CEILINGS.
7. INSTALL GROUND BUSHINGS ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUSS IN THE PANEL BOARD.
8. GROUND ANTENNA BASES, FRAMES, CABLE RACKS AND OTHER METALLIC COMPONENTS WITH #2 GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
9. ALL PROPOSED GROUNDING CONDUCTORS SHALL BE ROUTED AND CONNECTED TO THE MAIN GROUND BAR OR EXISTING GROUND RING.

GROUNDING LEGEND

- EXISTING GROUND RING
- ● CADWELD CONNECTION (EXOTHERMIC WELD)
- ▲ MECHANICAL CONNECTION
- ⊗ GROUND ROD



17 ANTENNA GROUNDING PLAN
3/8" = 1'-0"

Sprint
12657 Alcosta Blvd., Suite 300
San Ramon, CA 94583

1330 North Broadway
Suite 202
Walnut Creek, CA 94596

ARCHITECTURAL GROUP
Borges

PROJECT NO:	13065-108
DRAWN BY:	HLH
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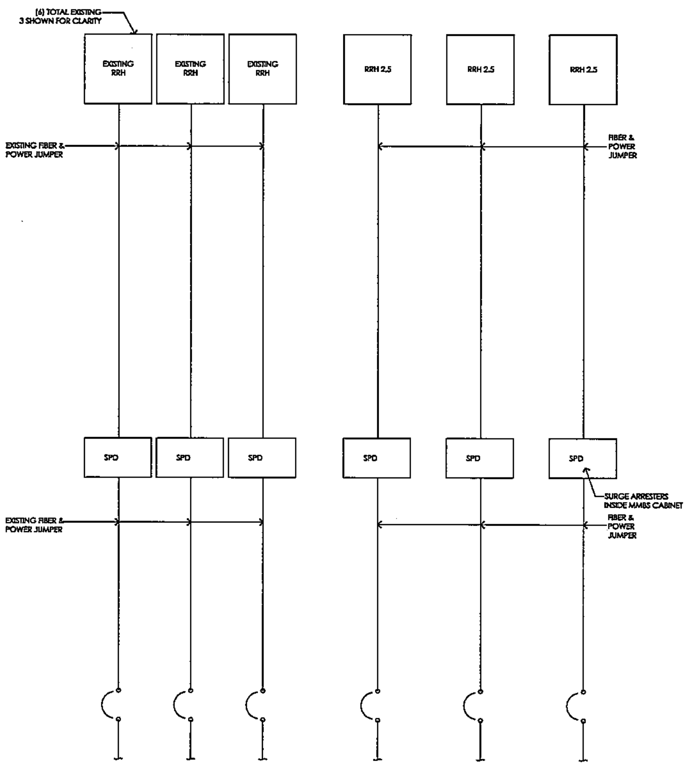
09/03/14
100% CD SUB REV 2

LICENSED ARCHITECT
No. C11535
STATE OF CALIFORNIA

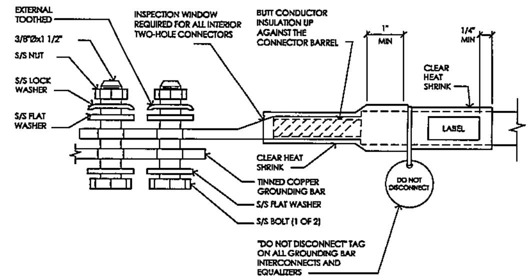
SF36XC032-B
MELROSE PLACE
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
GROUNDING PLAN & NOTES

SHEET NUMBER
G-1

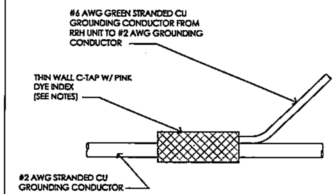


17 DC ONE LINE DIAGRAM
1/2" = 1'-0"



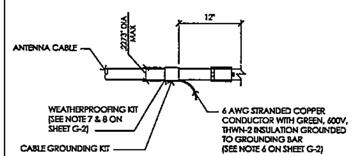
EXTERNAL TOOTHED
3/8"Ø x1 1/2"
S/S NUT
S/S LOCK WASHER
S/S FLAT WASHER
INSPECTION WINDOW REQUIRED FOR ALL INTERIOR TWO-HOLE CONNECTORS
BUTT CONDUCTOR INSULATION UP AGAINST THE CONNECTOR BARREL
1" MIN
1/4" MIN
CLEAR HEAT SHRINK
LABEL
CLEAR HEAT SHRINK
TINNED COPPER GROUNDING BAR
S/S FLAT WASHER
S/S BOLT (1 OF 2)
DO NOT DISCONNECT
"DO NOT DISCONNECT" TAG ON ALL GROUNDING BAR INTERCONNECTS AND EQUALIZERS

12 TWO HOLE LUG
NOT TO SCALE

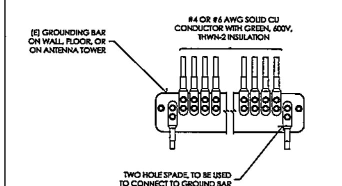


NOTE
CONTRACTOR TO SURROUND COMPLETED CONNECTION W/ WEATHER PROOFING TAPE TO ENSURE WEATHER PROOF CONNECTION.

4 C-TAP CONNECTION
NOT TO SCALE

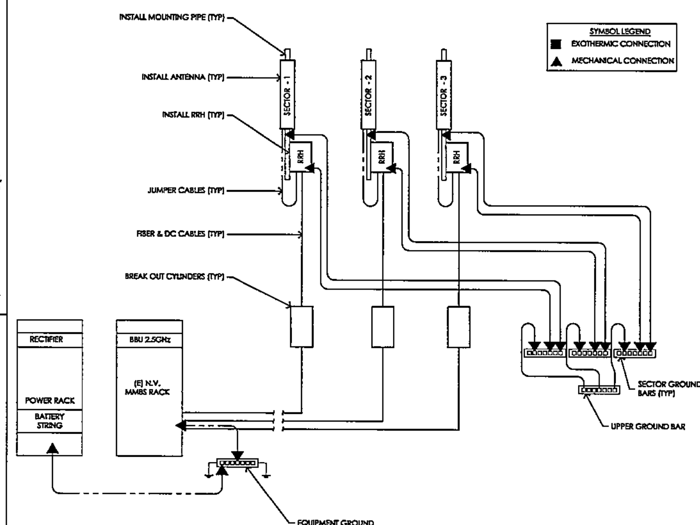


11 CONNECTION OF GROUNDING KIT TO ANTENNA CABLE
NOT TO SCALE



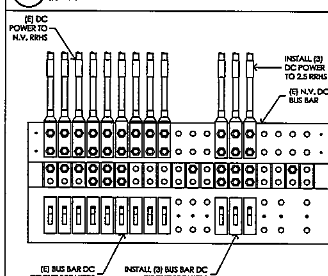
NOTES
1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

10 GROUNDING CONDUCTOR TO GROUNDING BAR
3/8" = 1'-0"



INSTALL MOUNTING PIPE (TYP)
INSTALL ANTENNA (TYP)
INSTALL RRH (TYP)
JUMPER CABLES (TYP)
FIBER & DC CABLES (TYP)
BREAK OUT CYLINDERS (TYP)
SECTOR - 1
SECTOR - 2
SECTOR - 3
RRH
SYMBOL LEGEND
EXOTHERMIC CONNECTION
MECHANICAL CONNECTION
RECTIFIER
POWER RACK
BATTERY STRING
BBU 2.5GHz
(E) N.V. MMBS RACK
SECTOR GROUND BARS (TYP)
UPPER GROUND BAR
EQUIPMENT GROUND

6 GROUNDING RISER DIAGRAM
1/2" = 1'-0"



9 DC POWER DISTRIBUTION
6" = 1'-0"

1. COMPRESSION CONNECTIONS (2), 2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. EC SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "N", "I") WITH 1" HIGH LETTERS.
3. ALL HARDWARE 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8 INCH DIAMETER OR LARGER.
4. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUNDING BAR AND BOLTED ON THE BACK SIDE. INSTALL BLACK HEAT-SHRINKING TUBE, 600 VOLT INSULATION, ON ALL GROUNDING TERMINATIONS. THE INTENT IS TO WEATHERPROOF THE COMPRESSION CONNECTION.
6. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
7. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
8. WEATHERPROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
9. GROUND RESISTANCE NOT TO EXCEED 10 OHMS.
10. WHEN THE SCOPE OF WORK REQUIRES THE ADDITION OF A GROUNDING BAR TO AN EXISTING TOWER, THE SUBCONTRACTOR SHALL OBTAIN APPROVAL FROM THE TOWER OWNER PRIOR TO MOUNTING THE GROUNDING BAR TO THE TOWER.
11. EXTEND TWO (2) 2 AWG TINNED CU CONDUCTOR FROM BURIED GROUNDING RING AND CONNECT TO THE PROPOSED TOWER. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR GROUNDING CONNECTIONS TO THE TOWER. (APPLICABLE TO NEW TOWERS ONLY.)
12. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUNDING BARS AS REQUIRED, PROVIDING 50% SPARE CONNECTION POINTS.

5 GROUNDING NOTES
NOT TO SCALE

Sprint
12657 Alcosta Blvd., Suite 300
San Ramon, CA 94583

1330 North Broadway
Suite 202
Walnut Creek, CA 94596

Borges

PROJECT NO:	13065-108
DRAWN BY:	HLH
CHECKED BY:	B.K.W.

REV	DATE	DESCRIPTION
3	09/03/14	100% CD SUB REV 2
2	04/26/14	100% CD SUB REV 1
1	03/05/14	100% CD SUBMITTAL
0	01/29/14	95% CD SUBMITTAL

09/03/14
100% CD SUB REV 2

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

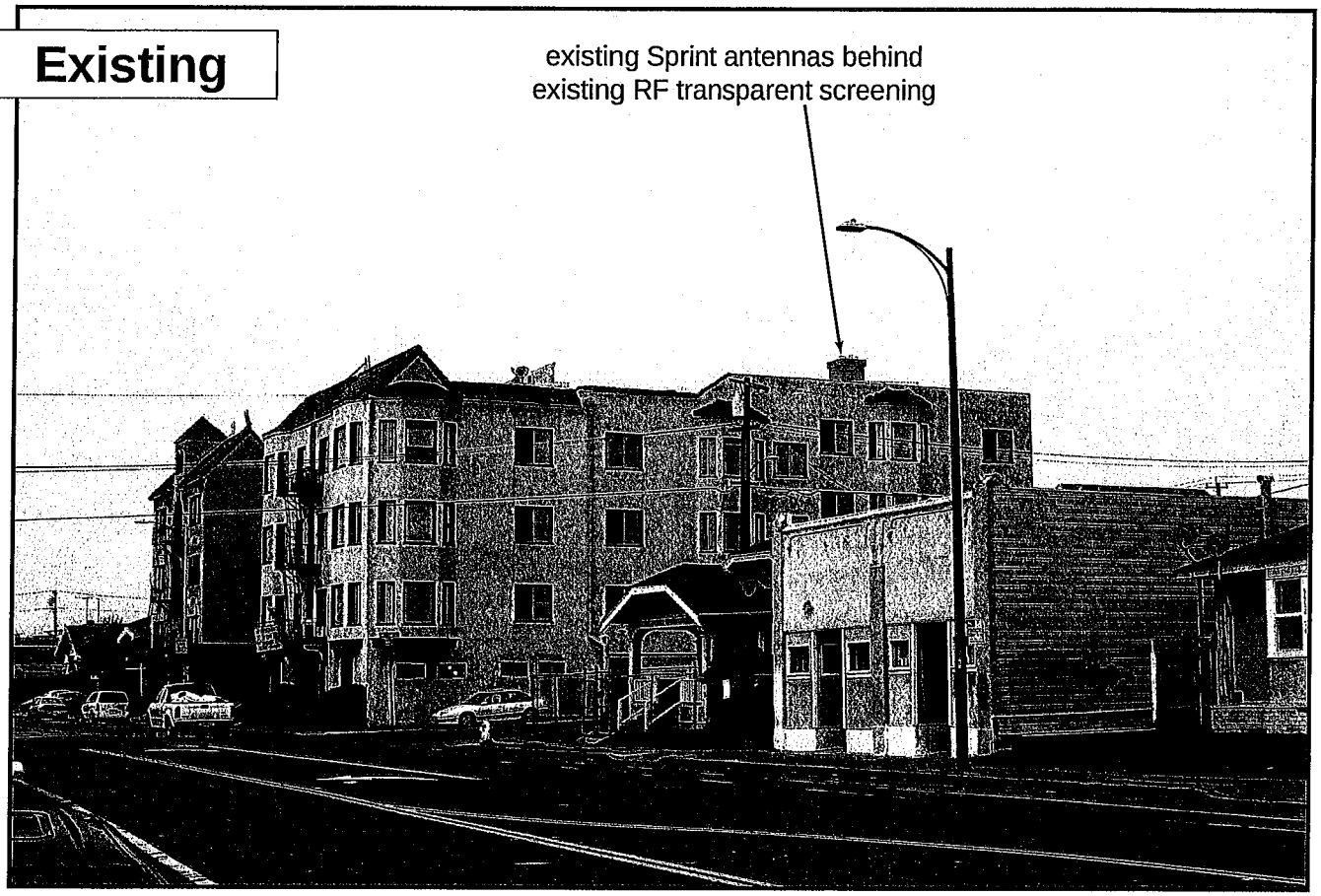
SF36XC032-B
MELROSE PLACE
5460 BANCROFT AVENUE
OAKLAND, CA 94601

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-2

Existing

existing Sprint antennas behind
existing RF transparent screening



Proposed

proposed new Sprint antennas behind
expanded RF transparent screening

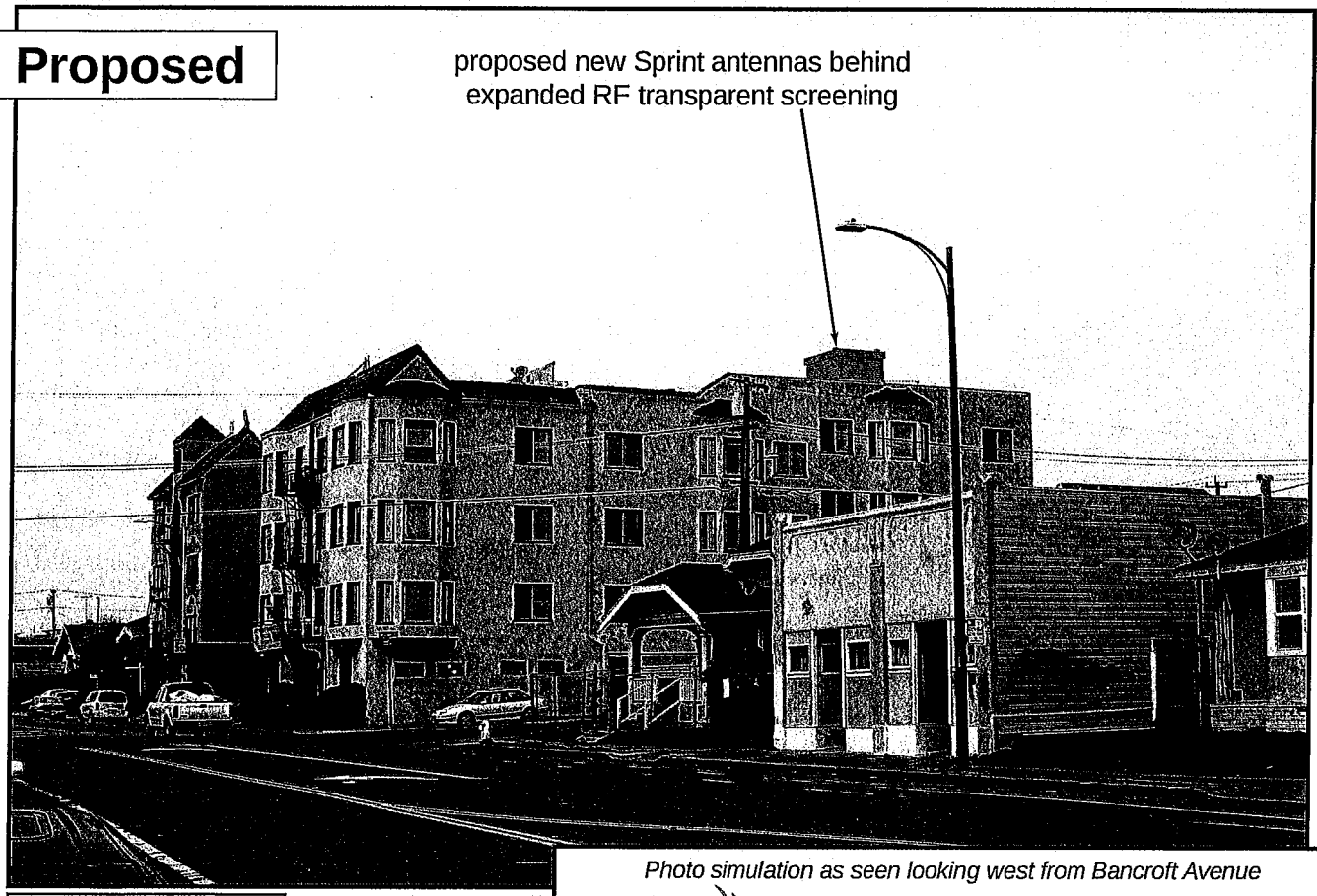


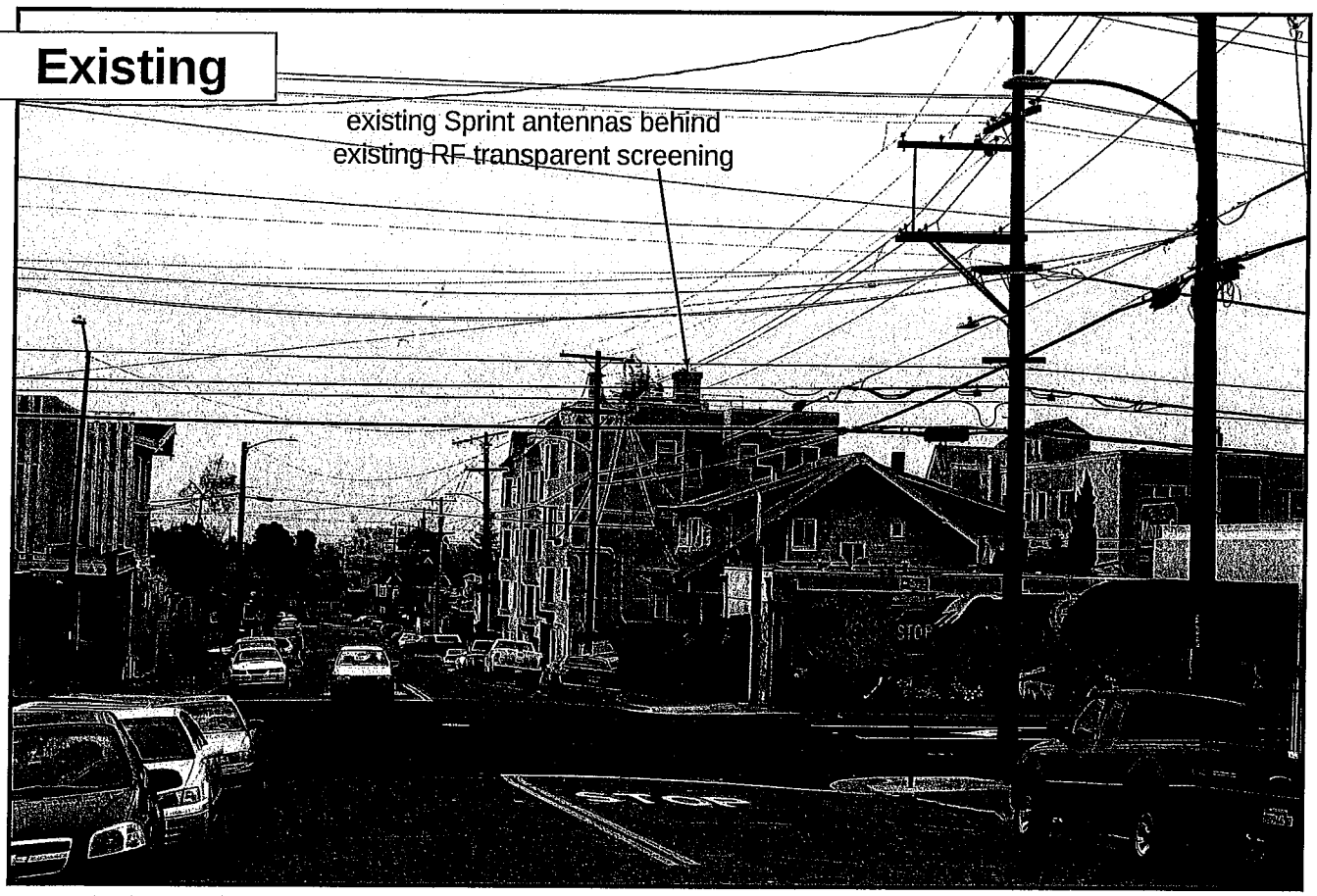
Photo simulation as seen looking west from Bancroft Avenue

Sprint

SF36XC032-B Melrose Place
5460 Bancroft Avenue, Oakland, CA 94601

Prepared by: 09.03.2014
ForzaTelecom
1330 N Broadway Ste. 202
Walnut Creek, CA 94596
info@photosims.com

Existing



Proposed

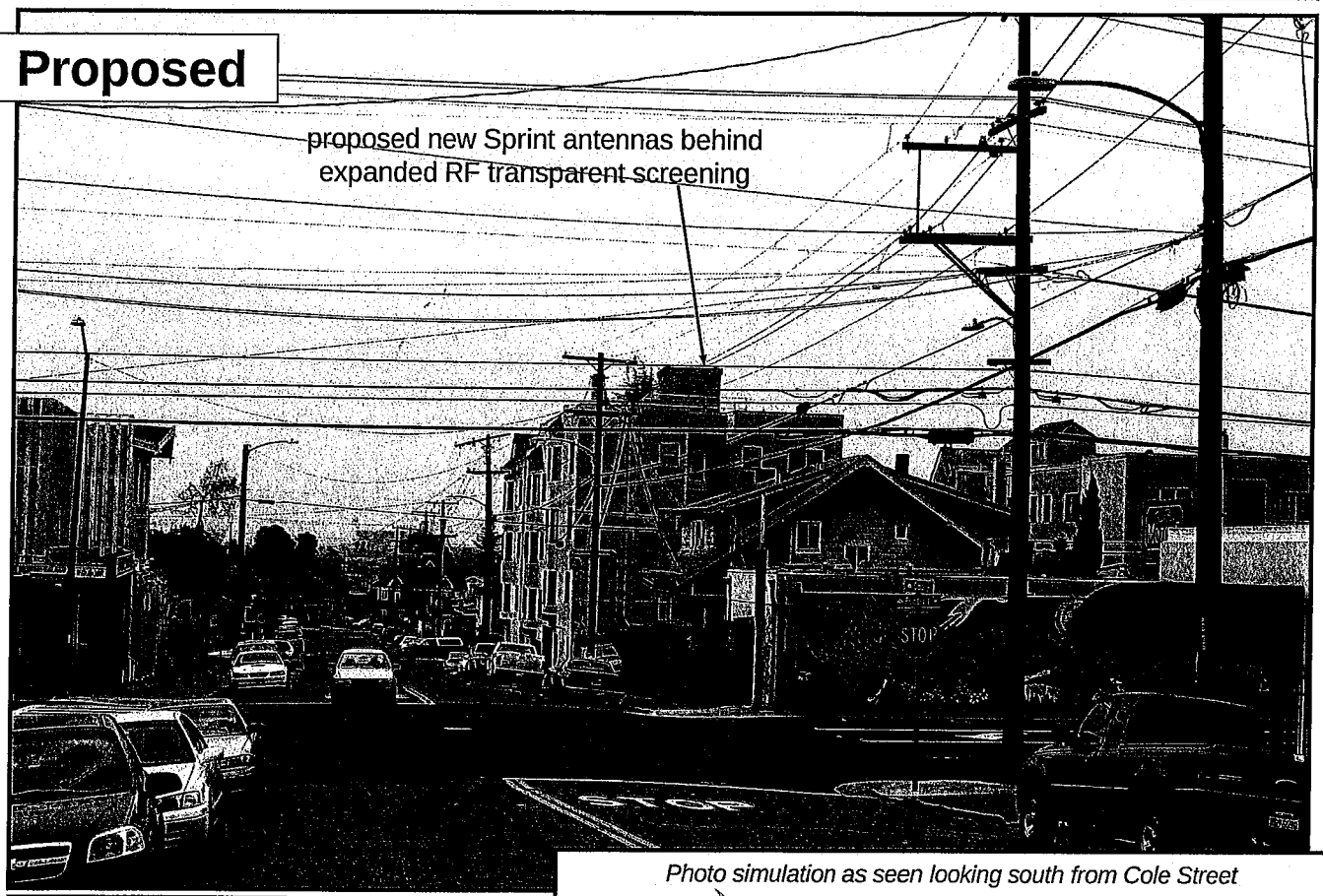


Photo simulation as seen looking south from Cole Street

Sprint

SF36XC032-B Melrose Place
5460 Bancroft Avenue, Oakland, CA 94601

Prepared by: 09.03.2014
ForzaTelecom
1330 N Broadway Ste. 202
Walnut Creek, CA 94596
info@photosims.com

Sprint Nextel • Base Station No. SF36xc032
5460 Bancroft Avenue • Oakland, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Sprint Nextel, a personal wireless telecommunications carrier, to evaluate proposed modifications to its existing base station (Site No. SF36xc032) located at 5460 Bancroft Avenue in Oakland, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Sprint Nextel proposes to install additional directional panel antennas above the roof of the four-story residential building located at 5460 Bancroft 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
WCS (Wireless Communication)	2,300	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	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the

ATTACHMENT B

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 Sprint Nextel, including construction drawings by Borges Architectural Group, dated March 5, 2014, that carrier presently has three Andrew directional panel antennas – two Model RR65-18-00DPL2 and one Model FR65-17-00DP – installed within an enclosure, configured to resemble a chimney, above the roof of the four-story residential building located at 5460 Bancroft Avenue in Oakland. Sprint Nextel proposes to expand it existing enclosure and to install three KMW Model ET-X-WM-18-65-8P directional panel antennas next to its existing antennas. The existing antennas would remain mounted at an effective height of about 52½ feet above ground, 7½ feet above the roof, and the proposed antennas would be mounted at an effective height of about 50 feet above ground, 5 feet above the roof. The six antennas would be oriented in pairs (one of each type) with up to 2° downtilt[1] toward 80°T, 155°T, and 320°T. The maximum effective radiated power in any direction would be 8,230 watts, representing simultaneous operation at 1,540 watts for BRS and 6,690 watts for PCS. There are reported no other wireless telecommunications base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Sprint Nextel operation is calculated to be 0.0067 mW/cm^2, which is 0.67% of the applicable public exposure limit.

1 Assumed for the purposes of this study.

The maximum calculated level at any nearby building[2] is 19% 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. Levels are calculated to exceed the applicable public exposure limit on the roof of the subject building in front of the antennas, as shown in Figure 3.

Recommended Mitigation Measures

It is recommended that barricades be erected, as shown in Figure 3, to preclude public access in front of the antennas. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training be provided to all authorized personnel who may need access to the areas within the barricades, including employees and contractors of Sprint Nextel as well as roofers, HVAC workers, and building maintenance staff. No access within 10 feet directly in front of the antennas themselves, such as might occur during maintenance work within the barricades, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. Posting explanatory signs[3] at the roof access door, on the barricades, and on the enclosure in front of the antennas, such that the signs would be readily visible from any angle of approach to persons who might need to work within that distance, would be sufficient to meet FCC-adopted guidelines.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that the proposed operation of the Sprint Nextel base station located at 5460 Bancroft Avenue in Oakland, California, can comply with the prevailing standards for limiting human exposure to radio frequency energy and, therefore, need not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Erecting barricades is recommended to establish compliance with public exposure limitations and training of authorized personnel and posting explanatory signs is recommended to establish compliance with occupational exposure limitations.

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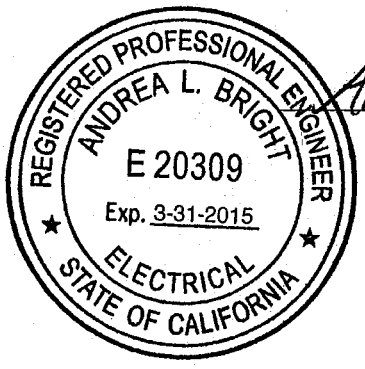
2 Including the four-story building located at least 70 feet to the west, based on photographs from Google Maps.

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

Sprint Nextel • Base Station No. SF36xc032
5460 Bancroft Avenue • Oakland, California

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-20309, which expires on March 31, 2015. 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.



Andrea L Bright

Andrea Bright, P.E.
707/996-5200

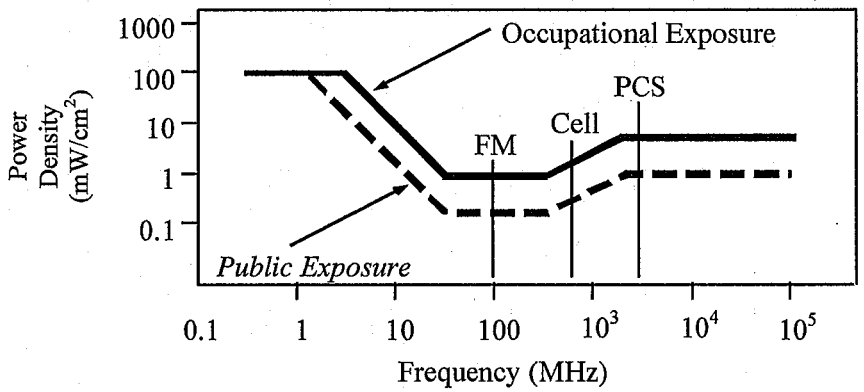
April 4, 2014

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:

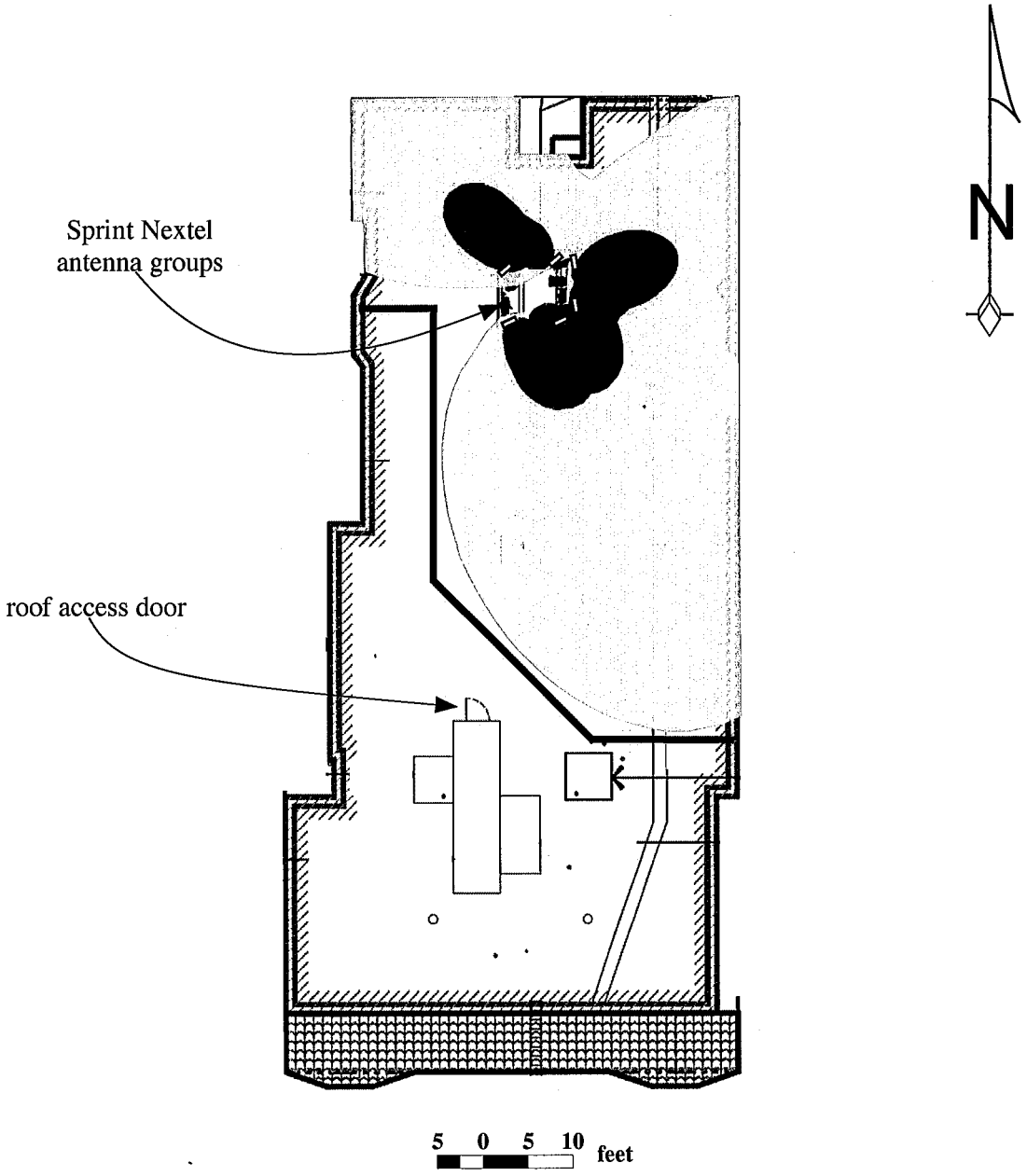
$$\text{power density } S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}, \text{ in } mW/cm^2,$$

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.

Sprint Nextel • Base Station No. SF36xc032
5460 Bancroft Avenue • Oakland, California

Calculated RF Exposure Levels and Suggested Minimum Locations for Barricades (green)



Notes:
Base drawing from Borges Architectural Group, dated March 5, 2014.
Barricades should be erected as shown to preclude access by the public to areas in front of the antennas.
Explanatory signs should be posted at the roof access doors, on the barricades, and on the screen and enclosure in front of the antennas, readily visible to authorized workers needing access. See text.