

Case File Number: CMD12-125

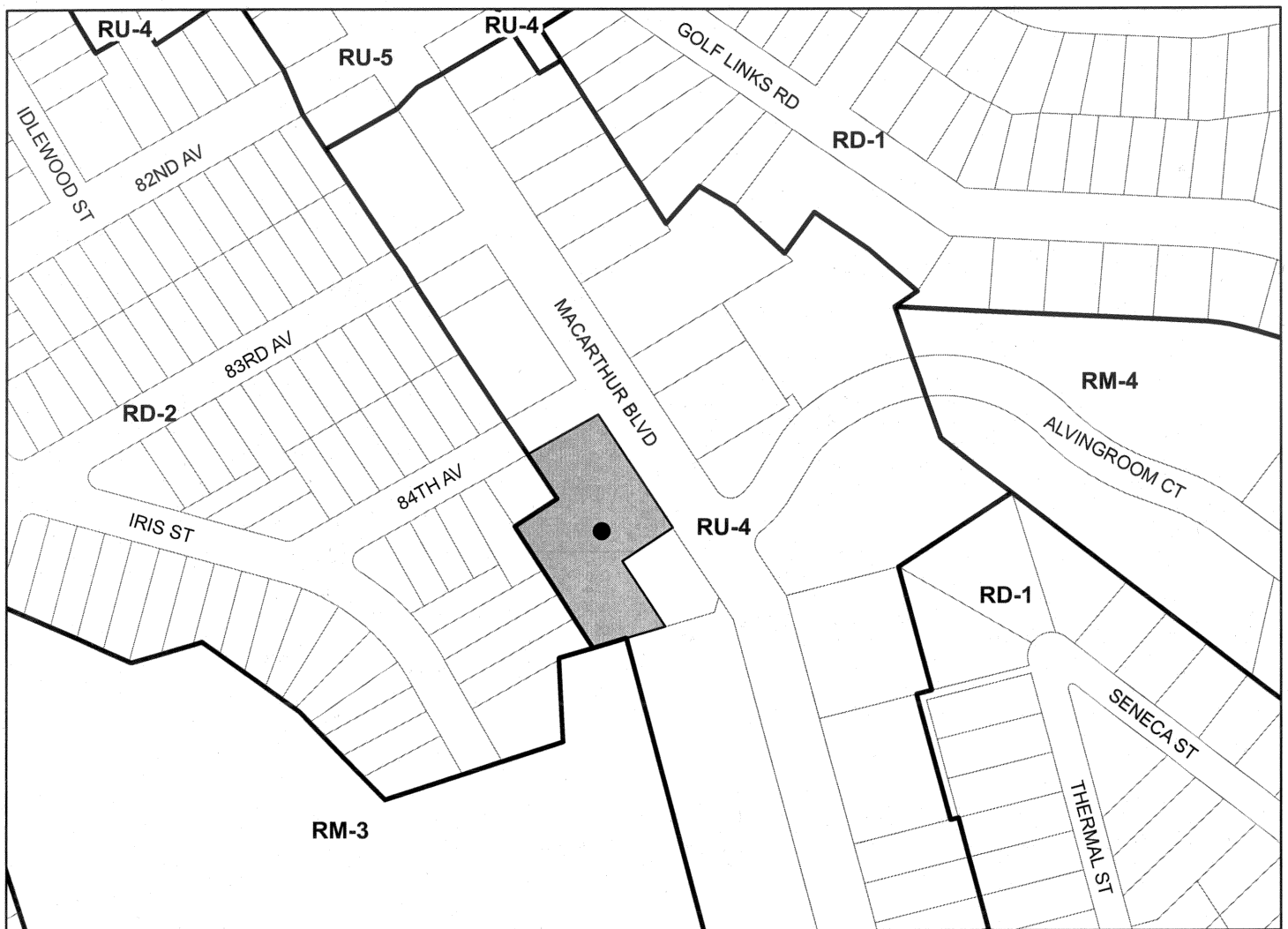
January 9, 2013

<b>Location:</b>	<b>8411 MacArthur Boulevard (See map on reverse)</b>
<b>Assessors Parcel Numbers:</b>	<b>(043-4622-001-02)</b>
<b>Proposal:</b>	To install one (1) new wall mounted antenna behind a new screening element, and to remove four (4) existing wall mounted screened antennas and replaces them with two (2) new antennas (requiring the enlargement of the existing screening device), and the installation of 6 RRU's. The existing macro-telecommunication is located on an existing church facility and includes ten (10) previously existing building mounted antennas and screened equipment
<b>Applicant:</b>	Sprint, Sam Savig of Streamline Engineering
<b>Contact Person/</b>	Sam Savig of Streamline Engineering
<b>Phone Number:</b>	(916)622-3737
<b>Owner:</b>	Center of Hope Community Church
<b>Case File Number:</b>	CMD12-125
<b>Planning Permits Required:</b>	Major Conditional Use Permit and Regular Design Review for macro-telecommunication facilities in a residential zone.
<b>General Plan:</b>	Urban Residential
<b>Zoning:</b>	RU-4, Urban Residential Zone 4
<b>Environmental</b>	Exempt, Section 15301 of the State CEQA Guidelines; minor
<b>Determination:</b>	additions and alterations to an existing facility Section 15183 of the State CEQA Guidelines; projects consistent with a community plan, General Plan or zoning.
<b>Historic Status:</b>	PDHP, post-1945 or modernized, potential secondary importance; rating, *c3
<b>Service Delivery District:</b>	6
<b>City Council District:</b>	7
<b>Date Filed:</b>	7/9/12
<b>Finality of Decision:</b>	Appealable to City Council within 10 days
<b>For Further Information:</b>	Contact case planner <b>Moe Hackett</b> at <b>(510) 238-3973</b> or <a href="mailto:mhackett@oaklandnet.com">mhackett@oaklandnet.com</a>

## SUMMARY

The staff report addresses the proposal for additional unmanned wireless telecommunication facilities located on an existing civic structure (Church), with associated equipment cabinets located in a ground level equipment room. The project site already contains ten (10 ) telecommunication antennas and associated equipment shelters that are operated by more than one company. This proposal would remove four (4) existing telecommunication antennas and replace them with three (3) new telecommunication antennas, and would also install six (6) new Remote Radio Units (RRU's). The new total number of panel style telecommunication antennas on the site will be nine (9) and six (6) RRU's. Given the number of antennas and the type of structure, this would be considered a "Macro" Telecommunications Facility. The site is located

# CITY OF OAKLAND PLANNING COMMISSION



0 125 250 500 750 1,000 Feet



Case File: CMD12-125  
Applicant: Sam Savig / Sprint  
Address: 8411 MacArthur Boulevard  
Zone: RU-4

within an area containing a mixture of commercial, institutional, and residential activities, on MacArthur Boulevard in the Castlemont district. Staff is recommending approval of this project.

### **PROJECT DESCRIPTION**

The applicant (Sprint) is proposing to replace three (4) telecommunication antennas with three (3) new telecommunication antennas and the installation of six (6) new RRU's at a site with currently has 10 existing antennas. The proposal for the equipment cabinets is to locate the new cabinet with other existing cabinets in an existing ground level equipment room. All proposed antennas and associated equipment will not be accessible to the public.

(See Attachment A)

### **PROPERTY DESCRIPTION**

The subject property is a lot of approximately 0.57 acres, with frontage on 84<sup>th</sup> Avenue and MacArthur Boulevard. The property was developed in 1946 and currently operates as a church. Currently there is a Macro telecommunications facility with three (3) other separate telecommunication providers (Nextel, Clearwire, and Sprint) on the property including 10 antennas and multiple equipment cabinets in the ground level area.

### **GENERAL PLAN ANALYSIS**

The subject property is located within the Urban Residential General Plan designation. The Urban Residential land use classification is intended to create, maintain, and enhance areas 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 or detract from the civic, commercial or residential characteristics of the neighborhood, because the antennas will be mounted behind screening elements and will not be plainly visible from surrounding areas. 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 in the RU-4 Urban Residential Zone. The proposal is for a new unmanned wireless telecommunication facility on an existing Macro telecommunication facility and requires a Major Conditional Use Permit since the project is within one hundred (100) feet of a residential zone. Staff finds that the proposed application meets applicable RU-4 zoning and City of Oakland Telecommunication regulations.

### **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 17.17.040 of the City of Oakland Planning Code requires a conditional use permit to install a Macro Telecommunication facility in the RU-4 zone. Furthermore, Section 17.134.020 defines a major and minor conditional use permit. Subsections (A)(3)(i) lists a Major Conditional Use Permit: "Any telecommunication facility in or within one hundred (100) feet of the boundary of any residential zone. The required findings for a major conditional use permit are listed and included in staff's evaluation as part of this report.

### **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.

### **3. Project Design**

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

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



\* 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:

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 has reviewed and determined that the site selected is conforming to all other telecommunication regulation requirements. The project location is appropriate because the existing wall mounted screens already house telecommunication antennas and the replacement of four (4) telecommunication antennas with three (3) new telecommunication antennas and the installation of six (6) new RRU's will not create a significant visual change. The creation of one additional wall mounted screening element (on the 84<sup>th</sup> Avenue side, rear) that will be designed to architecturally correspond with the existing front (Macarthur Blvd.) steeple element, and as such will not create significant or negative visual impacts. Further, the proposal is to co-locate on an existing building at a height that is above the street level line of sight while not protruding above the churches upper most parapet and architectural feature (the steeple). This is an appropriate location for the antennas to provide service to the adjacent residential zone without being constructed within the side streets of the residential neighborhood. The applicant has looked at other sites and in order to co-locate the antennas on an existing telecommunication facility, this is the most suitable site for the proposed antennas. (See **Attachment C**)

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

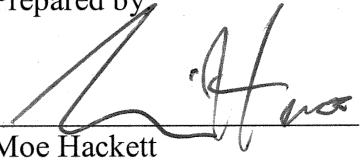
**CONCLUSION**

City of Oakland planning staff believes that the proposed project and subject property can be developed to meet the established zoning and telecommunication regulations that were created and adopted to set certain criteria minimums and maximums for similar types of developments. Staff believes that the findings for approval can be made to support the Conditional Use Permit and Design Review.

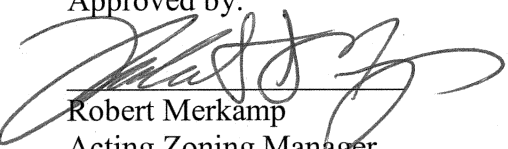
**RECOMMENDATIONS:**

1. Affirm staff's environmental determination
2. Approve Conditional Use Permit and Design Review application CMD12-125 subject to the attached findings and conditions of approval.

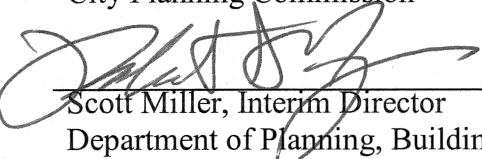
Prepared by:

  
Moe Hackett  
Planner II

Approved by:

  
Robert Merkamp  
Acting Zoning Manager

Approved for forwarding to the  
City Planning Commission

  
Scott Miller, Interim Director  
Department of Planning, Building and Neighborhood Preservation

**ATTACHMENTS:**

- A. Findings
- B. Conditions of Approval
- C. Project Plans

**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 17.128.070(B), of the telecommunication facilities (Macro Facilities) Design Review criteria; and all the required findings under Section 17.128.070.(C), of the telecommunication facilities (Macro Facilities) 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 location, size, design and operational characteristics of the proposal will not adversely affect the livability or appropriate development of abutting properties and the surrounding neighborhood. Consideration was given to the harmony in scale, bulk, and coverage; 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 replacement telecommunications antennas will be co-located with 10 existing antennas on an existing and new wall mounted screening structures on the Center of Hope Community Church 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.

**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 proposed modifications to the telecommunications facility located on the church will not negatively impact the functionality of the existing civic environment.

**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.**

Enhancing the existing telecommunications facility on the subject property will provide a regional benefit as well as 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 macro telecommunication facility expansion in the Urban Residential General Plan designation will enhance and improve communication service for a mixture of civic, commercial, residential and institutional uses in the area.

**17.136.050(B) – NONRESIDENTIAL DESIGN REVIEW CRITERIA:**

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

The proposal is the addition to a macro telecommunications facility with 10 existing telecommunication antennas which includes the replacement of four (4) telecommunication antennas with three (3) new telecommunication antennas and the installation of six (6) new RRU's . The three (3) replacement antennas and six (6) RRU's shall be placed in existing and new wall mounted screening devices (one existing screening device will be replaced by a slightly larger screening device to accommodate the singular antenna replacement) on the sides of the Center of Hope Community Church on Macarthur Boulevard. The side wall mounted devices are made necessary due to the placement of a previously existing roof top screening device and antenna array. In order to locate these antennas on the roof top would require a much taller screening device than the one currently existing. Co-location within the existing rooftop screening device is not possible due to proprietary use by another telecommunications operator. The proposed wall mounted screening devices will match the materials, and textures of the church, will be located below the upper parapet edge, and will protrude no more than 2 feet from the building wall. The new screening element on the rear side (The location referred to as Antenna Plan C) will be shaped to be compatible in style with the existing Macarthur Blvd. facing "steeple" element (note; the steeple does not contain any telecommunications facilities, and was never designed to do so). The design will, therefore be consistent and well related to the surrounding area in scale, bulk, height. Through the design and conditions of approval the proposed screening devices and all associated equipment conduit and antennas will be painted to match the color of the subject structure (church).

**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 primarily residential and institutional area. The antennas will be within screened locations, both existing and new, and will have only minor visual impact on the adjacent neighborhood, and are not inconsistent with the character of the existing church.

**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 telecommunication-facility definitions set forth in Section 17.128.070 and meets all design review criteria to minimize all impacts throughout the neighborhood.

**17.128.070(B) DESIGN REVIEW CRITERIA FOR MACRO FACILITIES**

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

The proposed project entails the replacement of four (4) telecommunication antennas with three (3) new telecommunication antennas and the installation of six (6) new RRU's within two existing and one new wall mounted screening devices. The lower portion of the north facing screening wall /device will be slightly expanded downward by 18" and will (**Per Specific Condition #15**) be screened on the bottom so as to obscure the antennas as viewed from below (i.e. at pedestrian level). All screening elements, existing and proposed, will be painted and textured to match the building's exterior. The new west facing screening wall device (Antenna Plan C) has been designed to match the churches other architectural elements and projections and will enhance the appearance of the building through continuity of design while creating an unobtrusive projection from the rear building wall (**Per Specific Condition #16**). As so conditioned the antennas, associated equipment, and wall mounted screening devices will not increase negative visual impacts and will improve the amount of screening as seen from the pedestrian level.

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

The proposed antennae panels and RRU's will be placed on existing building behind existing and new screening devices with only minor other modifications. The associated equipment cabinets will be located within an existing structure and will not alter the exterior appearance. The antennas would be screened by wall mounted screening walls/ devices that would be painted to fade into or complement the existing building when viewed from the surrounding area.

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

The antennas would be sited on an existing building and would be screened to fade into the streetscape when viewed from the surrounding area. The proposed macro facility, with Conditions of Approval incorporated, will represent a vast improvement over the existing telecom facilities that are unscreened from below.

**4. Equipment shelters or cabinets shall be screened from the view by using landscaping, or materials and colors consistent with surrounding backdrop or placed underground or inside existing facilities or behind screening fences.:**

The Equipment cabinets are located within an existing ground level room inside of the building.

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

See finding #4 (above). The proposal calls for no alterations to the exterior with regard to equipment cabinets.

**6. For antennas attached to the roof, maintain a 1:1 ratio (example: ten feet high antenna requires ten feet setback from façade) for equipment setback unless an alternative placement would reduce visual impact; treat or screen the antennas to match existing air conditioning units, stairs, elevator towers, or other background; avoid placing roof mounted antennas in direct line with significant view corridors.:**

The proposed antennas will be completely screened by wall mounted screening devices.

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

The proposed antennas will not be accessible to the public. The equipment is located within an enclosed building and will not be accessible to the general public.

**SECTION 17.128.070(C) – CONDITIONAL USE PERMIT CRITERIA FOR MACRO FACILITIES.**

**In addition to the conditional use criteria listed in Chapter 17.134, the following specific additional criteria must be met before a conditional use permit can be granted:**

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

The proposal conforms to Design Review findings (see above).

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

The replacement of 4 antennas (and the 6 new smaller RRU Units) will not alter or disrupt the current overall character of the community.

## CONDITIONS OF APPROVAL

### 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, **CMDV12-125**, and the plans dated **October 26, 2012** and submitted on **October 27, 2012** 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: **to replacement of four (4) telecommunication antennas with three (3) new telecommunication antennas and the installation of six (6) new RRU's at 8411 MacArthur Blvd. (APN: 043-4622-001-02), 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 **Oakland Planning Code** only. Minor changes to approved plans may be approved administratively by the Director of City Planning or designee. Major changes to the approved plans shall be reviewed by the Director of City Planning or designee to determine whether such changes require submittal and approval of a revision to the approved project by the approving body or a new, completely independent permit.

#### 4. Conformance with other Requirements

##### *Prior to issuance of a demolition, grading, P-job, or other construction related permit*

- a) The project applicant shall comply with all other applicable federal, state, regional and/or local codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency.
- b) The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not



limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

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

### ***Ongoing***

- a) Site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within 60-90 days of approval, unless an earlier date is specified elsewhere.
- b) The City of Oakland reserves the right at any time during construction to require certification by a licensed professional that the as-built project conforms to all applicable zoning requirements, including but not limited to approved maximum heights and minimum setbacks. Failure to construct the project in accordance with approved plans may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension or other corrective action.
- c) Violation of any term, conditions or project description relating to the Approvals is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approvals or alter these conditions if it is found that there is violation of any of the conditions or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions.

## **6. Signed Copy of the Conditions**

### ***With submittal of a demolition, grading, and building permit***

A copy of the approval letter and conditions shall be signed by the property owner, notarized, and submitted with each set of permit plans to the appropriate City agency for this project.

## **7. Indemnification**

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

**10. Job Site Plans*****Ongoing throughout demolition, grading, and/or construction***

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

**11. Special Inspector/Inspections, Independent Technical Review, Project Coordination and Management*****Prior to issuance of a demolition, grading, and/or construction permit***

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

**12. Days/Hours of Construction Operation*****Ongoing throughout demolition, grading, and/or construction***

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

- a) Construction activities are limited to between 7:00 AM and 7:00 PM Monday through Friday, except that pile driving and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday.
- b) Any construction activity proposed to occur outside of the standard hours of 7:00 am to 7:00 pm Monday through Friday for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened and such construction activities shall only be allowed with the prior written authorization of the Building Services Division.

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

**13. 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:****14. Radio Frequency Emissions*****Prior to the final building permit sign off***

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

**15. Architectural Detailing and Painting*****Prior to the final building permit sign off***

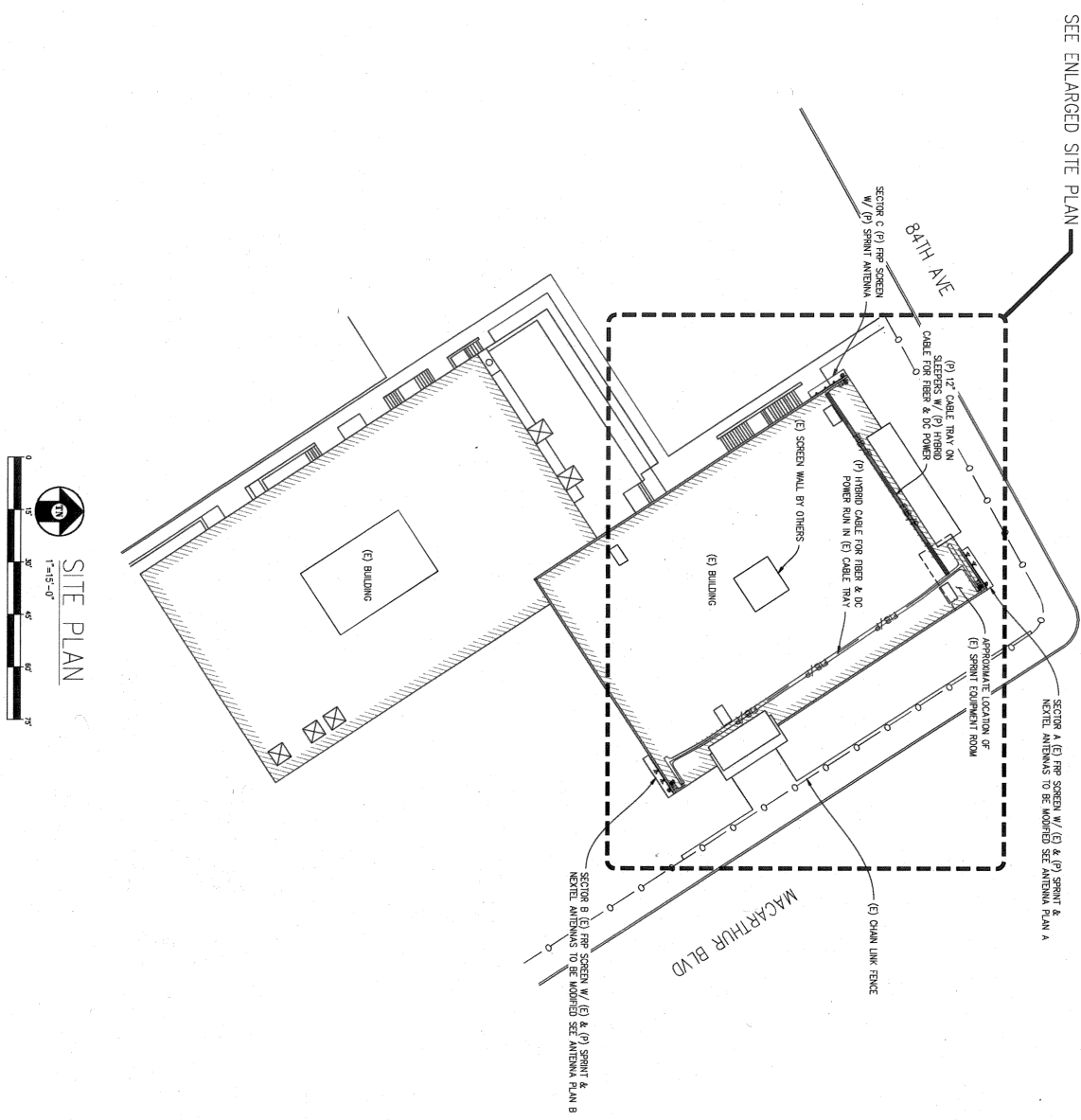
The applicant shall create visual screening on the bottom of all existing or altered wall mounted screening devices (FRP screen) so as to obscure the antennas and other associated equipment as viewed from below (i.e. at pedestrian level). All screening elements (existing and proposed will be painted and textured to match the buildings exterior.

**16. Architectural Design for Antenna plan C Location*****Prior to issuance of building permits***

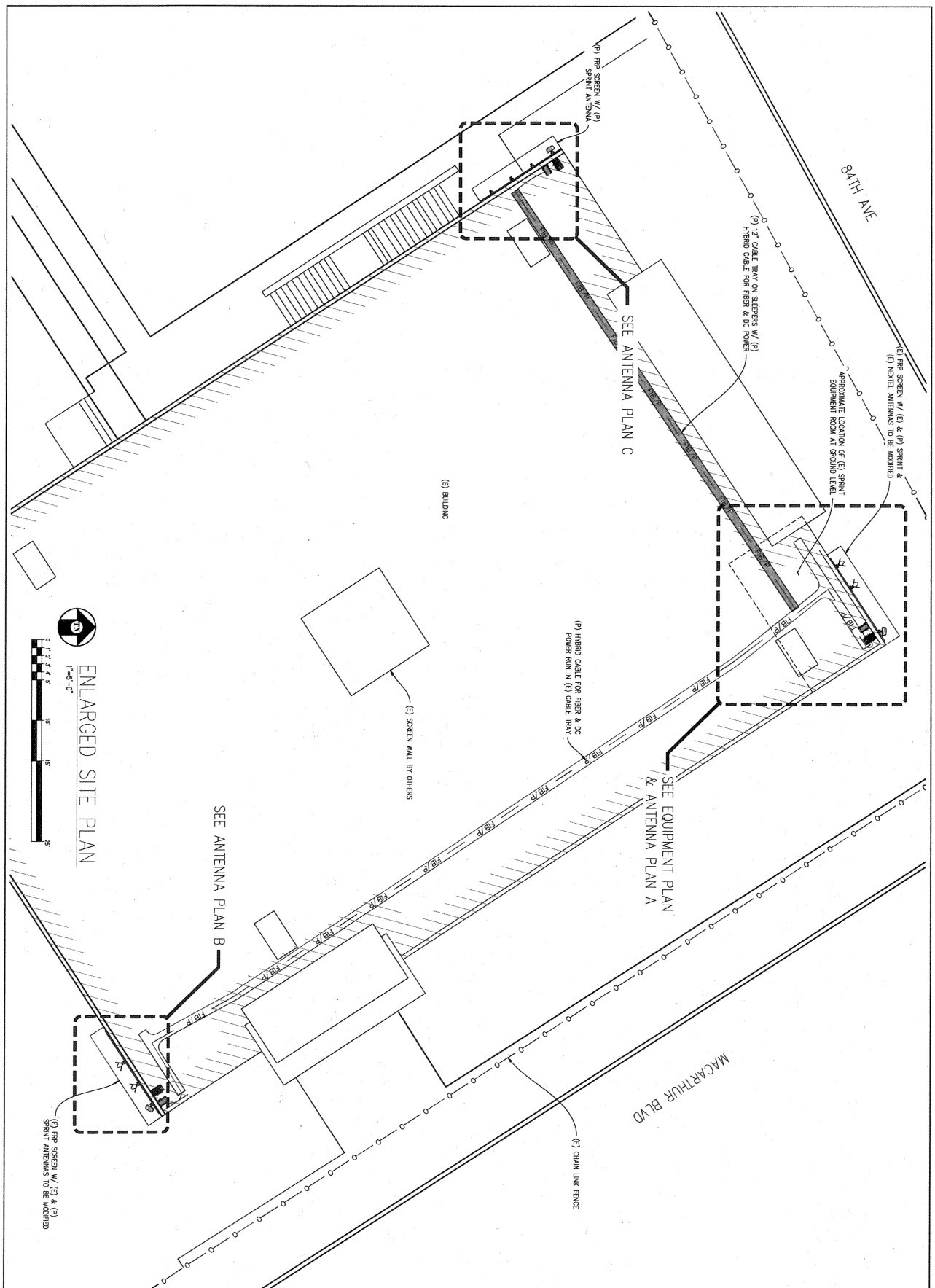
The applicant shall submit to the Zoning Manager for approval revised plans for the "antenna C" screening element. The "antenna C" RFP screen shall be redesigned to be architecturally

integrated into the building by lengthening the bottom portion at a (approximately 45 -60 degree angle resulting in a “point that terminates above the horizontal band of windows that wrap around the rear and side of the building. The screening elements shall be painted and textured to match the buildings exterior. The final approved color scheme shall be approved by the planning commission. Upon its completion the RFP screen for “Antenna Plan C” shall be repainted, or modified in design (i.e. minor changes in depth, length, or width) at the discretion of the Zoning Manager





<p>12857 ALCOSTA BLVD SUITE 300 SAN RAMON, CA 94583</p>		<p><b>StreamLine Engineering and Design, Inc.</b></p> <p>3288 Penny Rd, Suite 200 Loomis, CA 95650 Contact: Larry Houghill Phone: 916-275-4180 E-Mail: larry@streamlineeng.com Fax: 916-660-1941</p>		<p><b>CA2128</b></p> <p><b>PHASE 1C</b></p> <p><b>SF73XC412-A</b></p> <p>8411 MACARTHUR BLVD OAKLAND, CA 94663</p>																	
<p><b>ISSUE STATUS</b></p> <table border="1"> <thead> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>CHK</th> </tr> </thead> <tbody> <tr> <td>04/23/12</td> <td>20 100% J.K.</td> <td></td> <td></td> </tr> <tr> <td>04/27/12</td> <td>CLIENT REV J.K.</td> <td></td> <td></td> </tr> <tr> <td>10/30/12</td> <td>CLIENT REV R.M.</td> <td></td> <td></td> </tr> </tbody> </table>		DATE	DESCRIPTION	BY	CHK	04/23/12	20 100% J.K.			04/27/12	CLIENT REV J.K.			10/30/12	CLIENT REV R.M.			<p>DESIGN BY: C. THORNTON</p> <p>CHECKED BY: C. MANHSEN</p> <p>APPROVED BY: J. GRAY</p> <p>DATE: 10/30/12</p>		<p><b>SHEET TITLE:</b></p> <p>SITE PLAN</p> <p><b>SHEET NUMBER:</b></p> <p>A-1</p>	
DATE	DESCRIPTION	BY	CHK																		
04/23/12	20 100% J.K.																				
04/27/12	CLIENT REV J.K.																				
10/30/12	CLIENT REV R.M.																				



ENLARGED SITE PLAN  
1"=5'-0"

 12857 ALCOSTA BLVD SUITE 300 SAN RAMON, CA 94583	<b>StreamLine Engineering</b> and Design, Inc. 3268 Pennyn Rd, Suite 200 Loomis, CA 95650 Contact: Larry Houghtby Phone: 916-275-4180 E-Mail: larry@streamlineeng.com Fax: 916-660-1941	<b>CA2128</b> <b>PHASE 1C</b> SF73XC412-A 8411 MACARTHUR BLVD OAKLAND, CA 94605	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">ISSUE STATUS</th> </tr> <tr> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>04/23/12</td> <td>ISSUE</td> </tr> <tr> <td>04/23/12</td> <td>20 100% J.K.</td> </tr> <tr> <td>04/27/12</td> <td>CLIENT REV. J.K.</td> </tr> <tr> <td>10/26/12</td> <td>CLIENT REV. R.M.</td> </tr> <tr> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> </tr> </tbody> </table> <p>           DRAWN BY: C. THORNTON            CHECKED BY: C. MATHSEN            APPROVED BY: J. GRAY            DATE: 10/26/12         </p>	ISSUE STATUS		DATE	DESCRIPTION	04/23/12	ISSUE	04/23/12	20 100% J.K.	04/27/12	CLIENT REV. J.K.	10/26/12	CLIENT REV. R.M.	-	-	-	-	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">           SHEET TITLE:            ENLARGED SITE PLAN         </td> <td style="width: 50%;">           SHEET NUMBER:            A-2         </td> </tr> </table>	SHEET TITLE: ENLARGED SITE PLAN	SHEET NUMBER: A-2
ISSUE STATUS																						
DATE	DESCRIPTION																					
04/23/12	ISSUE																					
04/23/12	20 100% J.K.																					
04/27/12	CLIENT REV. J.K.																					
10/26/12	CLIENT REV. R.M.																					
-	-																					
-	-																					
SHEET TITLE: ENLARGED SITE PLAN	SHEET NUMBER: A-2																					

**SF73XC412-A**  
 8411 MACARTHUR BLVD  
 OAKLAND, CA 94605

DATE	DESCRIPTION
04/04/12	ZD 90%

04/23/12	ZD 100%
04/27/12	CLIENT REV
10/30/12	CLIENT REV
-	-

DRAWN BY: G. TIBBETT

CHECKED BY: C. MATHISEN

DATE: 10/30/12

and Design, Inc.

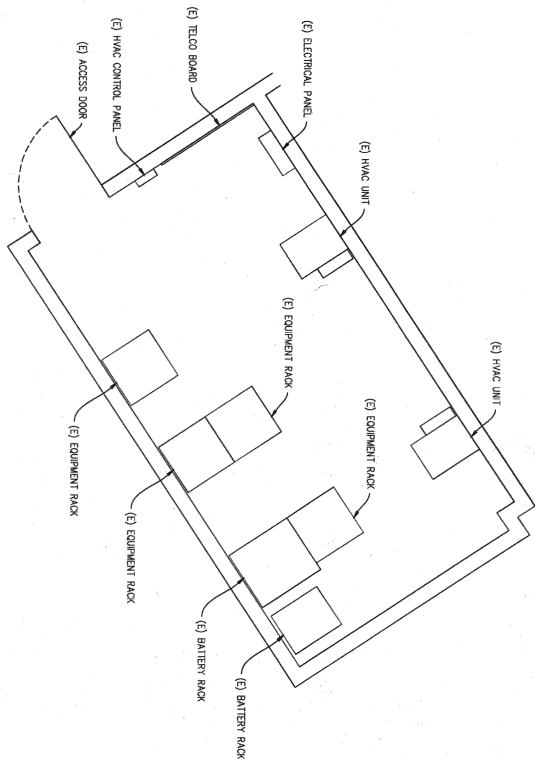
3268 Penryn Rd, Suite 200 Loomis, CA 95650  
Contact: Larry Houghton Phone: 916-275-4180  
E-Mail: [larry@streamlineeng.com](mailto:larry@streamlineeng.com) Fax: 916-660-1941

[illegible]

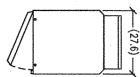
EXISTING & INTERM CONFIGURATION

EQUIPMENT PLAN &amp; DETAIL

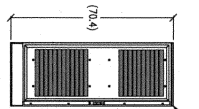
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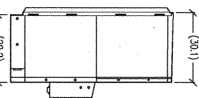
① MMBS CABINET  
 $k_2^* = 1 - 0^*$



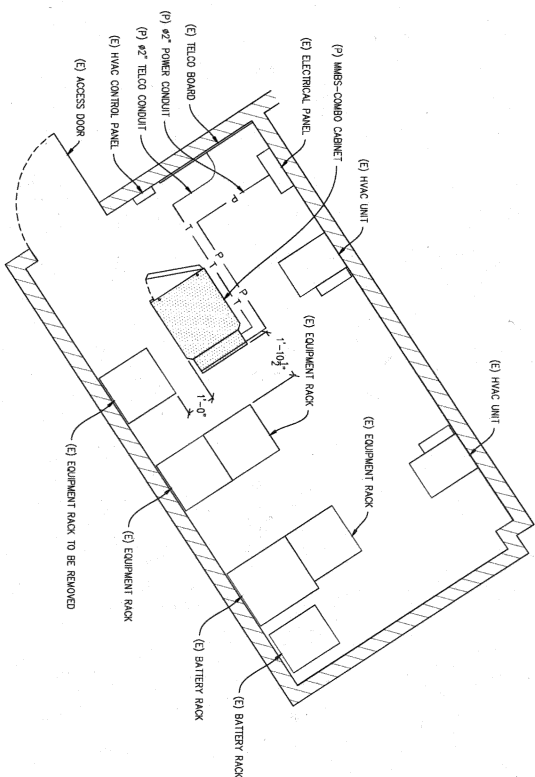
TOP VIEW



FRONT VIEW



SIDE VIEW





CA2128  
PHASE 1C  
SF73XC412-A  
8411 MANCARTER BLVD  
OAKLAND, CA 94663

ISSUE STATUS

DATE	DESCRIPTION
04/04/12	S.I.
04/23/12	20 100% J.K.
04/27/12	CLIENT REV J.K.
10/29/12	CLIENT REV R.M.

DRAWN BY: G. THORNTON

CHECKED BY: C. MATTHEW

APPROVED BY: J. GRAY

DATE: 10/29/12

**StreamLine Engineering**  
and Design, Inc.

3268 Penryn Rd, Suite 200 Loomis, CA 95650  
Contact: Larry Houghtby Phone: 916-275-4180  
E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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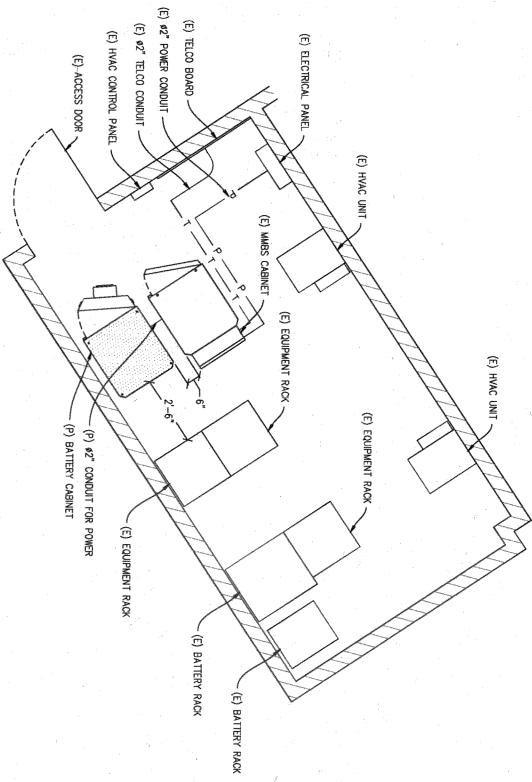
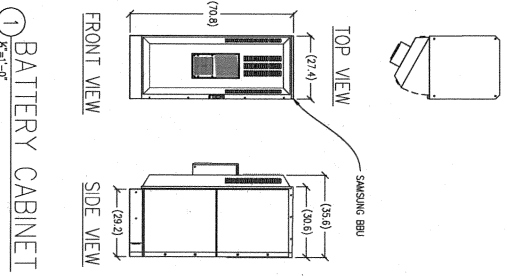
12857 ALCOSTA BLVD SUITE 300  
SAN RAMON, CA 94583

SHEET TITLE:

FINAL CONFIGURATION EQUIPMENT  
PLAN & DETAIL

SHEET NUMBER:

A-4



FINAL CONFIGURATION EQUIPMENT PLAN



CA2128

PHASE 1C

SF73XC412-A  
8411 MACARTHUR BLVD  
OAKLAND, CA 94663

ISSUE STATUS

Δ	DATE	DESCRIPTION
1	04/23/12	ST
2	04/23/12	2D RISE
3	04/23/12	CLIENT REV
4	10/26/12	CLIENT REV
5		R.M.

DRAWN BY: C. THIBET

CHECKED BY: C. MATHSEN

APPROVED BY: J. GRAY

DATE: 10/26/12

Streamline Engineering  
and Design, Inc.

3268 Penryn Rd, Suite 200 Loomis, CA 95660  
Contact: Larry Houghton Phone: 916-275-4190  
E-Mail: larry@streamlineeng.com Fax: 916-660-1941

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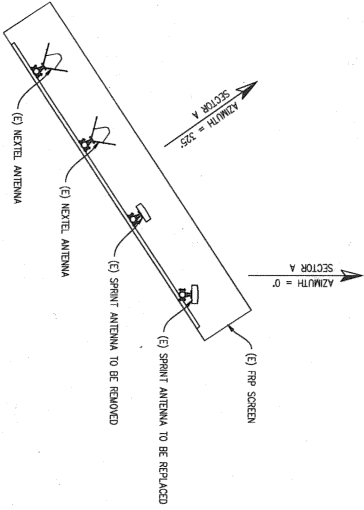
12657 ALCOSTA BLVD SUITE 300  
SAN RAMON, CA 94583

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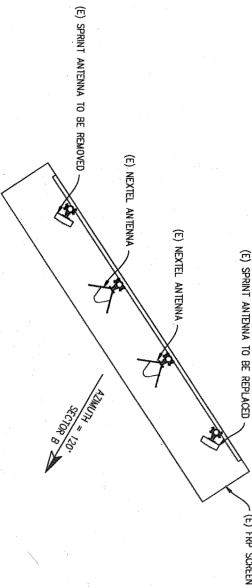
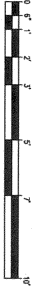
EXISTING / INTERIM  
ANTENNA PLANS

SHEET NUMBER:

A-5



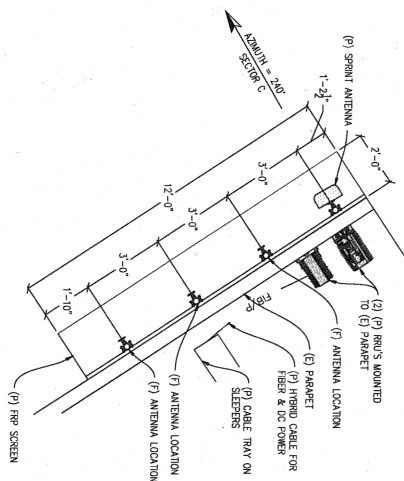
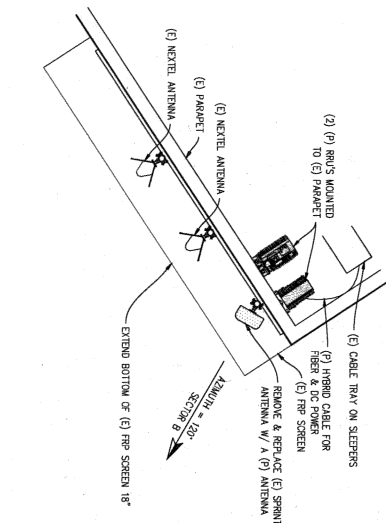
EXISTING / INTERIM ANTENNA PLAN A  
N=1-0°



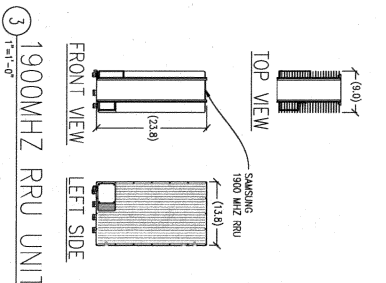
EXISTING / INTERIM ANTENNA PLAN B  
N=1-0°



ANTENNA SCHEDULE 5F730X412																	
ANTENNA					RETRY					CABLE							
SECTION	TECHNOLOGY	ANTENNA MODEL	RAD CENTER	ADJUTANT	RFQ REQD.	RFQ MODEL	NO. OF RUNS	NO. OF FILTERS	JAMMER AMPLITUDE (dBm)	JAMMER LENGTH (hr)	RF CABLES	HYBRID CABLES	HYBRID CABLE LENGTH (LUNAR FEET)	NO. OF HYBRID CABLES	CABLE DIA.	COAX	
ALPHA SECTION	A1	860/1500 MHz	P43-16-2P-48	3P-4"	0"	860 MHz 1500 MHz	RRH-C2 RRH-F4	1 0	4 10"	0	1		50'	N/A	N/A	N/A	N/A
	A2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BETA SECTION	B1	860/1500 MHz	P43-16-2P-48	3P-4"	120"	860 MHz 1500 MHz	RRH-C2 RRH-F4	1 0	4 10"	0	1		80'	N/A	N/A	N/A	N/A
	B2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA SECTION	C1	860/1500 MHz	P43-16-2P-48	3P-4"	240"	860 MHz 1500 MHz	RRH-C2 RRH-F4	1 0	4 10"	0	1		125'	N/A	N/A	N/A	N/A
	C2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA SECTION	C3	860/1500 MHz	P43-16-2P-48	3P-4"	240"	860 MHz 1500 MHz	RRH-C2 RRH-F4	1 0	4 10"	0	1		125'	N/A	N/A	N/A	N/A
	C4	860/1500 MHz	P43-16-2P-48	3P-4"	240"	860 MHz 1500 MHz	RRH-C2 RRH-F4	1 0	4 10"	0	1		125'	N/A	N/A	N/A	N/A

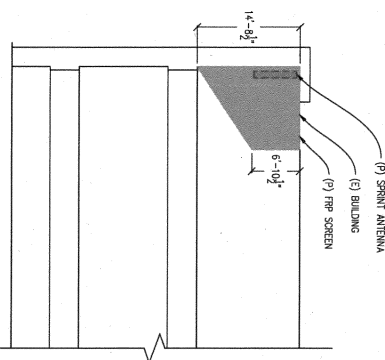


## FINAL CONFIGURATION




SECTION	DATE		FIRST NAME		SECOND NAME		THIRD NAME	
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	2	BLUE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	3	BROWN	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	4	WHITE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	5	BLACK	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	6	SLATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	7	PURPLE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	8	ORANGE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
2. BETA	1	GREEN	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	2	BLUE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	3	BROWN	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	4	WHITE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	5	BLACK	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	6	SLATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	7	PURPLE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	8	ORANGE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
3. GAMMA	1	GREEN	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	2	BLUE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	3	BROWN	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	4	WHITE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	5	BLACK	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	6	SLATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	7	PURPLE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE
	8	ORANGE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE	NO DATE

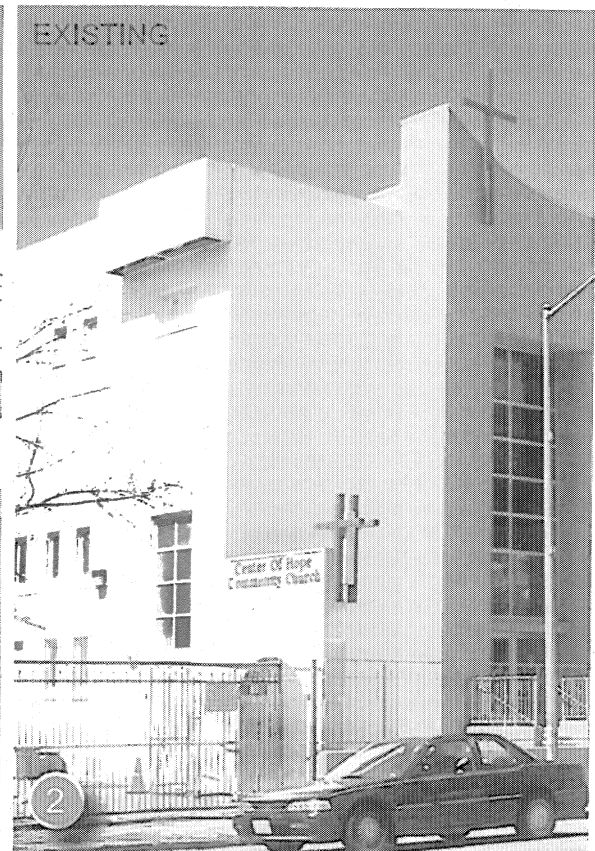
CA2128 PHASE 1C SF73XC412-A BELL & HOWELL (CAMDEN, NJ 08065)		ISSUE STATUS <table border="1"> <thead> <tr> <th>Δ</th> <th>DATE</th> <th>DESCRIPTION</th> <th>CL</th> </tr> </thead> <tbody> <tr> <td></td> <td>04/06/72</td> <td>DO WORK</td> <td>J.L.</td> </tr> <tr> <td></td> <td>04/23/72</td> <td>DO WORK</td> <td>J.K.</td> </tr> <tr> <td></td> <td>04/27/72</td> <td>CLINT REV</td> <td>J.K.</td> </tr> <tr> <td>Δ</td> <td>05/30/72</td> <td>CLINT REV</td> <td>R.W.</td> </tr> <tr> <td></td> <td></td> <td></td> <td>-</td> </tr> <tr> <td></td> <td></td> <td></td> <td>-</td> </tr> </tbody> </table>	Δ	DATE	DESCRIPTION	CL		04/06/72	DO WORK	J.L.		04/23/72	DO WORK	J.K.		04/27/72	CLINT REV	J.K.	Δ	05/30/72	CLINT REV	R.W.				-				-
Δ	DATE	DESCRIPTION	CL																											
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Δ	05/30/72	CLINT REV	R.W.																											
			-																											
			-																											
DRAWM BY: C. TIBBETT CHECKED BY: C. MATHESON APPROVED BY: J. GARY		DATE: 10/29/72																												



# PARTIAL WEST ELEVATION



<p><b>SHEET TITLE:</b></p> <p><b>ELEVATIONS</b></p> <p><b>SHEET NUMBER:</b></p> <p><b>A-7</b></p>	<p><b>Sprint</b></p> 
	<p><b>12657 ALCOSTA BLVD SUITE 300</b>  <b>SAN RAMON, CA 94583</b></p>



**Streamline Engineering**

**and Design, Inc.**

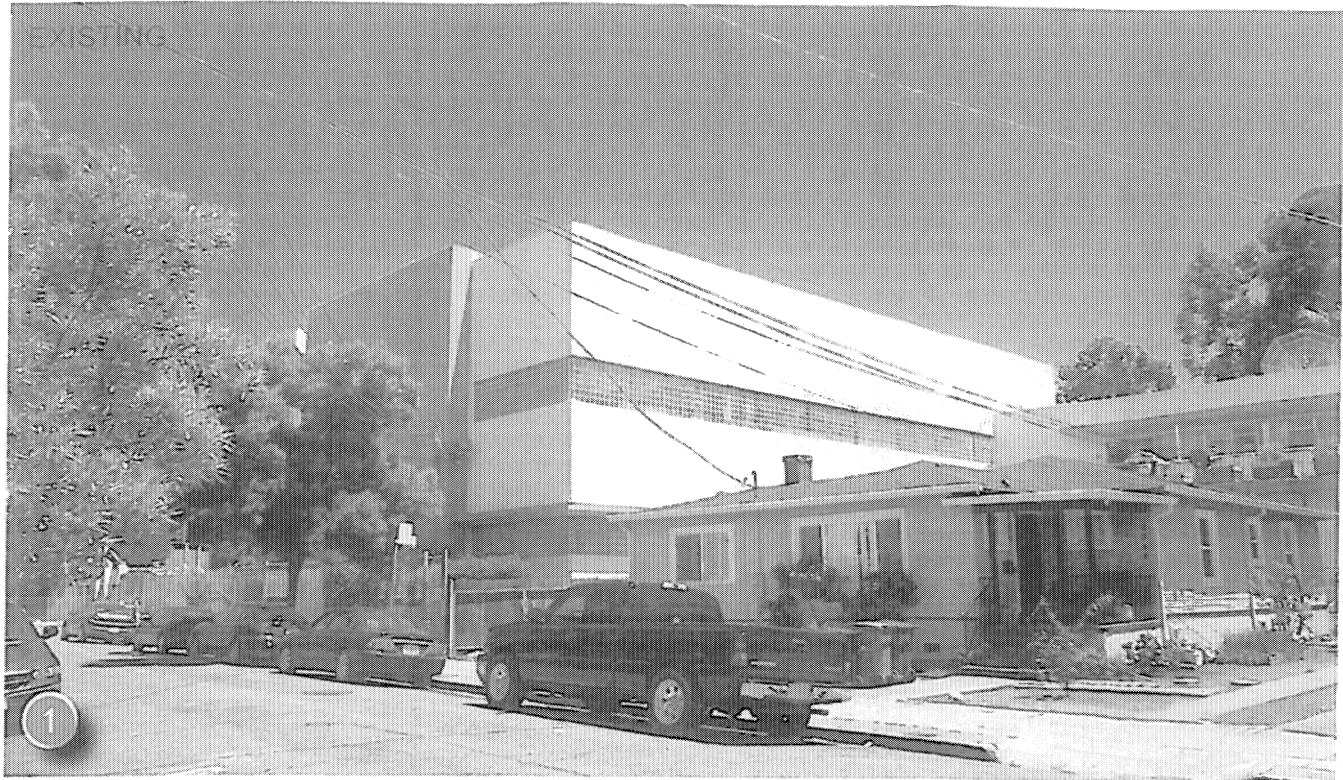
**SITE PLAN & RESPECTIVE VIEWS**  
**SPRINT-SF73XC412- CA2128 - PHASE 1C**  
 8411 MACARTHUR BLVD, OAKLAND, CA 94605

3268 PENRYN RD, SUITE 200 LOOMIS, CA 95650  
 PHONE: (916) 660-1930  
 FAX: (916) 600-1941

**Sprint**

10/30/12





OPTION - A

**StreamLine Engineering**

and Design, Inc.

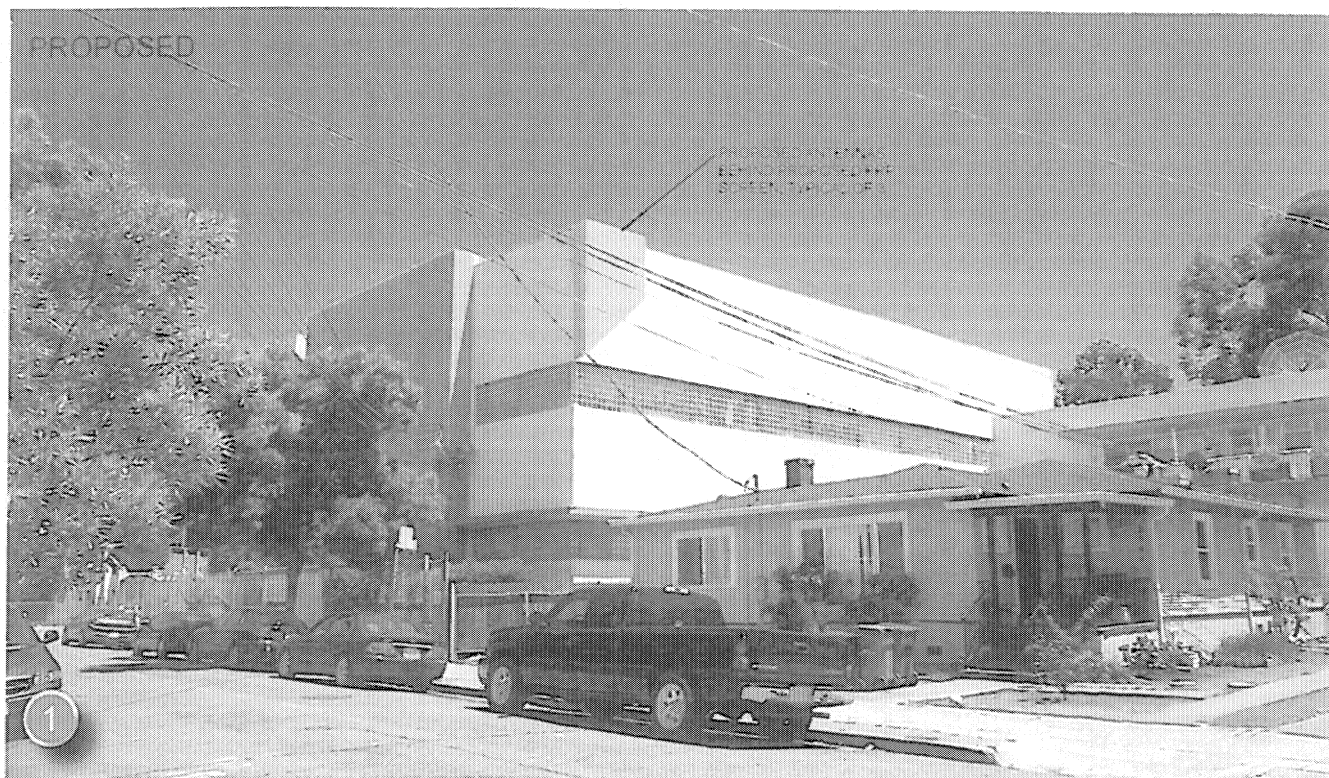
With the Best Companies

**Sprint**

**VIEW 1: LOOKING EAST FROM 84TH AVE**  
**SPRINT-SF73XC412- CA2128 - PHASE 1C**  
 8411 MACARTHUR BLVD, OAKLAND, CA 94605

3268 PENRYN RD, SUITE 200 LOOMIS, CA 95650  
 PHONE: (916) 660-1930  
 FAX: (916) 600-1941

10/30/12



OPTION - B

*Streamline Engineering*

and Design, Inc.

REGISTERED PROFESSIONAL ENGINEER

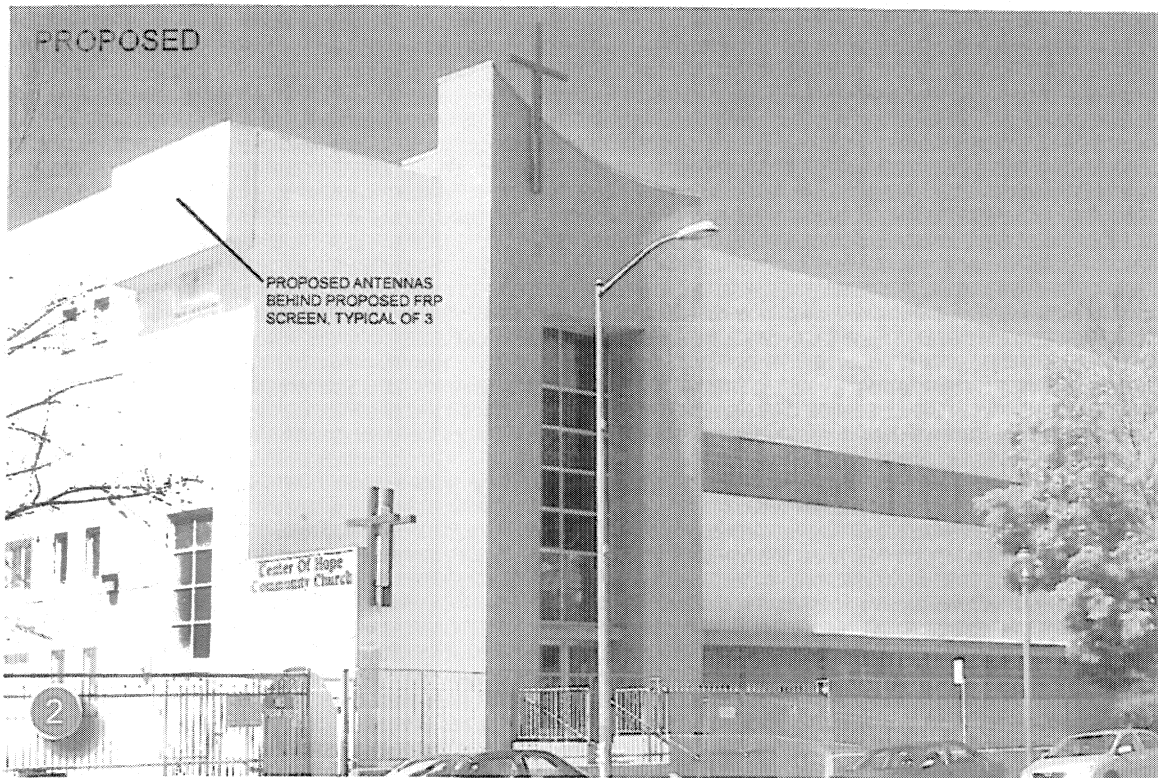
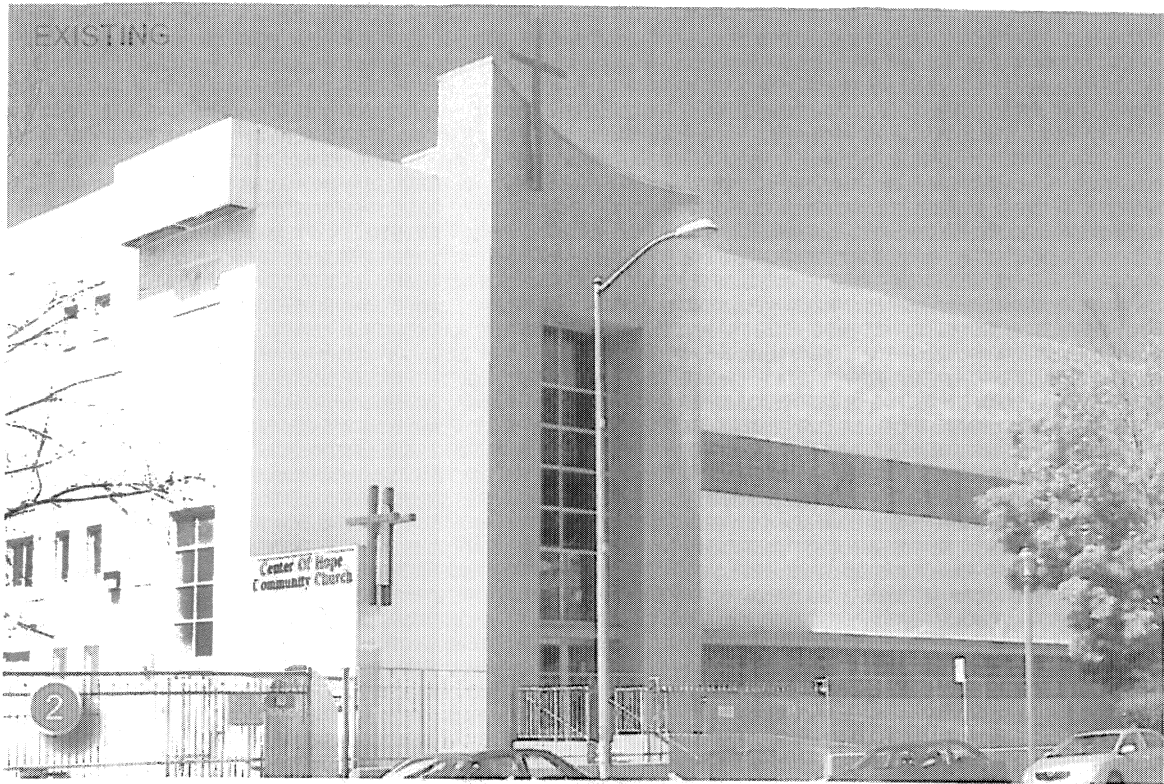
3268 PENRYN RD, SUITE 200 LOOMIS, CA 95650  
PHONE: (916) 660-1930  
FAX: (916) 600-1941

10/30/12

**Sprint**

VIEW 1: LOOKING EAST FROM 84TH AVE  
SPRINT-SF73XC412- CA2128 - PHASE 1C  
8411 MACARTHUR BLVD, OAKLAND, CA 94605





*Streamline Engineering*

and Design, Inc.

**Sprint**

**VIEW 2: LOOKING WEST FROM MACARTHUR BLVD**

SPRINT-SF73XC412- CA2128 - PHASE 1C  
8411 MACARTHUR BLVD, OAKLAND, CA 94605

3268 PENRYN RD, SUITE 200 LOOMIS, CA 95650  
PHONE: (916) 680-1930  
FAX: (916) 600-1941

10/30/12



# Radio Frequency – Electromagnetic Energy (RF-EME) Compliance Report

---



Prepared for:  
Sprint Nextel  
c/o Black & Veatch Corporation  
2999 Oak Rd. Suite 910  
Walnut Creek, CA 94597

Site No. SF73XC412  
CA2128-Phase 1C  
8411 MacArthur Blvd  
Oakland, California 94605  
Alameda County  
37.761192; -122.163975 NAD83  
rooftop

EBI Project No. 62122304  
July 3, 2012



## **EXECUTIVE SUMMARY**

### **Purpose of Report**

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by Sprint Nextel to conduct radio frequency electromagnetic (RF-EME) modeling for Sprint Site SF73XC412 located at 8411 MacArthur Blvd in Oakland, California to determine RF-EME exposure levels from existing and proposed Sprint wireless communications equipment at this site. As described in greater detail in Section 11.0 of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

This report contains a detailed summary of the RF EME analysis for the site.

This document addresses the compliance of Sprint's proposed transmitting facilities independently and in relation to all collocated facilities at the site.

## **1.0 LOCATION OF ALL EXISTING ANTENNAS AND FACILITIES AND EXISTING RF LEVELS**

This project involves the removal of two (2) existing antennas replaced with two (2) proposed Sprint wireless telecommunication antennas on a rooftop located at 8411 MacArthur Blvd in Oakland, California. There are two Sectors (A and B) proposed to be replaced at the site, with one (1) antenna that may be re-installed per sector.

Based on drawings and aerial photography review, Nextel also has wireless antennas on the rooftop. These antennas were included in the modeling analysis. Also, Sprint has an additional existing antenna in Sector C that is to remain unaltered. This antenna was included in the modeling analysis.

## **2.0 LOCATION OR ALL APPROVED (BUT NOT INSTALLED) ANTENNAS AND FACILITIES AND EXPECTED RF LEVELS FROM THE APPROVED FACILITIES**

There are no antennas or facilities that are approved and not installed based on information provided to EBI and Sprint at the time of this report.

## **3.0 NUMBER AND TYPES OF WTS WITHIN 100 FEET OF THE PROPOSED SITE AND ESTIMATES OF CUMULATIVE EMR EMISSIONS AT THE PROPOSED SITE**

With the exception of the antennas mentioned in Section 1.0, there are no other Wireless Telecommunication Service (WTS) sites observed within 100 feet of the proposed site

## **4.0 LOCATION AND NUMBER OF THE SPRINT ANTENNAS AND BACK-UP FACILITIES PER BUILDING AND NUMBER AND LOCATION OF OTHER TELECOMMUNICATION FACILITIES ON THE PROPERTY**

Sprint proposes the removal of two (2) existing antennas replaced with two (2) proposed Sprint wireless telecommunication antennas on a rooftop located at 8411 MacArthur Blvd in Oakland, California. There are two Sectors (A and B) proposed to be replaced at the site, with one (1) antenna that may be re-installed per sector. In each sector, there is proposed to be one antenna transmitting in the 800 MHz and the 1900 MHz frequency ranges. The Sector A antenna will be oriented 0° from true north. The Sector B antenna will be oriented 120° from true north. The existing Sector C antenna will be oriented 240° from true north. The bottoms of the antennas in all three sectors will be 36 feet above the ground.

Based on drawings and aerial photography review, Nextel also has wireless antennas on the rooftop. These antennas were included in the modeling analysis. Also, Sprint has an additional existing antenna in Sector C that is to remain unaltered. This antenna was included in the modeling analysis.

## **5.0 POWER RATING FOR ALL EXISTING AND PROPOSED BACKUP EQUIPMENT SUBJECT TO THE APPLICATION**

The operating power for modeling purposes was assumed to be 20 Watts per transmitter for the 800 MHz antenna and there will be one (1) transmitter operating at this frequency. Additionally, for modeling purposes it was assumed to be 20 Watts per transmitter and six (6) transmitters operating at the 1900 MHz.

## **6.0 TOTAL NUMBER OF WATTS PER INSTALLATION AND THE TOTAL NUMBER OF WATTS FOR ALL INSTALLATIONS ON THE BUILDING**

The effective radiated power (ERP) for the 800 MHz transmitter combined on site is 597 Watts. The ERP for the 1900 MHz transmitters combined on site is 6,227 Watts. The ERPs for other carriers on site were not provided.

## **7.0 PREFERRED METHOD OF ATTACHMENT OF PROPOSED ANTENNA WITH PLOT OR ROOF PLAN INCLUDING: DIRECTIONALITY OF ANTENNAS, HEIGHT OF ANTENNAS ABOVE NEAREST WALKING SURFACE, DISCUSS NEARBY INHABITED BUILDINGS**

Based on the information provided to EBI, the information indicates that the proposed antennas are to be pipe mounted to the rooftop parapet, operating in the directions, frequencies, and heights mentioned in section 4.0 above. The site building is in a dense urban area and is nearly surrounded on all sides by both commercial and residential buildings.

## **8.0 ESTIMATED AMBIENT RADIO FREQUENCY FIELDS FOR THE PROPOSED SITE**

Based on worst-case predictive modeling, there are no predicted areas on any accessible rooftop-level walking/working surface related to the proposed Sprint antennas that exceed the FCC's occupational or general public exposure limits at this site. At the nearest walking/working surfaces to the proposed Sprint antennas, the maximum power density is 2.80 percent of the FCC's general public limit (0.56 percent of the FCC's occupational limit). The composite exposure level from all other carriers existing on this site combined with Sprint's proposed antennas is 3.00 percent of the FCC's general public limit (0.60 percent of the FCC's occupational limit) at the nearest walking/working surface to each antenna. Based on worst-case predictive modeling, there are no areas at ground level related to the proposed Sprint antennas that exceed the FCC's occupational or general public exposure limits at this site. At ground level, the maximum power density generated by the Sprint antennas combined with the existing other carriers antennas on site is 3.00 percent of the FCC's general public limit (0.60 percent of the FCC's occupational limit). The inputs used in the modeling are summarized in the RoofView® export file presented in Appendix B.

There are no modeled areas on the rooftop that exceed the FCC's limits for general public or occupational exposure in front of the other carrier antennas.

## **9.0 SIGNAGE AT THE FACILITY IDENTIFYING ALL WTS EQUIPMENT AND SAFETY PRECAUTIONS FOR PEOPLE NEARING THE EQUIPMENT AS MAY BE REQUIRED BY THE APPLICABLE FCC ADOPTED STANDARDS (DISCUSS SIGNAGE FOR THOSE WHO SPEAK LANGUAGES OTHER THAN ENGLISH)**

Signs are the primary means for control of access to areas where RF exposure levels may potentially exceed the MPE. Signage is already installed for the existing antennas, but it is recommended that additional signage be installed for the new antennas making people aware of the antennas locations. There are no fields in front of the proposed antennas and therefore barriers are not recommended.

Additionally, there are areas where workers elevated to near the top of the building may be exposed to power densities greater than the general population and occupational limits. Workers and the general public should be informed about the presence and locations of antennas and their associated fields.

Additionally, access to this site is accomplished via a roof access door located on the main roof. Access to the facility may be monitored, but it should be assumed that the general public is able to access the rooftop.

## 10.0 STATEMENT ON WHO PRODUCED THIS REPORT AND QUALIFICATIONS

Please see the certifications attached in Appendix A below.

## 11.0 FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

**Occupational/controlled exposure limits** apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general public/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

**General public/uncontrolled exposure limits** apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

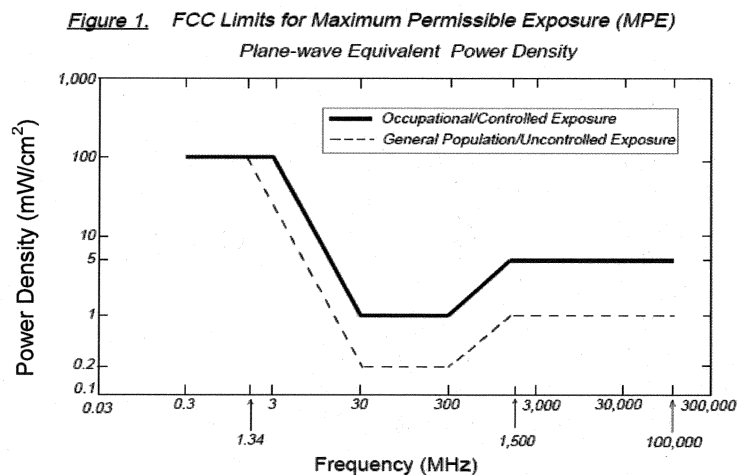
Table I and Figure I (below), which are included within the FCC's OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm<sup>2</sup>). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm<sup>2</sup>) and an uncontrolled MPE of 1 mW/cm<sup>2</sup> for equipment operating in the 1900 MHz frequency range. For the Sprint equipment operating at 800 MHz, the FCC's occupational MPE is 2.66 mW/cm<sup>2</sup> and an uncontrolled MPE of 0.53 mW/cm<sup>2</sup>. These limits are considered protective of these populations.

Table 1: Limits for Maximum Permissible Exposure (MPE)				
(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time [E] <sup>2</sup> , [H] <sup>2</sup> , or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time [E] <sup>2</sup> , [H] <sup>2</sup> , or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)

\* Plane-wave equivalent power density



Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Personal Communication (PCS)	1,950 MHz	5.00 mW/cm <sup>2</sup>	1.00 mW/cm <sup>2</sup>
Cellular Telephone	870 MHz	2.90 mW/cm <sup>2</sup>	0.58 mW/cm <sup>2</sup>
Specialized Mobile Radio	855 MHz	2.85 mW/cm <sup>2</sup>	0.57 mW/cm <sup>2</sup>
Most Restrictive Freq. Range	30-300 MHz	1.00 mW/cm <sup>2</sup>	0.20 mW/cm <sup>2</sup>

MPE limits are designed to provide a substantial margin of safety. 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.

Personal Communication (PCS) facilities used by Sprint in this area operate within a frequency range of 800-1900 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

### **Statement of Compliance**

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

### **12.0 LIMITATIONS**

This report was prepared for the use of Sprint Nextel. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made

### **13.0 SUMMARY AND CONCLUSIONS**

EBI has prepared this Radiofrequency Emissions Compliance Report for the proposed Sprint telecommunications equipment at the site located at 8411 MacArthur Blvd in Oakland, California.

EBI has conducted theoretical modeling to estimate the worst-case power density from Sprint antennas and the other carriers' existing antennas to document potential MPE levels at this location and ensure that site control measures are adequate to meet FCC and OSHA requirements. As presented in the preceding sections, based on worst-case predictive modeling, there are no modeled exposures on any accessible rooftop-level walking/working surface related to proposed equipment in the area that exceed the FCC's occupational and general public exposure limits at this site. As such, the proposed Sprint project is in compliance with FCC rules and regulations.

Signage is recommended at the site as presented in Section 9.0. Posting of the signage brings the site into compliance with FCC rules and regulations.

## **Appendix A**

### **Certifications**



## Preparer Certification

I, Kyle Saunders, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.
- I am familiar with the FCC rules and regulations as well as OSHA regulations both in general and as they apply to RF-EME exposure.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.



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## **Appendix B**

### **Roofview® Export File**

Sample symbols	AC Unit	5	Sym
35	AC Unit	5	Sym
5	Roof Access	14	Sym
5	AC Unit	45	Sym
20	Ladder	45	Sym