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Executive Summary
Conditional Use

HEARING DATE: JULY 23, 2020

CONTINUED FROM: MAY 28, 2020

Record No.:	2019-021795CUA
Project Address:	650 Frederick Street (Kezar Stadium)
Zoning:	P (Public) Zoning District OS Height and Bulk District
Block/Lot:	1264 / 001
Project Sponsor:	Chad Christie 2785 Mitchell Drive San Francisco, CA
Property Owner:	City and County of San Francisco San Francisco, CA 94117
Staff Contact:	Mathew Chandler – 415-575-9048 *Mathew.Chandler@sfgov.org*
Recommendation:	**Approval with Conditions**

PROJECT DESCRIPTION

The Project includes installation of a new Verizon Wireless macro wireless telecommunications facility consisting of fifteen (15) new Antennas, eighteen (18) new remote radio units, and two (2) Surge Suppressors on existing stadium light pole, and ancillary equipment including ground-mounted equipment screened within a fence.

REQUIRED COMMISSION ACTION

In order for the Project to proceed, the Commission must grant a Conditional Use Authorization, pursuant to Planning Code Sections 303(c) and 211.2 to allow a Wireless Telecommunications Service Facility if used for commercial communication systems in the P Zoning District.

ISSUES AND OTHER CONSIDERATIONS

- **Public Comment & Outreach.** The Project Sponsor held a Pre-Application Meeting at the San Francisco County Fair Building – 1199 9th Avenue on Thursday, July 11, 2019, at 6:00 p.m. According to application materials, ten community members attended the meeting: two attendees verbally opposed the Project, and several attendees were interested in discussing the health impacts of the proposed facility, how the technology operates, and reviewing project-specific details, including plans and photo simulations. To-date, the Department has received correspondence from 7 people regarding the proposed project, four in opposition, and three requesting further information.

ENVIRONMENTAL REVIEW

The Project is exempt from the California Environmental Quality Act ("CEQA") as a Class 1 categorical exemption.

BASIS FOR RECOMMENDATION

The Department finds that the Project is, on balance, consistent with the Wireless Telecommunications service Facilities Siting Guidelines, and the Objectives and Policies of the General Plan. The Project will be located on an existing publicly-used structure, the most preferred location listed in the Wireless Telecommunications service Facilities Siting Guidelines. The proposed facility will not significantly alter the existing appearance or character of the project vicinity. It would not adversely affect the park or open space, nor its access to sunlight or public vistas.

ATTACHMENTS:

Draft Motion – Conditional Use Authorization with Conditions of Approval
Exhibit A – Conditions of Approval
Exhibit B – Plans and Renderings
Exhibit C – Environmental Determination
Exhibit D – Maps and Context Photos
Exhibit E- Radio Frequency Report
Exhibit F – Department of Public Health Approval
Exhibit G – Coverage Maps
Exhibit H – Independent Evaluation

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Planning Commission Draft Motion

HEARING DATE: JULY 23, 2020

Record No.:	2019-021795CUA
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ADOPTING FINDINGS RELATING TO A CONDITIONAL USE AUTHORIZATION PURSUANT TO PLANNING CODE SECTION 303(c) AND 211.2, TO INSTALL A NEW POLE MOUNTED VERIZON WIRELESS MACRO WIRELESS TELECOMMUNICATIONS FACILITY CONSISTING OF (15) NEW ANTENNAS; (18) NEW REMOTE RADIO UNITS; (2) NEW SURGE SUPPRESSORS ON EXISTING STADIUM LIGHT POLE; ANCILLARY EQUIPMENT INCLUDING GROUND MOUNTED EQUIPMENT SCREENED WITHIN A FENCE AS PART OF THE VERIZON WIRELESS TELECOMMUNICATIONS NETWORK. THE SUBJECT PROPERTY IS LOCATED AT 650 FREDERICK STREET (SOUTH SIDE OF KEZAR STADIUM), LOT 001 IN ASSESSOR'S BLOCK 1264, WITHIN THE P (PUBLIC) ZONING DISTRICT AND OS HEIGHT AND BULK DISTRICT, AND ADOPTING FINDINGS UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT.

PREAMBLE

On December 10, 2019, Chad Christie of Ridge Communications representing Verizon Wireless (hereinafter "Project Sponsor") filed Application No. 2019-021795CUA (hereinafter "Application") with the Planning Department (hereinafter "Department") for a Conditional Use Authorization to construct a new macro wireless telecommunications facility (hereinafter "Project") at 650 Frederick Street (Kezar Stadium), Block 1264 Lot 001(hereinafter "Project Site").

On May 28, 2020, the San Francisco Planning Commission (hereinafter "Commission") conducted a duly noticed public hearing at a regularly scheduled meeting on Conditional Use Application 2019-021795CUA and continued the hearing to July 23, 2020.

On June 16, 2020, the Project was determined to be exempt from the California Environmental Quality Act ("CEQA") as a Class 1 Categorical Exemption under CEQA as described in the determination contained in the Planning Department files for this Project;

The Planning Department Commission Secretary is the custodian of records; the File for Record No. 2019-021795CUA is located at 1650 Mission Street, Suite 400, San Francisco, California.

The Commission has heard and considered the testimony presented to it at the public hearing and has further considered written materials and oral testimony presented on behalf of the applicant, Department staff, and other interested parties.

MOVED, that the Commission hereby authorizes the Conditional Use as requested in Application No. 2019-021795CUA, subject to the conditions contained in "EXHIBIT A" of this motion, based on the following findings:

FINDINGS

Having reviewed the materials identified in the preamble above, and having heard all testimony and arguments, this Commission finds, concludes, and determines as follows:

1. The above recitals are accurate and constitute findings of this Commission.

2. **Project Description.** The Project includes installation of a new Verizon Wireless macro wireless telecommunications facility consisting of fifteen (15) new Antennas, eighteen (18) new remote radio units, and two (2) Surge Suppressors on existing stadium light pole, and ancillary equipment including ground mounted equipment screened within a fence.

3. **Site Description and Present Use.** The Project is located on lot 001 of Assessor's block 1264 at the south side of Kezar Stadium with approximately 858-ft of frontage along Frederick Street. The site is part of a larger site at the south east corner of Golden Gate Park, Kezar Stadium, which is bisected by a portion lot 001 of Assessor's block 1700 and is bound roughly by Frederick Street, Arguello Boulevard, Kezar Drive, Waller Street, and Stanyan Street. The site is owned by the City and County of San Francisco and provides a public use for open space, including active and passive recreation use.

4. **Surrounding Properties and Neighborhood.** The Project Site is located within the Public Zoning District. The immediate context is mixed in character with residential, retail, entertainment, and other public uses. The immediate neighborhood includes one-to-four-story commercial and residential properties to the south and across Frederick Street, one-to-four-story commercial and residential properties to the east across Stanyan Street, and additional public park (Golden Gate Park) to the north and west.

5. **Public Outreach and Comments.** The Department has received correspondence from 7 people regarding the proposed project. Much of the opposition expressed concerns over the project's potential adverse health effect and project design. Specifically, concerns have been expressed that the facility will have adverse health effects related to EMF exposure, that the facility is aesthetically unpleasing, and unnecessary.

6. **Past History and Actions.** The Planning Commission adopted the *Wireless Telecommunications Services (WTS) Facilities Siting Guidelines* ("Guidelines") for the installation of wireless telecommunications facilities in 1996. These Guidelines set forth the land use policies and practices that guide the installation and approval of wireless facilities throughout San Francisco. A large portion of the Guidelines was dedicated to establishing location preferences for these installations. The Board of Supervisors, in Resolution No. 635-96, provided input as to where wireless facilities should be located within San Francisco. The Guidelines were updated by the Commission in 2003 and again in 2012, requiring community outreach, notification, and detailed information about the facilities to be installed.

   Section 8.1 of the Guidelines outlines Location Preferences for wireless facilities. There are five primary areas were the installation of wireless facilities should be located:

   1. Publicly-used Structures: such facilities as fire stations, utility structures, community facilities, and other public structures;
   2. Co-Location Site: encourages installation of facilities on buildings that already have wireless installations;
   3. Industrial or Commercial Structures: buildings such as warehouses, factories, garages, service stations;
   4. Industrial or Commercial Structures: buildings such as supermarkets, retail stores, banks; and
   5. Mixed-Use Buildings in High Density Districts: buildings such as housing above commercial or other non-residential space.

   Section 8.1 of the WTS Siting Guidelines further stipulates that the Planning Commission will not approve WTS applications for Preference 5 or below Location Sites unless the application describes (a) what publicly-used building, co-location site or other Preferred Location Sites are located within the geographic service area; (b) what good faith efforts and measures were taken to secure these more Preferred Locations, (c) explains why such efforts were unsuccessful; and (d) demonstrates that the location for the site is essential to meet demands in the geographic service area and the Applicant's citywide networks.

   Before the Planning Commission can review an application to install a wireless facility, the Project Sponsor must submit a five-year facilities plan, which must be updated biannually, an emissions report and approval by the Department of Public Health, Section 106 Declaration of Intent, an independent evaluation verifying coverage and capacity, a submittal checklist and details about the facilities to be installed.

   Under Section 704(B)(iv) of the 1996 Federal Telecommunications Act, local jurisdictions cannot deny wireless facilities based on Radio Frequency (RF) radiation emissions so long as such facilities comply with the FCC's regulations concerning such emissions.

7. **Location Preference.** The *WTS Facilities Siting Guidelines* identify different types of zoning districts and building uses for the siting of wireless telecommunications facilities. Based on the zoning and land use, the proposed WTS facility is at a Location Preference 1 Site (Publicly- used Structures) according to the WTS Facilities Siting Guidelines, making it a desired location.

8. **Radio Waves Range.** The Project Sponsor has stated that the proposed wireless network is designed to address coverage and capacity needs in the area. The network will operate in 9,120 watts for AWS, 8,510 watts for PCS, 6,460 watts for cellular, 6,030 watts for 700 MHz, 193 watts for 28 GHz, 344 watts for 3 GHz, and 2.4 watts for part 15 service at 5 GHz, which are regulated by the Federal Communications Commission (FCC) and must comply with the FCC-adopted health and safety standards for electromagnetic radiation and radio frequency radiation.

9. **Radiofrequency (RF) Emissions:** The Project Sponsor retained Hammett & Edison, INC Consulting Engineers, a radio engineering consulting firm, to prepare a report describing the expected RF emissions from the proposed facility. Pursuant to the Guidelines, the Department of Public Health reviewed the report and determined that the proposed facility complies with the standards set forth in the Guidelines.

10. **Department of Public Health Review and Approval.** The Project was referred to the Department of Public Health (DPH) for emissions exposure analysis. Radio-Frequency (RF) levels from the proposed Verizon Wireless transmitters at any nearby publicly accessible building or area would be 42% of the FCC public exposure limit.

    There are no antennas existing operated by Verizon installed on the light poles of the Kezar Stadium at 670 Kezar Drive. Existing RF levels at ground level were around 1% of the FCC public exposure limit. No other antennas were observed within 100 feet of this site. Verizon proposes to install 15 new antennas. The antennas are mounted at the height of 46-65 feet above the ground. The estimated ambient RF field from the proposed Verizon transmitters at ground level is calculated to be 0.048 mW/sq cm., which is 7.2% of the FCC public exposure limit. The three dimensional perimeter of RF levels equal to the public exposure limit extends 122 feet and does not reach any publicly accessible areas. Warning signs must be posted at the antennas and roof access points in English, Spanish and Chinese. Workers should not have access to within 47 feet of the front of the antennas while they are in operation.

11. **Coverage and Capacity Verification.** The maps, data, and conclusion provided by Verizon Wireless to demonstrate the need for outdoor and indoor coverage and capacity have been determined by Hammett & Edison, INC Consulting Engineers, an engineering consultant and independent third party, to accurately represent the carrier's present and post-installation conclusions.

12. **Maintenance Schedule**. The facility would operate without on-site staff but with a maintenance crew visiting the property to service and monitor the facility.

13. **Planning Code Compliance.** The Commission finds that the Project is consistent with the relevant provisions of the Planning Code in the following manner:

    A. **Use.** Per Planning Code Section 211.2, a Conditional Use Authorization is required for a macro WTS facility (Utility and Infrastructure Use).

14. **Conditional Use Findings.** Planning Code Section 303 establishes criteria for the Planning Commission to consider when reviewing applications for Conditional Use authorization. On balance, the project complies with said criteria in that:

    A. The proposed new uses and building, at the size and intensity contemplated and at the proposed location, will provide a development that is necessary or desirable, and compatible with, the neighborhood or the community.

    The Project at 650 Frederick Street is generally desirable and compatible with the surrounding neighborhood because the Project will not conflict with the existing uses of the property and will be designed to be compatible with the surrounding neighborhood. The overall location, setback from public streets, height, and design of the proposed facility, including visible screening elements, is situated to avoid intrusion into public vistas and to ensure harmony with the existing neighborhood character and promote public safety.

    The Project is necessary in order to achieve sufficient indoor and outdoor 4G LTE mobile phone coverage and data capacity. Recent drive tests in the subject area conducted by the Verizon Wireless Radio Frequency Engineering Team provide that the Project Site is a preferable location, based on factors including quality of coverage and aesthetics.

    B. The proposed project will not be detrimental to the health, safety, convenience or general welfare of persons residing or working in the vicinity. There are no features of the project that could be detrimental to the health, safety or convenience of those residing or working the area, in that:

        (1) Nature of proposed site, including its size and shape, and the proposed size, shape and arrangement of structures;

        The height and general aesthetics of the existing light pole will remain the same, and the proposed equipment will not significantly alter the current appearance or character of the project vicinity. The proposed work will not affect the envelope of any building or create permanent modifications to any structure; all ground mounted equipment will be adequately screened within a fence.

        (2) The accessibility and traffic patterns for persons and vehicles, the type and volume of such traffic, and the adequacy of proposed off-street parking and loading;

The Planning Code does not require parking or loading for a telecommunications wireless facility. The proposed use is designed to meet the needs of the immediate neighborhood and should not generate significant amounts of vehicular trips from the immediate neighborhood or citywide.

(3) The safeguards afforded to prevent noxious or offensive emissions such as noise, glare, dust and odor;

While some noise and dust may result from the installation of the antennas and transceiver equipment, noise or noxious emissions from continued use are not likely to be significantly greater than ambient conditions due to the operation of the wireless communication network.

(4) Treatment given, as appropriate, to such aspects as landscaping, screening, open spaces, parking and loading areas, service areas, lighting and signs;

The facility will not affect landscaping, open space, required parking, lighting or signage at the Project Site or surrounding area. The proposed ground mount equipment will be adequately screened within a fence.

C. That the use as proposed will comply with the applicable provisions of the Planning Code and will not adversely affect the General Plan.

The Project complies with all relevant requirements and standards of the Planning Code and is consistent with objectives and policies of the General Plan as detailed below.

D. That the use as proposed would provide development that is in conformity with the purpose of the applicable Neighborhood Commercial District.

The proposed project is consistent with the stated purposed of Public Districts in that the facility will be consistent with the existing scale and character of the area.

15. **General Plan Compliance.** The Project is, on balance, consistent with the following Objectives and Policies of the General Plan:

HOUSING ELEMENT

Objectives and Policies

OBJECTIVE 12:
BALANCE HOUSING GROWTH WITH ADEQUATE INFRASTRUCTURE THAT SERVES THE CITY'S GROWING POPULATION.

Policy 12.3:
Ensure new housing is sustainable supported by the City's public infrastructure systems.

The Project will improve Verizon Wireless coverage and capacity within Golden Gate Park and the surrounding neighborhoods.

COMMERCE AND INDUSTRY ELEMENT

Objectives and Policies

OBJECTIVE 1:
MANAGE ECONOMIC GROWTH AND CHANGE TO ENSURE ENHANCEMENT OF THE TOTAL CITY LIVING AND WORKING ENVIRONMENT.

Policy 1.1:
Encourage development, which provides substantial net benefits and minimizes undesirable consequences. Discourage development, which has substantial undesirable consequences that cannot be mitigated.

Policy 1.2:
Assure that all commercial and industrial uses meet minimum, reasonable performance standards.

The Project will enhance the total city living and working environment by providing communication services for residents and workers within the City. Additionally, the Project would comply with Federal, State and Local performance standards.

OBJECTIVE 2:
MAINTAIN AND ENHANCE A SOUND AND DIVERSE ECONOMIC BASE AND FISCAL STRUCTURE FOR THE CITY.

Policy 2.1:
Seek to retain existing commercial and industrial activity and to attract new such activity to the city.

Policy 2.3:
Maintain a favorable social and cultural climate in the city in order to enhance its attractiveness as a firm location.

The Site will be an integral part of a new wireless communications network that will enhance the City's diverse economic base.

OBJECTIVE 4:
IMPROVE THE VIABILITY OF EXISTING INDUSTRY IN THE CITY AND THE ATTRACTIVENESS OF THE CITY AS A LOCATION FOR NEW INDUSTRY.

Policy 4.1:
Maintain and enhance a favorable business climate in the City.

Policy 4.2:
Promote and attract those economic activities with potential benefit to the City.

The Project will benefit the City by enhancing the business climate through improved communication services for residents and workers.

VISITOR TRADE

OBJECTIVE 8:
ENHANCE SAN FRANCISCO'S POSITION AS A NATIONAL CENTER FOR CONVENTIONS AND VISITOR TRADE.

Policy 8.3:
Assure that areas of particular visitor attraction are provided with adequate public services for both residents and visitors.

The Project will ensure that residents and visitors have adequate public service in the form of Verizon Wireless telecommunications.

COMMUNITY SAFETY ELEMENT

Objectives and Policies

OBJECTIVE 3:
ESTABLISH STRATEGIES TO ADDRESS THE IMMEDIATE EFFECTS OF A DISASTER.

Policy 1.20
Increase communication capabilities in preparation for all phases of a disaster and ensure communication abilities extend to hard-to-reach areas and special populations.

Policy 2.4
Bolster the Department of Emergency Management's role as the City's provider of emergency planning and communication, and prioritize its actions to meet the needs of San Francisco.

Policy 2.15
Utilize advancing technology to enhance communication capabilities in preparation for all phases of a disaster, particularly in the high-contact period immediately following a disaster.

Policy 3.7:
Develop a system to convey personalized information during and immediately after a disaster.

The Project will enhance the ability of the City to protect both life and property from the effects of a fire or natural disaster by providing communication services.

16. **Planning Code Section 101.1(b)** establishes eight priority-planning policies and requires review of permits for consistency with said policies. On balance, the project complies with said policies in that:

A. That existing neighborhood-serving retail uses be preserved and enhanced and future opportunities for resident employment in and ownership of such businesses be enhanced.

The wireless communications network will enhance personal communication services for businesses and customers in the surrounding area.

B. That existing housing and neighborhood character be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods.

No residential uses will be displaced in any way by the granting of this Authorization.

C. That the City's supply of affordable housing be preserved and enhanced,

The Project will have no adverse effects on housing in the vicinity.

D. That commuter traffic not impede MUNI transit service or overburden our streets or neighborhood parking.

Due to the nature of the Project and minimal maintenance or repair, municipal transit service will not be significantly impeded and neighborhood parking will not be overburdened.

E. That a diverse economic base be maintained by protecting our industrial and service sectors from displacement due to commercial office development, and that future opportunities for resident employment and ownership in these sectors be enhanced.

The Project will not cause any displacement of industrial and service sector activity.

F. That the City achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake.

The Project will be designed and will be constructed to conform to the structural and seismic safety requirements of the Building Code. This proposal will not impact the property's ability to withstand an earthquake.

G. That landmarks and historic buildings be preserved.

The facility will be located on existing stadium light poles surrounding Kezar Stadium within the Golden Gate Park Historic District. While the proposed facility will be minimally visible from surrounding public rights-of-way, the height and general aesthetics of the existing light poles will remain the same, and the proposed equipment will not significantly alter the current appearance or character of the project vicinity. The proposed work will not physically alter any historic features or materials that characterize known or potential historic resources where these installations occur.

Furthermore, the proposed WTS facility has been found to be in conformance with the Secretary of the Interior's Standards for Rehabilitation.

H. That our parks and open space and their access to sunlight and vistas be protected from development.

The Project will not adversely affect parks or open space, nor their access to sunlight or public vistas. Although the Project is located within a public park, the public park (Golden Gate Park) is still afforded access to sunlight, which should not dramatically affect the use and enjoyment of this park. The Project will not adversely affect parks or open space, nor their access to sunlight or public vistas.

17. The Project is consistent with and would promote the general and specific purposes of the Code provided under Section 101.1(b) in that, as designed, the Project would contribute to the character and stability of the neighborhood and would constitute a beneficial development.

18. The Commission hereby finds that approval of the Conditional Use Authorization would promote the health, safety and welfare of the City.

DECISION

That based upon the Record, the submissions by the Applicant, the staff of the Department and other interested parties, the oral testimony presented to this Commission at the public hearings, and all other written materials submitted by all parties, the Commission hereby **APPROVES Conditional Use Authorization Application No. 2019-021795CUA** subject to the following conditions attached hereto as "EXHIBIT A" in general conformance with plans on file, dated November 26, 2019, and stamped "EXHIBIT B", which is incorporated herein by reference as though fully set forth**.**

APPEAL AND EFFECTIVE DATE OF MOTION: Any aggrieved person may appeal this Conditional Use Authorization to the Board of Supervisors within thirty (30) days after the date of this Motion. The effective date of this Motion shall be the date of this Motion if not appealed (after the 30-day period has expired) OR the date of the decision of the Board of Supervisors if appealed to the Board of Supervisors. For further information, please contact the Board of Supervisors at (415) 554-5184, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

Protest of Fee or Exaction: You may protest any fee or exaction subject to Government Code Section 66000 that is imposed as a condition of approval by following the procedures set forth in Government Code Section 66020. The protest must satisfy the requirements of Government Code Section 66020(a) and must be filed within 90 days of the date of the first approval or conditional approval of the development referencing the challenged fee or exaction. For purposes of Government Code Section 66020, the date of imposition of the fee shall be the date of the earliest discretionary approval by the City of the subject development.

If the City has not previously given Notice of an earlier discretionary approval of the project, the Planning Commission's adoption of this Motion, Resolution, Discretionary Review Action or the Zoning Administrator's Variance Decision Letter constitutes the approval or conditional approval of the development and the City hereby gives **NOTICE** that the 90-day protest period under Government Code Section 66020 has begun. If the City has already given Notice that the 90-day approval period has begun for the subject development, then this document does not re-commence the 90-day approval period.

I hereby certify that the Planning Commission ADOPTED the foregoing Motion on July 23, 2020.

Jonas P. Ionin
Commission Secretary

AYES:

NAYS:

ABSENT:

ADOPTED: July 23, 2020

EXHIBIT A

AUTHORIZATION

This authorization is for a conditional use to allow a wireless telecommunications facility (d.b.a. Verizon Wireless) located at 650 Frederick Street, Block 1264, and Lot 001 pursuant to Planning Code Section(s) 303(c) and 211.2 within the P (Public) District and an OS Height and Bulk District; in general conformance with plans, dated November 26, 2019, and stamped "EXHIBIT B" included in the docket for Record No. 2019-021795CUA and subject to conditions of approval reviewed and approved by the Commission on **July 23, 2020** under Motion No **XXXXXX**. This authorization and the conditions contained herein run with the property and not with a particular Project Sponsor, business, or operator.

RECORDATION OF CONDITIONS OF APPROVAL

Prior to the issuance of the building permit or commencement of use for the Project the Zoning Administrator shall approve and order the recordation of a Notice in the Official Records of the Recorder of the City and County of San Francisco for the subject property. This Notice shall state that the project is subject to the conditions of approval contained herein and reviewed and approved by the Planning Commission on **July 23, 2020** under Motion No **XXXXXX**.

PRINTING OF CONDITIONS OF APPROVAL ON PLANS

The conditions of approval under the 'Exhibit A' of this Planning Commission Motion No. **XXXXXX** shall be reproduced on the Index Sheet of construction plans submitted with the site or building permit application for the Project. The Index Sheet of the construction plans shall reference to the Conditional Use authorization and any subsequent amendments or modifications.

SEVERABILITY

The Project shall comply with all applicable City codes and requirements. If any clause, sentence, section or any part of these conditions of approval is for any reason held to be invalid, such invalidity shall not affect or impair other remaining clauses, sentences, or sections of these conditions. This decision conveys no right to construct, or to receive a building permit. "Project Sponsor" shall include any subsequent responsible party.

CHANGES AND MODIFICATIONS

Changes to the approved plans may be approved administratively by the Zoning Administrator. Significant changes and modifications of conditions shall require Planning Commission approval of a new Conditional Use authorization.

Conditions of Approval, Compliance, Monitoring, and Reporting

PERFORMANCE

1. **Validity.** The authorization and right vested by virtue of this action is valid for three (3) years from the effective date of the Motion. The Department of Building Inspection shall have issued a Building Permit or Site Permit to construct the project and/or commence the approved use within this three-year period.
   For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

2. **Expiration and Renewal.** Should a Building or Site Permit be sought after the three (3) year period has lapsed, the project sponsor must seek a renewal of this Authorization by filing an application for an amendment to the original Authorization or a new application for Authorization. Should the project sponsor decline to so file, and decline to withdraw the permit application, the Commission shall conduct a public hearing in order to consider the revocation of the Authorization. Should the Commission not revoke the Authorization following the closure of the public hearing, the Commission shall determine the extension of time for the continued validity of the Authorization.
   For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

3. **Diligent pursuit.** Once a site or Building Permit has been issued, construction must commence within the timeframe required by the Department of Building Inspection and be continued diligently to completion. Failure to do so shall be grounds for the Commission to consider revoking the approval if more than three (3) years have passed since this Authorization was approved.
   For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

4. **Extension.** All time limits in the preceding three paragraphs may be extended at the discretion of the Zoning Administrator where implementation of the project is delayed by a public agency, an appeal or a legal challenge and only by the length of time for which such public agency, appeal or challenge has caused delay.
   For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

5. **Conformity with Current Law.** No application for Building Permit, Site Permit, or other entitlement shall be approved unless it complies with all applicable provisions of City Codes in effect at the time of such approval.
   For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

DESIGN – COMPLIANCE AT PLAN STAGE

6. **Final Materials.** The Project Sponsor shall continue to work with Planning Department on the building design. Final materials, glazing, color, texture, landscaping, and detailing shall be subject to Department staff review and approval. The architectural addenda shall be reviewed and approved by the Planning Department prior to issuance.
   For information about compliance, contact the Case Planner, Planning Department at 415-558-6378, www.sf-planning.org

7. **Plan Drawings - WTS**. Prior to the issuance of any building or electrical permits for the installation of the facilities, the Project Sponsor shall submit final scaled drawings for review and approval by the Planning Department ("Plan Drawings"). The Plan Drawings shall describe:
   A. Structure and Siting. Identify all facility related support and protection measures to be installed. This includes, but is not limited to, the location(s) and method(s) of placement, support, protection, screening, paint and/or other treatments of the antennas and other appurtenances to insure public safety, insure compatibility with urban design, architectural and historic preservation principles, and harmony with neighborhood character.
   B. For the Project Site, regardless of the ownership of the existing facilities. Identify the location of all existing antennas and facilities; and identify the location of all approved (but not installed) antennas and facilities.
   C. Emissions. Provide a report, subject to approval of the Zoning Administrator, that operation of the facilities in addition to ambient RF emission levels will not exceed adopted FCC standards with regard to human exposure in uncontrolled areas.

   For information about compliance, contact the Case Planner, Planning Department at 415-558-6378, www.sf-planning.org

8. **Screening - WTS.** To the extent necessary to ensure compliance with adopted FCC regulations regarding human exposure to RF emissions, and upon the recommendation of the Zoning Administrator, the Project Sponsor shall:
   A. Modify the placement of the facilities;
   B. Install fencing, barriers or other appropriate structures or devices to restrict access to the facilities;
   C. Install multi-lingual signage, including the RF radiation hazard warning symbol identified in ANSI C95.2 1982, to notify persons that the facility could cause exposure to RF emissions;
   D. Implement any other practice reasonably necessary to ensure that the facility is operated in compliance with adopted FCC RF emission standards.
   E. To the extent necessary to minimize visual obtrusion and clutter, installations shall conform to the following standards:
   F. Antennas and back up equipment shall be painted, fenced, landscaped or otherwise treated architecturally so as to minimize visual effects;
   G. Rooftop installations shall be setback such that back up facilities are not viewed from the street;

H. Antennae attached to building facades shall be so placed, screened or otherwise treated to minimize any negative visual impact; and

I. Although co location of various companies' facilities may be desirable, a maximum number of antennas and back up facilities on the Project Site shall be established, on a case by case basis, such that "antennae farms" or similar visual intrusions for the site and area is not created.

For information about compliance, contact the Case Planner, Planning Department at 415-558-6378, www.sf-planning.org

MONITORING - AFTER ENTITLEMENT

9. **Enforcement.** Violation of any of the Planning Department conditions of approval contained in this Motion or of any other provisions of Planning Code applicable to this Project shall be subject to the enforcement procedures and administrative penalties set forth under Planning Code Section 176 or Section 176.1. The Planning Department may also refer the violation complaints to other city departments and agencies for appropriate enforcement action under their jurisdiction.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

10. **Revocation due to Violation of Conditions.** Should implementation of this Project result in complaints from interested property owners, residents, or commercial lessees which are not resolved by the Project Sponsor and found to be in violation of the Planning Code and/or the specific conditions of approval for the Project as set forth in Exhibit A of this Motion, the Zoning Administrator shall refer such complaints to the Commission, after which it may hold a public hearing on the matter to consider revocation of this authorization.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

11. **Implementation Costs - WTS**. The Project Sponsor, on an equitable basis with other WTS providers, shall pay the cost of preparing and adopting appropriate General Plan policies related to the placement of WTS facilities. Should future legislation be enacted to provide for cost recovery for planning, the Project Sponsor shall be bound by such legislation.

    The Project Sponsor or its successors shall be responsible for the payment of all reasonable costs associated with implementation of the conditions of approval contained in this authorization, including costs incurred by this Department, the Department of Public Health, the Department of Technology, Office of the City Attorney, or any other appropriate City Department or agency. The Planning Department shall collect such costs on behalf of the City.

    The Project Sponsor shall be responsible for the payment of all fees associated with the installation of the subject facility, which are assessed by the City pursuant to all applicable law.
    For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

12. **Implementation and Monitoring - WTS**. In the event that the Project implementation report includes a finding that RF emissions for the site exceed FCC Standards in any uncontrolled location, the Zoning Administrator may require the Applicant to immediately cease and desist operation of the facility until such time that the violation is corrected to the satisfaction of the Zoning Administrator.
    For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

13. **Project Implementation Report - WTS**. The Project Sponsor shall prepare and submit to the Zoning Administrator a Project Implementation Report. The Project Implementation Report shall:
    A. Identify the three dimensional perimeter closest to the facility at which adopted FCC standards for human exposure to RF emissions in uncontrolled areas are satisfied;
    B. Document testing that demonstrates that the facility will not cause any potential exposure to RF emissions that exceed adopted FCC emission standards for human exposure in uncontrolled areas.
    C. The Project Implementation Report shall compare test results for each test point with applicable FCC standards. Testing shall be conducted in compliance with FCC regulations governing the measurement of RF emissions and shall be conducted during normal business hours on a non-holiday weekday with the subject equipment measured while operating at maximum power.
    D. Testing, Monitoring, and Preparation. The Project Implementation Report shall be prepared by a certified professional engineer or other technical expert approved by the Department. At the sole option of the Department, the Department (or its agents) may monitor the performance of testing required for preparation of the Project Implementation Report. The cost of such monitoring shall be borne by the Project Sponsor pursuant to the condition related to the payment of the City's reasonable costs.
    E. Notification and Testing. The Project Implementation Report shall set forth the testing and measurements undertaken pursuant to Conditions 2 and 4.
    F. Approval. The Zoning Administrator shall request that the Certification of Final Completion for operation of the facility not be issued by the Department of Building Inspection until such time that the Project Implementation Report is approved by the Department for compliance with these conditions.
    For information about compliance, contact the Environmental Health Section, Department of Public Health at (415) 252-3800, www.sfdph.org

14. **Coverage and Capacity Verification.** Use is authorized as long as an independent evaluator, selected by the Planning Department, determines that the information and conclusions submitted by the wireless service provider in support of its request for conditional use are accurate. The wireless service provider shall fully cooperate with the evaluator and shall provide any and all data requested by the evaluator to allow the evaluator to verify that the maps, data, and conclusions about service coverage and capacity submitted are accurate. The wireless service provider shall bear all costs of said evaluation. The independent evaluator, upon request by the

wireless service provider shall keep the submitted data confidential and shall sign a confidentiality agreement acceptable to the wireless service provider. The independent evaluator shall be a professional engineer licensed by the State of California.
For information about compliance, contact the Case Planner, Planning Department at 415-575-9079, www.sf-planning.org .

15. **Notification prior to Project Implementation Report - WTS.** The Project Sponsor shall undertake to inform and perform appropriate tests for residents of any dwelling units located within 25 feet of the transmitting antenna at the time of testing for the Project Implementation Report.
    A. At least twenty calendar days prior to conducting the testing required for preparation of the Project Implementation Report, the Project Sponsor shall mail notice to the Department, as well as to the resident of any legal dwelling unit within 25 feet of a transmitting antenna of the date on which testing will be conducted. The Applicant will submit a written affidavit attesting to this mail notice along with the mailing list.
    B. When requested in advance by a resident notified of testing pursuant to subsection (a), the Project Sponsor shall conduct testing of total power density of RF emissions within the residence of that resident on the date on which the testing is conducted for the Project Implementation Report.

    For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

16. **Installation - WTS.** Within 10 days of the installation and operation of the facilities, the Project Sponsor shall confirm in writing to the Zoning Administrator that the facilities are being maintained and operated in compliance with applicable Building, Electrical and other Code requirements, as well as applicable FCC emissions standards.
    For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

17. **Periodic Safety Monitoring - WTS.** The Project Sponsor shall submit to the Zoning Administrator 10 days after installation of the facilities, and every two years thereafter, a certification attested to by a licensed engineer expert in the field of EMR/RF emissions, that the facilities are and have been operated within the then current applicable FCC standards for RF/EMF emissions.
    For information about compliance, contact the Environmental Health Section, Department of Public Health at (415) 252-3800, www.sfdph.org

OPERATION

18. **Community Liaison.** Prior to issuance of a building permit to construct the project and implement the approved use, the Project Sponsor shall appoint a community liaison officer to deal with the issues of concern to owners and occupants of nearby properties. The Project Sponsor shall provide the Zoning Administrator and all registered neighborhood groups for the

area with written notice of the name, business address, and telephone number of the community liaison. Should the contact information change, the Zoning Administrator and registered neighborhood groups shall be made aware of such change. The community liaison shall report to the Zoning Administrator what issues, if any, are of concern to the community and what issues have not been resolved by the Project Sponsor.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

19. **Out of Service – WTS**. The Project Sponsor or Property Owner shall remove antennae and equipment that has been out of service or otherwise abandoned for a continuous period of six months.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

20. **Emissions Conditions – WTS**. It is a continuing condition of this authorization that the facilities be operated in such a manner so as not to contribute to ambient RF/EMF emissions in excess of then current FCC adopted RF/EMF emission standards; violation of this condition shall be grounds for revocation.
For information about compliance, contact the Environmental Health Section, Department of Public Health at (415) 252-3800, www.sfdph.org

21. **Noise and Heat – WTS**. The WTS facility, including power source and cooling facility, shall be operated at all times within the limits of the San Francisco Noise Control Ordinance. The WTS facility, including power source and any heating/cooling facility, shall not be operated so as to cause the generation of heat that adversely affects a building occupant.
For information about compliance, contact the Environmental Health Section, Department of Public Health at (415) 252-3800, www.sfdph.org

22. **Transfer of Operation – WTS**. Any carrier/provider authorized by the Zoning Administrator or by the Planning Commission to operate a specific WTS installation may assign the operation of the facility to another carrier licensed by the FCC for that radio frequency provided that such transfer is made known to the Zoning Administrator in advance of such operation, and all conditions of approval for the subject installation are carried out by the new carrier/provider.
For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, www.sf-planning.org

23. **Compatibility with City Emergency Services – WTS**. The facility shall not be operated or caused to transmit on or adjacent to any radio frequencies licensed to the City for emergency telecommunication services such that the City's emergency telecommunications system experiences interference, unless prior approval for such has been granted in writing by the City.
For information about compliance, contact the Department of Technology, 415-581-4000, http://sfgov3.org/index.aspx?page=1421

EXHIBIT B

VERIZON WIRELESS EQUIPMENT ENGINEER: SIGNATURE DATE	VERIZON WIRELESS REAL ESTATE: SIGNATURE DATE
VERIZON WIRELESS CONSTRUCTION: SIGNATURE DATE	VERIZON WIRELESS RF ENGINEER: SIGNATURE DATE
PROPERTY OWNER: SIGNATURE DATE	RIDGE COMMUNICATIONS – LEASING SIGNATURE DATE
RIDGE COMMUNICATIONS – CONSTRUCTION SIGNATURE DATE	RIDGE COMMUNICATIONS – ZONING SIGNATURE DATE

KEZAR STADIUM

650 FREDERICK STREET, SAN FRANCISCO, CA 94117
LOCATION NUMBER: 480067

At all services & grounding trenches, provide " WARNING" tape at 12" below grade.

CALL "CALL BEFORE YOU DIG" 811
NATIONWIDE UNDERGROUND SERVICE ALERT

PROJECT DESCRIPTION

A (N) VERIZON WIRELESS UNMANNED TELECOMMUNICATION FACILITY CONSISTING OF:

- INSTALLING (N) VERIZON WIRELESS 220 SQ FT LEASE AREA W/ EQUIPMENT CABINETS
- INSTALLING (3) (N) ANTENNAS TO (E) FIELD LIGHT POLE
- INSTALLING (6) (N) RADIO UNITS TO (E) FIELD LIGHT POLE
- INSTALLING (12) (N) RADIO/ANTENNA UNITS TO (E) FIELD LIGHT POLE FOR 5G
- INSTALLING (3) (N) HYBRID CABLES INSIDE (E) FIELD LIGHT POLE
- INSTALLING (4) (N) SURGE SUPPRESSORS, (2) @ EQUIPMENT & (2) @ ANTENNAS
- INSTALLING (1) (N) GPS ANTENNA

PROJECT INFORMATION

SITE NAME:	KEZAR STADIUM	SITE #:	480067
COUNTY:	SAN FRANCISCO	JURISDICTION:	CITY & COUNTY OF SAN FRANCISCO
BLOCK/LOT:	1700–001 & 1264–001	POWER:	PG&E
SITE ADDRESS:	650 FREDERICK STREET SAN FRANCISCO, CA 94117	FIBER:	T.B.D.
CURRENT ZONING:	P–PUBLIC		
CONSTRUCTION TYPE:	II–B		
OCCUPANCY TYPE:	U, (UNMANNED COMMUNICATIONS FACILITY)		
HEIGHT/BULK:	OS		
PROPERTY OWNER:	CITY & COUNTY OF SAN FRANCISCO SAN FRANCISCO RECREATION & PARKS DEPARTMENT 501 STANYAN STREET SAN FRANCISCO, CA 94117 ATTN: ERIC PAWLOWSKY (415) 831–2743 ERIC.PAWLOWSKY@SFGOV.ORG	LEASING CONTACT:	ATTN: HAYDEN PIPER (925) 864–6448 HAYDEN.PIPER@RIDGECOMMUNICATE.COM
APPLICANT:	VERIZON WIRELESS 2785 MITCHELL DRIVE, BLDG 9 WALNUT CREEK, CA 94598	ZONING CONTACT:	ATTN: HAYDEN PIPER (925) 864–6448 HAYDEN.PIPER@RIDGECOMMUNICATE.COM
SITE ACQUISITION COMPANY:	RIDGE COMMUNICATIONS, INC. 12919 ALCOSTA BLVD, SUITE 1 SAN RAMON, CA 94583	CONSTRUCTION CONTACT:	ATTN: CHRIS MORRISSEY (925) 451–3986 CMORRISSEY@RCICOMM.COM

DESIGN CRITERIA

RISK CATEGORY: II WIND EXPOSURE: C SEISMIC SITE CLASS: D S_{DS}: 1.11	ROOF LIVE LOAD: N/A DESIGN WIND SPEED: V_{ULT}: 110 MPH SEISMIC DESIGN CATEGORY: D S_{D1}: 0.763	FLOOR LIVE LOAD: N/A SEISMIC COMPONENT I_P: 1.0 S_S: 1.657	ALLOW SOIL BEARING: N/A a_p: 1.0 R_P: 2.5 S_1: 0.763

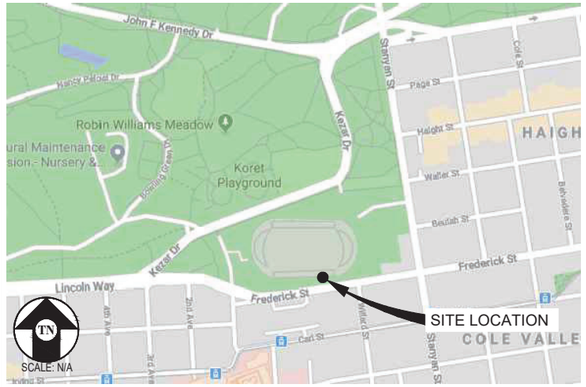
TESTS AND SPECIAL INSPECTIONS

STREAMLINE ENGINEERING & DESIGN, INC. DOES NOT REQUIRE ANY STRUCTURAL OBSERVATION OR SPECIAL INSPECTION OF ANY STRUCTURAL COMPONENT ABOVE & BEYOND WHAT IS LISTED BELOW UNLESS OTHERWISE REQUIRED BY JURISDICTION.

PROVIDE COMPLETE TESTING AND INSPECTIONS IN ACCORDANCE WITH THE CBC, CHAPTER 17 AS NOTED BELOW:

1. POST INSTALLED ANCHORS IN ACCORDANCE WITH CURRENT ICC REPORTS FOR THE SPECIFIED ANCHORAGES.

VICINITY MAP



DRIVING DIRECTIONS

FROM: 2785 MITCHELL DRIVE, BLDG 9, WALNUT CREEK, CA 94598
TO: 650 FREDERICK STREET, SAN FRANCISCO, CA 94117

1. HEAD SOUTHWEST ON MITCHELL DR	0.3 MI
2. TURN LEFT ONTO N WIGET LN	0.3 MI
3. TURN RIGHT ONTO YGNACIO VALLEY RD	2.9 MI
4. YGNACIO VALLEY RD TURNS RIGHT AND BECOMES HILLSIDE AVE	0.2 MI
5. TURN RIGHT ONTO THE 24 W RAMP TO OAKLAND	1.2 MI
6. CONTINUE ONTO CA–24 W	8.1 MI
7. KEEP LEFT AT THE FORK TO STAY ON CA–24 W	4.3 MI
8. USE THE RIGHT 2 LANES TO TAKE EXIT 2B FOR INTERSTATE 580 W	1.0 MI
9. USE THE LEFT LANE TO MERGE ONTO I–580 W	0.6 MI
10. USE THE LEFT 3 LANES TO TAKE EXIT 19A TO MERGE ONTO I–80 W TOWARD SAN FRANCISCO	0.8 MI
11. KEEP LEFT AT THE FORK TO STAY ON I–80 W (PARTIAL TOLL ROAD)	7.4 MI
12. USE THE RIGHT 2 LANES TO TAKE EXIT 1B TO MERGE ONTO US–101 N/ CENTRAL FWY TOWARD GOLDEN GATE BRIDGE	0.7 MI
13. CONTINUE ONTO CENTRAL FWY	0.4 MI
14. CONTINUE ONTO OCTAVIA BLVD	0.3 MI
15. USE ANY LANE TO TURN LEFT ONTO FELL ST	1.6 MI
16. USE THE LEFT 2 LANES TO TURN SLIGHTLY LEFT TO STAY ON FELL ST	0.1 MI
17. CONTINUE ONTO JOHN F KENNEDY DR	325 FT
18. USE THE LEFT 2 LANES TO TURN LEFT ONTO KEZAR DR	0.4 MI
19. MAKE A U–TURN	0.2 MI
20. TURN RIGHT	108 FT

END AT: 650 FREDERICK STREET, SAN FRANCISCO, CA 94117

ESTIMATED TIME: 58 MINUTES ESTIMATED DISTANCE: 30.7 MILES

CODE COMPLIANCE

ALL WORK & MATERIALS SHALL BE PERFORMED & 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:

2016 CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
2016 CALIFORNIA BUILDING CODE (CBC), PART 2, VOLUMES 1&2, TITLE 24 C.C.R.
(2015 INTERNATIONAL BUILDING CODE AND 2016 CALIFORNIA AMENDMENTS)
2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
(2014 NATIONAL ELECTRICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
2016 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R.
(2015 UNIFORM MECHANICAL CODE AND 2016 CALIFORNIA AMENDMENTS)
2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
(2015 UNIFORM PLUMBING CODE AND 2016 CALIFORNIA AMENDMENTS)
2016 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.
2016 CITY OF SAN FRANCISCO FIRE CODE
(2015 INTERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMENTS)
2016 CALIFORNIA GREEN BUILDING STANDARDS CODE, PART 11, TITLE 24 C.C.R.
2016 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
ANSI/EIA–TIA–222–G

ALONG WITH ANY OTHER APPLICABLE LOCAL & STATE LAWS AND REGULATIONS

DISABLED ACCESS REQUIREMENTS

THIS FACILITY IS UNMANNED & NOT FOR HUMAN HABITATION. DISABLED ACCESS & REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH CALIFORNIA STATE BUILDING CODE, TITLE 24 PART 2, SECTION 11B–203.5

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KEZAR STADIUM
480067
650 FREDERICK STREET
SAN FRANCISCO, CA 94117

verizon
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598

Streamline Engineering and Design, Inc.
8445 Sierra College Blvd, Suite E Granite Bay, CA 95661
Contact: Kevin Sorensen Phone: 916-660-1930
E-Mail: kevin@streamlineeng.com Fax: 916-660-1941

REGISTERED PROFESSIONAL ENGINEER
JAMES R. SPORE
S6336
STRUCTURAL
STATE OF CALIFORNIA

ISSUE STATUS

△	DATE	DESCRIPTION	REV.
	02/26/19	CD 90%	C.C.
	05/29/19	CD 100%	B.S.
	11/26/19	CLIENT REV	J.S.
	–	–	–
	–	–	–
	–	–	–

DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: J. SPORE
DATE: 11/26/19

SHEET TITLE:
TITLE

SHEET NUMBER:
T-1

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 480067 "Kezar Stadium") proposed to be located at 670 Kezar Drive in San Francisco, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Background

The San Francisco Department of Public Health has adopted an 11-point checklist for determining compliance of proposed WTS facilities or proposed modifications to such facilities with prevailing safety standards. The acceptable limits set by the FCC for exposures of unlimited duration are:

Wireless Service Band	Transmit Frequency	"Uncontrolled" Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm^2	5.0 mW/cm^2
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
BRS (Broadband Radio)	2,490 MHz	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
[most restrictive frequency range]	30–300	0.20	1.0

Checklist

Reference has been made to information provided by Verizon, including zoning drawings by Streamline Engineering and Design, Inc., dated January 17, 2019. It should be noted that the calculation results in this Statement include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operations.

1. *The location, identity, and total number of all operational radiating antennas installed at this site.*

There are reported no wireless base stations installed at the site in Kezar Stadium.

2. *List all radiating antennas located within 100 feet of the site that could contribute to the cumulative radio frequency energy at this location.*

There are reported no other WTS facilities within 100 feet of this site.

3. *Provide a narrative description of the proposed work for this project.*

Verizon proposes to install fifteen antennas. This is consistent with the scope of work described in the drawings for transmitting elements.

4. *Provide an inventory of the make and model of antennas or transmitting equipment being installed or removed.*

Verizon proposes to install fifteen directional panel antennas – three Kathrein Model 800-10991 at about 65 feet above ground, three Ericsson Model 2205 and six Ericsson Model 2208 at about 50 feet above ground, and three Ericsson Model StreetMacro6701 at about 46 feet above ground – on the easternmost of two tall light poles sited behind the bleachers on the south side of the playing field at Kezar Stadium. The fifteen antennas would employ up to 8° downtilt and would be oriented in stacked groups of five toward 0°T, 120°T, and 240°T, to provide service in all directions.

AT&T has reportedly proposed to install similar antennas on the two tall light poles sited on either side of the northern scoreboard building at the Stadium, about 450 feet away. For the limited purpose of this study, it is assumed that AT&T will install twelve CommScope Model SBNHH-1D65A directional panel antennas, employing up to 18° downtilt, mounted at effective heights of about 74 and 80 feet above ground, and oriented in stacked groups of four toward 0°T, 110°T, and 240°T, to provide service in all directions.

5. *Describe the existing radio frequency energy environment at the nearest walking/working surface to the antennas and at ground level. This description may be based on field measurements or calculations.*

Because there are no antennas at the site presently, existing RF levels for a person at ground near the site are presumed to be well below the applicable public exposure limit.

6. *Provide the maximum effective radiated power per sector for the proposed installation. The power should be reported in watts and reported both as a total and broken down by frequency band.*

The maximum effective radiated power proposed by Verizon in any direction is 30,660* watts, representing simultaneous operation at 9,120 watts for AWS, 8,510 watts for PCS, 6,460 watts for cellular, 6,030 watts for 700 MHz, 193 watts for 28 GHz, 344 watts for 3 GHz, and 2.4 watts for Part 15 service at 5 GHz.

The maximum effective radiated power proposed by AT&T in any direction is assumed to be 15,130 watts, representing simultaneous operation at 2,730 watts for WCS, 4,100 watts for AWS, 4,020 watts for PCS, 1,610 watts for cellular, and 2,670 watts for 700 MHz service.

* Rounded to four significant figures.

7. *Describe the maximum cumulative predicted radio frequency energy level for any nearby publicly accessible building or area.*

The maximum calculated cumulative level at any nearby building is 42% of the public limit; this occurs at the AcroSports building to the south across Frederick Street, about 100 feet away.

8. *Report the estimated cumulative radio frequency fields for the proposed site at ground level.*

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation by itself is calculated to be 0.048 mW/cm^2, which is 7.2% of the applicable public exposure limit. The maximum calculated cumulative level at ground, for the simultaneous operation of both carriers, is 13% of the public exposure limit.

9. *Provide the maximum distance (in feet) the three dimensional perimeter of the radio frequency energy level equal to the public and occupational exposure limit is calculated to extend from the face of the antennas.*

The three-dimensional perimeters of RF levels equal to the public and occupational exposure limits are calculated to extend up to 122 and 47 feet, respectively, out from the Verizon antenna faces and to much lesser distances above, below, and to the sides; these do not reach any publicly accessible areas.

10. *Provide a description of whether or not the public has access to the antennas. Describe any existing or proposed warning signs, barricades, barriers, rooftop striping or other safety precautions for people nearing the equipment as may be required by any applicable FCC-adopted standards.*

Due to their mounting location and heights, the Verizon antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use and lockout/tagout procedures, be provided to all authorized personnel who have access to the pole, including employees and contractors of Verizon and of the property owner. No access within 47 feet directly in front of the Verizon antennas themselves, such as might occur during certain maintenance activities, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs† be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach to persons who might need to work within that distance.

† 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; the San Francisco Department of Public Health recommends that all signs be written in English, Spanish, and Chinese.

11. *Statement of authorship and qualification.*

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

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by Verizon Wireless at 670 Kezar Drive in San Francisco, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

REGISTERED PROFESSIONAL ENGINEER
WILLIAM F. HAMMETT
E-13026
M-20676
Exp. 6-30-2019
ELECTRICAL MECHANICAL
STATE OF CALIFORNIA

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

April 18, 2019

EXHIBIT B

KEZAR STADIUM

480067
650 FREDERICK STREET
SAN FRANCISCO, CA 94117

verizon
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598

Streamline Engineering and Design, Inc.
8445 Sierra College Blvd, Suite E Granite Bay, CA 95661
Contact: Kevin Sorensen Phone: 916-660-1930
E-Mail: kevin@streamlineeng.com Fax: 916-660-1941

REGISTERED PROFESSIONAL ENGINEER
JAMES R. SPORE
S6336
STRUCTURAL
STATE OF CALIFORNIA

ISSUE STATUS

△	DATE	DESCRIPTION	REV.
	02/26/19	CD 90%	C.C.
	05/29/19	CD 100%	B.S.
	11/26/19	CLIENT REV	J.S.
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	–	–	–
	–	–	–

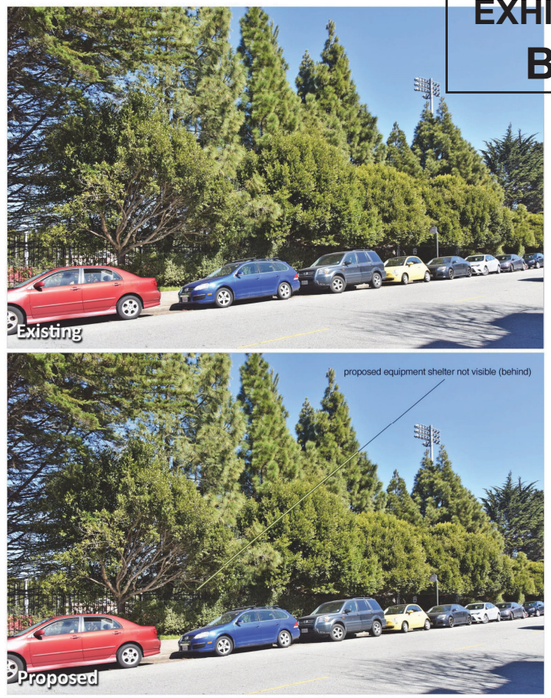
DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: J. SPORE
DATE: 11/26/19

SHEET TITLE:
EMF STUDY

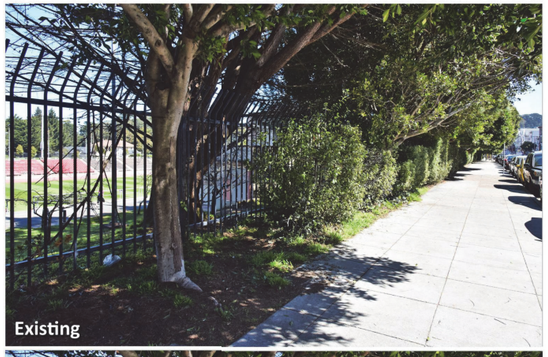
SHEET NUMBER:
T-2

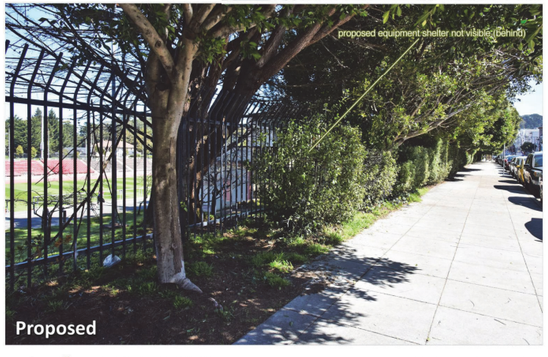
verizon | Kezar Stadium Site # 480067 | Aerial Map
3/14/19 | 670 Kezar Drive, San Francisco, CA | insight photosim (707) 315-1585

verizon | Kezar Stadium Site # 480067 | Looking Northwest from Frederick St.
3/14/19 | 670 Kezar Drive, San Francisco, CA | View #1 | insight photosim (707) 315-1585



verizon | Kezar Stadium Site # 480067 | Looking Northeast from Frederick St.
3/14/19 | 670 Kezar Drive, San Francisco, CA | View #2 | insight photosim (707) 315-1585





verizon | Kezar Stadium Site # 480067 | Looking Northeast from Frederick St.
3/14/19 | 670 Kezar Drive, San Francisco, CA | View #3 | insight photosim (707) 315-1585

verizon | Kezar Stadium Site # 480067 | Looking Northeast from Frederick St.
3/14/19 | 670 Kezar Drive, San Francisco, CA | View #4 | insight photosim (707) 315-1585

EXHIBIT B

KEZAR STADIUM

480067
650 FREDERICK STREET
SAN FRANCISCO, CA 94117

verizon
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598

Streamline Engineering and Design, Inc.
8445 Sierra College Blvd, Suite E Granite Bay, CA 95661
Contact: Kevin Sorensen Phone: 916-660-1930
E-Mail: kevin@streamlineeng.com Fax: 916-660-1941

REGISTERED PROFESSIONAL ENGINEER
JAMES R. SPORE
S6336
STRUCTURAL
STATE OF CALIFORNIA

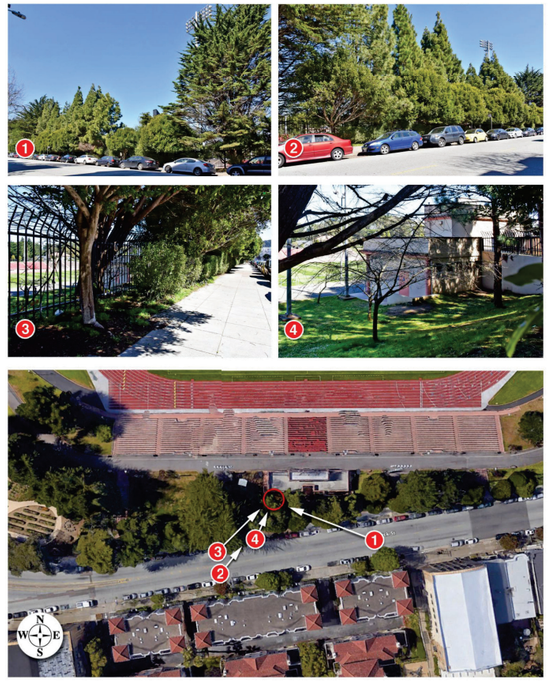
ISSUE STATUS

△	DATE	DESCRIPTION	REV.
	02/26/19	CD 90%	C.C.
	05/29/19	CD 100%	B.S.
	11/26/19	CLIENT REV	J.S.
	–	–	–
	–	–	–
	–	–	–

DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: J. SPORE
DATE: 11/26/19

SHEET TITLE:
PHOTO SIMULATIONS

SHEET NUMBER:
T-3



verizon

Kezar Stadium Site # 480067

Aerial Map

3/14/19

670 Kezar Drive
San Francisco, CA

insight photosim (707) 315-1585

verizon

Kezar Stadium Site # 480067

Looking Northwest from Frederick St.

3/14/19

670 Kezar Drive
San Francisco, CA

View #1

insight photosim (707) 315-1585

verizon

Kezar Stadium Site # 480067

Looking Northeast from Frederick St.

3/14/19

670 Kezar Drive
San Francisco, CA

View #2

insight photosim (707) 315-1585

EXHIBIT B

KEZAR STADIUM

480067

650 FREDERICK STREET
SAN FRANCISCO, CA 94117

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STRUCTURAL
STATE OF CALIFORNIA

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	–	–	–
	–	–	–
	–	–	–

DRAWN BY: C. CODY

CHECKED BY: J. GRAY

APPROVED BY: J. SPORE

DATE: 11/26/19

SHEET TITLE:

PHOTO SIMULATIONS

SHEET NUMBER:

T-4

Geil Engineering
Engineering * Surveying * Planning
1226 High Street
Auburn, California 95603-5015
Phone: (530) 885-0426 * Fax: (530) 823-1309

VERIZON WIRELESS

Project Name: KEZAR STADIUM

Project Site Location: 650 Frederick Street
San Francisco, CA 94117
San Francisco County

Date of Observation: 06-04-18

Equipment/Procedure Used to Obtain Coordinates: Trimble Geo-XT post processed with Pathfinder Office software.

Existing Tower Location

NAD 83 Coordinates	NAD 27 Coordinates
Latitude: N 37° 45' 58.39"	Latitude: N 37° 45' 58.64"
Longitude: W 122° 27' 20.53"	Longitude: W 122° 27' 16.63"

ELEVATION of Ground at Structure (NAVD88):	277.1' AMSL
STRUCTURE HEIGHT (Top of Tower)	102.6' AGL
OVERALL HEIGHT (Top of Tower)	102.6' AGL

CERTIFICATION: I, the undersigned, do hereby certify elevation listed above is based on a field survey done under my supervision and that the accuracy of those elevations meet or exceed 1-A Standards as defined in the FAA ASAC Information Sheet 91:003, and they are true and accurate to the best of my knowledge and belief.

Kenneth D. Geil California R.C.E. 14803

BOUNDARY SHOWN IS BASED ON MONUMENTATION FOUND AND RECORD INFORMATION. THIS IS NOT A BOUNDARY SURVEY. THIS IS A SPECIALIZED TOPOGRAPHIC MAP WITH PROPERTY LINES AND EASEMENTS BEING A GRAPHIC DEPICTION BASED ON INFORMATION GATHERED FROM VARIOUS SOURCES OF RECORD AND AVAILABLE MONUMENTATION FOUND DURING THE FIELD SURVEY. NO EASEMENTS WERE RESEARCHED OR PLOTTED. PROPERTY LINES AND LINES OF TITLE WERE NOT INVESTIGATED NOR SURVEYED EXCEPT AS SHOWN ON THIS PLAN. NO PROPERTY MONUMENTS WERE SET.

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OF SERVICE, ARE THE EXCLUSIVE PROPERTY OF GEIL ENGINEERING AND THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE AND CARRIER FOR WHICH THEY ARE PREPARED. REUSE, REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED EXCEPT BY WRITTEN PERMISSION FROM GEIL ENGINEERING TITLE TO THESE PLANS AND/OR SPECIFICATIONS SHALL REMAIN WITH GEIL ENGINEERING WITHOUT PREJUDICE AND VISUAL CONTACT WITH THEM SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.

Lease Area Description

All that certain lease area being a portion of Golden Gate Park, Assessors Blocks 1700-001 & 1264-001, being located in the City and County of San Francisco, State of California., being more particularly described as follows:

Beginning at the Southwest exterior building corner of an existing bathroom building on the South side of Kezar Stadium from which point a city monument in box set on the monument line and being located in the Southeast walk of the intersection of Lincoln Way and 2nd Avenue bears North 89°24'46" West 780.26 feet; thence from said point of beginning along the exterior wall of said building South 89°13'29" East 17.16 feet; thence leaving said wall South 00°46'31" West 12.00 feet; thence North 89°13'29" West 18.50 feet; thence North 00°46'31" East 10.62 feet; thence South 89°13'29" East 1.34 feet; thence North 00°46'31" East 1.38 feet to the point of beginning.

Together with a non-exclusive easement for utility purposes six feet in width the centerline of which is described as follows: beginning at a point which bears North 00°46'31" East 1.97 feet from the Southeast corner of the above described lease area and running thence North 85°59'20" East 97.79 feet; thence North 39°41'10" East 29.3 feet more or less to the existing stadium pole/tower; thence up, over, and upon said tower as is necessary to install, operate, and maintain the necessary communications equipment.

Also together with a non-exclusive easement for utility purposes six feet in width the centerline of which is described as follows: beginning at a point which bears North 89°13'29" West 8.15 feet from the Southeast corner of the above described lease area and running thence South 16°17'39" West 29.99 feet; thence North 82°05'04" East 157.50 feet; thence South 14°10'02" East 56.8 feet more or less to the existing utility pole.

Also together with a non-exclusive easement for pedestrian and vehicular access purposes of variable width the centerline of which is described as follows: beginning at a point which bears North 00°46'31" East 4.76 feet from the Southwest corner of the above described lease area and running thence at a width of five feet North 87°19'53" West 38.92 feet; thence North 31°21'21" West 21.46 feet more or less to the proposed technician parking area; thence continuing at a width of twelve feet over, across, and through the underlying parcel as is generally depicted hereon to the public right of way.

DATE OF SURVEY: 06-04-18

SURVEYED BY OR UNDER DIRECTION OF: KENNETH D. GEIL, R.C.E. 14803

LOCATED IN THE COUNTY OF SAN FRANCISCO, STATE OF CALIFORNIA

BEARINGS SHOWN ARE BASED UPON MONUMENTS FOUND AND RECORD INFORMATION. THIS IS NOT A BOUNDARY SURVEY.

ELEVATIONS SHOWN ON THIS PLAN ARE BASED UPON U.S.G.S. N.A.V.D. 88 DATUM. ABOVE MEAN SEA LEVEL UNLESS OTHERWISE NOTED.

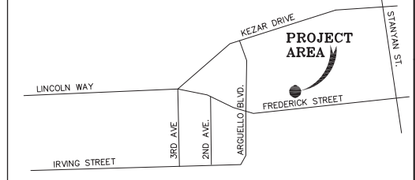
N.G.V.D. 1929 CORRECTION: SUBTRACT 2.77' FROM ELEVATIONS SHOWN.

CONTOUR INTERVAL: 1'

ASSESSOR'S PARCEL NUMBER: 1700-001

OWNER(S): CITY OF SAN FRANCISCO
25 VAN NESS AVENUE
SAN FRANCISCO, CA 94102

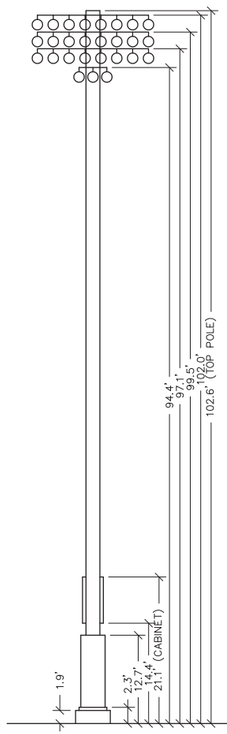
EXHIBIT B



N.T.S.

SAN FRANCISCO, CA

VICINITY MAP



TOWER DIAGRAM

M.N.

SCALE 1" = 100'

OVERALL SITE PLAN

DEPT	APPROVED	DATE
A&C		
RE		
RF		
INT		
E&I/N		
OPS		
E&V/OUT		

Surveyor

GEIL ENGINEERING
ENGINEERING * SURVEYING * PLANNING
1226 HIGH STREET
AUBURN, CALIFORNIA 95603
Phone (530) 885-0426
Fax (530) 823-1309

verizon

KEZAR STADIUM
650 FREDERICK STREET
SAN FRANCISCO, CA 94117

PLOT PLAN AND
SITE TOPOGRAPHY

REVISIONS			
06-07-18	REV	NR	Preliminary Drawing
07-05-18	REV	NR	Lease Area Added
01-11-19	REV	NR	Easement Mods
11-22-19	REV	NR	Boundary Added
12-02-19	REV	NR	Address Mod.

Sheet
C-1

EXHIBIT B

BOUNDARY SHOWN IS BASED ON MONUMENTATION FOUND AND RECORD INFORMATION. THIS IS NOT A BOUNDARY SURVEY. THIS IS A SPECIALIZED TOPOGRAPHIC MAP WITH PROPERTY LINES AND EASEMENTS BEING A GRAPHIC DEPICTION BASED ON INFORMATION GATHERED FROM VARIOUS SOURCES OF RECORD AND AVAILABLE MONUMENTATION FOUND DURING THE FIELD SURVEY. NO EASEMENTS WERE RESEARCHED OR PLOTTED. PROPERTY LINES AND LINES OF TITLE WERE NOT INVESTIGATED NOR SURVEYED EXCEPT AS SHOWN ON THIS PLAN. NO PROPERTY MONUMENTS WERE SET.

PROPOSED 12' NON-EXCLUSIVE VERIZON WIRELESS ACCESS EASEMENT

ARCH

SS

CONCRETE

GATE

ASPHALT

GATE

GATE

ASPHALT

ASPHALT

ASPHALT

DRAINAGE INLET

METAL BUILDING

TRASH ENCLOSURE

ASPHALT

ELEC. ROOM DOOR

ASPHALT

METAL BUILDING

LIGHT POLE

ELEC. BOX

TRANSFORMER

PROPERTY BOUNDARY ±

GRASS

PROPOSED 12' NON-EXCLUSIVE VERIZON WIRELESS ACCESS EASEMENT

COMMUNICATION BOX

LIGHT POLE

ASPHALT

GRASS

IRR. BOX

ELEC. BOX

APN:1264-001

GRASS

CONCRETE WALKWAY

ASPHALT

ATHLETIC FIELD

RUNNING TRACK

PROPERTY BOUNDARY ±

BLEACHERS

STADIUM LIGHT POLE

ELEC. BOX

PROPOSED VERIZON WIRELESS TECH. PARKING AREA

MANHOLE

ASPHALT

SEWER C/O

DRAINAGE INLET

LIGHT POLE

VACANT POLE

DRAINAGE INLET

VACANT POLE

C.A.T.V. BOX

FOOTING

ELEC. BOX (TYP. OF 5)

CENTERLINE PROPOSED 5' NON-EXCLUSIVE VERIZON WIRELESS WALKING ACCESS EASEMENT

GRASS

CONCRETE WALKWAY

DRAINAGE INLET

WATER BOX

SPEAKER POLE

277

278

279

280

281

282

283

284

285

286

1.34'

1.38'

17.16'

18.50'

12' GATE

BUILDING / TOP=307.3'

PROPOSED VERIZON WIRELESS LEASE AREA

ASPHALT

STADIUM POLE SEE TOWER DIAGRAM

DRAINAGE INLET

ELEC. BOX

C.A.T.V. BOX

PROPOSED 6' NON-EXCLUSIVE VERIZON WIRELESS UTILITY EASEMENT

GRASS

PROPERTY BOUNDARY ±

COMMUNICATION BOX

LIGHT POLE

C.A.T.V. BOX

TELCO. BOX

PROPOSED 6' NON-EXCLUSIVE VERIZON WIRELESS UTILITY EASEMENT

CONCRETE SIDEWALK

FREDERICK STREET

J-POLE

M.N.

N

SCALE 1" = 20'

0 10 20 40 60

PROJECT AREA ENLARGEMENT

DEPT	APPROVED	DATE
A&C		
RE		
RF		
INT		
EE\IN		
OPS		
EE\OUT		

Surveyor

GEIL ENGINEERING
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1226 HIGH STREET
AUBURN, CALIFORNIA 95603
Phone (530) 885-1056
Fax (530) 885-1399

Architect

verizon

KEZAR STADIUM
650 FREDERICK STREET
SAN FRANCISCO, CA 94117

PLOT PLAN AND SITE TOPOGRAPHY

Sheet

C-2

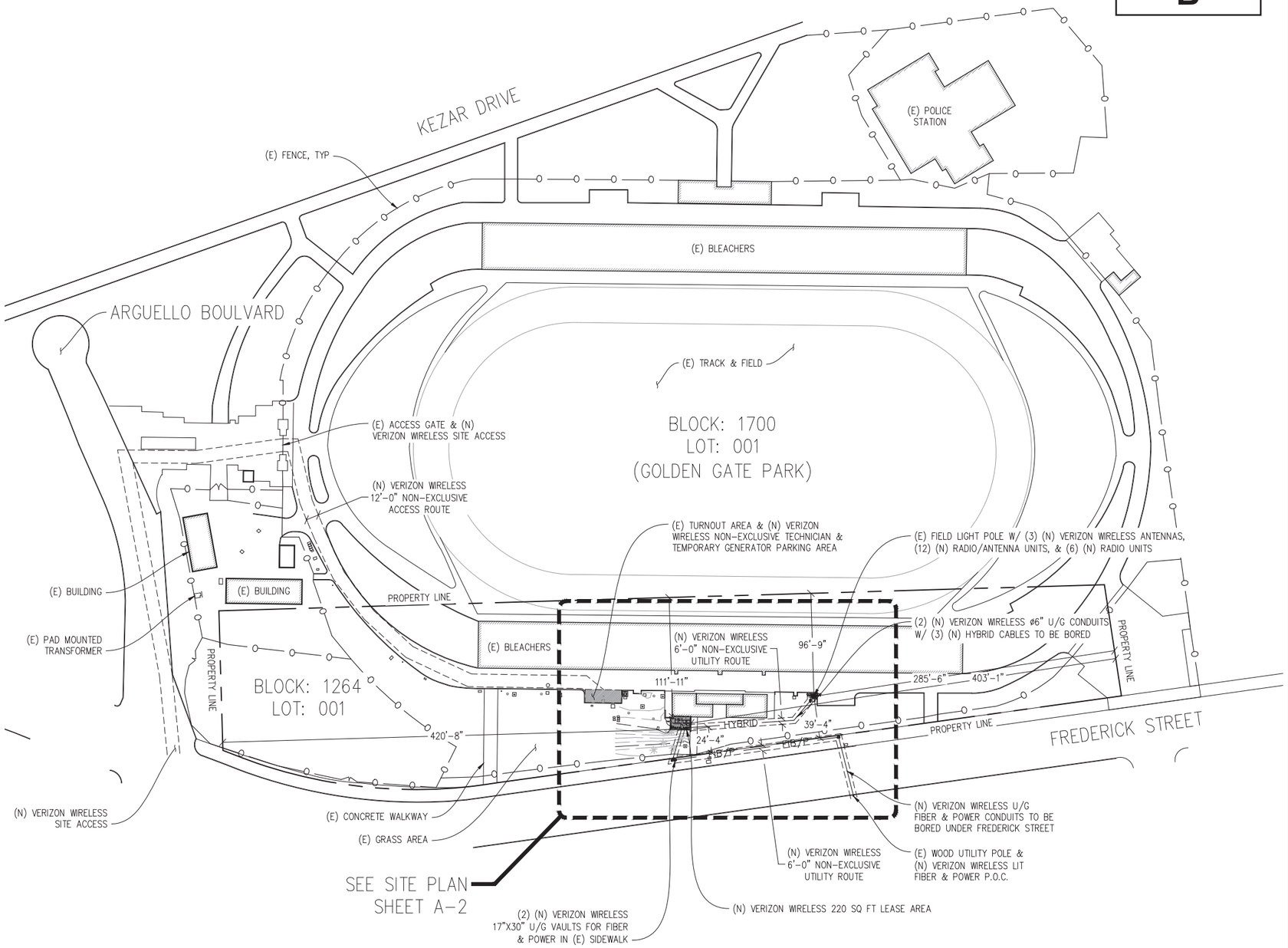
PROJECT GENERAL NOTES

1. THIS FACILITY IS AN UNOCCUPIED WIRELESS TELECOMMUNICATION FACILITY.
2. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE.
3. THE SCOPE OF WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
4. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRM THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PAY FOR PERMIT FEES, AND TO OBTAIN SAID PERMITS AND TO COORDINATE INSPECTIONS.
6. THE CONTRACTOR SHALL RECEIVE, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
7. CALL BEFORE YOU DIG. CONTRACTOR IS REQUIRED TO CALL 811 (NATIONWIDE "CALL BEFORE YOU DIG" HOTLINE) AT LEAST 72 HOURS BEFORE DIGGING.
8. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
9. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. CONTRACTOR SHALL ALSO COORDINATE ALL PORTIONS OF THE WORK UNDER THE CONTRACT; INCLUDING CONTACT AND COORDINATION WITH THE CONSTRUCTION MANAGER AND WITH THE LANDLORD'S AUTHORIZED REPRESENTATIVE.
10. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, PAVING, CURBS, GALVANIZED SURFACES, ETC., AND UPON COMPLETION OF WORK, REPAIR ANY DAMAGE THAT OCCURRED DURING CONSTRUCTION TO THE SATISFACTION OF THE PROJECT MANAGER.
11. KEEP GENERAL AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS AND RUBBISH. REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
12. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED, OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
13. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND ALL OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES.
14. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
15. THE CONTRACTOR SHALL PROVIDE A TOILET FACILITY DURING ALL PHASES OF CONSTRUCTION.
16. SUFFICIENT MONUMENTATION WAS NOT RECOVERED TO ESTABLISH THE POSITION OF THE BOUNDARY LINES SHOWN HEREON. THE BOUNDARY REPRESENTED ON THIS MAP IS BASED ON COMPILED RECORD DATA AND BEST FIT ONTO EXISTING IMPROVEMENTS. IT IS POSSIBLE FOR THE LOCATION OF THE SUBJECT PROPERTY TO SHIFT FROM THE PLACEMENT SHOWN HEREON WITH ADDITIONAL FIELD WORK AND RESEARCH. THEREFORE ANY SPATIAL REFERENCE MADE OR SHOWN BETWEEN THE RELATIONSHIP OF THE BOUNDARY LINES SHOWN HEREON AND EXISTING GROUND FEATURES, EASEMENTS OR LEASE AREA IS INTENDED TO BE APPROXIMATE AND IS SUBJECT TO VERIFICATION BY RESOLVING THE POSITION OF THE BOUNDARY LINES.
17. THE CONTRACTOR TO VERIFY THE LATEST/CURRENT RF DESIGN.
18. WHERE APPLICABLE, CONTRACTOR SHALL PROVIDE SEPARATE PLANS, SPECIFICATIONS, FEES AND PERMITS FOR ANY REVISION TO ANY FIRE SPRINKLER AND/OR ALARM SYSTEM ON THE PREMISES AS MAY BE NEEDED TO COMPLETE THE WORK DEPICTED HEREIN, USING A C-10 LICENSED SUBCONTRACTOR FOR ALL SUCH WORK.

At all services & grounding trenches, provide " WARNING" tape at 12" below grade.

CALL
"CALL BEFORE YOU DIG"
811
NATIONWIDE UNDERGROUND SERVICE ALERT

EXHIBIT B



TN

OVERALL SITE PLAN

1"=50'-0"

0 25' 50' 100' 150' 300'

NOTICE

EXISTING MONOPOLE TO BE ANALYZED BY PLATINUM ENGINEERING SOLUTIONS, INC. DATED FEBRUARY 11, 2014. STREAMLINE ENGINEERING & DESIGN INC. IS NOT RESPONSIBLE FOR THE EVALUATION OF THE EXISTING POLE, BASE PLATE, ANCHOR BOLTS, FOUNDATION OR ANTENNA/RRU MOUNT FRAMING & CONNECTIONS FOR THE EXISTING AND NEW LOADING CONDITIONS.

KEZAR STADIUM

480067
650 FREDERICK STREET
SAN FRANCISCO, CA 94117

verizon
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598

Streamline Engineering and Design, Inc.
8445 Sierra College Blvd, Suite E Granite Bay, CA 95661
Contact: Kevin Sorensen Phone: 916-660-1930
E-Mail: kevin@streamlineeng.com Fax: 916-660-1941

REGISTERED PROFESSIONAL ENGINEER
JAMES R. SPORE
S6336
STRUCTURAL
STATE OF CALIFORNIA

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	–	–	–
	–	–	–

DRAWN BY:	C. CODY
CHECKED BY:	J. GRAY
APPROVED BY:	J. SPORE
DATE:	11/26/19

SHEET TITLE:
OVERALL SITE PLAN

SHEET NUMBER:
A-1

EXHIBIT B

BLOCK: 1264
LOT: 001

(E) TRACK & FIELD

(E) BLEACHERS

(N) VERIZON WIRELESS 12'-0" NON-EXCLUSIVE ACCESS ROUTE

(E) TURNOUT AREA & (N) VERIZON WIRELESS NON-EXCLUSIVE TECHNICIAN & TEMPORARY GENERATOR PARKING AREA

(E) WATER BOX

(E) ASPHALT

(E) FIELD LIGHT POLE

(E) DRAINAGE INLET

(E) SPEAKER POLE

277'

278'

279'

280'

281'

282'

283'

284'

285'

286'

287'

SEE ANTENNA & RRU PLANS SHEET A-4

SEE EQUIPMENT PLAN SHEET A-3

(E) BUILDING

(E) SEWER C/O

(E) U/G ELECTRIC BOX

(E) U/G C.A.T.V. BOX

(E) DRAINAGE INLET

(E) FOOTING

(E) U/G ELECTRIC BOX, TYP OF 5

(N) VERIZON WIRELESS 5'-0" NON-EXCLUSIVE TECHNICIAN WALKING PATH

(E) FENCE, TYP

PROPERTY LINE

(E) SIDEWALK

(N) VERIZON WIRELESS 220 SQ FT LEASE AREA

(E) CONCRETE WALKWAY

(2) (N) VERIZON WIRELESS 17"X30" U/G VAULTS FOR FIBER & POWER IN (E) SIDEWALK

(E) U/G C.A.T.V. BOX

(E) U/G TELCO BOX

(E) CURB, TYP

(E) LIGHT POLE

HYBRID — HYBRID — HYBRID — HYBRID — HYBRID — HYBRID — HYBRID

(N) VERIZON WIRELESS 6'-0" NON-EXCLUSIVE UTILITY ROUTE

FIB/P — FIB/P — FIB/P — FIB/P — FIB/P — FIB/P — FIB/P

(N) VERIZON WIRELESS 6'-0" NON-EXCLUSIVE UTILITY ROUTE

(E) GRASS AREA

(N) VERIZON WIRELESS U/G FIBER & POWER CONDUITS TO BE BORED

(N) COAX CABLE COVER @ BASE OF (E) LIGHT POLE

(E) FIELD LIGHT POLE W/ (3) (N) VERIZON WIRELESS ANTENNAS, (12) (N) RADIO/ANTENNA UNITS, & (6) (N) RADIO UNITS

(E) U/G ELECTRIC BOX

(E) DRAINAGE INLET

(N) VERIZON WIRELESS 17"X30" U/G VAULT

(2) (N) VERIZON WIRELESS Ø6" U/G CONDUITS W/ (3) (N) HYBRID CABLES TO BE BORED

(N) VERIZON WIRELESS 17"X30" U/G VAULTS FOR FIBER IN (E) SIDEWALK

(E) U/G C.A.T.V. BOX

(N) VERIZON WIRELESS U/G FIBER & POWER CONDUITS TO BE BORED UNDER FREDERICK STREET

(E) WOOD UTILITY POLE & (N) VERIZON WIRELESS LIT FIBER & POWER P.O.C.

FREDERICK STREET

SITE PLAN

1"=10'-0"

0 5' 10' 20' 30' 50'

HYBRID CABLE LENGTH:

FROM EQUIPMENT LEASE AREA TO BASE OF POLE = APPROX. 140'
TOTAL LENGTH = APPROX 195'

NOTICE

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KEZAR STADIUM

480067
650 FREDERICK STREET
SAN FRANCISCO, CA 94117

verizon

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Streamline Engineering and Design, Inc.
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E-Mail: kevin@streamlineeng.com Fax: 916-660-1941

REGISTERED PROFESSIONAL ENGINEER
JAMES R. SPORE
S6336
STRUCTURAL
STATE OF CALIFORNIA

ISSUE STATUS

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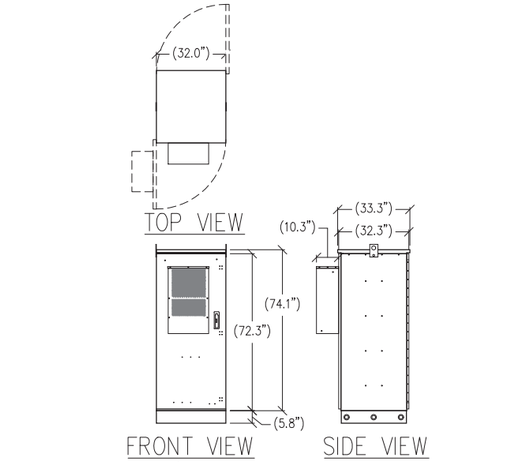
DRAWN BY:	C. CODY
CHECKED BY:	J. GRAY
APPROVED BY:	J. SPORE
DATE:	11/26/19

SHEET TITLE:
SITE PLAN

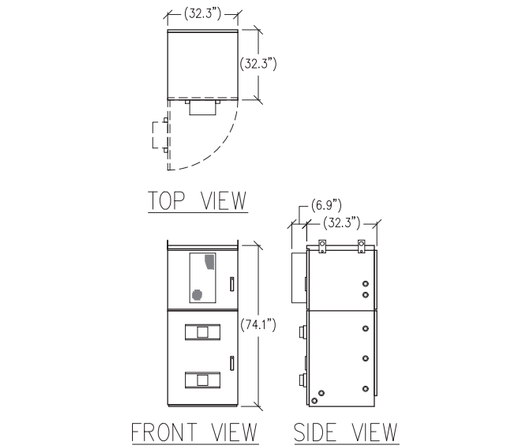
SHEET NUMBER:
A-2



1 POWER/MISC CABINET DETAIL

3/8"=1'-0"

MAX WEIGHT: 1,771 LBS.



2 BATTERY CABINET DETAIL

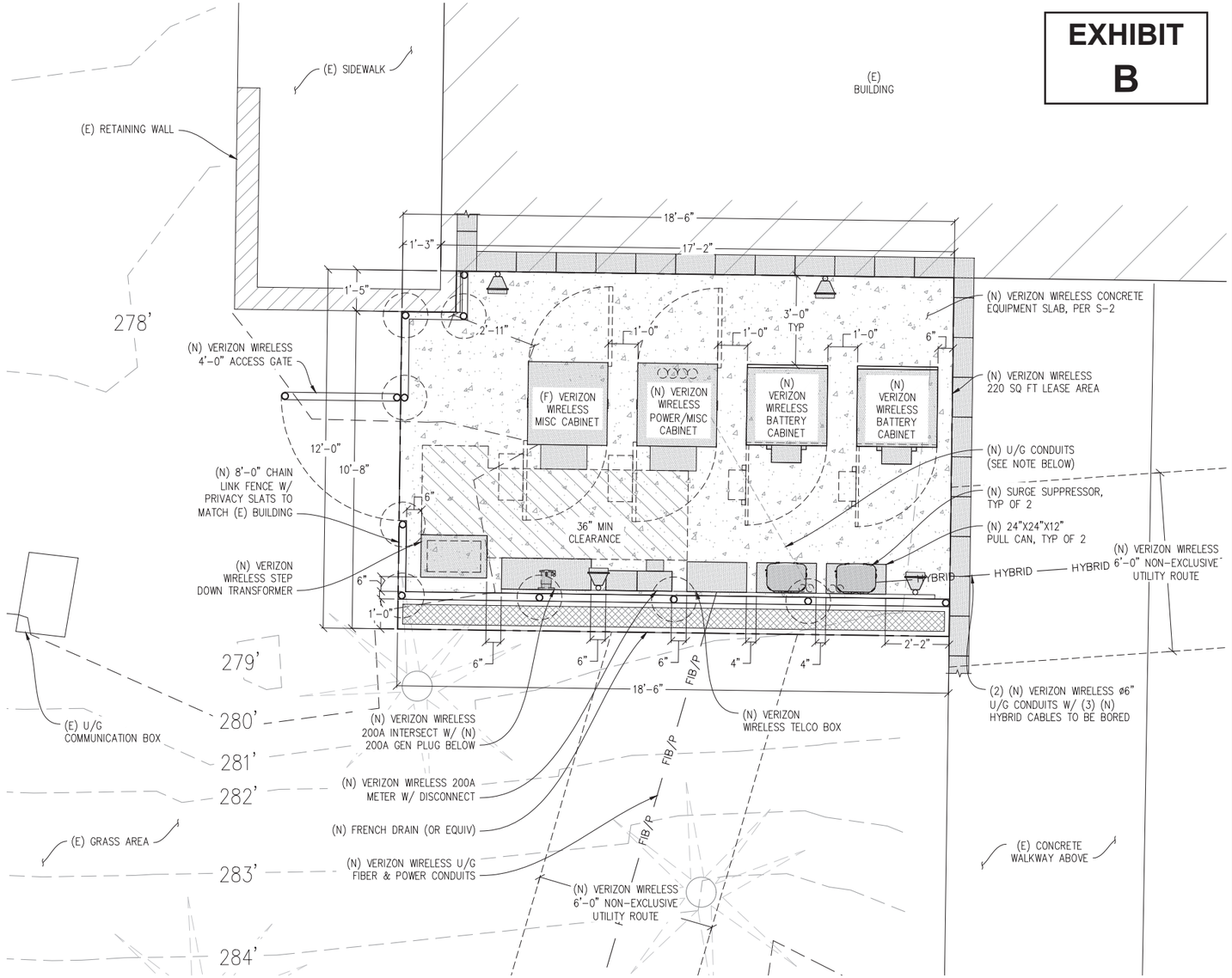
3/8"=1'-0"

MAX WEIGHT: 2,439 LBS

3 TRANSFORMER DETAIL

1/2"=1'-0"

MAX WEIGHT: 345 LBS



EQUIPMENT PLAN

1/2"=1'-0"

0 6" 1' 2' 3' 5' 7' 10'

NOTES:
1. (N) VERIZON WIRELESS ANTENNAS HAVE BEEN OMITTED FOR CLARITY.
2. VERIZON WIRELESS WILL INSTALL (4) (N) ø3" U/G CONDUITS FROM (N) MISC CABINET TO (N) PULL CANS. (2) (N) CONDUITS FOR DC POWER CABLES & (2) (N) CONDUITS FOR FIBER CABLES.
3. CONTRACTOR TO FIX & REROUTE ALL IRRIGATION LINES & SPRINKLERS IN AREA AFFECTED BY (N) VERIZON WIRELESS LEASE AREA.

EXHIBIT B

KEZAR STADIUM

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REGISTERED PROFESSIONAL ENGINEER
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STRUCTURAL
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ISSUE STATUS

△	DATE	DESCRIPTION	REV.
	02/26/19	CD 90%	C.C.
	05/29/19	CD 100%	B.S.
	11/26/19	CLIENT REV	J.S.
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DRAWN BY:	C. CODY
CHECKED BY:	J. GRAY
APPROVED BY:	J. SPORE
DATE:	11/26/19

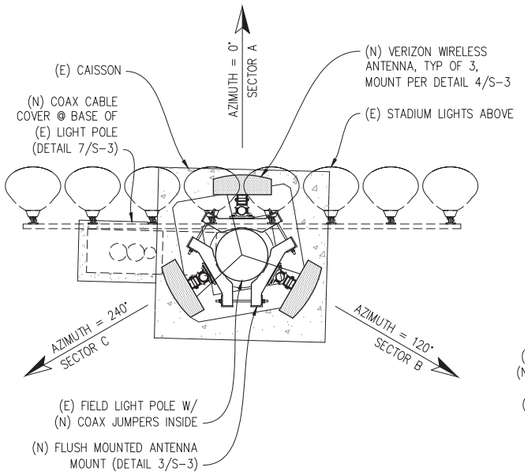
SHEET TITLE:

EQUIPMENT PLAN & DETAILS

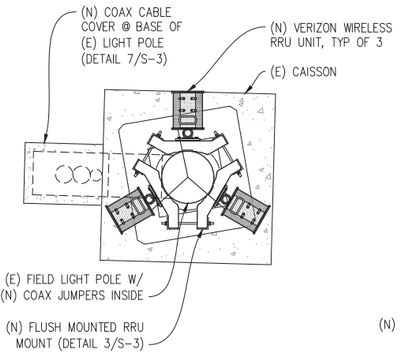
SHEET NUMBER:

A-3

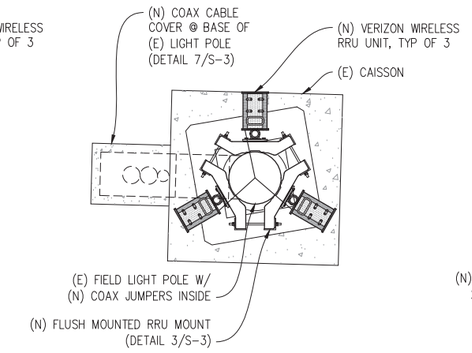
EXHIBIT B



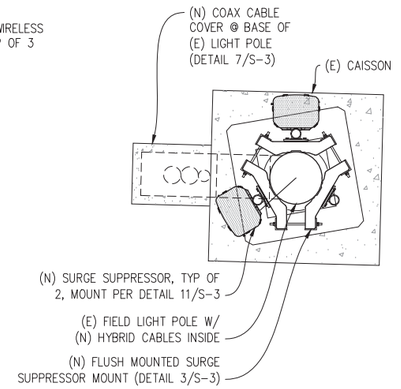
ANTENNA PLAN
½"=1'-0"



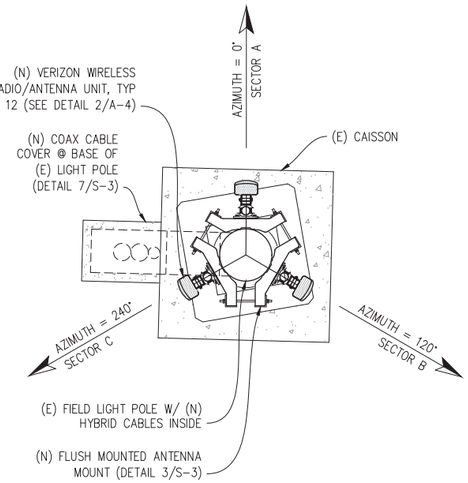
UPPER RRU PLAN
½"=1'-0"



LOWER RRU PLAN
½"=1'-0"



SURGE SUPPRESSOR PLAN
½"=1'-0"



5G ANTENNA PLAN
½"=1'-0"

NOTE:
ALL (N) ELECTRICAL, (N) HYBRID, & (N) COAX JUMPERS TO BE INSIDE THE (E) FILED LIGHT POLE.

NOTICE

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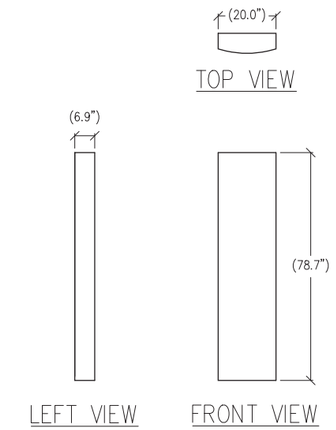
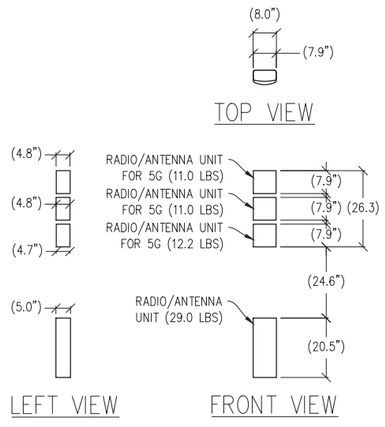
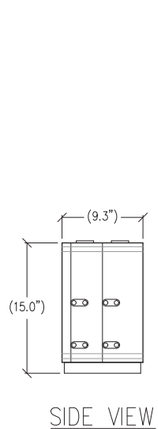
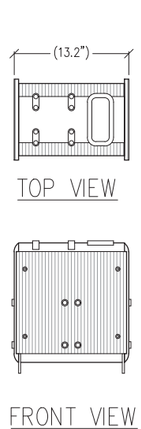


1 ANTENNA DETAIL
½"=1'-0" MAX WEIGHT: 111.9 LBS

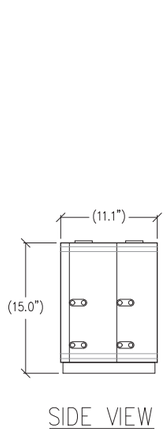


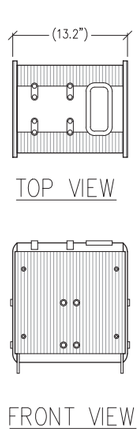
2 5G ANTENNA SETUP
½"=1'-0"



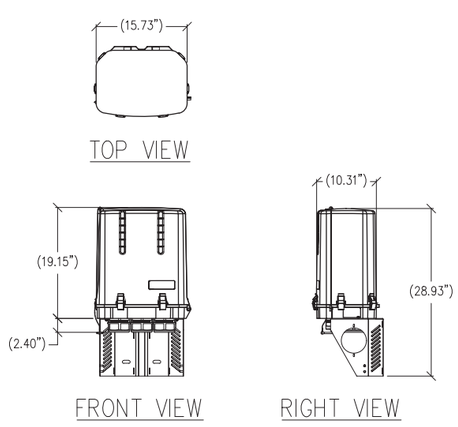


3 RRU DETAIL
1½"=1'-0" MAX WEIGHT: 70 LBS





4 RRU DETAIL
1½"=1'-0" MAX WEIGHT: 75 LBS



5 SURGE PROTECTION BOX
1"=1'-0" MAX WEIGHT: 32.0 LBS

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	05/29/19	CD 100%	B.S.
	11/26/19	CLIENT REV	J.S.
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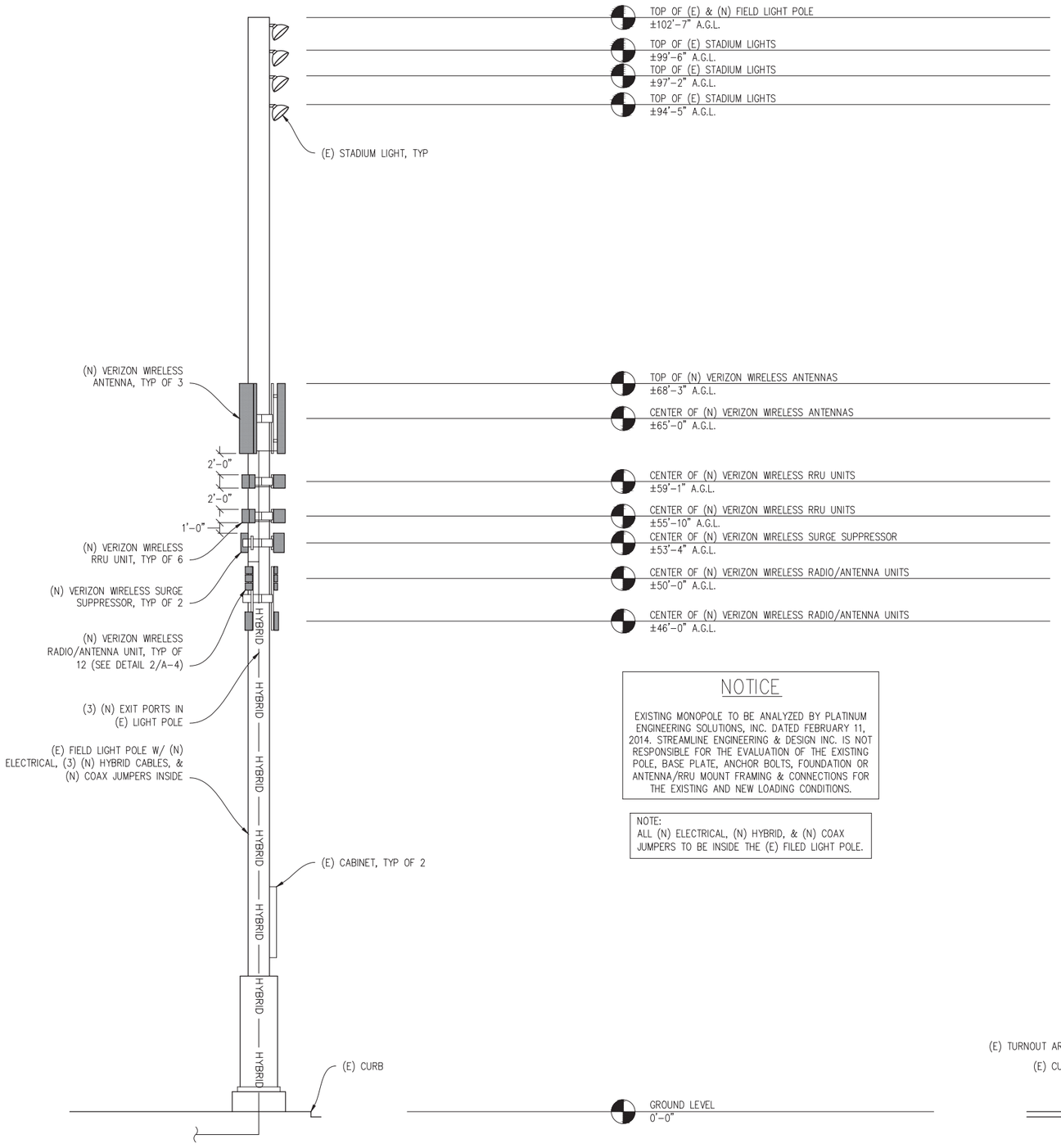
	–	–	–

DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: J. SPORE
DATE: 11/26/19

SHEET TITLE:
ANTENNA PLANS, RRU PLANS, & DETAILS

SHEET NUMBER:
A-4

EXHIBIT B



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NOTE:
ALL (N) ELECTRICAL, (N) HYBRID, & (N) COAX JUMPERS TO BE INSIDE THE (E) FILED LIGHT POLE.

EAST ELEVATION @ ANTENNAS

3/16"=1'-0"

NORTH ELEVATION @ ANTENNAS

3/16"=1'-0"

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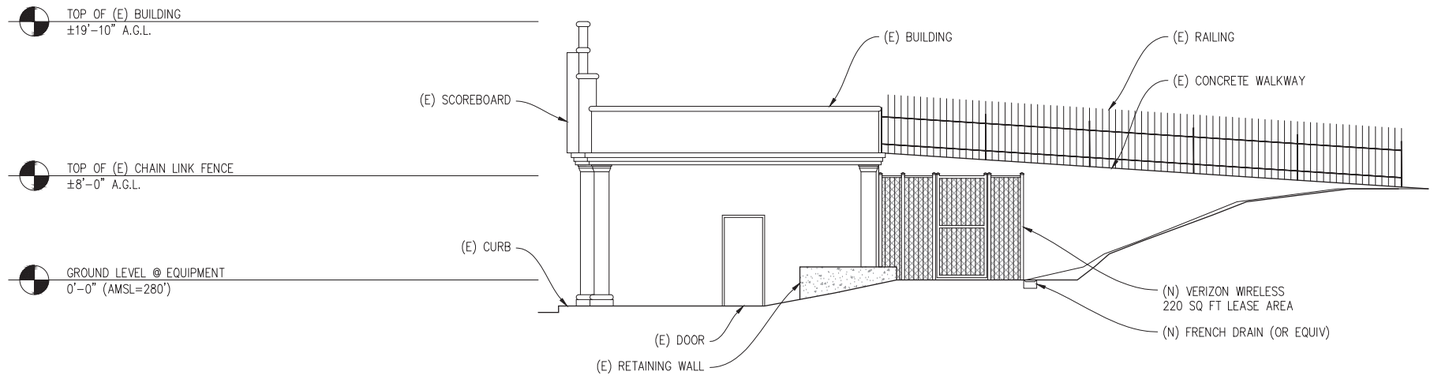
DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: J. SPORE
DATE: 11/26/19

SHEET TITLE:
ELEVATIONS

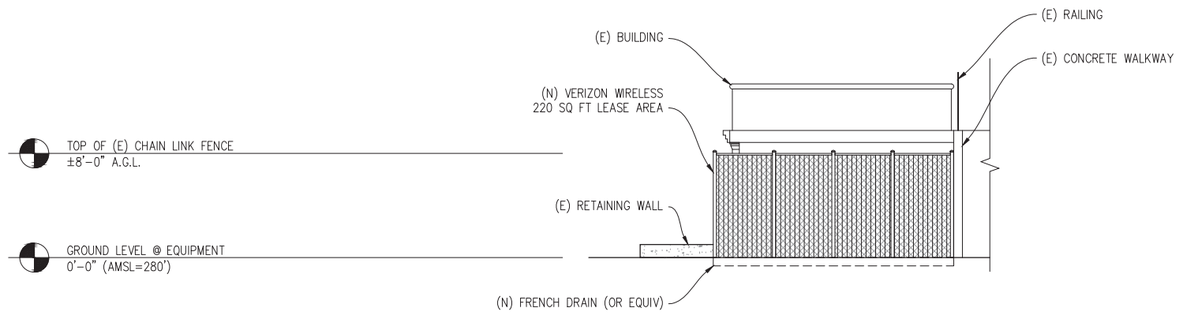
SHEET NUMBER:
A-5

EXHIBIT B



WEST ELEVATION @ EQUIPMENT

3/16"=1'-0"



SOUTH ELEVATION @ EQUIPMENT

3/16"=1'-0"

NOTE:
CONTRACTOR TO FIX & REROUTE ALL IRRIGATION LINES & SPRINKLERS IN AREA AFFECTED BY (N) VERIZON WIRELESS LEASE AREA.

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DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: J. SPORE
DATE: 11/26/19

SHEET TITLE:
ELEVATIONS

SHEET NUMBER:
A-6

CONSTRUCTION NOTES

1. EXISTING BUILDING CONSTRUCTION CONDITIONS INDICATED ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO PROCEEDING WITH CONSTRUCTION OR ORDERING OF MATERIALS. IF EXISTING CONDITIONS DO NOT ALLOW FOR DETAILS OF CONSTRUCTION AS SHOWN ON THESE DRAWINGS, NOTIFY ENGINEER OF RECORD FOR RESOLUTION PRIOR TO PROCEEDING. CONTRACTOR SHALL EXPOSE AND REVIEW EXISTING CONDITIONS IN A TIMELY MANNER SUCH THAT ALTERNATE DESIGNS OR DETAILS, IF REQUIRED, MAY BE GENERATED WITHOUT DELAY TO THE PROJECT.
2. DURING CONSTRUCTION, THE CONTRACTOR SHALL NOT ALTER, DAMAGE OR REMOVE ANY PART OF THE EXISTING STRUCTURE UNLESS SPECIFICALLY DETAILED ON THESE DRAWINGS.
3. THE INTENT OF THESE DRAWINGS IS THAT THE WORK OF THE ADDITION, ALTERATION, REHABILITATION, OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH THE 2016 CBC. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH THE 2016 CBC, A CHANGE ORDER, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE PREPARED AND SUBMITTED TO AND APPROVED BY THE BUILDING DEPARTMENT PRIOR TO PROCEEDING WITH THE WORK.
4. ALL WORK AND MATERIALS SHOWN ARE NEW UNLESS INDICATED AS EXISTING (E).
5. IT MAY BE NECESSARY TO REMOVE ARCHITECTURAL FINISHES, PLUMBING PIPES AND FIXTURES, ELECTRICAL CONDUIT, FIXTURES, PANELS, BOXES, TELEPHONE OR FIRE ALARM WIRING AND FIXTURES OR OTHER NON-STRUCTURAL ITEMS TO INSTALL STRUCTURAL WORK AND MATERIALS SHOWN ON THESE DRAWINGS. SUCH ITEMS SHALL BE REMOVED, REPAIRED AND/OR REPLACED TO MATCH PRE-CONSTRUCTION CONDITIONS AT THE CONTRACTORS EXPENSE.
6. ALL WEATHER PROOFING, INCLUDING BUT NOT LIMITED TO TORCH DOWN, CAULKING, Z-FLASHING OR ANY OTHER MATERIAL THAT MAY BE ALTERED DURING INSTALLATION SHALL BE REPAIRED REPLACED AND/OR MODIFIED TO ENSURE THE BUILDING AT THE INSTALLATION SITE IS WEATHER PROOF.
7. ANY PROPOSED SUBSTITUTIONS FOR STRUCTURAL MEMBERS, HARDWARE, ANCHOR TYPES, OR DETAILING INDICATED IN THESE DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER OF RECORD PRIOR TO ORDERING MATERIALS. SUCH REVIEW SHALL BE BILLED ON A TIME AND MATERIALS BASIS TO THE CONTRACTOR WITH NO GUARANTEE THAT THE SUBSTITUTION WILL BE ALLOWED.
8. CONTRACTOR SHALL ENSURE ALL ROOF AREAS HAVE POSITIVE SLOPE TO ALL EXISTING ROOF DRAINS. PROVIDE ADDITIONAL CRICKETS OR BUILD UP ROOFING AS REQUIRED TO PROVIDE POSITIVE DRAINAGE AROUND ALL NEW CONSTRUCTION INCLUDING ANY CURBS, SLEEPERS, SUPPORT BASES, ETC.

STRUCTURAL STEEL NOTES

1. ALL STEEL CONSTRUCTION INCLUDING FABRICATION, ERECTION AND MATERIALS SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2010 AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND THE 2016 CBC.
2. ALL STRUCTURAL STEEL SHALL BE ASTM A36 UNLESS OTHERWISE NOTED. ALL WF (WIDE FLANGE) & WT (TEE) SHAPES TO BE ASTM A992 (F_Y=50,000 PSI) UNLESS NOTED OTHERWISE. ALL STRUCTURAL TUBING (TS OR HSS) SHALL BE ASTM A500 GRADE B (F_Y=46,000 PSI). ALL STEEL PIPE SHALL BE ASTM A53 (TYPE E OR S, GRADE B (F_Y=35,000 PSI)) SCHEDULE 40 WITH OUTSIDE DIAMETERS GIVEN UNLESS OTHERWISE NOTED.
3. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES UNLESS OTHERWISE NOTED AND SHALL CONFORM TO AISC & AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC SPECIFICATION. PAINTED SURFACES SHALL BE TOUCHED UP.
4. ALL WELDING SHALL BE PERFORMED BY QUALIFIED, CERTIFIED WELDERS.
5. BOLTS SHALL BE GALVANIZED ASTM F3125/F3125M MINIMUM. BOLTED CONNECTIONS SHALL BE BEARING TYPE. SEE PLANS FOR LOCATION, NUMBER, & SIZE OF BOLTS. SPECIAL INSPECTION IS REQUIRED FOR HIGH STRENGTH BOLTS.
6. THREADED RODS SHALL BE ASTM F1554, GR 36 U.O.N. BOLTED CONNECTIONS SHALL BE BEARING TYPE. SEE PLANS FOR LOCATION, NUMBER, & SIZE OF BOLTS.
7. ALL HOLES FOR BOLTED CONNECTIONS SHALL BE 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER. USE STANDARD AISC GAGE AND PITCH FOR BOLTS EXCEPT AS NOTED OTHERWISE. HOLES FOR ANCHOR BOLTS IN BASE PLATES MAY BE AISC "OVERSIZE" HOLES WHERE ACCOMPANIED BY OVERSIZED HARDENED HOT DIPPED GALVANIZED WASHERS.
8. ALL SHOP FABRICATED STEEL STRUCTURAL MEMBERS FOR EXTERIOR USE SHALL BE HOT DIP GALVANIZED PER ASTM A123 AFTER FABRICATION & PAINTED PER CUSTOMER SPECIFICATIONS AS REQUIRED. STEEL FOR INTERIOR USE SHALL BE SHOP COAT OR GALVANIZED & PAINTED PER PLAN.
9. ALL FIELD FABRICATED GALVANIZED STEEL THAT IS CUT, GROUND, DRILLED, WELDED OR DAMAGED SHALL BE TREATED WITH "ZINC RICH" COLD GALVANIZING SPRAY OR COATING. NO RAW STEEL SHALL BE EXPOSED.
10. AT ALL WEB STIFFENER PLATES LEAVE ¾"ø (OR K, WHICHEVER IS LARGER) HOLE @ WEB/FLANGE INTERSECTION UNLESS NOTED OTHERWISE.
11. BOLTS AT ANTENNA & RRU MOUNT TO BE ASTM F3125/F3125M A194M U.O.N.
12. ALL NUTS SHALL BE ASTM A563/A563M ALL WASHERS SHALL BE ASTM F436/ F436M.
13. ALL STRUT MEMBERS USED IN EXTERIOR APPLICATIONS SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 OR ASTM A153.
14. ALL STAINLESS STEEL BOLTED CONNECTIONS SHALL BE ASTM F593-17 AND STAINLESS STEEL NUTS SHALL BE ASTM F594-09 (2015).

CONCRETE NOTES

1. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-14. CONCRETE MIX DESIGN SHALL BE REVIEWED BY AN INDEPENDENT TESTING LABORATORY AND SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW.
2. CONTRACTOR SHALL VERIFY SITE CONDITIONS & ALL DIMENSIONS PRIOR TO STARTING WORK. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES FOR RESOLUTION PRIOR TO PROCEEDING.
3. ALL CONCRETE SHALL BE A MINIMUM 5 SACK MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
4. CEMENT SHALL CONFORM TO ASTM C150, TYPE II.
5. CONCRETE AGGREGATES SHALL CONFORM TO ASTM C33.
6. ALL REINFORCING STEEL SHALL BE GRADE 60 AND CONFORM TO ASTM A615 UNLESS OTHERWISE NOTED. SEE PLAN FOR SIZE AND PLACEMENT.
7. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064.
8. REINFORCING STEEL SHALL BE FABRICATED ACCORDING TO "MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION".
9. MINIMUM LAP SPLICE SHALL BE 48 BAR DIAMETERS UNLESS OTHERWISE NOTED.
10. MINIMUM BEND DIAMETER SHALL BE 6 BAR DIAMETERS UNLESS OTHERWISE NOTED.
11. MINIMUM REINFORCING COVERAGE IS 3" UNLESS OTHERWISE NOTED.
12. CONCRETE SHALL BE PLACED AGAINST FIRM UNDISTURBED NON EXPANSIVE SOIL AT DEPTH SHOWN. WHERE OTHER CONDITIONS ARE ENCOUNTERED DURING EXCAVATION THE ENGINEER SHALL BE NOTIFIED AND REMEDIAL MEASURES PRESCRIBED PRIOR TO PROCEEDING WITH WORK.
13. BOTTOM OF ALL FOOTING TRENCHES SHALL BE CLEAN AND LEVEL. REMOVE ALL DEBRIS BEFORE PLACING ANY CONCRETE.
14. ALL ANCHOR BOLTS & THREADED ROD SHALL BE ASTM F1554, GR.36 MINIMUM UNLESS OTHERWISE NOTED, NEW, & WITHOUT SIGNIFICANT RUST.
15. A ¾" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE UNLESS OTHERWISE NOTED.
16. REINFORCING, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC. TO BE EMBEDDED IN CONCRETE SHALL BE SECURELY POSITIONED BEFORE PLACING CONCRETE.
17. ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED BY MOTORIZED VIBRATORY MEANS AND THOROUGHLY WORKED AROUND REINFORCEMENT, EMBEDDED ITEMS AND INTO CORNERS OF FORMS.

EXPANSION & EPOXY ANCHORS

1. EXPANSION AND EPOXY ANCHORS SHALL BE IN CONFORMANCE WITH ALL REQUIREMENTS OF THE 2016 CALIFORNIA BUILDING CODE (CBC).
2. ALL ANCHORS PROVIDED SHALL BE INCLUDED IN EVALUATION REPORTS OF THE INTERNATIONAL CODE COUNCIL (ICC), AND SHALL BE EVALUATED FOR 2015 IBC MINIMUM REQUIREMENTS IN THE ICC REPORT
3. CONCRETE EXPANSION ANCHORS SHALL BE KWIK BOLT TZ BY HILTI, INC., TULSA, OKLAHOMA AS PER ICC REPORT NO. ESR-1917 OR APPROVED EQUIVALENT.
4. CMU EXPANSION ANCHORS SHALL BE KWIK BOLT TZ BY HILTI, INC., TULSA, OKLAHOMA AS PER ICC REPORT NO. ESR-3785 OR APPROVED EQUIVALENT. ANCHORS SHALL BE INSTALLED A MINIMUM OF 1⅜" FROM ANY VERTICAL MORTAR JOINT TYPICAL. ANCHORS TO BE SPACED 8 INCHES ON CENTER MINIMUM AND LIMITED TO ONE ANCHOR PER CELL.
5. CONCRETE ADHESIVE EPOXY ANCHORS SHALL BE HIT RE-500SD BY HILTI, INC., TULSA, OKLAHOMA AS PER ICC REPORT NO. ESR-2322 OR APPROVED EQUIVALENT.
6. GROUT FILLED CMU ADHESIVE EPOXY ANCHORS SHALL BE HIT-HY 200 BY HILTI, INC., TULSA, OKLAHOMA AS PER ICC REPORT NO. ESR-3963 OR APPROVED EQUIVALENT.
7. INSTALL EXPANSION AND EPOXY ANCHORS WITH SPECIAL INSPECTION IN ACCORDANCE WITH THE 2016 CBC, TABLE 1705.3, AND ALL REQUIREMENTS OF THE MANUFACTURER, THE MANUFACTURER'S ICC APPROVAL AND THESE DRAWINGS.
8. EXPANSION ANCHORS SHALL BE 304/316 STAINLESS STEEL U.O.N. EPOXY ANCHOR THREADED ROD SHALL BE ASTM F593 CW1 (316) (¼" TO ⅝") OR F593 CW2 (316) (¾" TO 1½") STAINLESS STEEL U.O.N.
9. LOCATE AND AVOID REINFORCEMENT AND OTHER EMBEDDED ITEMS WHEN INSTALLING ANCHORS, TYPICAL. SEE CONCRETE CORE DRILLING NOTES FOR ADDITIONAL INFORMATION.
10. THE SPECIAL INSPECTOR MUST MAKE PERIODIC INSPECTIONS DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE AND DIMENSIONS, CONCRETE MEMBER THICKNESS, ANCHOR SPACING, EDGE DISTANCES, TIGHTENING TORQUE, HOLE DIAMETER, DEPTH AND CLEANLINESS, ANCHOR EMBEDMENT AND ADHERENCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE NOTE 11 BELOW FOR FREQUENCY OF INSPECTIONS.
11. 50% OF ALL ANCHORS, INCLUDING ALTERNATE BOLTS IN A GROUP OF ANCHORS, SHALL BE INSPECTED PER NOTE 10 ABOVE AND TORQUE TESTED PER THE ICC REPORT TEST VALUES NOTED BELOW:

KB TZ:

CONCRETE TORQUE TEST VALUES:
⅜"=25 FT LB ½"=40 FT LB ⅝"=60 FT LB ¾"=110 FT LB

CMU TORQUE TEST VALUES:
⅜"=15 FT LB ½"=25 FT LB ⅝"=35 FT LB ¾"=70 FT LB

EPOXY ANCHOR:

CONCRETE TORQUE TEST VALUES:
½"=30 FT LB
(CONCRETE TENSION TEST VALUES TO BE DETERMINED AS NEEDED. A RFI WILL BE ISSUED IF NEEDED DURING CONSTRUCTION TO ESTABLISH THE REQUIRED TENSION TEST VALUES)

CHAIN LINK FENCE NOTES

1. INSTALL FENCING PER ASTM F567 AND F1083, SWING GATES PER ASTM F900
2. GATE, CORNER, TERMINAL OR PULL POSTS SHALL BE ø2⅞" SCHED 40 FOR GATE WIDTHS UP TO 6 FEET OR 12 FEET FOR DOUBLE SWING GATE.
3. LINE POSTS SHALL BE ø2⅞" SCHED 40 PIPE UNLESS NOTED OTHERWISE.
4. GATE FRAMES SHALL BE 1½" SCHED 40 PIPE.
5. TOP AND BRACE RAILS SHALL BE ø1⅛" SCHED 40 PIPE.
6. FABRIC SHALL BE 12 GAUGE CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM A392 CLASS 1.
7. ALL FENCING SHALL BE GALVANIZED STEEL.
8. TIE WIRE SHALL BE 11 GAUGE MIN. INSTALL A SINGLE WRAP TIE WIRE AT POSTS AND RAILS AT MAX. 24" MAX INTERVALS. INSTALL HOG RINGS ON TENSION WIRE AT 24" INTERVALS.
9. TENSION WIRE SHALL BE 7 GAUGE.
10. GATE LATCH SHALL BE ø1⅜" O.D. PLUNGER ROD W/ MUSHROOM TYPE CATCH AND LOCK.
11. BARBED WIRE (IF USED) SHALL BE DOUBLE STRAND 12 GAUGE TWISTED WIRE TO MATCH WITH FABRIC, 4 PT. BARBS SPACED ON APPROXIMATELY 5" CENTERS.

TRENCHING NOTES

1. CALL BEFORE YOU DIG. CONTRACTOR IS REQUIRED TO CALL 811 (NATIONWIDE "CALL BEFORE YOU DIG" HOTLINE) AT LEAST 72 HOURS BEFORE DIGGING.
2. VERIFY ALL TRENCHING REQUIREMENTS WITH SERVING UTILITIES.
3. RESTORE GRADE TO ORIGINAL CONDITION OR BETTER.
4. RETURN FILL TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM STANDARDS.
5. RESTORE CUT CONCRETE OR ASPHALT TO ORIGINAL CONDITION OR BETTER.

At all services & grounding trenches, provide " WARNING" tape at 12" below grade.

CALL
"CALL BEFORE YOU DIG"
811
NATIONWIDE UNDERGROUND SERVICE ALERT

EXHIBIT B

KEZAR STADIUM

480067
650 FREDERICK STREET
SAN FRANCISCO, CA 94117

verizon
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598

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REGISTERED PROFESSIONAL ENGINEER
JAMES R. SPORE
S6336
STRUCTURAL
STATE OF CALIFORNIA

ISSUE STATUS

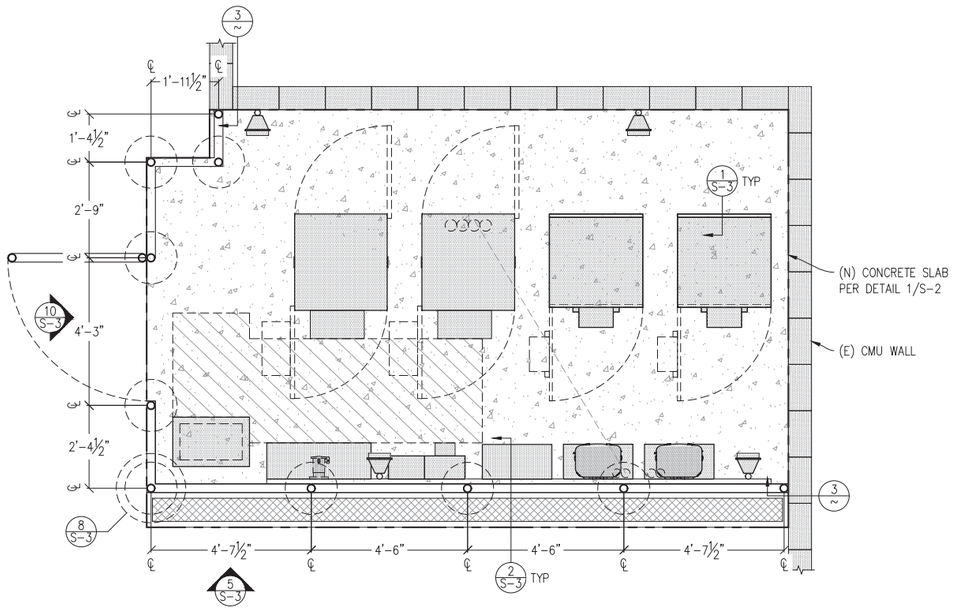
△	DATE	DESCRIPTION	REV.
	02/26/19	CD 90%	C.C.
	05/29/19	CD 100%	B.S.
	11/26/19	CLIENT REV	J.S.
	–	–	–
	–	–	–
	–	–	–

DRAWN BY: C. CODY
CHECKED BY: J. GRAY
APPROVED BY: J. SPORE
DATE: 11/26/19

SHEET TITLE:
STRUCTURAL NOTES

SHEET NUMBER:
S-1

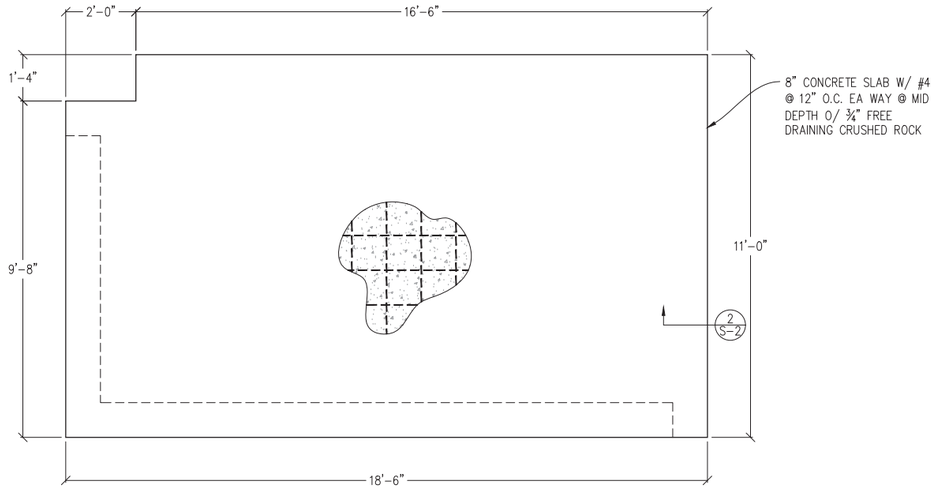
EXHIBIT B



EQUIPMENT PLAN

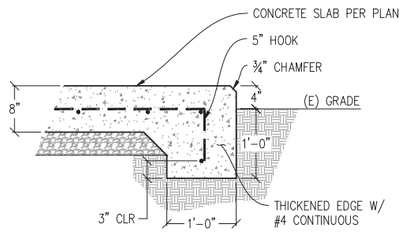
½"=1'-0"

0 6" 1' 2' 3' 5' 7' 10'



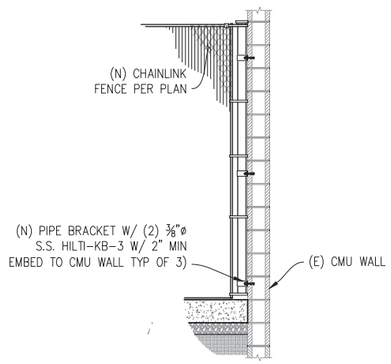
1 CONC. SLAB DETAIL

½"=1'-0"



2 THICKENED EDGE SLAB

1"=1'-0"



3 FENCE TO CMU WALL

1"=1'-0"

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DRAWN BY: C. CODY

CHECKED BY: J. GRAY

APPROVED BY: J. SPORE

DATE: 11/26/19

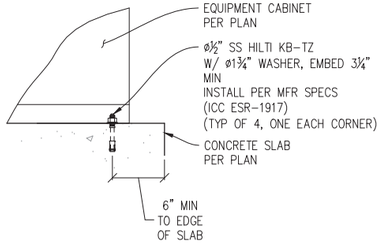
SHEET TITLE:

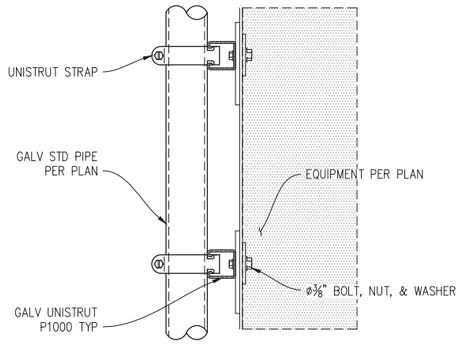
STRUCTURAL PLAN & DETAILS

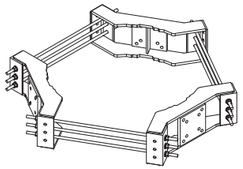
SHEET NUMBER:

S-2

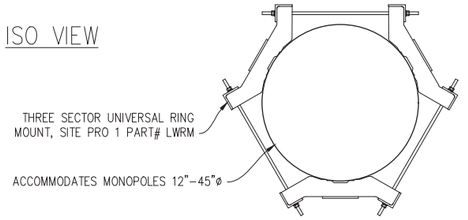
EXHIBIT B



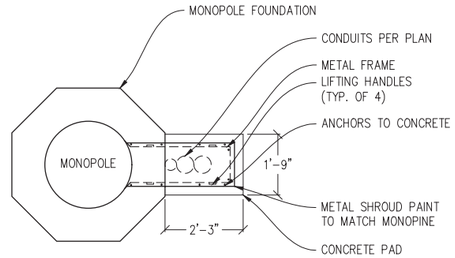




ISO VIEW

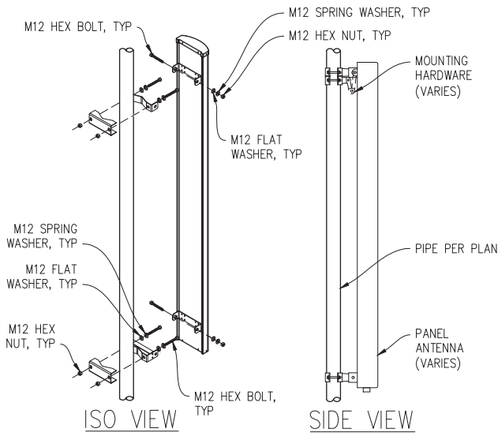


PLAN VIEW



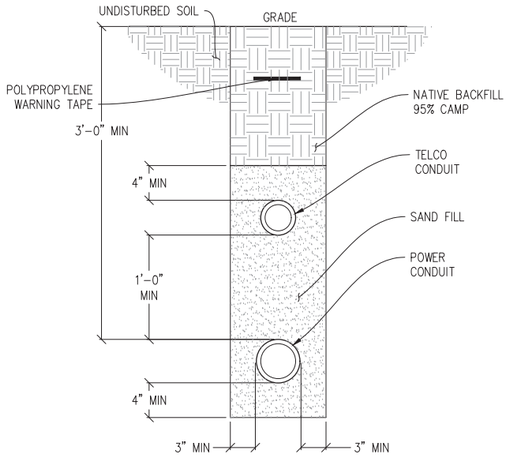
TOP VIEW

1 CABINET TO CONC
1½"=1'-0"



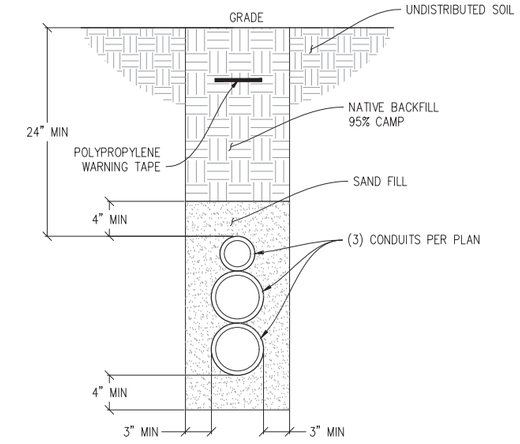
ISO VIEW SIDE VIEW

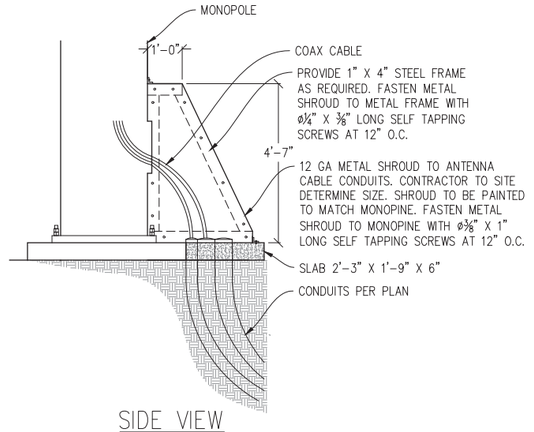
2 EQUIPMENT MOUNTING DETAIL
3"=1'-0"



3 TRI SECTOR COLLAR MOUNT
¾"=1'-0"

MAX WEIGHT: 269 LBS





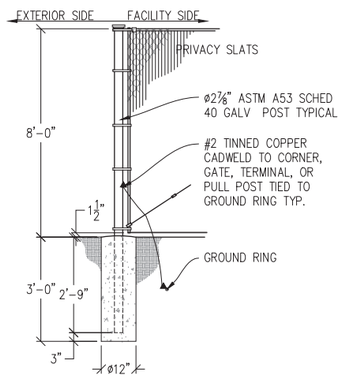
SIDE VIEW

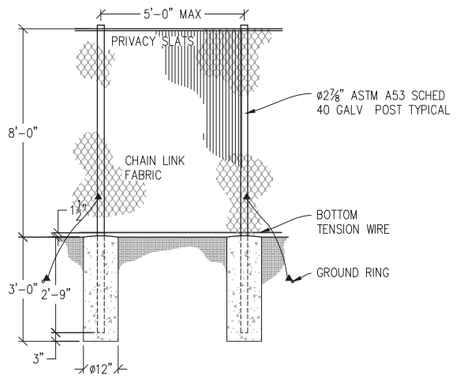
4 ANTENNA MOUNT DETAIL
1"=1'-0"

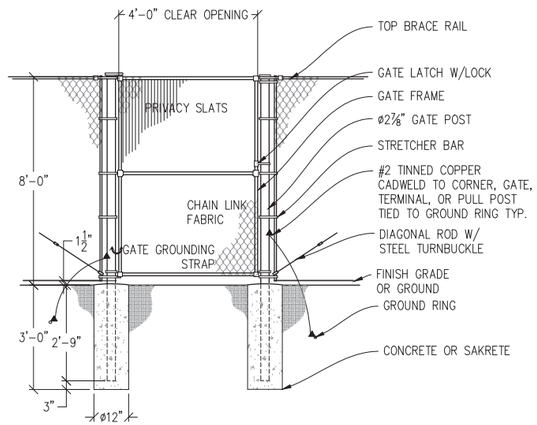
5 CONDUIT TRENCH DETAIL
1½"=1'-0"

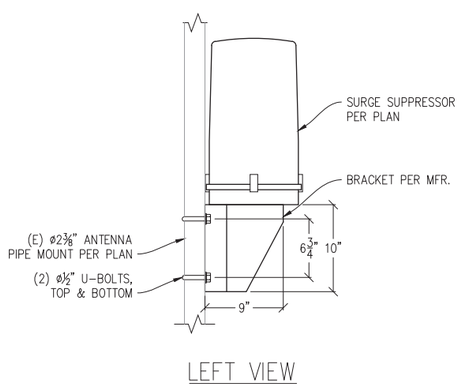
6 CONDUIT TRENCH DETAIL
1½"=1'-0"

7 COAX CABLE COVER DETAIL
½"=1'-0"









LEFT VIEW

8 CORNER POST DETAIL
½"=1'-0"

9 LINE POST DETAIL
½"=1'-0"

10 GATE DETAIL
½"=1'-0"

11 SURGE PIPE MOUNT DETAIL
1½"=1'-0"

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REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

ISSUE STATUS

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DRAWN BY: C. CODY

CHECKED BY: J. GRAY

APPROVED BY: J. SPORE

DATE: 11/26/19

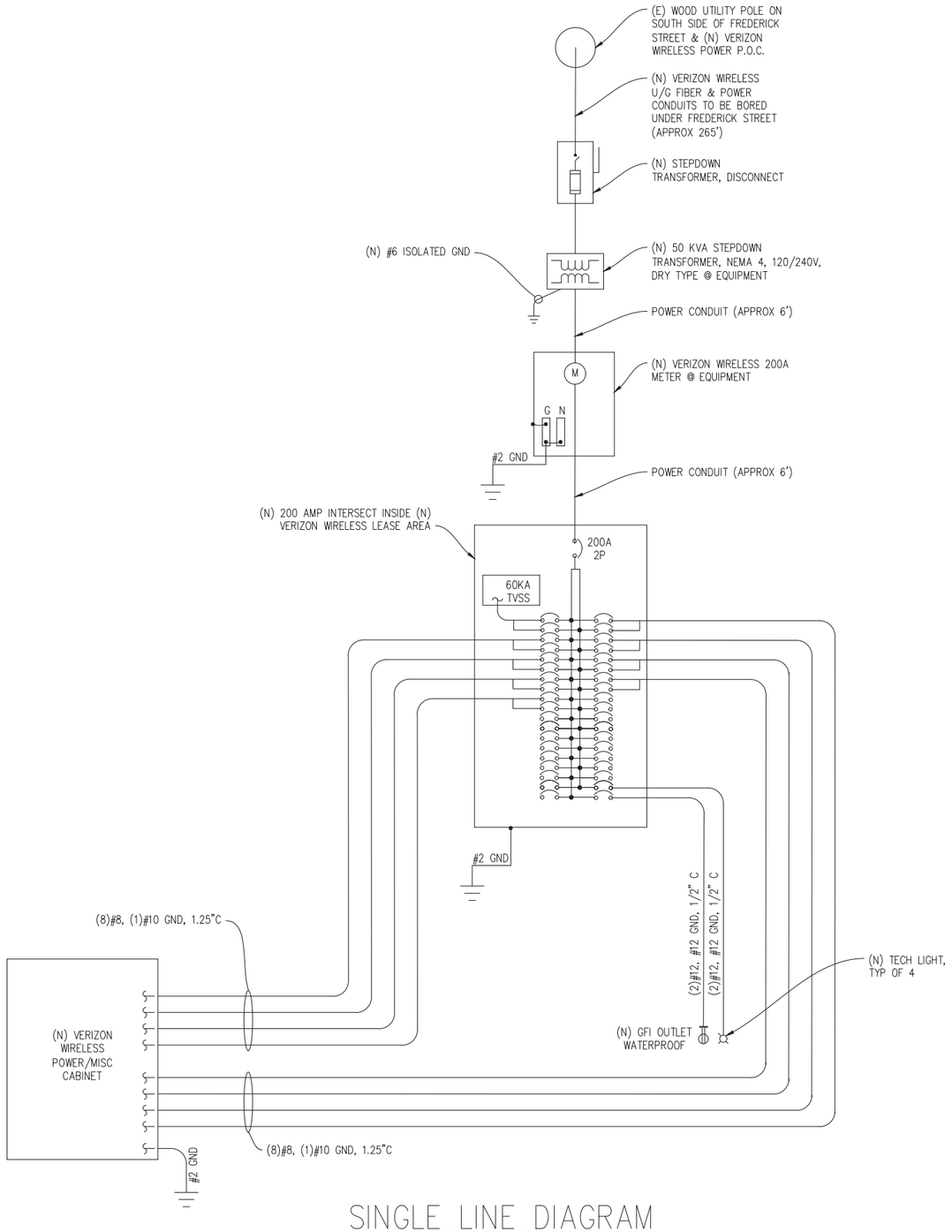
SHEET TITLE:

STRUCTURAL DETAILS

SHEET NUMBER:

S-3

EXHIBIT B



SINGLE LINE DIAGRAM

ELECTRICAL LABELING REQUIREMENTS

1. CONTRACTOR SHALL LABEL ALL ELECTRICAL DEVICES INSTALLED OR ALTERED PURSUANT TO THIS CONTRACT PER THE FOLLOWING. LABELS SHALL BE PERMANENT BLACK ON WHITE PEEL & STICK LABEL MAKER TYPE FOR ALL SWITCH & OUTLET PLATES, CONDUITS AND CEILING FIXTURES, AND SHALL BE PHENOLIC TAG TYPE FOR PANELS, XFMR's, PULL BOXES, ETC.; PHENOLIC TAGS SHALL BE RED IN COLOR WHERE BACKED UP BY GENERATOR
2. ALL PANELS, XFMR's AND PULL BOXES SHALL BE LABELLED WITH DEVICE 'NAME', VOLTAGE(S), RATING FOR XFMR's, AND "FED FROM" DATA.
3. ALL SWITCH & OUTLET PLATES SHALL BE LABELLED WITH "FED FROM" CIRCUIT DATA (PANEL NAME & CIRCUIT#); ALL GANG SWITCHES SHALL BEAR SWITCH NUMBERS BEGINNING W/#1 ON LEFT OF THE MAIN LIGHTING SWITCH FOR EACH ROOM FOR COORDINATION W/FIXTURE LABELS.
4. ALL (N) OR RETROFITTED LIGHTING FIXTURES SHALL BE LABELED WITH THE "FED FROM" DATA (SWITCH#)
5. ALL CONDUITS EXITING A PANEL BOARD SHALL BE LABELED "CIRCUIT(S) 'X'..." WHERE X IS/ARE THE BREAKER#(S). CONDUITS EXITING XFMR'S SHALL BE LABELLED "FEEDER TO <PANEL, DEVICE>", E.G. "FEEDER TO PANEL <panel name>. CONDUITS ENTERING/EXITING A ROOM OR FLOOR SHALL BE LABELLED AT THE ENTRY & EXIT (OR IN A SINGLE LOCATION IF OBVIOUS) W/"FED FROM..." & "TO PANEL/XFMR/..."DATA.
6. "FED FROM: DATA = <panel name> <brkr#> EG: "PANEL X/1,3,5")

ELECTRICAL LEGEND

(MI)	MECHANICAL INTERLOCK
(M)	METER
	CIRCUIT BREAKER
	SERVICE GROUND
	WIRED CONNECTION
	GFI OUTLET, WATERPROOF

ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE 2016 CEC AS WELL AS ALL ADOPTED STANDARDS, APPLICABLE STATE AND LOCAL CODES.
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, CONDUCTORS, PULL BOXES, TRANSFORMER PADS, POLE RISERS, AND PERFORM ALL TRENCHING AND BACKFILLING REQUIRED IN THE PLANS.
3. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER PLAN SPECIFICATIONS.
4. ALL CIRCUIT BREAKERS, FUSES, AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTION RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED WITH A MINIMUM OF 10,000 A.I.C. OR AS REQUIRED.
5. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
6. ELECTRICAL WIRING SHALL BE COPPER #12 AWG MIN WITH TYPE THHN, THWN-2 OR THW-2, INSULATION RATED FOR 90°C DRY OR 70°C WET.
7. ALL OUTDOOR EQUIPMENT SHALL HAVE NEMA 3R ENCLOSURE.
8. ALL BURIED WIRE SHALL RUN THROUGH SCHEDULE 40 PVC CONDUIT UNLESS OTHERWISE NOTED.
9. A GROUND WIRE IS TO BE PULLED IN ALL CONDUITS.
10. WHERE ELECTRICAL WIRING OCCURS OUTSIDE A STRUCTURE AND HAS THE POTENTIAL FOR EXPOSURE TO WEATHER, WIRING SHALL BE IN WATERTIGHT GALVANIZED RIGID STEEL OR FLEXIBLE CONDUIT.
11. WHERE PLANS CALL FOR A NEW ELECTRICAL SERVICE, PRIOR TO SUBMITTING BID, CONTRACTOR SHALL VERIFY PLAN DETAILS WITH THE UTILITY'S SERVICE PLAN & REQ'MTS INCLUDING SERVICE VOLTAGE, METER LOCATION, MAIN DISCONNECTING MEANS, AND AIC REQ'MT, AND SHALL OBTAIN CLARIFICATION FROM THE PROJECT ENGINEER ON ANY DEVIATIONS FOUND IN THESE PLANS.
12. WHERE THESE PLANS SHOW A DC POWER PLANT, THE INSTALLATION OPERATING AT LESS THAN 50 VDC UNGROUNDED, 2-WIRE, SHALL COMPLY WITH ARTICLE 720, AS FOLLOWS:
    A. POWER PLANT SHALL BE SUPPLIED BY THE WIRELESS CARRIER AS A PULL-TAG ITEM AND INSTALLED BY THE CONTRACTOR.
    B. CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG COPPER MIN, CONDUCTORS FOR BRANCH CIRCUITS SUPPLYING MORE THAN ONE APPLIANCE SHALL BE 10 AWG CU MIN; CONTRACTOR SHALL SIZE CONDUCTORS BASED ON MFGR'S DATA FOR THE APPLIANCES SERVED.
    C. THERE ARE NO DC RECEPTACLES OR LUMINARIES ALLOWED ON THIS PROJECT. ALL CIRCUITS SHALL ORIGINATE AT AN INTEGRATED DOUBLE LUG TAP OR SOCKET TERMINATION ON AN INTEGRATED DC CIRCUIT BREAKER AT AN INDIVIDUAL RECTIFIER MODULE AND TERMINATE AT THE SPECIALIZED LUG ON THE RESPECTIVE APPLIANCE AS A SINGLE RUN OF WIRE WITHOUT SPLICES. ALL DC WIRING SHALL BE LABELED AT THE DC PLANT WITH THE APPLIANCE SERVED AND THE DC VOLTAGE.
    D. ALL CABLING SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND SUPPORTED BY BUILDING STRUCTURE, EG. (N) CABLE TRAY OVERHEAD, IN SUCH A MANNER THAT THE CABLE WILL NOT BE DAMAGED BY NORMAL USE.

NEW PANEL SCHEDULE

NAMEPLATE : VERIZON PANEL			SC LEVEL : 10,000				VOLTS: 120V/240V, 1ø		
LOCATION : OUTSIDE							BUS AMPS: 200A		
MOUNTING : WOOD FENCE @ EQUIPMENT							MAIN CB: 200A		
ØA	ØB							ØA	ØB
LOAD VA	LOAD VA	LOAD DESCRIPTION	BKR AMP/ POLE	CIRCUIT NO		BKR AMP/ POLE	LOAD DESCRIPTION	LOAD VA	LOAD VA
30		SURGE ARRESTOR	60/2	1	2	30/2	RECTIFIER 5	2292	
	30	" "	" "	3	4	" "	" "		2292
2292		RECTIFIER 1	30/2	5	6	30/2	RECTIFIER 6	2292	
	2292	" "	" "	7	8	" "	" "		2292
2292		RECTIFIER 2	30/2	9	10	30/2	RECTIFIER 7	2292	
	2292	" "	" "	11	12	" "	" "		2292
2292		RECTIFIER 3	30/2	13	14	30/2	RECTIFIER 8	2292	
	2292	" "	" "	15	16	" "	" "		2292
2292		RECTIFIER 4	30/2	17	18	–	BLANK		
	2292	" "	" "	19	20	–	" "		
		BLANK	–	21	22	–	" "		
		" "	–	23	24	–	" "		
		" "	–	25	26	–	" "		
		" "	–	27	28	–	" "		
		" "	–	29	30	–	" "		
		" "	–	31	32	–	" "		
		" "	–	33	34	–	" "		
		" "	–	35	36	–	" "		
		" "	–	37	38	–	" "		
		" "	–	39	40	20/1	LIGHTS	600	
		" "	–	41	42	20/1	GFI RECEPTACLE		300
9198	9198	PHASE TOTALS					PHASE TOTALS	9168	9168
TOTAL VA =	36732	TOTAL AMPS =	153						

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DRAWN BY: C. CODY

CHECKED BY: J. GRAY

APPROVED BY: J. SPORE

DATE: 11/26/19

SHEET TITLE:

ELECTRICAL PLAN

SHEET NUMBER:

E-1

GROUNDING NOTES

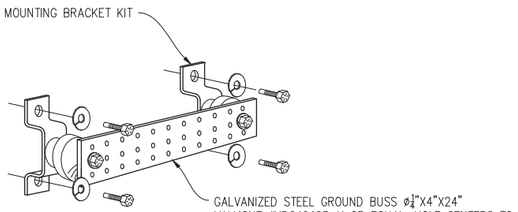
1. GROUNDING SHALL COMPLY WITH CEC ARTICLE 250.
2. USE #2 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
3. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
4. EXPOSED GROUNDING CONNECTIONS SHALL BE MADE WITH BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR EXOTHERMIC WELDS AS SPECIFIED IN THE PLANS.
5. CONNECTIONS TO EQUIPMENT SHALL BE MADE USING STAINLESS STEEL HARDWARE.
6. APPLY BUTYL & ELECTRICAL TAPE OVER COLD SHRINK AT ALL LOCATIONS FOR WEATHER PROOFING OVER COAX GROUND KITS.
7. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS WITH STAR WASHERS AND NO-OX OR EQUIVALENT PLACED BETWEEN CONNECTOR AND GROUND BAR.
8. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLES. ALWAYS MAKE A 12" RADIUS BEND, HOWEVER, #6 WIRE CAN BE BENT AT A 6" RADIUS WHEN NECESSARY.
9. THE SYSTEM GROUND RESISTANCE MUST BE 10 OHMS OR LESS. TO ACHIEVE THIS LEVEL OF RESISTANCE THE CONTRACTOR SHALL PURSUE ONE OF THE FOLLOWING FOUR OPTIONS:

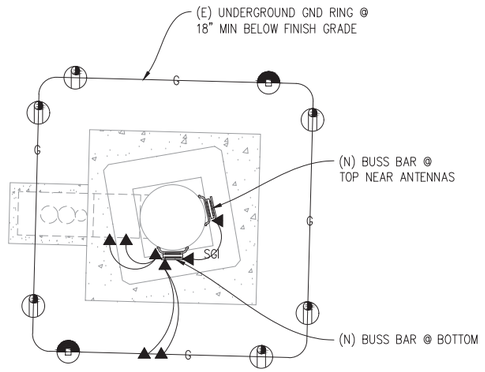
   A. CONNECT TO EXISTING GROUNDING SYSTEMS
   B. CONNECT TO BUILDING STEEL COLUMNS
   C. INSTALL A NEW GROUNDING SYSTEM

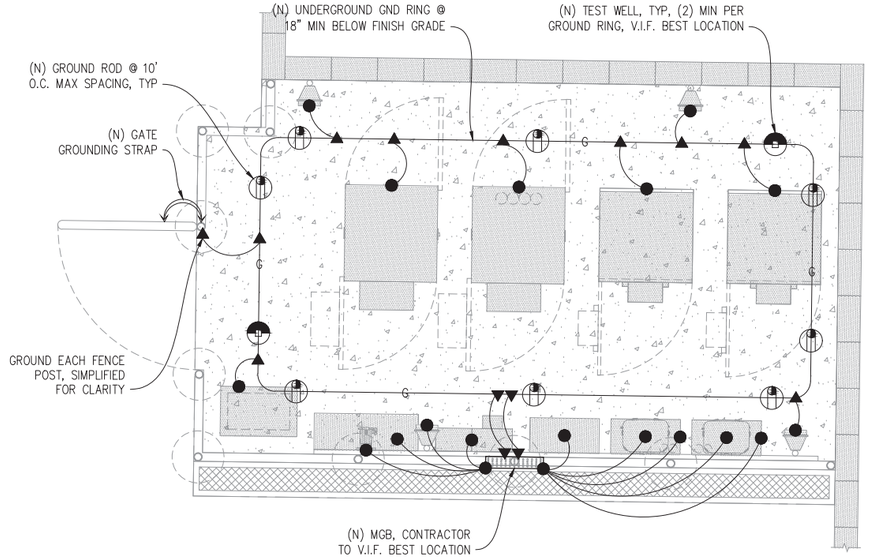
   UPON COMPLETION OF THE GROUNDING INSTALLATION THE CONTRACTOR SHALL EMPLOY AN OWNER APPROVED 3RD PARTY TO CONDUCT A "FALL OF POTENTIAL" TEST AND SUBMIT A REPORT OF SUCH TEST FOR APPROVAL TO EITHER THE OWNER OR CONSTRUCTION MANAGER.

GROUNDING LEGEND

- MECHANICAL CONNECTION
- EXOTHERMIC CADWELD
- TYP. CADWELD INSPECTION WELL
- TYP ⅝" DIA. X 10'-0" LONG COPPER CLAD GROUND ROD @ 10' O.C. MAX & 18" MIN BELOW FINISH GRADE
- GATE GROUNDING STRAP
- G — TYP #2 TINNED BCW UNDERGROUND GND RING @ 18" MIN BELOW FINISH GRADE
- SGI — GROUND WIRE #2 STRANDED GREEN INSULATED WIRE

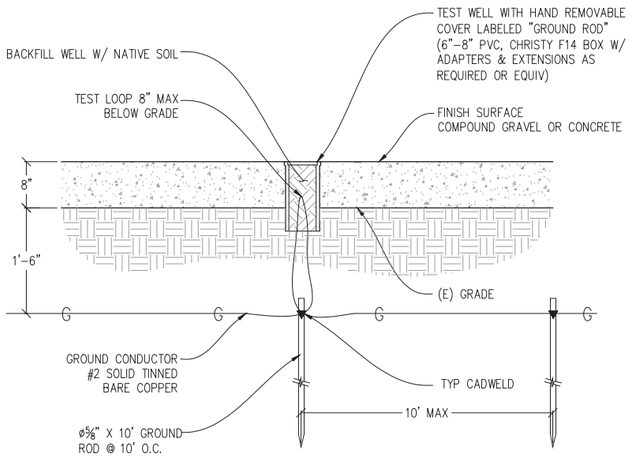






1 GROUND BUSS DETAIL

NOT TO SCALE



2 TEST WELL & GROUND ROD DETAIL

1"=1'-0"

NOTE: THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS. THE GROUND RODS SHALL BE ⅝" X 10' COPPER CLAD STEEL SPACED AT 10' INTERVALS MAX. RODS SHALL BE INTERCONNECTED WITH #2 SOLID TINNED BARE COPPER GROUND WIRE BURIED A MINIMUM 18" BELOW GRADE. AN ONSITE INSPECTION BY THE OWNER SHALL BE REQUIRED PRIOR TO ANY BACKFILL.

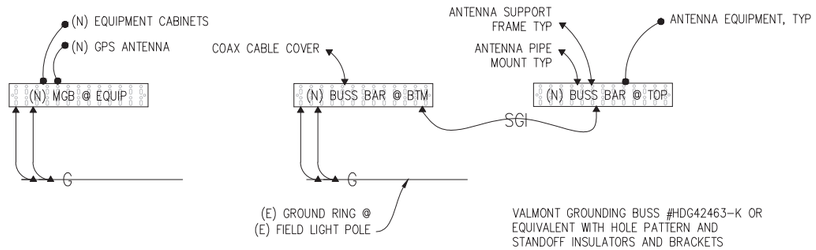
GROUNDING PLAN @ ANTENNAS

½"=1'-0"

GROUNDING PLAN @ EQUIPMENT

½"=1'-0"

NOTE: VERIZON WIRELESS EQUIPMENT TO RECEIVE (2) GROUNDS



GROUND BUSS CONNECTION DIAGRAM

EXHIBIT B

KEZAR STADIUM

480067
650 FREDERICK STREET
SAN FRANCISCO, CA 94117

verizon
2785 MITCHELL DRIVE, BLDG 9
WALNUT CREEK, CA 94598

Streamline Engineering and Design, Inc.
8445 Sierra College Blvd, Suite E Granite Bay, CA 95661
Contact: Kevin Sorensen Phone: 916-660-1930
E-Mail: kevin@streamlineeng.com Fax: 916-660-1941

REGISTERED PROFESSIONAL ENGINEER
JAMES R. SPORE
NO. 70937
CIVIL
STATE OF CALIFORNIA

ISSUE STATUS

△	DATE	DESCRIPTION	REV.
	02/26/19	CD 90%	C.C.
	05/29/19	CD 100%	B.S.
	11/26/19	CLIENT REV	J.S.
	–	–	–
	–	–	–
	–	–	–

DRAWN BY:	C. CODY
CHECKED BY:	J. GRAY
APPROVED BY:	J. SPORE
DATE:	11/26/19

SHEET TITLE:
GROUNDING PLAN & DETAILS

SHEET NUMBER:
E-2

SAN FRANCISCO
PLANNING DEPARTMENT

CEQA Categorical Exemption Determination

PROPERTY INFORMATION/PROJECT DESCRIPTION

Project Address		**Block/Lot(s)**
650 Frederick Street		1264001
Case No.		**Permit No.**
2019-021795PRJ		
■ **Addition/ Alteration**	☐ **Demolition (requires HRE for Category B Building)**	☐ **New Construction**

Project description for Planning Department approval.

Request for Conditional Use Authorization to install a Verizon Wireless macro wireless telecommunications facility to increase wireless communications coverage within Golden Gate Park and the surrounding area. The Verizon Wireless project consists of fifteen (15) new Antennas, eighteen (18) new remote radio units, and two (2) Surge Suppressors on existing stadium light pole, and ancillary equipment including ground mounted equipment screened within a fence

STEP 1: EXEMPTION CLASS

The project has been determined to be categorically exempt under the California Environmental Quality Act (CEQA).

■	**Class 1 - Existing Facilities.** Interior and exterior alterations; additions under 10,000 sq. ft.
☐	**Class 3 - New Construction.** Up to three new single-family residences or six dwelling units in one building; commercial/office structures; utility extensions; change of use under 10,000 sq. ft. if principally permitted or with a CU.
☐	**Class 32 - In-Fill Development.** New Construction of seven or more units or additions greater than 10,000 sq. ft. and meets the conditions described below: (a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations. (b) The proposed development occurs within city limits on a project site of no more than 5 acres substantially surrounded by urban uses. (c) The project site has no value as habitat for endangered rare or threatened species. (d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality. (e) The site can be adequately served by all required utilities and public services. **FOR ENVIRONMENTAL PLANNING USE ONLY**
☐	**Class ____**

STEP 2: CEQA IMPACTS

TO BE COMPLETED BY PROJECT PLANNER

☐	**Air Quality:** Would the project add new sensitive receptors (specifically, schools, day care facilities, hospitals, residential dwellings, and senior-care facilities within an Air Pollution Exposure Zone? Does the project have the potential to emit substantial pollutant concentrations (e.g., backup diesel generators, heavy industry, diesel trucks, etc.)? (*refer to EP _ArcMap > CEQA Catex Determination Layers > Air Pollution Exposure Zone)*
☐	**Hazardous Materials:** If the project site is located on the Maher map or is suspected of containing hazardous materials (based on a previous use such as gas station, auto repair, dry cleaners, or heavy manufacturing, or a site with underground storage tanks): Would the project involve 50 cubic yards or more of soil disturbance - or a change of use from industrial to residential? **Note that a categorical exemption shall not be issued for a project located on the Cortese List** *if the applicant presents documentation of enrollment in the San Francisco Department of Public Health (DPH) Maher program, a DPH waiver from the Maher program, or other documentation from Environmental Planning staff that hazardous material effects would be less than significant (refer to EP_ArcMap > Maher layer).*
☐	**Transportation:** Does the project involve a child care facility or school with 30 or more students, or a location 1,500 sq. ft. or greater? Does the project have the potential to adversely affect transit, pedestrian and/or bicycle safety (hazards) or the adequacy of nearby transit, pedestrian and/or bicycle facilities?
☐	**Archeological Resources:** Would the project result in soil disturbance/modification greater than two (2) feet below grade in an archeological sensitive area or eight (8) feet in a non-archeological sensitive area? If yes, archeo review is requried (*refer to EP_ArcMap > CEQA Catex Determination Layers > Archeological Sensitive Area)*
☐	**Subdivision/Lot Line Adjustment:** Does the project site involve a subdivision or lot line adjustment on a lot with a slope average of 20% or more? (*refer to EP_ArcMap > CEQA Catex Determination Layers > Topography*). If yes, Environmental Planning must issue the exemption.
☐	**Slope = or > 25%:** Does the project involve any of the following: (1) square footage expansion greater than 500 sq. ft. outside of the existing building footprint, (2) excavation of 50 cubic yards or more of soil, (3) new construction? (*refer to EP_ArcMap > CEQA Catex Determination Layers > Topography*) **If box is checked, a geotechnical report is required and Environmental Planning must issue the exemption.**
☐	**Seismic: Landslide Zone:** Does the project involve any of the following: (1) square footage expansion greater than 500 sq. ft. outside of the existing building footprint, (2) excavation of 50 cubic yards or more of soil, (3) new construction? *(refer to EP_ArcMap > CEQA Catex Determination Layers > Seismic Hazard Zones)* **If box is checked, a geotechnical report is required and Environmental Planning must issue the exemption.**
☐	**Seismic: Liquefaction Zone:** Does the project involve any of the following: (1) square footage expansion greater than 500 sq. ft. outside of the existing building footprint, (2) excavation of 50 cubic yards or more of soil, (3) new construction? *(refer to EP_ArcMap > CEQA Catex Determination Layers > Seismic Hazard Zones)* **If box is checked, a geotechnical report will likely be required and Environmental Planning must issue the exemption.**

Comments and Planner Signature (*optional*): Mathew Chandler

STEP 3: PROPERTY STATUS - HISTORIC RESOURCE

TO BE COMPLETED BY PROJECT PLANNER

PROPERTY IS ONE OF THE FOLLOWING: *(refer to Property Information Map)*	
■	**Category A:** Known Historical Resource. **GO TO STEP 5.**
☐	**Category B:** Potential Historical Resource (over 45 years of age). **GO TO STEP 4.**
☐	**Category C:** Not a Historical Resource or Not Age Eligible (under 45 years of age). **GO TO STEP 6.**

STEP 4: PROPOSED WORK CHECKLIST

TO BE COMPLETED BY PROJECT PLANNER

Check all that apply to the project.	
☐	1. **Change of use and new construction.** Tenant improvements not included.
☐	2. **Regular maintenance or repair** to correct or repair deterioration, decay, or damage to building.
☐	3. **Window replacement** that meets the Department's *Window Replacement Standards*. Does not include storefront window alterations.
☐	4. **Garage work.** A new opening that meets the *Guidelines for Adding Garages and Curb Cuts*, and/or replacement of a garage door in an existing opening that meets the Residential Design Guidelines.
☐	5. **Deck, terrace construction, or fences** not visible from any immediately adjacent public right-of-way.
☐	6. **Mechanical equipment installation** that is not visible from any immediately adjacent public right-of-way.
☐	7. **Dormer installation** that meets the requirements for exemption from public notification under *Zoning Administrator Bulletin No. 3: Dormer Windows*.
☐	8. **Addition(s)** that are not visible from any immediately adjacent public right-of-way for 150 feet in each direction; does not extend vertically beyond the floor level of the top story of the structure or is only a single story in height; does not have a footprint that is more than 50% larger than that of the original building; and does not cause the removal of architectural significant roofing features.
Note: Project Planner must check box below before proceeding.	
■	Project is not listed. **GO TO STEP 5.**
☐	Project **does not conform** to the scopes of work. **GO TO STEP 5**.
☐	Project involves **four or more** work descriptions. **GO TO STEP 5.**
☐	Project involves **less than four** work descriptions. **GO TO STEP 6.**

STEP 5: CEQA IMPACTS - ADVANCED HISTORICAL REVIEW

TO BE COMPLETED BY PROJECT PLANNER

Check all that apply to the project.	
☐	1. Project involves a **known historical resource (CEQA Category A)** as determined by Step 3 and conforms entirely to proposed work checklist in Step 4.
☐	2. **Interior alterations to publicly accessible spaces**.
☐	3. **Window replacement** of original/historic windows that are not "in-kind" but are consistent with existing historic character.
☐	4. **Façade/storefront alterations** that do not remove, alter, or obscure character-defining features.
☐	5. **Raising the building** in a manner that does not remove, alter, or obscure character-defining features.
☐	6. **Restoration** based upon documented evidence of a building's historic condition, such as historic photographs, plans, physical evidence, or similar buildings.

☐	7. **Addition(s)**, including mechanical equipment that are minimally visible from a public right-of-way and meet the *Secretary of the Interior's Standards for Rehabilitation*.
■	8. **Other work consistent** with the *Secretary of the Interior Standards for the Treatment of Historic Properties* (*specify or add comments*): Work will be undertaken on existing poles and will not affect poles that are decorative or historic in nature. Equipment is designed to be slim in profile and to avoid large bundles of visible cabling, equipment decals, lighting, or mounting systems so that adjacent buildings are not materially or visually impaired. Work will not physically alter any historic features or materials that characterize known or potential historic
☐	9. **Other work** that would not materially impair a historic district (specify or add comments): *(Requires approval by Senior Preservation Planner/Preservation Coordinator)*
☐	10. **Reclassification of property status**. *(Requires approval by Senior Preservation Planner/Preservation* ☐ Reclassify to Category A ☐ Reclassify to Category C a. Per HRER or PTR dated *(attach HRER or PTR)* b. Other *(specify)*:

Note: If ANY box in STEP 5 above is checked, a Preservation Planner MUST sign below.

■	**Project can proceed with categorical exemption review**. The project has been reviewed by the Preservation Planner and can proceed with categorical exemption review. **GO TO STEP 6.**

Comments (*optional*):

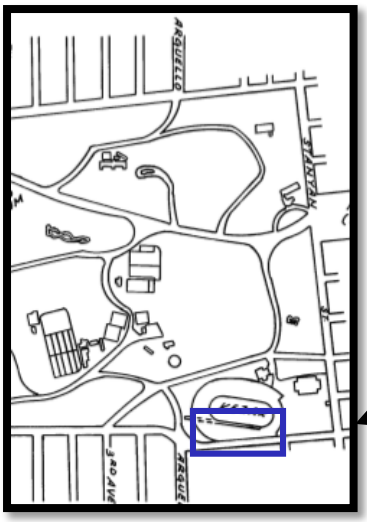
Preservation Planner Signature: Natalia Kwiatkowska

STEP 6: CATEGORICAL EXEMPTION DETERMINATION

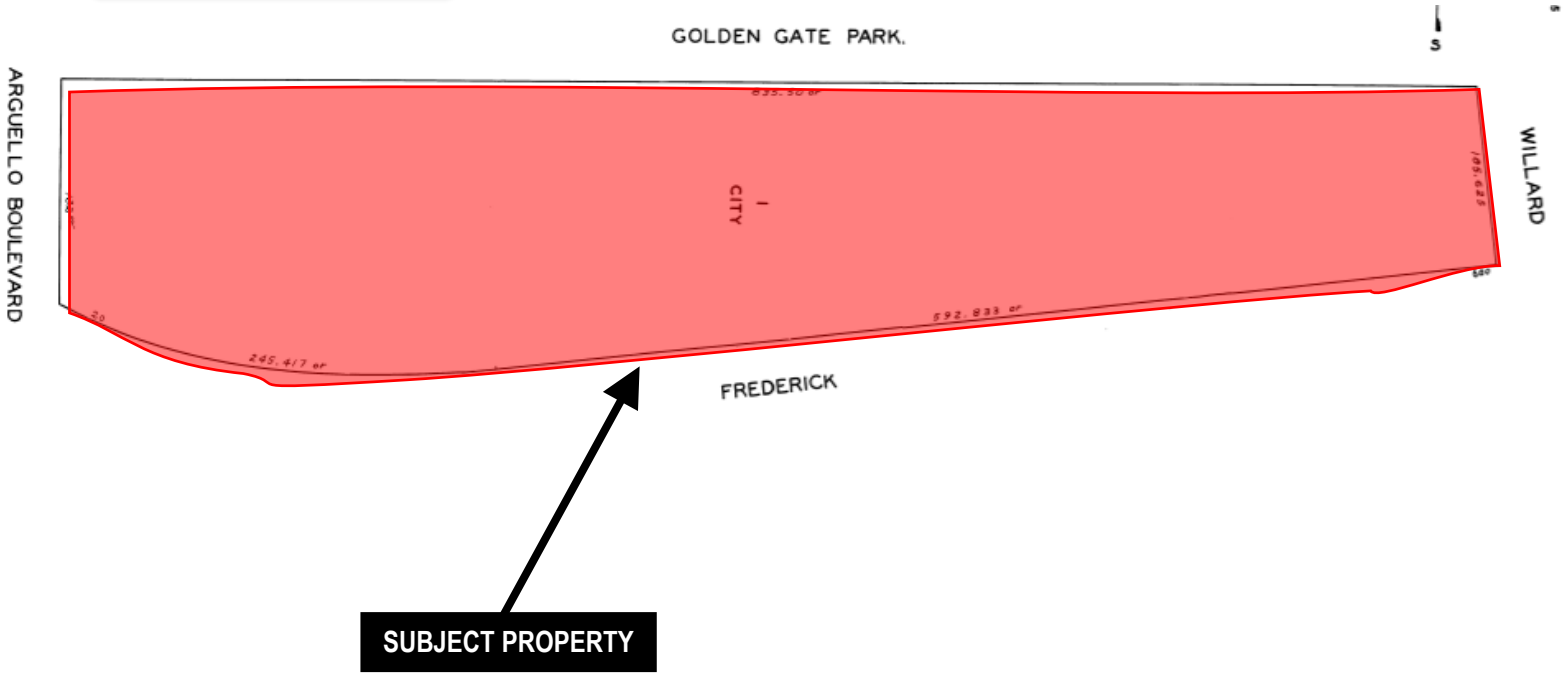
TO BE COMPLETED BY PROJECT PLANNER

■	**No further environmental review is required. The project is categorically exempt under CEQA. There are no unusual circumstances that would result in a reasonable possibility of a significant effect.**	
	Project Approval Action: Planning Commission Hearing	**Signature:** Mathew Chandler 06/16/2020
	Once signed or stamped and dated, this document constitutes a categorical exemption pursuant to CEQA Guidelines and Chapter 31of the Administrative Code. In accordance with Chapter 31 of the San Francisco Administrative Code, an appeal of an exemption determination can only be filed within 30 days of the project receiving the approval action. Please note that other approval actions may be required for the project. Please contact the assigned planner for these approvals.	

Parcel Map



PROJECT SITE

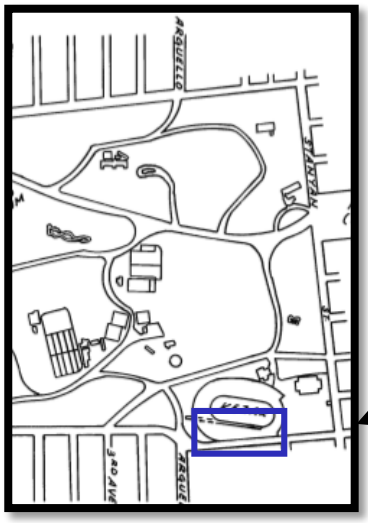


SUBJECT PROPERTY

Conditional Use Authorization
Case Number: 2019-021795CUA
Verizon Wireless Macro WTS Facility
650 Frederick Street (Kezar Stadium)

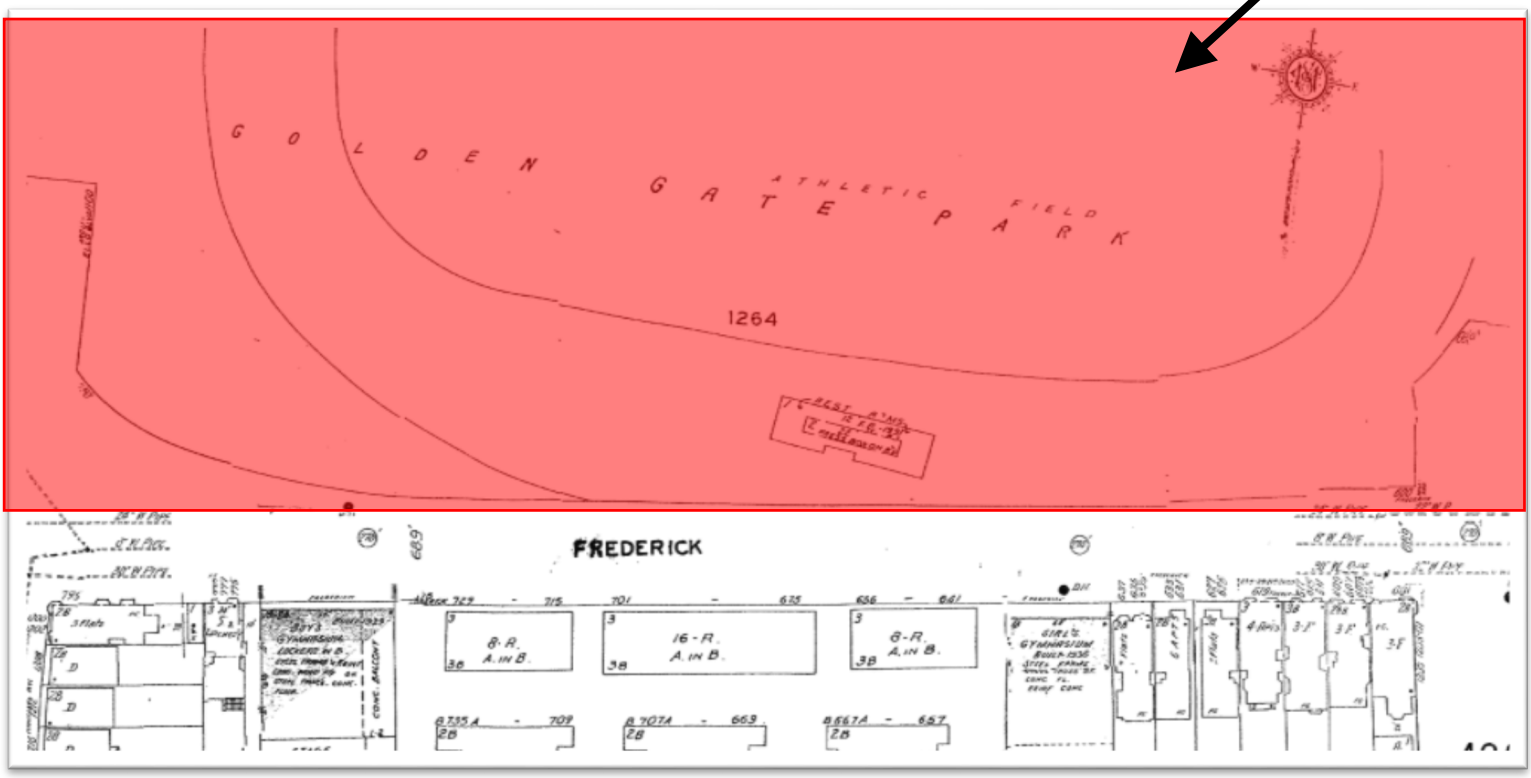
SAN FRANCISCO
PLANNING DEPARTMENT

Sanborn Map*



PROJECT SITE

SUBJECT PROPERTY



The Sanborn Maps in San Francisco have not been updated since 1998, and this map may not accurately reflect existing conditions.

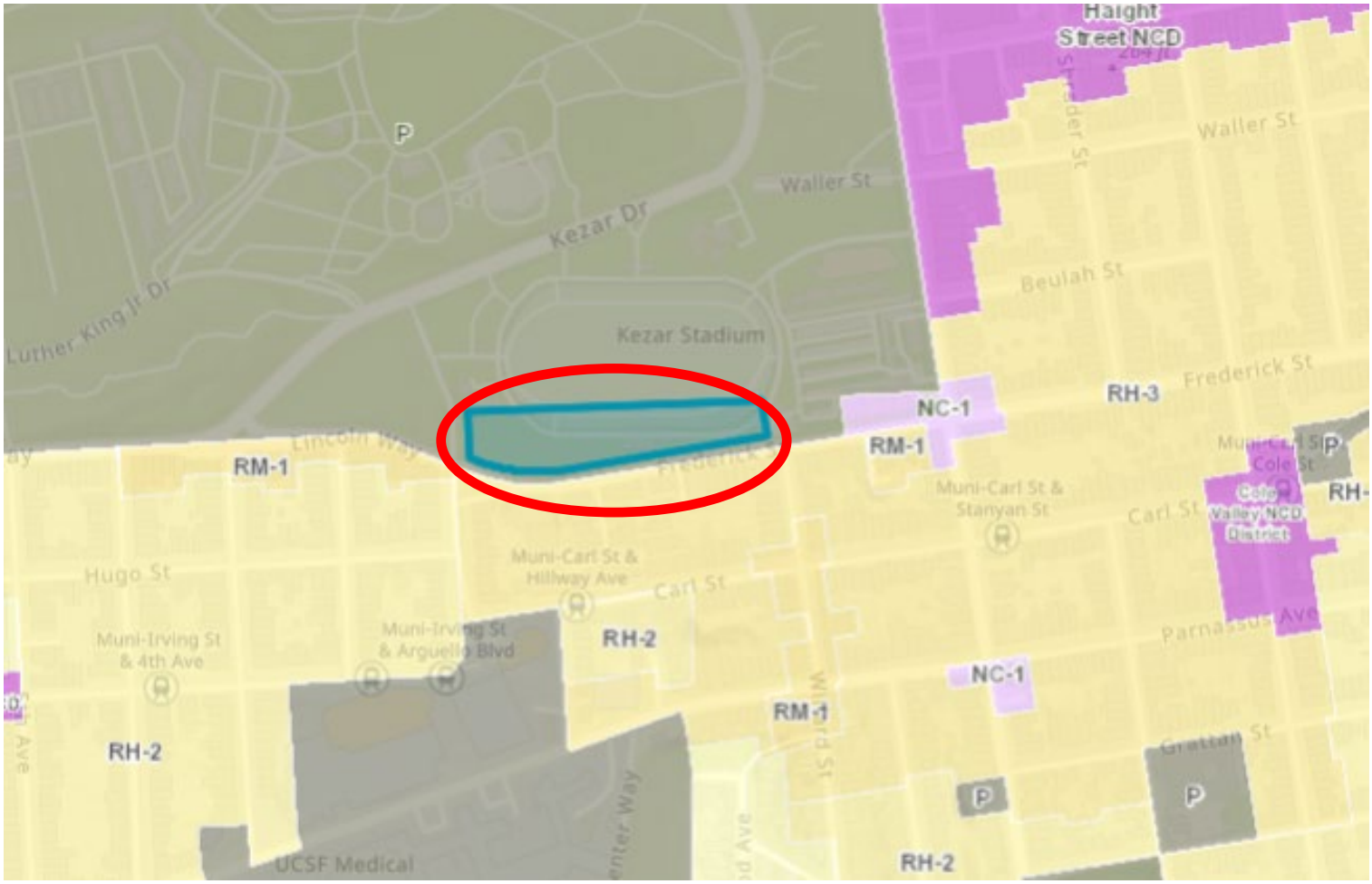
Aerial Photo – View 1

Aerial Photo – View 2

Aerial Photo – View 3

Aerial Photo – View 3

Zoning Map



Conditional Use Authorization
Case Number: 2019-021795CUA
Verizon Wireless Macro WTS Facility
650 Frederick Street (Kezar Stadium)

SAN FRANCISCO
PLANNING DEPARTMENT

Above: Subject pole, as seen from Frederick Street.

Above: Subject pole, as seen from Frederick Street.

Above: South building, as seen from Frederick Street.

Above: South building. as seen from Frederick Street.

verizon

Kezar Stadium **Site # 480067**

670 Kezar Drive
San Francisco, CA

1/31/19

Looking Southeast from Stadium

View #2

Applied Imagination 510 914-0500

verizon

Kezar Stadium **Site # 480067**

670 Kezar Drive
San Francisco, CA

Looking Southeast from Stadium

View #2

4/26/18

Applied Imagination 510 914-0500

Verizon Wireless • Proposed Base Station (Site No. 480067 "Kezar Stadium")
670 Kezar Drive • San Francisco, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. 480067 "Kezar Stadium") proposed to be located at 670 Kezar Drive in San Francisco, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Background

The San Francisco Department of Public Health has adopted an 11-point checklist for determining compliance of proposed WTS facilities or proposed modifications to such facilities with prevailing safety standards. The acceptable limits set by the FCC for exposures of unlimited duration are:

Wireless Service Band	Transmit Frequency	"Uncontrolled" Public Limit	Occupational Limit (5 times Public)
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm^2	5.0 mW/cm^2
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
BRS (Broadband Radio)	2,490 MHz	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
[most restrictive frequency range]	30–300	0.20	1.0

Checklist

Reference has been made to information provided by Verizon, including zoning drawings by Streamline Engineering and Design, Inc., dated January 17, 2019. It should be noted that the calculation results in this Statement include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operations.

1. *The location, identity, and total number of all operational radiating antennas installed at this site.*

There are reported no wireless base stations installed at the site in Kezar Stadium.

2. *List all radiating antennas located within 100 feet of the site that could contribute to the cumulative radio frequency energy at this location.*

There are reported no other WTS facilities within 100 feet of this site.

3. *Provide a narrative description of the proposed work for this project.*

Verizon proposes to install fifteen antennas. This is consistent with the scope of work described in the drawings for transmitting elements.

4. *Provide an inventory of the make and model of antennas or transmitting equipment being installed or removed.*

Verizon proposes to install fifteen directional panel antennas – three Kathrein Model 800-10991 at about 65 feet above ground, three Ericsson Model 2205 and six Ericsson Model 2208 at about 50 feet above ground, and three Ericsson Model StreetMacro6701 at about 46 feet above ground – on the easternmost of two tall light poles sited behind the bleachers on the south side of the playing field at Kezar Stadium. The fifteen antennas would employ up to 8° downtilt and would be oriented in stacked groups of five toward 0°T, 120°T, and 240°T, to provide service in all directions.

AT&T has reportedly proposed to install similar antennas on the two tall light poles sited on either side of the northern scoreboard building at the Stadium, about 450 feet away. For the limited purpose of this study, it is assumed that AT&T will install twelve CommScope Model SBNHH-1D65A directional panel antennas, employing up to 18° downtilt, mounted at effective heights of about 74 and 80 feet above ground, and oriented in stacked groups of four toward 0°T, 110°T, and 240°T, to provide service in all directions.

5. *Describe the existing radio frequency energy environment at the nearest walking/working surface to the antennas and at ground level. This description may be based on field measurements or calculations.*

Because there are no antennas at the site presently, existing RF levels for a person at ground near the site are presumed to be well below the applicable public exposure limit.

6. *Provide the maximum effective radiated power per sector for the proposed installation. The power should be reported in watts and reported both as a total and broken down by frequency band.*

The maximum effective radiated power proposed by Verizon in any direction is 30,660* watts, representing simultaneous operation at 9,120 watts for AWS, 8,510 watts for PCS, 6,460 watts for cellular, 6,030 watts for 700 MHz, 193 watts for 28 GHz, 344 watts for 3 GHz, and 2.4 watts for Part 15 service at 5 GHz.

The maximum effective radiated power proposed by AT&T in any direction is assumed to be 15,130 watts, representing simultaneous operation at 2,730 watts for WCS, 4,100 watts for AWS, 4,020 watts for PCS, 1,610 watts for cellular, and 2,670 watts for 700 MHz service.

* Rounded to four significant figures.

7. *Describe the maximum cumulative predicted radio frequency energy level for any nearby publicly accessible building or area.*

The maximum calculated cumulative level at any nearby building is 42% of the public limit; this occurs at the AcroSports building to the south across Frederick Street, about 100 feet away.

8. *Report the estimated cumulative radio frequency fields for the proposed site at ground level.*

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation by itself is calculated to be 0.048 mW/cm^2, which is 7.2% of the applicable public exposure limit. The maximum calculated cumulative level at ground, for the simultaneous operation of both carriers, is 13% of the public exposure limit.

9. *Provide the maximum distance (in feet) the three dimensional perimeter of the radio frequency energy level equal to the public and occupational exposure limit is calculated to extend from the face of the antennas.*

The three-dimensional perimeters of RF levels equal to the public and occupational exposure limits are calculated to extend up to 122 and 47 feet, respectively, out from the Verizon antenna faces and to much lesser distances above, below, and to the sides; these do not reach any publicly accessible areas.

10. *Provide a description of whether or not the public has access to the antennas. Describe any existing or proposed warning signs, barricades, barriers, rooftop striping or other safety precautions for people nearing the equipment as may be required by any applicable FCC-adopted standards.*

Due to their mounting location and heights, the Verizon antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use and lockout/tagout procedures, be provided to all authorized personnel who have access to the pole, including employees and contractors of Verizon and of the property owner. No access within 47 feet directly in front of the Verizon antennas themselves, such as might occur during certain maintenance activities, should be allowed while the base station is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. It is recommended that explanatory signs† be posted at the antennas and/or on the pole below the antennas, readily visible from any angle of approach to persons who might need to work within that distance.

† 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; the San Francisco Department of Public Health recommends that all signs be written in English, Spanish, and Chinese.

11. Statement of authorship and qualification.

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

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by Verizon Wireless at 670 Kezar Drive in San Francisco, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

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

April 18, 2019

San Francisco City and County
Department of Public Health

Environmental Health Branch

London Breed, *Mayor*
Grant Colfax, MD, *Director of Health*

Stephanie K.J. Cushing, MSPH, CHMM, REHS
Director of Environmental Health

Review of Cellular Antenna Site Proposals

Project Sponsor : *Verizon* **Planner:** *Ashley Lindsay*

RF Engineer Consultant: *Hammett & Edison* **Phone Number:** *(707) 996-5200*

Project Address/Location: *670 Kezar Drive*

Site ID: *3386* **SiteNo.:** *480067 Kezar Stadi* **Report Dated:** *4/18/2019*

The following information is required to be provided before approval of this project can be made. These information requirements are established in the San Francisco Planning Department Wireless Telecommunications Services Facility Sitting Guidelines dated August 1996.

In order to facilitate quicker approval of this project, it is recommended that the project sponsor review this document before submitting the proposal to ensure that all requirements are included.

X 1. The location, identity and total number of all operational radiating antennas installed at this site was provided. (WTS-FSG, Section 10.4.1, Section 11, 2b)

Number of Existing Antennas: **0**

X 2. A list of all radiating antennas located within 100 feet of the site which could contribute to the cumulative radio frequency energy at this location was provided. (WTS-FSG, Section 10.5.2)

◉ **Yes** ○ **No**

X 3. A narrative description of the proposed work for this project was provided. The description should be consistent with scope of work for the final installation drawings. (WTS-FSG, Section 10)

◉ **Yes** ○ **No**

X 4. An inventory of the make and model of antennas or transmitting equipment being installed or removed was provided. The antenna inventory included the proposed installation height above the nearest walking/working surface, the height above ground level and the orientations of the antennas. (WTS-FSG, Section 10.5.2)

◉ **Yes** ○ **No**

X 5. A description of the existing radio frequency energy environment at the nearest walking/working surface to the antennas and at ground level was provided. A description of any assumptions made when doing the calculations was also provided. (WTS-FSG, Section 10.4.1a, Section 10.4.1c, Section 10.5)

◉ **Yes** ○ **No**

X 6. The maximum effective radiated power per sector for the proposed installation was provided along with the frequency bands used by the antennas. (WTS-FSG, Section 10.1.2, Section 10.5.1)

Maximum Effective Radiated Power: **30660** Watts

X 7. Based on the antenna orientation, the maximum cumulative predicted radio frequency energy level for any nearby publicly accessible building or area was provided. (WTS-FSG, Section 10.4, Section 10.5.1)

Maximum percent of applicable FCC public standard at the nearest building or structure: **42** %

Distance to this nearby building or structure: **100** feet

X 8. The estimated maximum cumulative radio frequency fields for the proposed site at ground level. (WTS-FSG, Section 10.5)

Maximum RF Exposure: **0.048** mW/cm^2 Maximum RF Exposure Percent: **7.2** %

X 9. The maximum distance (in feet) the three dimensional perimeter of the radio frequency energy level equal to the public and occupational exposure limit is calculated to extend from the face of the antennas was provided. Any potential walking/working surfaces exceeding regulatory standards were identified. (WTS-FSG, Section 10.9.2)

☑ Public Exclusion Area — Public Exclusion In Feet: **122**

☑ Occupational Exclusion Area — Occupational Exclusion In Feet: **47**

X 10. A description of whether or not the public has access to the antennas was provided. A description was also provided of any existing or proposed warning signs, barricades, barriers, rooftop stripping or other safety precautions for people nearing the equipment as may be required by any applicable FCC-adopted standards. All signs will be provided in English, Spanish and Chinese. (WTS-FSG, Section 9.5, Section 10.9.2)

◉ **Yes** ○ **No**

X 11. Statement regarding the engineer who produced the report and their qualifications was provided. The engineer is licensed in the State of California. (WTS-FSG, Section 11,8)

◉ **Yes** ○ **No**

X **Approved**. Based on the information provided the following staff believes that the project proposal will comply with the current Federal Communication Commission safety standards for radiofrequency radiation exposure. FCC standard CFR47 1.3101 **Approval of the subsequent Project Implementation Report is based on project sponsor completing recommendations by project consultant and DPH.**

Comments:

There are no antennas existing operated by Verizon installed on the light poles of the Kezar Stadium at 670 Kezar Drive. Existing RF levels at ground level were around 1% of the FCC public exposure limit. No other antennas were observed within 100 feet of this site. Verizon proposes to install 15 new antennas. The antennas are mounted at a height of 46-65 feet above the ground. The estimated ambient RF field from the proposed Verizon transmitters at ground level is calculated to be 0.048 mW/sq cm., which is 7.2 % of the FCC public exposure limit. The three dimensional perimeter of RF levels equal to the public exposure limit extends 122 feet and does not reach any publicly accessible areas. Warning signs must be posted at the antennas and roof access points in English, Spanish and Chinese. Workers should not have access to within 47 feet of the front of the antennas while they are in operation.

___ **Not Approved**, additional information required.

___ **Not Approved**, does not comply with Federal Communication Commission safety standards for radiofrequency radiation exposure. FCC Standard

1 Hours spent reviewing

Charges to Project Sponsor (in addition to previous charges, to be received at time of receipt by Sponsor)

Dated: 8/7/2019

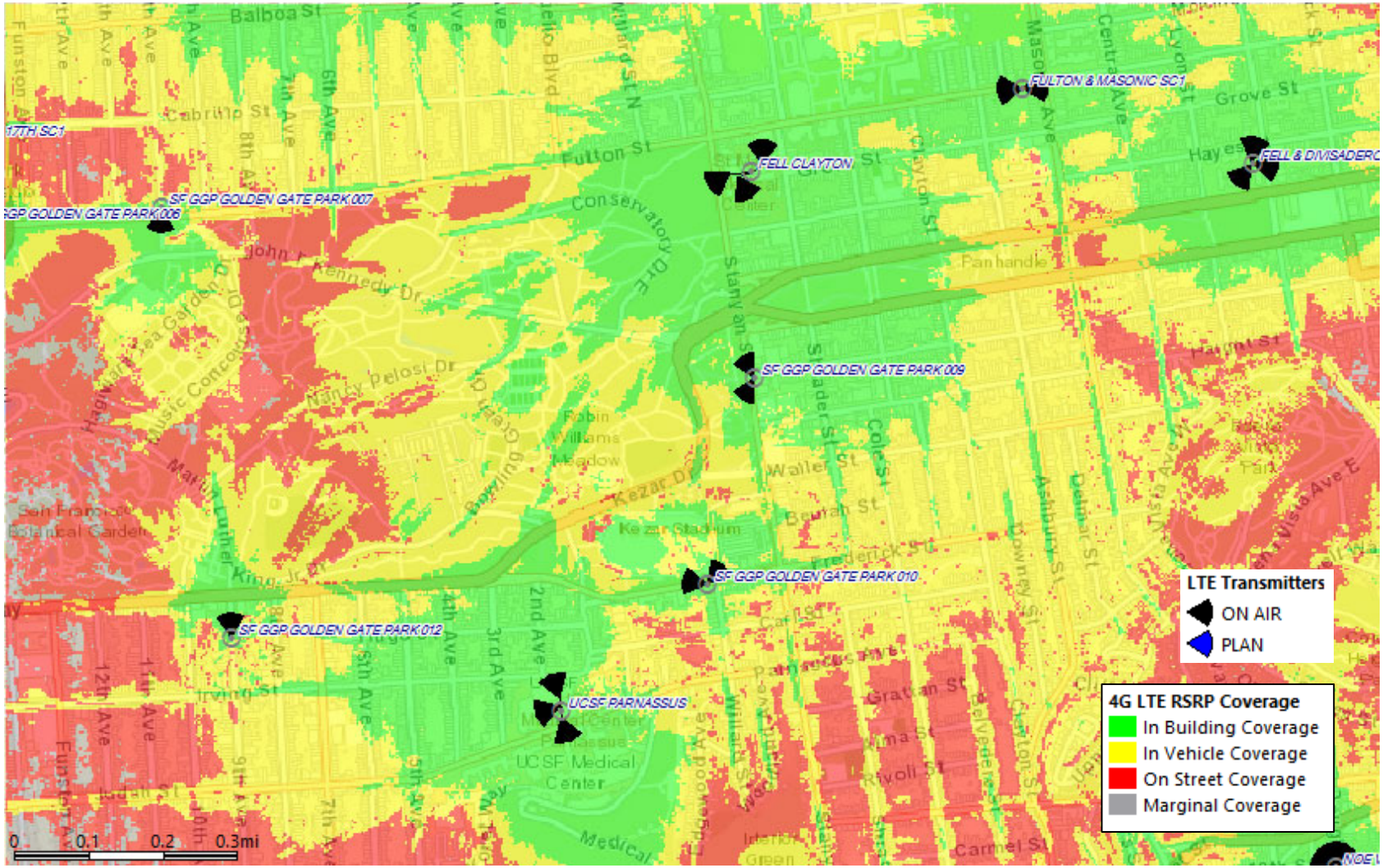
Signed: 

Arthur Duque
Environmental Health Management Section
San Francisco Dept. of Public Health
1390 Market St., Suite 210,
San Francisco, CA. 94102
(415) 252-3966

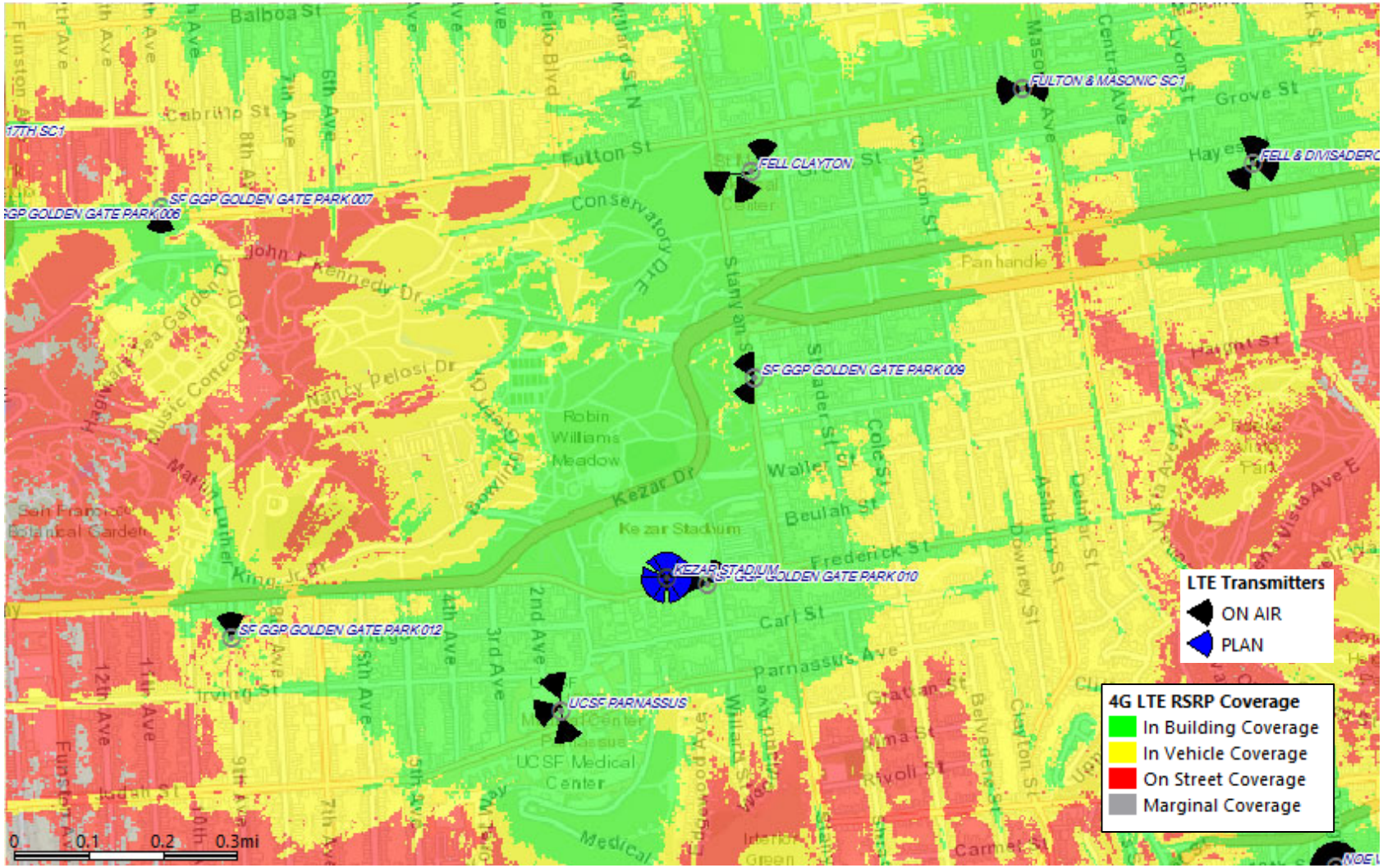
Kezar Stadium

Nov 13th 2019

Existing LTE Coverage



Proposed LTE Coverage



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BY E-MAIL CHAD.CHRISTIE@RIDGECOMMUNICATE.COM

March 17, 2020

Mr. Chad Christie
Ridge Communications
949 Antiquity Drive
Fairfield, California 94534

Dear Chad:

As you requested, we have conducted a review of the coverage maps that Verizon Wireless will submit as part of its application package for its base station proposed to be located at 670 Kezar Drive in San Francisco (Site No. 480067 "Kezar Stadium").

Executive Summary

We concur with the maps provided by Verizon. The maps provided to show the before and after conditions accurately represent the carrier's present and post-installation coverage.

Based upon information provided by Verizon, including zoning drawings by Streamline Engineering and Design, Inc., dated January 17, 2019, it is proposed to install fifteen directional panel antennas – three Kathrein Model 800-10991 at about 65 feet above ground, three Ericsson Model 2205 and six Ericsson Model 2208 at about 50 feet above ground, and three Ericsson Model StreetMacro6701 at about 46 feet above ground – on the easternmost of two tall light poles sited behind the bleachers on the south side of the playing field at Kezar Stadium. The fifteen antennas would employ up to 8° downtilt and would be oriented in groups of five toward 0°T, 120°T, and 240°T, to provide service in all directions. The maximum effective radiated power proposed by Verizon in any direction is 30,660* watts, representing simultaneous operation at 9,120 watts for AWS, 8,510 watts for PCS, 6,460 watts for cellular, 6,030 watts for 700 MHz, 193 watts for 28 GHz, 344 watts for 3 GHz, and 2.4 watts for Part 15 service at 5 GHz.

Verizon provided for review two coverage maps, attached for reference. The maps show Verizon's 4G LTE coverage in the area before and after the site is operational. Both maps show five signal levels of coverage, which Verizon colors and defines as follows:

Green	better than -75 dBm
Yellow	-75 dBm to -85 dBm
Red	-85 dBm to -95 dBm
Grey	-95 dBm to -105 dBm
Black	worse than -105 dBm

* Rounded to four significant figures.

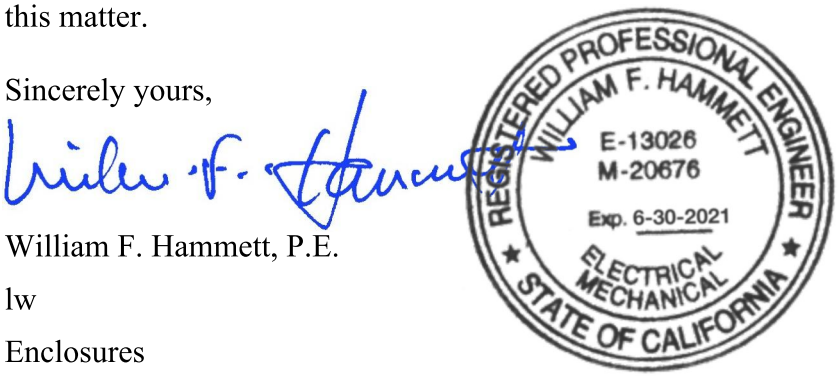
These service thresholds used by Verizon are in line with industry standards, similar to the thresholds used by other wireless service providers.

We conducted our own drive test, using an Ascom TEMS Pocket network diagnostic tool with built-in GPS, to measure the actual Verizon 4G LTE signal strength in the vicinity of the proposed site. Our fieldwork was conducted on February 27, 2020, between 10:15 AM and 1:30 PM, along a measurement route selected to cover all the streets within the map area that Verizon had indicated would receive improved service.

Based on the measurement data, we conclude that the Verizon 4G LTE coverage map showing the service area without the proposed installation includes areas of relatively weak signal levels in the carrier's present coverage. The map submitted to show the after coverage with the proposed base station in operation was reportedly prepared on the same basis as the map of the existing conditions and so is expected to accurately illustrate the improvements in coverage.

We appreciate the opportunity to be of service. Please let us know if any questions arise on this matter.

Sincerely yours,



William F. Hammett, P.E.

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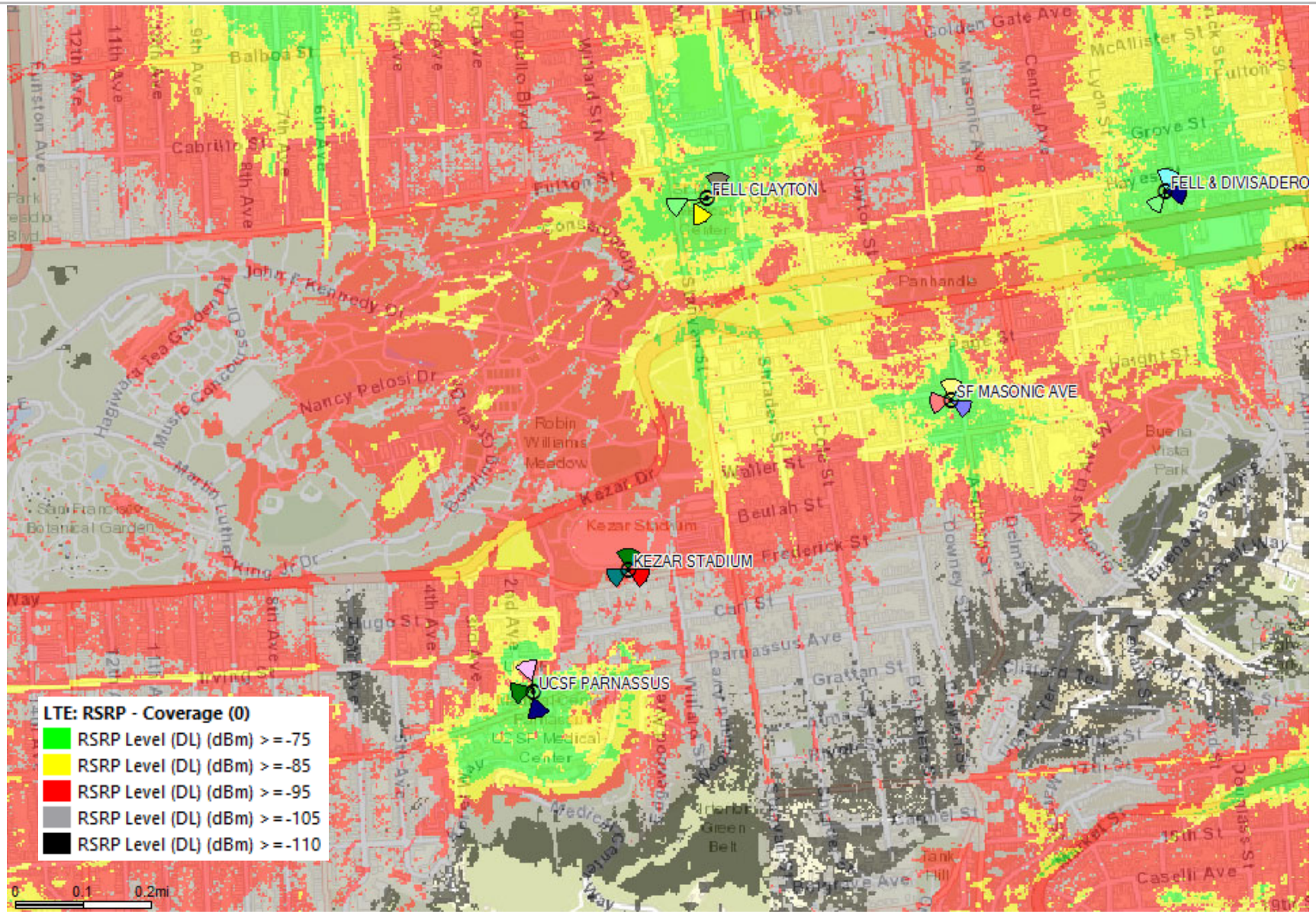
Enclosures

EXISTING MACRO COVERAGE



EXISTING + PROPOSED MACRO COVERAGE