



# SAN FRANCISCO PLANNING DEPARTMENT

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## Executive Summary Conditional Use Authorization

HEARING DATE: MAY 19, 2016

*Date:* May 09, 2016  
*Case No.:* **2015-011424CUA**  
*Project Address:* **601 Van Ness Avenue**  
*Current Zoning:* RC-4 (Residential Commercial, High-Density)  
Van Ness Special Use District  
Van Ness Automotive Special Use District  
130-V Height and Bulk District  
*Block/Lot:* 0762/026-479  
*Project Sponsor:* T-Mobile, represented by  
Kevin Bowyer, Modus, Inc.  
240 Stockton Street, 3<sup>rd</sup> Floor  
San Francisco, CA 94108  
*Staff Contact:* Seema Adina – (415) 575-8722  
[Seema.Adina@sfgov.org](mailto:Seema.Adina@sfgov.org)  
*Recommendation:* Approval with Conditions

1650 Mission St.  
Suite 400  
San Francisco,  
CA 94103-2479

Reception:  
**415.558.6378**

Fax:  
**415.558.6409**

Planning  
Information:  
**415.558.6377**

### PROJECT DESCRIPTION

The proposal is to allow the development of a T-Mobile macro Wireless Telecommunications Services ("WTS") facility. The macro WTS facility would feature nine (9) panel antennas and microwave dish screening wrapped around an existing rooftop-mounted mechanical penthouse and a GPS antenna on the southernmost building fronting Golden Gate Avenue located in the middle of the rooftop.

The screen walls would be composed of fibre-reinforced plastic ("FRP") which allows radio signals to pass through, but can be textured and painted to mimic the elements of the existing mechanical penthouse. The screen walls would be flush against the height of the penthouse and thus not add additional height on the existing penthouse. The penthouse walls, near the Golden Gate Avenue façade, would be setback approximately 45 feet from the edge of the roof.

Based on the zoning and land use, the existing WTS facility is at a Location Preference 2 Site (Co-Location Site) according to the WTS Facilities Siting Guidelines, due to an existing Verizon Wireless installation at the Site. The Project Sponsor has indicated the proposed WTS Facility is intended to provide service coverage to a portion of the City that is mostly residential.

### SITE DESCRIPTION AND PRESENT USE

The Project Site is located on Assessor's Block 0762, Lots 026-479. The lots encompass the entire block and fronts along Golden Gate Avenue, Van Ness Avenue, Turk Street, and Franklin Street. The Project Site is located on the section of the building fronting Golden Gate Avenue.

The Project Site features a 448 unit mixed-use residential and commercial building developed in 1982.

## **SURROUNDING PROPERTIES AND NEIGHBORHOOD**

The Project Site is situated within the Downtown/Civic Center neighborhood, near the eastern edge of the Western Addition. The Project Site is across Golden Gate Avenue from the California Public Utilities Building, and adjacent to various mixed-use developments in surrounding buildings.

## **ENVIRONMENTAL REVIEW**

The Project is exempt from the California Environmental Quality Act ("CEQA") as a Class 3 categorical exemption (Construction of New Communications Facilities). The categorical exemption and all pertinent documents may be found in the files of the Planning Department, as the custodian of records, at 1650 Mission Street, San Francisco.

## **HEARING NOTIFICATION**

TYPE	REQUIRED PERIOD	REQUIRED NOTICE DATE	ACTUAL NOTICE DATE	ACTUAL PERIOD
Classified News Ad	20 days	April 28, 2016	April 27, 2016	21 days
Posted Notice	20 days	April 28, 2016	April 28, 2016	20 days
Mailed Notice	10 days	May 9, 2016	May 9, 2016	10 days

## **PUBLIC COMMENT/COMMUNITY OUTREACH**

The Project Sponsor held a community meeting at 425 2<sup>nd</sup> Street, to discuss the Project at 5:00 p.m. on November 4th, 2015. Three (3) community members attended the meeting and asked questions about the proposed Project.

As of May 09, 2016, the Department has not received calls and testimony raising concerns.

Given the directional nature of the panel antennas, their specific orientation, and their placement on the roof, the RF emissions created by the proposed panel antennas would not result in exposure levels (for dwelling units or the roof decks on the northern half of the roof) that approach or exceed the public exposure limits set by the Federal Communications Commission (FCC). As noted on Radio-Frequency (RF) emissions report, the maximum RF exposure would be below 2.8% of the public exposure limit set by the FCC at ground level. The maximum calculated cumulative level at top floor elevation of any nearby building would be 19% of the public limit. The antennas are not accessible to any unauthorized persons due to their height and location on the roof.

## **ISSUES AND OTHER CONSIDERATIONS**

The proposed macro WTS facility would not significantly impair commercial and residential activities within the Project Site.

Health and safety aspects (e.g. engineering review for structural loads, and backup battery storage) of all wireless Projects are reviewed by the Department of Public Health, San Francisco

Fire Department, and the Department of Building Inspection. The RF emissions associated with this Project have been determined to comply with limits established by the FCC.

An updated Five Year Plan with approximate longitudinal and latitudinal coordinates of proposed locations, including the Project Site, is on file with the Planning Department.

All required public notifications were conducted in compliance with the Planning Code and adopted WTS policies.

## **REQUIRED COMMISSION ACTION**

Pursuant to Sections 303 and 712.83 of the Planning Code, a Conditional Use Authorization is required for a macro WTS facility (Public Use).

## **BASIS FOR RECOMMENDATION**

This Project is necessary and/or desirable under Section 303 of the Planning Code for the following reasons:

- The proposed facility would be screened from view by virtue of equipment placement (sufficiently setback from roof edges) and the use of the rooftop-mounted mechanical penthouse structure. The faux penthouse structure is already visible from surrounding public rights-of-way (e.g. sidewalks along surrounding streets); the size, height, and the additional screening does not significantly add to its size. The proposal would not significantly detract from views of the Subject building or from the view of other surrounding buildings, nor would it detract from adjacent streetscapes and vistas within the Downtown/Civic Center or Western Addition neighborhoods.
- The Project complies with the applicable requirements of the Planning Code.
- The Project is consistent with the Objectives and Policies of the General Plan.
- The Project is consistent with the 1996 WTS Facilities Siting Guidelines, Planning Commission Resolution No. 14182, 16539, and 18523 supplementing the 1996 WTS Guidelines.
- Health and safety aspects of all wireless projects are reviewed under the Department of Public Health and the Department of Building Inspections.
- The expected RF emissions fall well within the limits established by the Federal Communications Commission (FCC).
- According to the Wireless Telecommunications Services (WTS) Facilities Siting Guidelines, the Project Site is Location Preference 2 (Co-Location) site.
- Based on propagation maps provided by T-Mobile, the Project would provide enhanced 700 – 2,100 Megahertz 4G/LTE (4<sup>th</sup> Generation, Long-Term-Evolution, voice and data) coverage in an area that currently experiences gaps in coverage and capacity.
- Based on the analysis provided by T-Mobile, the Project will provide additional capacity in an area that currently experiences insufficient service during periods of high data usage.
- Based on independent third-party evaluation, the maps, data, and conclusions about service coverage and capacity provided by T-Mobile are accurate.

<b>RECOMMENDATION:</b> <b>Approval with Conditions</b>
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**Attachments:**

Draft Conditional Use Authorization Motion  
Block Book Map  
Sanborn Map  
Zoning Map  
Aerial Map  
Context Photos  
Photosimulations  
Radio Frequency Report  
Department of Public Health Approval  
Community Outreach Report  
Independent Evaluation  
Reduced Plans



Attachment Checklist

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Draft Motion              | <input checked="" type="checkbox"/> Project sponsor submittal |
| <input checked="" type="checkbox"/> Zoning District Map       | Drawings: <u>Proposed Project</u>                             |
| <input type="checkbox"/> Height & Bulk Map                    | <input checked="" type="checkbox"/> Check for legibility      |
| <input checked="" type="checkbox"/> Block Book Map            | <input checked="" type="checkbox"/> Photo Simulations         |
| <input checked="" type="checkbox"/> Sanborn Map               | <input checked="" type="checkbox"/> Coverage Maps             |
| <input checked="" type="checkbox"/> Aerial Map                | <input checked="" type="checkbox"/> RF Report                 |
| <input checked="" type="checkbox"/> Context Photos            | <input checked="" type="checkbox"/> DPH Approval              |
| <input checked="" type="checkbox"/> Community Outreach Report | <input checked="" type="checkbox"/> Independent Evaluation    |

Exhibits above marked with an "X" are included in this packet      SA Planner's Initials

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# SAN FRANCISCO PLANNING DEPARTMENT

*Subject to: (Select only if applicable)*

- |  |  |
|--|--|
| <input type="checkbox"/> Affordable Housing (Sec. 415)           | <input type="checkbox"/> First Source Hiring (Admin. Code) |
| <input type="checkbox"/> Jobs Housing Linkage Program (Sec. 413) | <input type="checkbox"/> Child Care Requirement (Sec. 414) |
| <input type="checkbox"/> Downtown Park Fee (Sec. 412)            | <input type="checkbox"/> Other                             |

1650 Mission St.  
Suite 400  
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CA 94103-2479

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**415.558.6378**

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## Planning Commission Draft Motion

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240 Stockton Street, 3<sup>rd</sup> Floor  
San Francisco, CA 94108  
*Staff Contact:* Seema Adina – (415) 575-8722  
Seema.Adina@sfgov.org

**ADOPTING FINDINGS RELATING TO THE APPROVAL OF A CONDITIONAL USE AUTHORIZATION UNDER PLANNING CODE SECTIONS 303(c) AND 712.83 TO DEVELOP A T-MOBILE MACRO WIRELESS TELECOMMUNICATIONS SERVICES FACILITY CONSISTING OF UP TO NINE (9) SCREENED ROOFTOP MOUNTED PANEL ANTENNAS, ONE (1) SCREENED MICROWAVE DISH, AND ONE (1) GPS ANTENNA, AND AN ASSOCIATED ROOFTOP EQUIPMENT AREA AS PART THE T-MOBILE TELECOMMUNICATIONS NETWORK WITHIN THE RC-4 ZONING DISTRICT, THE VAN NESS SPECIAL USE DISTRICT, THE VAN NESS AUTOMOTIVE SPECIAL USE DISTRICT, AND A 130-V HEIGHT AND BULK DISTRICT.**

### PREAMBLE

On September 3, 2015, T-Mobile (hereinafter "Project Sponsor"), submitted an application (hereinafter "Application"), for a Conditional Use Authorization on the property at 601 Van Ness Avenue, Block 0762, Lots 026-479, (hereinafter "Project Site") to develop a T-Mobile macro Wireless Telecommunications Services facility (hereinafter "WTS") consisting of up to nine (9) screened rooftop-mounted panel antennas, one screened microwave dish, and one GPS antenna, and a rooftop equipment area as part of the T-Mobile telecommunications network, within a Residential Commercial, High Density (RC-4) Zoning District, the Van Ness Special Use District, the Van Ness Automotive Special Use District, and a 130-V Height and Bulk District.

The Project is exempt from the California Environmental Quality Act ("CEQA") as a Class 3 Categorical Exemption (Section 15303 of the California Environmental Quality Act). The Planning Commission has reviewed and concurs with said determination. The categorical exemption and all pertinent documents may be found in the files of the Planning Department (hereinafter "Department"), as the custodian of records, at 1650 Mission Street, Suite 400, San Francisco.

On May 19, 2016 the San Francisco Planning Commission (hereinafter "Commission") conducted a duly noticed public hearing at a regularly scheduled meeting on the Application for a Conditional Use Authorization.

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 in Application No. 2015-011424CUA, 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. **Site Description and Present Use.** The Project Site is located on Assessor's Block 0762, Lots 026-479. The subject lot fronts along Golden Gate Avenue, Van Ness Avenue, Turk Street and Franklin Street.

The Project Site features a 448 unit mixed-use residential and commercial building developed in 1982.

3. **Surrounding Properties and Neighborhood.** The Project Site is situated within the Downtown/Civic Center neighborhood, near the eastern edge of the Western Addition. The Project Site is surrounded by the California Public Utilities Building to the south across Golden Gate Avenue, and various mixed-use developments in surrounding buildings.
4. **Project Description.** The proposal is to allow the development of a T-Mobile macro Wireless Telecommunications Services ("WTS") facility. The macro WTS facility would feature nine (9) panel antennas within screening wrapped around an existing rooftop-mounted mechanical penthouse on the southernmost portion of the building fronting Golden Gate Avenue located in the middle of the rooftop. The Project also includes one screened microwave dish, and one GPS antenna, and a rooftop equipment area.

The screen walls would be composed of fibre-reinforced plastic ("FRP") which allows radio signals to pass through, but can be textured and painted to mimic the elements of the existing mechanical penthouse. The screen walls would be flush against the height of the penthouse and thus not add additional height on the existing penthouse. The penthouse walls, near the Golden Gate Avenue façade, would be setback approximately 45 feet from the edge of the roof.

5. **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 where 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.

6. **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 existing WTS facility is at a Location Preference 2 Site (Co-Location Site) according to the *WTS Facilities Siting Guidelines*, as Verizon Wireless is already located at the Project Site. The Project Sponsor has indicated the proposed WTS Facility is intended to provide service coverage to a portion of the City that is mostly residential.
7. **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 the 700 – 2,100 Megahertz (MHZ) bands, 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.
8. **Radiofrequency (RF) Emissions:** The Project Sponsor retained Hammett & Edison, 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.
9. **Department of Public Health Review and Approval.** The Project was referred to the Department of Public Health (DPH) for emissions exposure analysis. Existing radio-frequency (RF) levels at ground level were around 2% of the FCC public exposure limit.

There are currently no antennas operated by T-Mobile installed on the roof top of the building at 601 Van Ness Avenue. Existing RF levels at ground level were around 2% of the FCC public exposure limit. Verizon Wireless has nine (9) antennas located on the rooftop mechanical penthouse of the eastern building. T-Mobile proposes to install 9 new antennas, one new microwave dish, and one GPS antenna at this site. The antennas and microwave dish will be mounted on the existing mechanical penthouse and will be fully screened. The GPS antenna will be attached to the exterior of the penthouse; due to its size and location on the penthouse, the GPS antenna will not be visible from the public right-of-way. The estimated ambient RF field from the proposed T-Mobile transmitters at ground level is calculated to be at most 2.8% of the FCC public exposure limit. The three dimensional perimeter of RF levels equal to the public exposure limit extends 59 feet but does not reach the rooftop or any publically accessible areas. Due to their height and location, the antennas are not accessible to any unauthorized persons. Workers should not have access to within 12 feet of the front of the antennas while the antennas are in operation. Worker notification areas should be marked with yellow striping on the

rooftop.

10. **Coverage and Capacity Verification.** The maps, data, and conclusion provided by T-Mobile to demonstrate need for outdoor and indoor coverage and capacity have been determined by Hammett & Edison, and engineering consultant and independent third party to accurately represent the carrier's present and post-installation conclusions.
11. **Maintenance Schedule.** The facility would operate without on-site staff but with a maintenance crew visiting the property to service and monitor the facility.
12. **Community Outreach.** As required under the *Guidelines*, the Project Sponsor held a community meeting at 425 2<sup>nd</sup> Street, to discuss the Project at 5:00 p.m. on November 4<sup>th</sup>, 2015. Three (3) community members attended the meeting and asked questions about the Project.
13. **Five-year plan:** Per the *Guidelines*, the Project Sponsor submitted an updated five-year plan, as required, in April 2016.
14. **Public Comment.** As of May 09, 2016, the Department has not received any calls or testimony raising concerns about the proposed project.

Given the directional nature of the panel antennas, their specific orientation, and their placement on the roof, the RF emissions created by the proposed panel antennas would not result in exposure levels (for dwelling units or the roof decks on the northern half of the roof) that approach or exceed the public exposure limits set by the Federal Communications Commission (FCC). As noted on Radio-Frequency (RF) emissions report, the maximum RF exposure would be below 2.8% of the public exposure limit set by the FCC at ground level. The maximum calculated cumulative level at top floor elevation of any nearby building would be 19% of the public limit. The antennas are not accessible to any unauthorized persons due to their height and location on the roof.

15. **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 712.83, a Conditional Use Authorization is required for a macro WTS facility (Public Use).
16. **Planning Code Section 303** establishes criteria for the Planning Commission to consider when reviewing applications for Conditional Use approval. 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.

- i. *Desirable: San Francisco is a leader of the technological economy; it is important and desirable to the vitality of the City to have and maintain adequate telecommunications coverage and data capacity. This includes the installation and upgrading of systems to keep up with changing technology and increases in usage. It is desirable for the City to allow wireless facilities to be installed.*

*The Project at 601 Van Ness Ave 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 so as to avoid intrusion into public vistas, and to insure harmony with the existing neighborhood character and promote public safety.*

- ii. *Necessary: In the case of wireless installations, there are two criteria that the Commission reviews: coverage and capacity.*

*Coverage: San Francisco does have sufficient overall wireless coverage (note that this is separate from carrier capacity). San Francisco's unique coverage issues are due to topography and building heights. The hills and buildings disrupt lines-of-site between WTS base stations. Thus, telecommunication carriers continue to install additional installations to make sure coverage is sufficient.*

*Capacity: While a carrier may have adequate coverage in a certain area, the capacity may not be sufficient. With the continuous innovations in wireless data technology and demand placed on existing infrastructure, individual telecommunications carriers must upgrade and in some instances expand their facilities network to provide proper data and voice capacity. It is necessary for San Francisco, as a leader in technology, to have adequate capacity.*

*The Project at 601 Van Ness Avenue is necessary in order to achieve sufficient street and in-building mobile phone coverage and data capacity. Recent drive tests in the subject area conducted by the T-Mobile 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:
  - i. Nature of proposed site, including its size and shape, and the proposed size, shape and arrangement of structures;

*The Project must comply with all applicable Federal and State regulations to safeguard the health, safety and to ensure that persons residing or working in the vicinity will not be affected, and prevent harm to other personal property.*

*The Department of Public Health conducted an evaluation of potential health effects from Radio Frequency radiation, and has concluded that the proposed wireless transmission facilities will have no adverse health effects if operated in compliance with the FCC-adopted health and safety standards.*

- ii. 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;

*No increase in traffic volume is anticipated with the facilities operating unmanned, with a maintenance crew visiting the Site once a month or on an as-needed basis.*

- iii. 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.*

- iv. 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 (including existing roof decks), required parking, lighting or signage at the Project Site or surrounding area.*

- 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 Project Site would provide enhanced communications services within the Neighborhood Commercial District.*

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



**HOUSING ELEMENT**  
**Objectives and Policies**

**BALANCE HOUSING CONSTRUCTION AND COMMUNITY INFRASTRUCTURE**

**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 T-Mobile's coverage and capacity within the Downtown/Civic Center and Western Addition 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 would 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 would be an integral part of a new wireless communications network that would 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 would 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 would ensure that residents and visitors have adequate public service in the form of T-Mobile 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 would 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.*

18. **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 does comply 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 would 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 would be displaced or altered in any way by the granting of this Authorization. The Project site features residential units on the upper stories and penthouse.*

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

*The Project would have no adverse effect 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 would not be significantly impeded and neighborhood parking would 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 would 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.

*Compliance with applicable structural safety and seismic safety requirements would be considered during the building permit application review process.*

- G. That landmarks and historic buildings be preserved.

*The facility would be screened from view by virtue of equipment placement on an existing roof-top mounted mechanical penthouse. While the penthouse structure is already visible from surrounding public rights-of-way (e.g. sidewalks along surrounding streets), the size, height, and setback of the screening structures on the penthouse would not significantly detract from views of the Subject building.*

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

*The Project would have no adverse effect on parks or open space, or their access to sunlight or public vistas.*

19. 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.
20. 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 Application No. **2015-011424CUA**, subject to the following conditions attached hereto as "EXHIBIT A" in general conformance with plans on file, dated August 17, 2015, 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 No. XXXXX. 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 foregoing Motion was adopted by the Planning Commission on **May 19, 2016**.

Jonas P. Ionin  
Commission Secretary

AYES:

NAYS:

ABSENT:

ADOPTED: January 7, 2016

## **EXHIBIT A**

### **AUTHORIZATION**

This authorization is for a conditional use to allow a Macro Wireless Telecommunications Facility with up to nine (9) screened panel antennas (operated by T-Mobile) located at 601 Van Ness Avenue, Block 0762, and Lots 026-479 pursuant to Planning Code Sections 303 and 712.83 within the RC-4 Zoning District and a 130-V Height and Bulk District; in general conformance with plans, dated August 17, 2015, and stamped "EXHIBIT B" included in the docket for Record No. 2015-011424CUA and subject to conditions of approval reviewed and approved by the Commission on May 19, 2016 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 **May 19, 2016** under Motion No. XXXXX.

### **PRINTING OF CONDITIONS OF APPROVAL ON PLANS**

The conditions of approval under the 'Exhibit A' of this Planning Commission Motion No. XXXXX 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](http://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](http://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](http://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](http://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](http://www.sf-planning.org)

### DESIGN – COMPLIANCE AT PLAN STAGE

6. **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 415-575-9078, [www.sf-planning.org](http://www.sf-planning.org).*

7. **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:
    - a. Antennas and back up equipment shall be painted, fenced, landscaped or otherwise treated architecturally so as to minimize visual effects;
    - b. Rooftop installations shall be setback such that back up facilities are not viewed from the street;
    - c. 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 415-575-9078, [www.sf-planning.org](http://www.sf-planning.org).*

#### **MONITORING - AFTER ENTITLEMENT**

8. **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](http://www.sf-planning.org)*

9. **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](http://www.sf-planning.org).*

10. **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](http://www.sf-planning.org)*

11. **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](http://www.sf-planning.org)*

12. **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](http://www.sfdph.org).*

13. **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](http://www.sf-planning.org).*

14. **Notification prior to Project Implementation Report - WTS.** The Project Sponsor shall undertake appropriate tests for residents of any dwelling units located within 25 feet of the transmitting antenna.
  - 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](http://www.sf-planning.org)*

- 15. **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](http://www.sf-planning.org)*

- 16. **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](http://www.sfdph.org).*

#### **OPERATION**

- 17. **Community Liaison.** Prior to issuance of a building permit application 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 written notice of the name, business address, and telephone number of the community liaison. Should the contact information change, the Zoning Administrator 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](http://www.sf-planning.org)*

- 18. **Out of Service – WTS.** The Project Sponsor or Property Owner shall remove antennas and equipment that has been out of service or otherwise abandoned for a continuous period of six (6) months.

*For information about compliance, contact Code Enforcement, Planning Department at 415-575-6863, [www.sf-planning.org](http://www.sf-planning.org)*

- 19. **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](http://www.sfdph.org).*

20. **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](http://www.sfdph.org).*

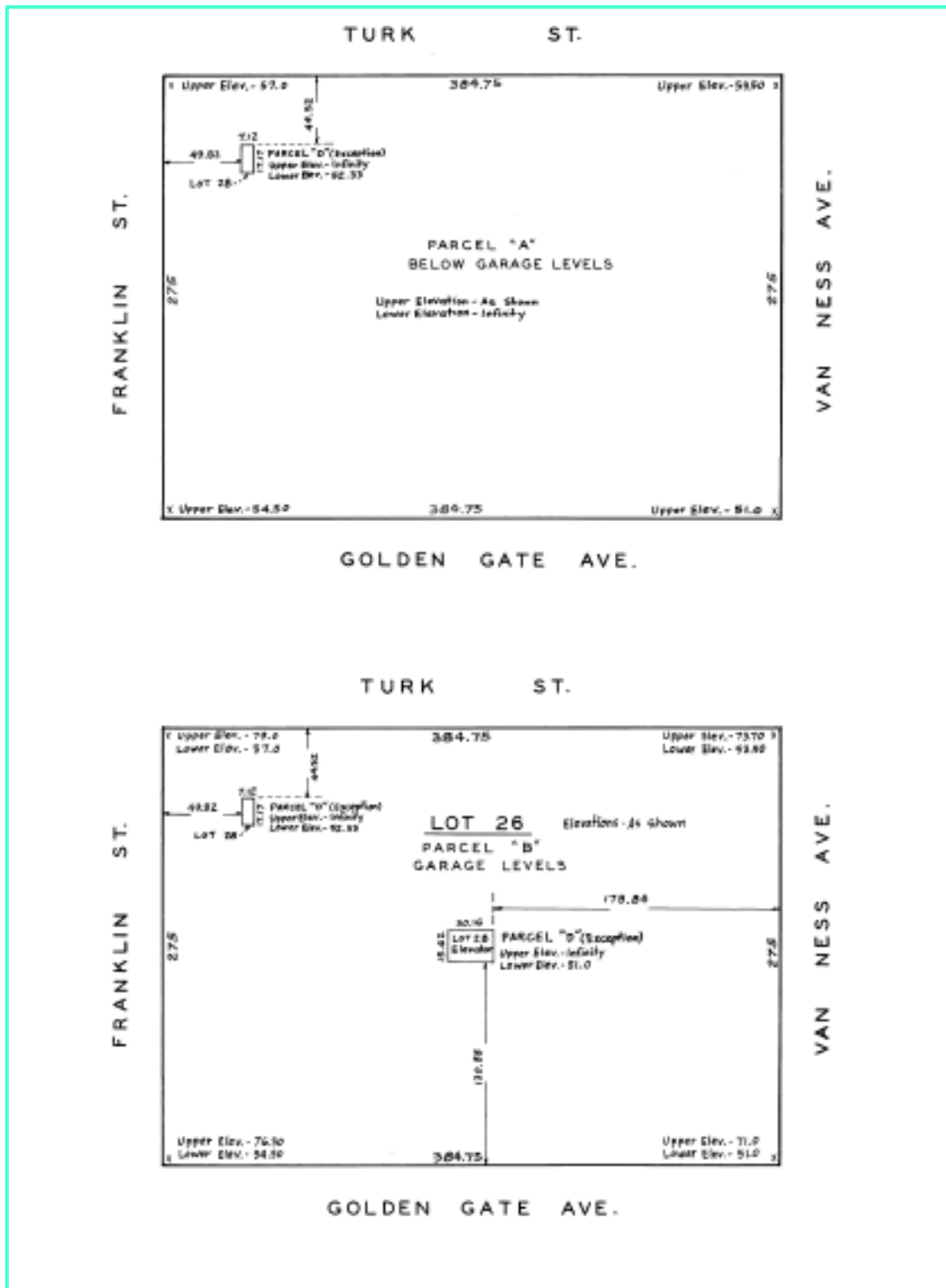
21. **Transfer of Operation – WTS.** Any carrier/provider authorized by the Zoning Administrator or by the Planning Commission to operate a specific WTS installation may assign the operation of the facility to another carrier licensed by the FCC for that radio frequency provided that such transfer is 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](http://www.sf-planning.org)*

22. **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>*

# Block Book Map



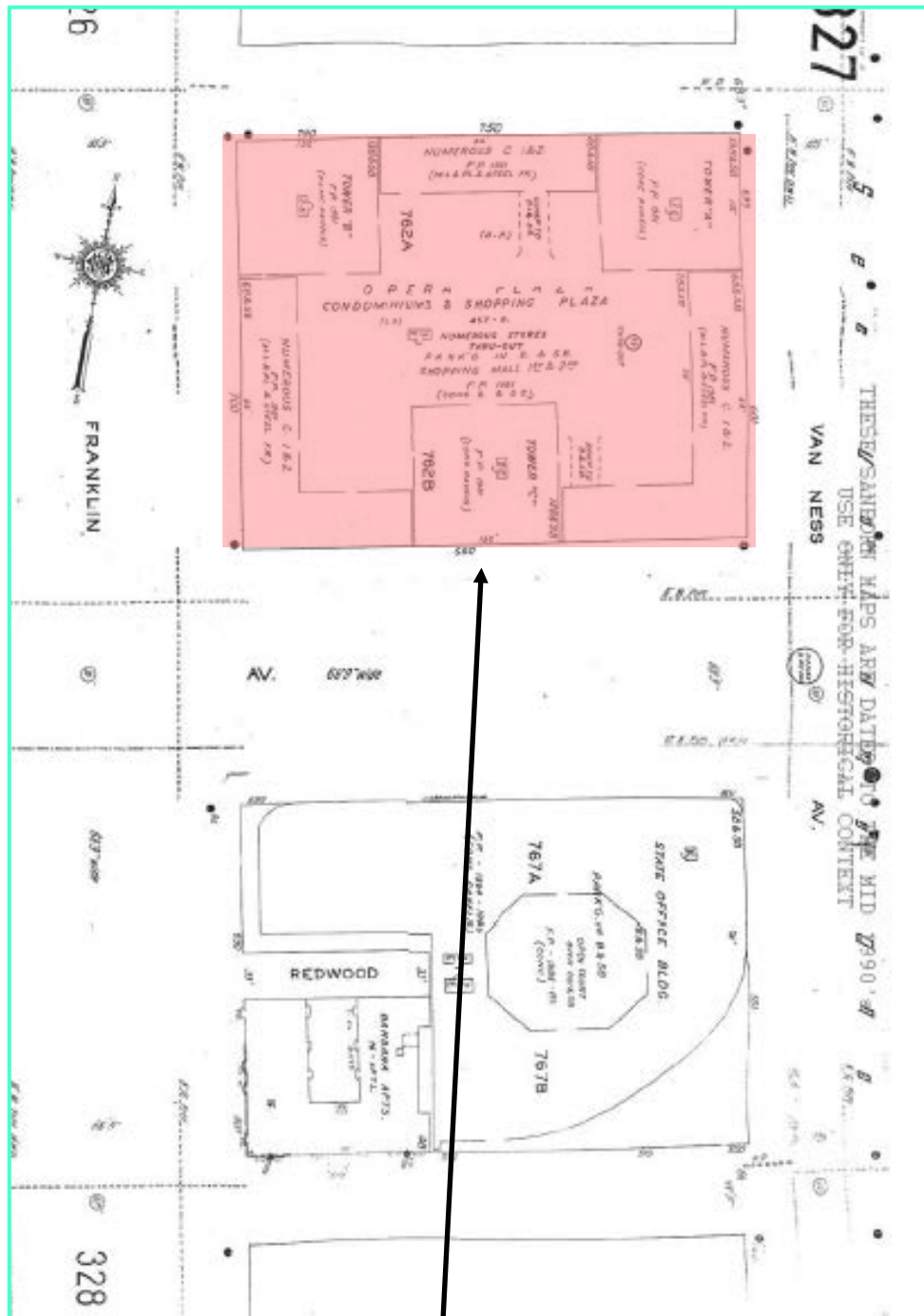
**SUBJECT PROPERTY**



SAN FRANCISCO  
PLANNING DEPARTMENT

Case Number 2015-011424CUA  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue

# Sanborn Map\*



SUBJECT PROPERTY

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

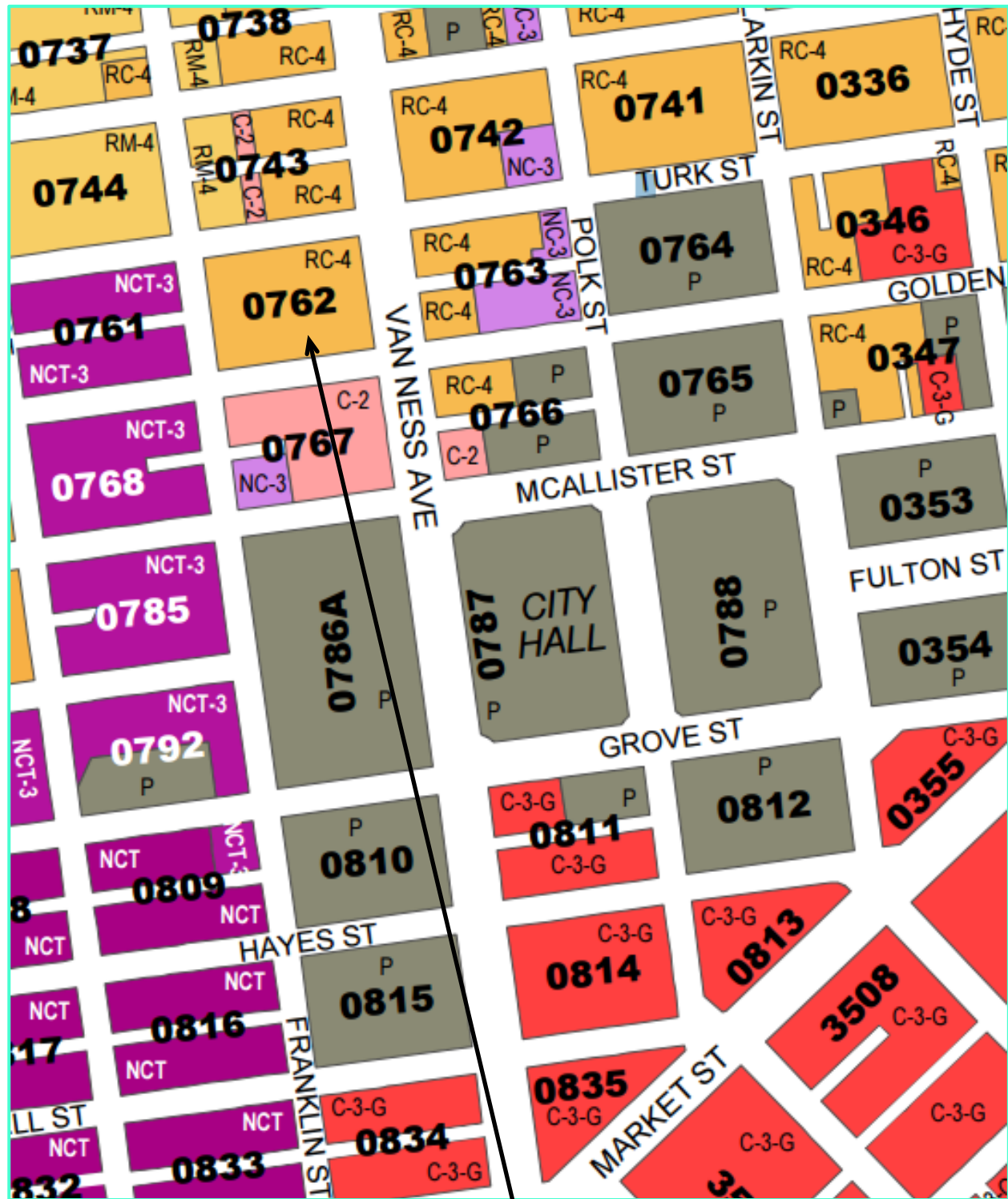


SAN FRANCISCO  
PLANNING DEPARTMENT

Case Number 2015-011424CUA  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue



# Zoning Map



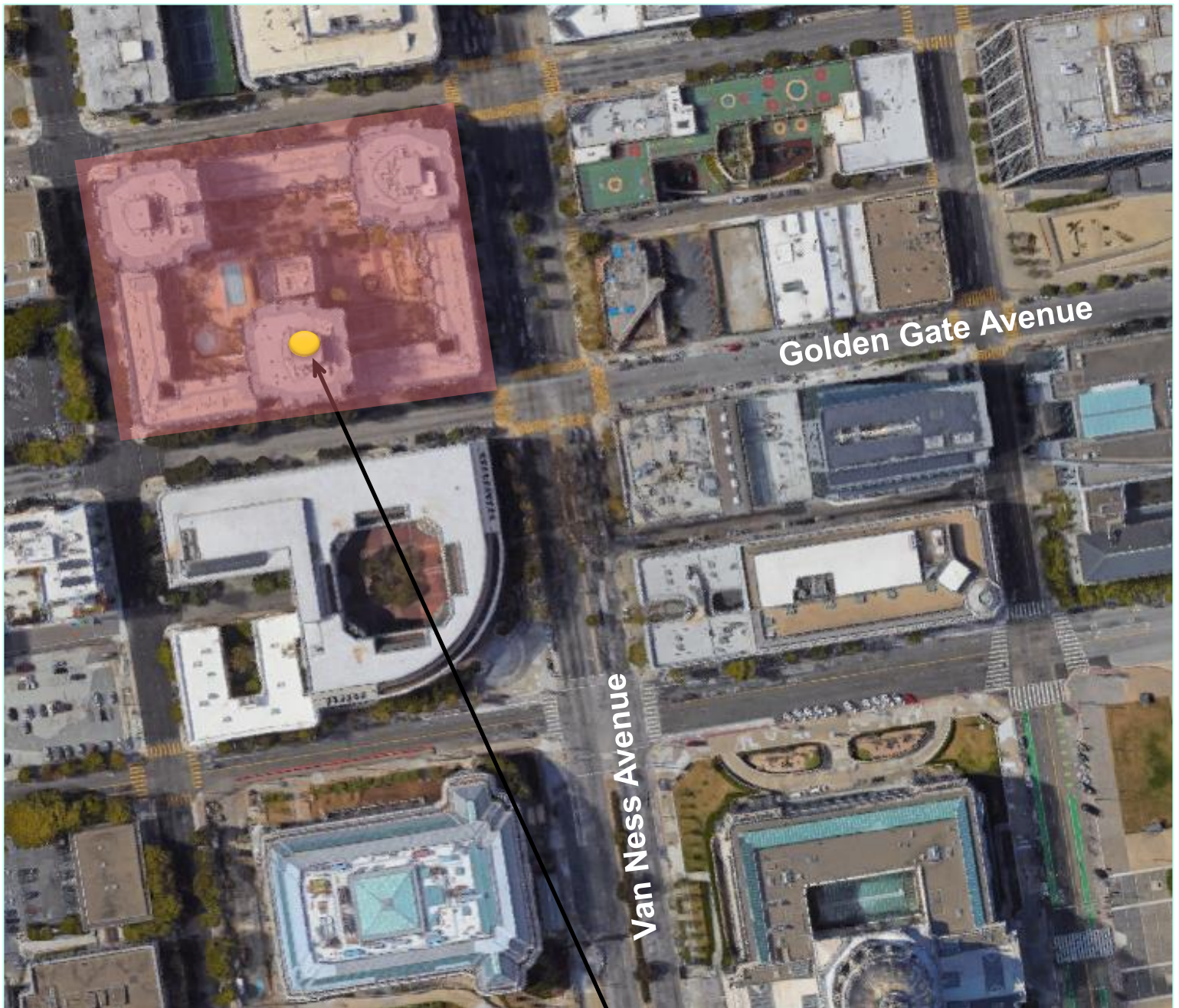
SUBJECT PROPERTY



SAN FRANCISCO  
PLANNING DEPARTMENT

Case Number 2015-011424CUA  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue

# Aerial Photo



**SUBJECT PROPERTY**



**SAN FRANCISCO  
PLANNING DEPARTMENT**

**Case Number 2015-011424CUA**  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue



# Contextual Photographs



*View of site looking East from Golden Gate Ave*



*View of site looking West from Golden Gate Ave*

**Case Number 2015-011424CUA**  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue

# Contextual Photographs



*View of site looking South from Golden Gate Ave*



*View of site looking North from Golden Gate Ave*

**Case Number 2015-011424CUA**  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue



# Photosimulations

*Existing*



*Proposed*



*view from Elm Street looking east at site*

**AdvanceSim**  
Photo Simulation Solutions  
Contact: (415) 282-4507

**T-Mobile**

SF93356C 601 Van Ness Ave  
601 Van Ness Ave, San Francisco, CA  
Photosims Produced on 7-28-2015

**Case Number 2015-011424CUA**  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue

# Photosimulations

*Existing*



*Proposed*



*view from Ellis Street looking south at site*

**AdvanceSim**  
Photo Simulation Solutions  
Contact: ( 925 ) 202-4507

**T-Mobile**

SF93356C 601 Van Ness Ave  
601 Van Ness Ave, San Francisco, CA  
Photosims Produced on 7-28-2015

**Case Number 2015-011424CUA**  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue



# Photosimulations



Case Number 2015-011424CUA  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue

# Photosimulations



view from Franklin Street looking north at site

AdvanceSim  
Photo Simulation Solutions  
Contact: (415) 212-4507

T-Mobile

SF93356C 601 Van Ness Ave  
601 Van Ness Ave, San Francisco, CA  
Photosims Produced on 7-28-2015

Case Number 2015-011424CUA  
T-Mobile Macro WTS Facility  
601 Van Ness Avenue

**T-Mobile West LLC • Proposed Base Station (Site No. SF93356C)  
601 Van Ness Avenue • San Francisco, California**

**Statement of Hammett & Edison, Inc., Consulting Engineers**

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by T-Mobile West LLC, a personal wireless telecommunications carrier, to evaluate the base station (Site No. SF93356C) proposed to be located at 601 Van Ness Avenue 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 a 10-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	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5–80 GHz	5.00 mW/cm <sup>2</sup>	1.00 mW/cm <sup>2</sup>
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

The site was visited by David DeSmet, a qualified engineer employed by Hammett & Edison, Inc., during normal business hours on February 13, 2015, a non-holiday weekday, and reference has been made to information provided by T-Mobile, including zoning drawings by Precision Design & Drafting, Inc., dated May 27, 2015.

**Checklist**

*1. The location of all existing antennas and facilities at site. Existing RF levels.*

There were observed directional panel antennas for use by Verizon Wireless installed high on the sides of the mechanical equipment penthouse above the roof of the northeast residential tower located at 601 Van Ness Avenue. Existing RF levels for a person at ground near the site were less than 2% of the most restrictive public exposure limit. The measurement equipment used was a Wandel & Goltermann Type EMR-300 Radiation Meter with Type 18 Isotropic Electric Field Probe (Serial No. F-0034). The meter and probe were under current calibration by the manufacturer.





**T-Mobile West LLC • Proposed Base Station (Site No. SF93356C)  
601 Van Ness Avenue • San Francisco, California**

2. The location of all approved (but not installed) antennas and facilities. Expected RF levels from approved antennas.

No other WTS facilities are reported to be approved for this site but not installed.

3. The number and types of WTS within 100 feet of proposed site and estimates of additive EMR emissions at proposed site.

There were observed no other WTS facilities at the site or nearby.

4. Location (and number) of Applicant's antennas and back-up facilities per building and location (and number) of other WTS at site.

T-Mobile proposes to install nine directional panel antennas – three Andrew Model LNX-6515DS and six Ericsson Model AIR21 – behind new view screens to be installed on the sides of the mechanical equipment penthouse above the roof of the southern residential tower. The antennas would be mounted with up to 12° downtilt\* at an effective height of about 161½ feet above ground, 24½ feet above the roof, and would be oriented in groups of three toward 10°T, 140°T, and 260°T, to provide service in all directions. Also proposed to be located on the roof of the same tower is a microwave “dish” antenna, for interconnection of this site with others in the T-Mobile network.

For the limited purposes of this study, the transmitting facilities of Verizon are assumed to be as follows:

Service	Maximum ERP	Antenna Model	Downtilt	Height
AWS	4,100 watts	Andrew HBX-6516DS	12°	165 ft
PCS	1,300	Andrew HBX-6516DS	12	165
Cellular	2,700	Andrew LNX-6512DS	12	165
700 MHz	1,700	Andrew LNX-6512DS	12	165

5. Power rating (maximum and expected operating power) for all existing and proposed backup equipment subject to application.

The expected operating power of the T-Mobile transmitters is reflected in the resulting effective radiated power given in Item 6 below; the transmitters may operate at a power below their maximum rating. The power ratings for the Verizon transmitters are not known.

6. Total number of watts per installation and total number of watts for all installations at site.

The maximum effective radiated power (“ERP”) proposed by T-Mobile in any direction is 8,700 watts, representing simultaneous operation at 4,400 watts for AWS, 2,200 watts for PCS, and 2,100 watts for 700 MHz service. The maximum ERP assumed for the Verizon operation is as noted in the table in Item 4 above.

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\* Assumed for the purposes of this study.





**T-Mobile West LLC • Proposed Base Station (Site No. SF93356C)  
601 Van Ness Avenue • San Francisco, California**

7. Plot or roof plan showing method of attachment of antennas, directionality of antennas, and height above roof level. Discuss nearby inhabited buildings.

The drawings show the antennas to be installed as described in Item 4 above. There were noted no buildings of similar height nearby.

8. Estimated ambient RF levels for proposed site and identify three-dimensional perimeter where exposure standards are exceeded.

For a person anywhere at ground, the maximum RF exposure level due to the proposed T-Mobile operation by itself, including the contribution of the microwave antenna, is calculated to be 0.0060 mW/cm<sup>2</sup>, which is 0.78% of the applicable public exposure limit. Ambient RF levels at ground near the site are therefore estimated to be below 2.8% of the limit. The maximum calculated cumulative level at the top-floor elevation of any nearby building is 19% of the public limit. The three-dimensional perimeter of RF levels equal to the public exposure limit is calculated to extend up to 59 feet out from the antenna faces and to much lesser distances above, below, and to the sides; this does not reach the roof of the building or any publicly accessible areas.

9. Describe proposed signage at site.

Due to their mounting locations and height, the T-Mobile antennas would not be accessible to unauthorized persons, and so no mitigation 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 antennas, including employees and contractors of the wireless carriers and of the property owner. No access within 12 feet directly in front of the T-Mobile 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<sup>†</sup> be posted at the roof access doors and on the screens in front of the antennas, readily visible from any angle of approach to persons who might need to work within that distance. Similar measures should already be in place for Verizon; the applicable keep-back distance and boundary markings for that carrier has not been determined as part of this study.

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<sup>†</sup> 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.



**T-Mobile West LLC • Proposed Base Station (Site No. SF93356C)  
601 Van Ness Avenue • San Francisco, California**

*10. Statement of authorship.*

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-20309, which expires on March 31, 2017. This work has been carried out under her direction, and all statements are true and correct of her own knowledge except, where noted, when data has been supplied by others, which data she 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 T-Mobile West LLC at 601 Van Ness Avenue 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 is recommended to establish compliance with occupational exposure limits.



*Andrea L. Bright*  
\_\_\_\_\_  
Andrea L. Bright, P.E.  
707/996-5200

June 23, 2015



**HAMMETT & EDISON, INC.**  
CONSULTING ENGINEERS  
SAN FRANCISCO



City and County of San Francisco  
**DEPARTMENT OF PUBLIC HEALTH**  
**ENVIRONMENTAL HEALTH SECTION**

Edwin M. Lee, *Mayor*  
Barbara Garcia, *Director of Health*  
Richard J. Lee, MPH, CIH, REHS  
*Director of Environmental Health (Acting)*

**Review of Cellular Antenna Site Proposals**

**Project Sponsor :** T-Mobile **Planner:** Omar Masry  
**RF Engineer Consultant:** Hammett and Edison **Phone Number:** (707) 996-5200  
**Project Address/Location:** 601 Van Ness Av  
**Site ID:** 2200 **SiteNo.:** SF93356C

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.

- ☒ 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: 9
- ☒ 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
- ☒ 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
- ☒ 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
- ☒ 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
- ☒ 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: 8700 Watts
- ☒ 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: 19 %  
Distance to this nearby building or structure: 135 feet
- ☒ 8. The estimated maximum cumulative radio frequency fields for the proposed site at ground level. (WTS-FSG, Section 10.5)  
Maximum RF Exposure: 0.006 mW/cm<sup>2</sup> Maximum RF Exposure Percent: 0.78 %

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: 59

☒ Occupational Exclusion Area

Occupational Exclusion In Feet: 12

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 1.1310 **Approval of the subsequent Project Implementation Report is based on project sponsor completing recommendations by project consultant and DPH.**

**Comments:**

There are currently no antennas operated by T-Mobile installed on the roof top of the building at 601 Van Ness Avenue. Existing RF levels at ground level were around 2% of the FCC public exposure limit. Verizon also operates antennas at this location. T-Mobile proposes to install 9 new antennas. The antennas will be mounted at a height of about 161 feet above the ground. The estimated ambient RF field from the proposed T-Mobile transmitters at ground level is calculated to be 0.006 mW/sq cm., which is 0.78% of the FCC public exposure limit. The three dimensional perimeter of RF levels equal to the public exposure limit extends 59 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 12 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)

Signed: \_\_\_\_\_



Dated: 9/17/2015

Patrick Fosdahl

Environmental Health Management Section  
San Francisco Dept. of Public Health  
1390 Market St., Suite 210,  
San Francisco, CA. 94102  
(415) 252-3904

## **T-Mobile Proposed Cell Site @ 601 Van Ness Community Meeting Summary Sheet**

### Meeting Information:

Date: Wednesday, November 4, 2015  
Time: 5:00-7:00 p.m.  
Where: 425 2<sup>nd</sup> St  
Suite #100  
San Francisco, CA 94107

### T-Mobile Representatives/Attendees:

- Kevin Bowyer, Modus Inc
- Bill Hammett, Hammett & Edison

### Neighborhood Attendees

- Michael Boone, nearby resident
- Aaron Levinson, property owner representative
- Jeff Simteo, resident at 601 Van Ness

### Meeting notes:

- Michael Boone (resident) attended just to inquire about cell site technology. More interested in how cell sites function than inquiring about the project specifics. Talked with Bill Hammett at length regarding the technology. Not opposed to project.
- Aaron Levinson (property owner rep) was just attending to gauge any neighborhood opposition
- Jeff Simteo (resident @ 601 Van Ness) came to support the project. He wants the installation to happen to improve T-Mobile cell coverage in immediate area.

### Neighborhood Emails Received

- Helena Foster
  - Emailed Kevin Bowyer on 10/29 to express concerns over RF and health/environmental impact
  - Kevin Bowyer responded to Helena via email on 11/4 to provide more info to Helena
  - No response from Helena received after Kevin's email on 11/4
  - See attached email correspondence on next page



**Subject:** Re: T mobile antennas at Opera Plaza

**Date:** Friday, October 30, 2015 at 10:55:58 AM Pacific Daylight Time

**From:** Kevin Bowyer

**To:** OMITTED

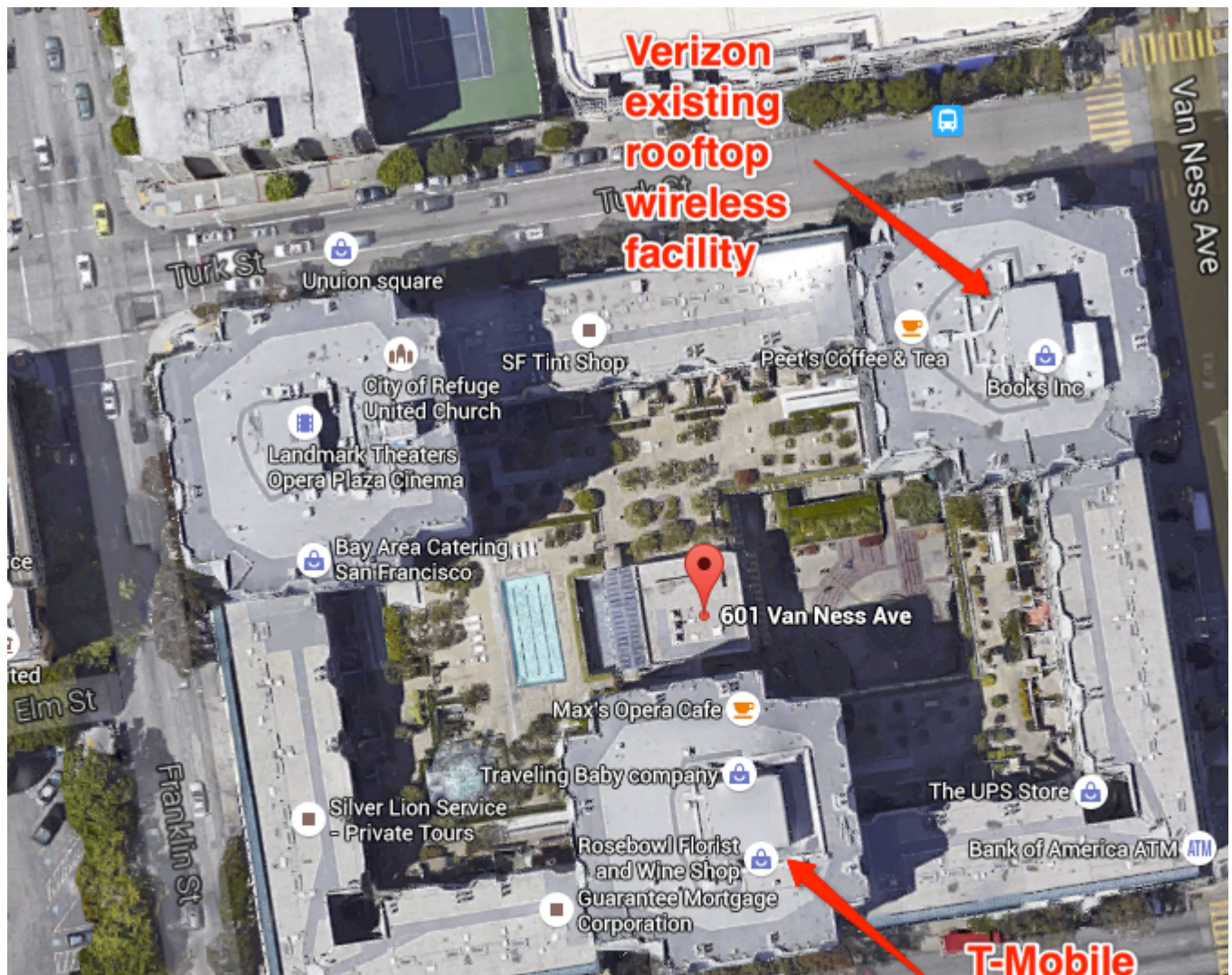
Hello Helena,

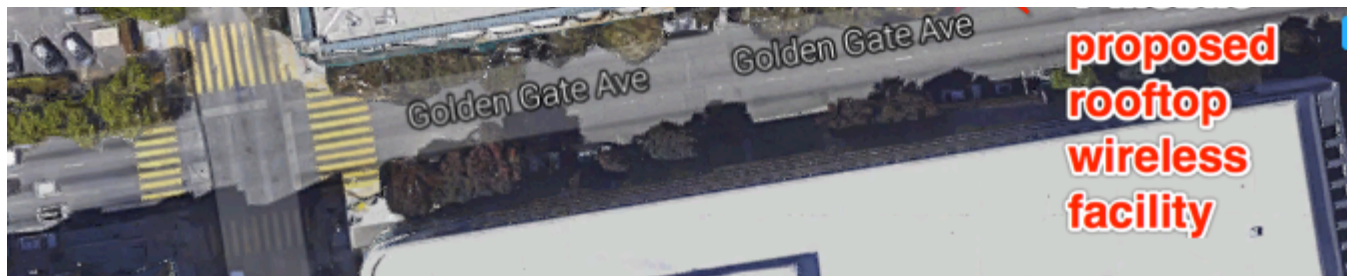
Verizon currently has a wireless facility on the roof of one of the buildings on the property (see image below). T-Mobile is proposing to install their wireless facility on the penthouse of the roof of a different building on the property.

In regards to your concerns about your health, I assure you that you have nothing to worry about. When proposing new wireless facilities, carriers are subject to very strict guidelines by not only the City of San Francisco Public Health Dept, but also the FCC. As part of this application, T-Mobile had to have a third party radio frequency (RF) expert do an analysis to ensure that the proposed wireless facility would be compliant with all FCC radio frequency exposure guidelines. This report, attached to this email, shows that the radio frequency emissions are far below the FCC limits in place. Additionally, the City of San Francisco Public Health Dept has reviewed the project and the third party analysis and has issued their approval. This document is also attached.

The engineer who conducted the third party analysis will be at the community meeting to calm any concerns that you or your neighbors have about the proposed wireless facility.

I hope this calms any of your concerns. Please let me know if you have any further questions or concerns.





Kevin Bowyer, Operations Manager | Modus, Inc.  
m: 408-219-5442 | www.modus-corp.com

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**From:** OMITTED  
**Date:** Friday, October 30, 2015 at 10:33 AM  
**To:** Kevin Bowyer  
**Subject:** Fwd: T mobile antennas at Opera Plaza

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**From:** OMITTED  
**To:** OMITTED  
**Sent:** Thursday, October 29, 2015 1:33:34 PM  
**Subject:** T mobile antennas at Opera Plaza

Dear Mr. Bowyer,

I am a condominium owner at Opera Plaza, 601 Van Ness and I received the invitation to the community meeting regarding the antennas to be installed on the rooftop there. I am concerned about RFs and its health and environmental impact. Are there already antennas up there and is T Mobile adding more? Please let me know your thoughts.

Helena Foster

# Sign-In Sheet

## T-Mobile Wireless Facility 601 Van Ness Meeting

11/4/15

5PM-7PM

425 2<sup>nd</sup> St Suite #100

Name – Print	Address	Email
MICHAEL BOONE	580 McAllister	
Aaron Levinson - Representing Opera Plaza - Jeff Smith	601 Van Ness Ave #44	Telecom site mgr. I support this project!



# COMMUNITY OUTREACH MEETING ON A WIRELESS COMMUNICATION FACILITY PROPOSED IN YOUR NEIGHBORHOOD

**To: Neighbors within 500 feet of 601 Van Ness Ave, San Francisco, CA**

<b>Meeting Information</b> Date: Wednesday, November 4, 2015 Time: 5:00-7:00 p.m. Where: 425 2 <sup>nd</sup> St Suite #100 San Francisco, CA 94107  <b>Applicant</b> T-Mobile c/o Modus Inc. 149 Natoma St., 3 <sup>rd</sup> floor San Francisco, CA 94105  <b>T-Mobile Site Information</b> Address: 601 Van Ness Ave San Francisco, CA 94127 APN: 0762/026-479 Zoning: RC-4  <b>Contact Information</b> Kevin Bowyer 149 Natoma St., 3 <sup>rd</sup> floor San Francisco, CA 94105 (408) 219-5442 kbowyer@modus-corp.com  <i>*This is not a Library Sponsored Program</i>	<p>T-Mobile has applied for zoning approval to install antennas on the rooftop penthouse of the building located at 601 Van Ness Ave in San Francisco. The proposed installation will enhance T-Mobile's network by adding more spectrum, resulting in faster and more reliable data streaming. This update will improve service for T-Mobile customers with significantly faster data rates for both uploading and downloading.</p> <p>You are invited to attend an informational community meeting on Wednesday, November 4 from 5:00-7:00 p.m. at the 425 2<sup>nd</sup> St Suite #100 in San Francisco. This project will be scheduled for a Planning Commission public hearing after the neighborhood meeting. Architectural plans and photo simulations will be available for your review at the meeting.</p> <p>If you are unable to attend the meeting and would like to request information, please contact Kevin Bowyer at (408) 219-5442 or kbowyer@modus-corp.com</p> <p>If you have any questions about the zoning process, you may contact Omar Masry, the project planner with the San Francisco Planning Department at (415) 575-9116 or omar.masry@sfgov.org.</p> <p><b>NOTE: If you require an interpreter to be present at the meeting, please contact our office at 408-219-5442 or kbowyer@modus-corp.com no later than November 2 and we will make every effort to provide you with an interpreter.</b></p>
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## NOTIFICACIÓN DE REUNIÓN DE ALCANCE COMUNITARIO SOBRE UNA INSTALACIÓN DE COMUNICACIONES INALÁMBRICAS PROPUESTA PARA SU VECINDARIO

**A: Vecinos A Menos De 500 Pies De 601 Van Ness Ave, San Francisco, CA**

<b>Información de la reunión</b> Fecha: Miércoles, 04 de Noviembre 2015 Hora: 5:00-7:00 p.m. Dónde: 425 2 <sup>nd</sup> St , #100 San Francisco, CA 94107  <b>Solicitante</b> Verizon c/o Modus Inc. 149 Natoma St., 3 <sup>rd</sup> floor San Francisco, CA 94105  <b>Verizon Información del lugar</b> Dirección: : 601 Van Ness Ave San Francisco, CA 94127 APN: 0762/026-479 Zonificación: RC-4  <b>Información de contacto</b> Kevin Bowyer 149 Natoma St., 3 <sup>rd</sup> floor San Francisco, CA 94105 (408) 219-5442 kbowyer@modus-corp.com  <i>*Este programa no es patrocinado por la Biblioteca</i>	<p>T-Mobile ha solicitado la zonificación aprobación para instalar antenas en el ático de la azotea del edificio situado en 601 Van Ness Ave, en San Francisco. La instalación propuesta mejorará la red de T-Mobile mediante la adición de más espectro, lo que resulta en la transmisión de datos más rápida y más confiable. Esta actualización mejorará el servicio para los clientes de T-Mobile con velocidades de datos significativamente más rápidas, tanto para la carga y descarga.</p> <p>Usted está invitado a asistir a una reunión de la comunidad informativa el miércoles 4 de noviembre a partir de 5: 00-7: 00 pm en el 425 2nd St Suite # 100 en San Francisco. Este proyecto será programado para una audiencia pública de la Comisión de Planificación después de la reunión de vecinos. Planos arquitectónicos y simulaciones fotográficas estarán disponibles para su revisión en la reunión.</p> <p>Si usted no puede asistir a la reunión y desea solicitar información, por favor póngase en contacto con Kevin Bowyer al (408) 219-5442 o kbowyer@modus-corp.com</p> <p>Si usted tiene alguna pregunta sobre el proceso de zonificación, puede comunicarse con Omar Masry, el planificador de proyecto con el Departamento de Planificación de San Francisco al (415) 575-9116 o <a href="mailto:omar.masry@sfgov.org">omar.masry@sfgov.org</a>.</p> <p>NOTA: Si necesita un intérprete para estar presente en la reunión, por favor</p>
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comuníquese con nuestra oficina al 408-219-5442 o kbowyer@modus-corp.com a más tardar el 2 de noviembre y vamos a hacer todo lo posible para ofrecerle un intérprete.

**社区外展会议上的无线通信设备的建议在你家附近  
為了：在 500 英尺 601 Van Ness Ave 的鄰居，三藩市**

**會議信息**

日期：週三，2015 年 11 月 4 號  
時間：5：00-7：下午 12 點  
其中：425 二街  
套房 # 100  
舊金山，加州 94107

**申請人**

T-Mobile 公司  
C / Ø 作案有限公司  
149 納托馬街 3 樓  
舊金山，加利福尼亞州 94105

**T-Mobile 的站點信息**

地址：601 吳建豪大道  
舊金山，加州 94127  
APN：0762 / 026-479  
分區：RC- 4

**聯繫信息**

凱文·鮑耶  
149 納托馬街 3 樓  
舊金山，加利福尼亞州 94105  
( 408 ) 219-5442  
kbowyer@modus-corp.com

\*這是不是一個圖書館贊助計劃

T-Mobile 公司已經申請區劃批准在位於 601 吳建豪大道舊金山建築物的屋頂的閣樓安裝天線。建議安裝將增強 T-Mobile 的網絡，加入更多的頻譜，從而能更快，更可靠的數據流。此更新將改善 T-Mobile 的客戶服務與顯著更快的數據傳輸速率為上傳和下載。

您被邀請參加一個信息社區會議上週三，11 月 4 日 5：00-7：00 在舊金山的 425 二街套房 # 100。該項目將安排在附近的會後舉行的計劃委員會公開聽證會。建築計劃和模擬圖片將可用於您的評論出席了會議。

如果您無法出席會議，並想請求的信息，請聯繫凱文·鮑耶（408）219-5442 或 kbowyer@modus-corp.com

如果您對分區過程中有任何疑問，您可以聯繫奧馬爾·馬斯利，項目策劃者與舊金山規劃部（415）575-9116 或 omar.masry@sfgov.org。

注：如果您需要口譯員出席了會議，請聯繫 408-219-5442 我們的辦公室或 kbowyer@modus-corp.com 不遲於 11 月 2 日，我們將竭盡全力為您提供翻譯。

T-Mobile gōngsī yǐjīng shēnqǐng qūhuà pīzhǔn zài wèiyú 601 wújiànáo dàdào jiùjīnshān jiànzhù wù de wūdǐng de gélóu ānzuāng tiānxiàn. Jiànyì ānzuāng jiāng zēngqiáng T-Mobile de wǎngluò, jiārù gèng duō de pínǚ, cóng'ér néng gèng kuài, gèng kěkào de shùjù liú. Cǐ gēngxīn jiāng gǎishàn T-Mobile de kèhù fúwù yǔ xiǎnzhù gèng kuài de shùjù zhuàn shū sùlǚ wéi shàngchuán hé xiàzài.

Nín bèi yāoqǐng cānjiā yīgè xīnxī shèqū huìyì shàng zhōu sān, 11 yuè 4 rì 5:00-7:00 Zài jiùjīnshān de 425 èr jiē tàofāng#100. Gāi xiàngmù jiāng ānpái zài fùjìn de huì hòu jǔxíng de jihuà wèiyuánhui gōngkāi tīngzhèng huì. Jiànzhù jihuà hé mǒnǐ túpiàn jiāng kěyòng yú nín de pínglùn chūxíle huìyì.

Rúguǒ nín wúfǎ chūxí huìyì, bìng xiǎng qǐngqiú de xīnxī, qǐng liánxì kǎi wén·bào yé (408)219-5442 huò kbowyer@modus-corp.Com rúguǒ nín duì fēnqū guòchéng zhōng yǒu rènhé yíwèn, nín kěyǐ liánxì ào mǎ'ěr·mǎ sī lì, xiàngmù cèhuà zhě yǔ jiùjīnshān guīhuà bù (415)575-9116 huò omar.Masry@sfgov.Org.

Zhù: Rúguǒ nín xūyào kǒuyì yuán chūxíle huìyì, qǐng liánxì 408-219-5442 wǒmen de bàngōngshì huò kbowyer@modus-corp.Com bù chí yú 11 yuè 2 rì, wǒmen jiāng jiējìn quánlì wèi nín tígōng fǎnyì.



**HAMMETT & EDISON, INC.**  
CONSULTING ENGINEERS  
BROADCAST & WIRELESS

WILLIAM F. HAMMETT, P.E.  
STANLEY SALEK, P.E.  
ROBERT P. SMITH, JR.  
RAJAT MATHUR, P.E.  
ANDREA L. BRIGHT, P.E.  
NEIL J. OLIJ, P.E.  
BRIAN F. PALMER

ROBERT L. HAMMETT, P.E.  
1920-2002  
EDWARD EDISON, P.E.  
1920-2009

DANE E. ERICKSEN, P.E.  
CONSULTANT

**BY E-MAIL KBOWYER@MODUS-CORP.COM**

November 19, 2015

Mr. Kevin Bowyer  
Modus, Inc.  
149 Natoma Street, 3rd Floor  
San Francisco, California 94105

Dear Kevin:

As you requested, we have conducted a review of the coverage maps provided by T-Mobile, regarding its proposal for a new base station to be located at 601 Van Ness Avenue in San Francisco (Site No. SF93356C).

### **Executive Summary**

We concur with the maps and data provided by T-Mobile. The maps provided to show the before and after conditions accurately represent the carrier's present and post-installation coverage.

T-Mobile proposes to install nine directional panel antennas – three Andrew Model LNX-6515DS and six Ericsson Model AIR21 – behind new view screens to be installed on the sides of the mechanical equipment penthouse above the roof of the southern residential tower located at 601 Van Ness Avenue. The antennas would employ up to 12° downtilt,\* would be mounted at an effective height of about 161½ feet above ground, 24½ feet above the roof, and would be oriented in groups of three toward 10°T, 140°T, and 260°T, to provide service in all directions. The maximum effective radiated power proposed by T-Mobile in any direction is 8,700 watts, representing simultaneous operation at 4,400 watts for AWS, 2,200 watts for PCS, and 2,100 watts for 700 MHz service.

T-Mobile provided for review two coverage maps, attached for reference. The maps show that carrier's 4G LTE (2100 MHz) coverage in the area before and after the site is operational. T-Mobile considers the areas shown in green as above an acceptable service threshold and the white areas near the site as below that threshold.† The service threshold used by T-Mobile is

\* Assumed for the purposes of this study.

† Note that the coverage from existing T-Mobile base stations in the areas located away from the proposed site is not provided; those areas also show up as white areas on the maps.

Mr. Kevin Bowyer, page 2  
November 19, 2015

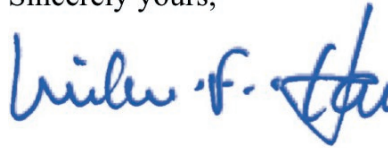
in line with industry standards, similar to the thresholds used by other wireless service providers.

We conducted our own drive test to measure the actual T-Mobile 4G LTE (2100 MHz) signal strength in the vicinity of the proposed site. Our fieldwork was conducted on November 13, 2015, between 10:40 AM and 1:40 PM. The field measurements were conducted using an Ascom TEMS Pocket network diagnostic tool with built-in GPS along a measurement route selected to cover all the streets within the map area that T-Mobile had indicated would receive improved service.

Based on the measurement data, we conclude that the T-Mobile 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

lh

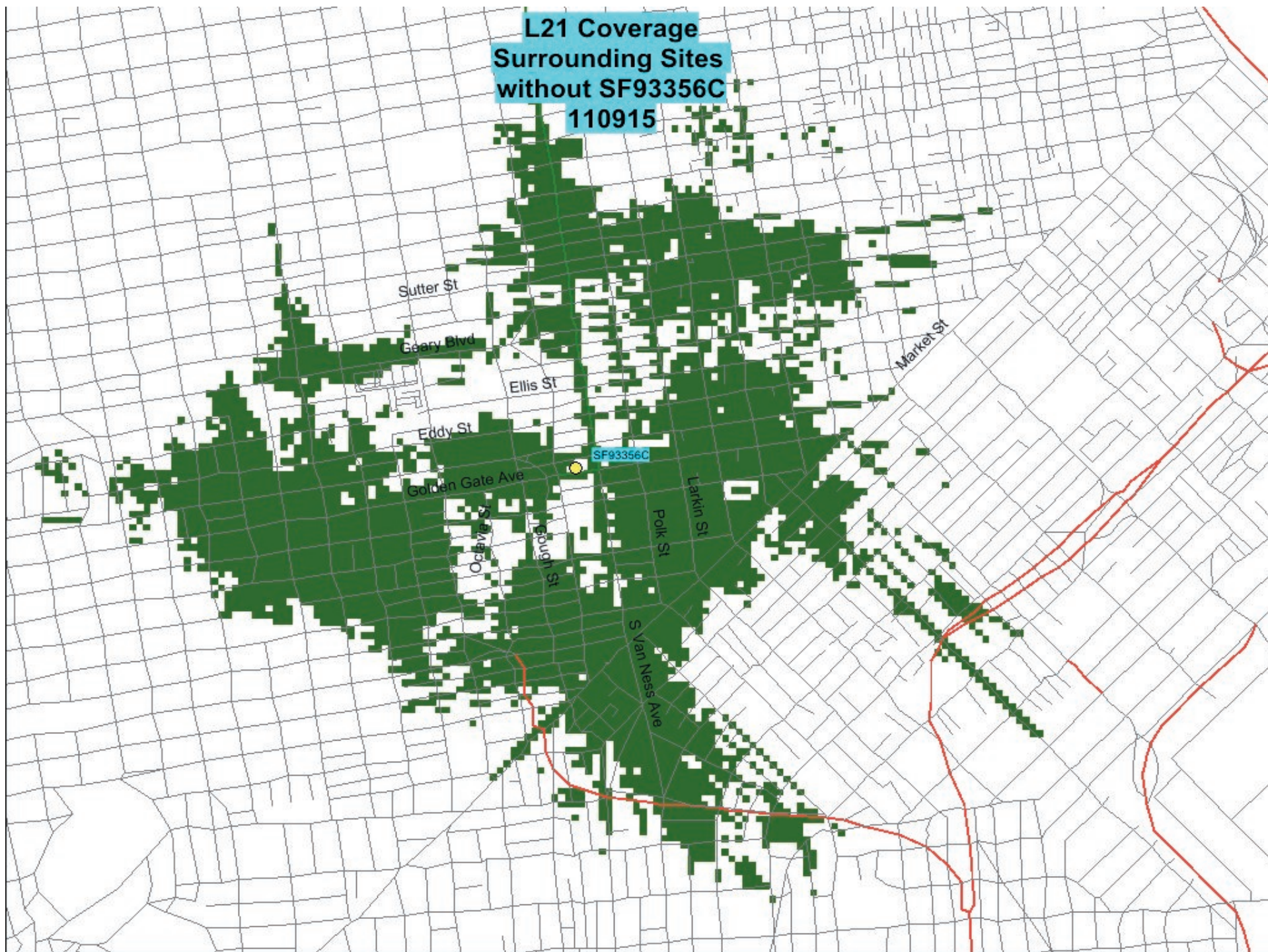
Enclosures



cc: Mr. Aris Anton (w/encls) – BY E-MAIL ARIS.ANTONS@T-MOBILE.COM  
Mr. Mike Brennan (w/encls) – BY E-MAIL MIKE.BRENNAN@T-MOBILE.COM

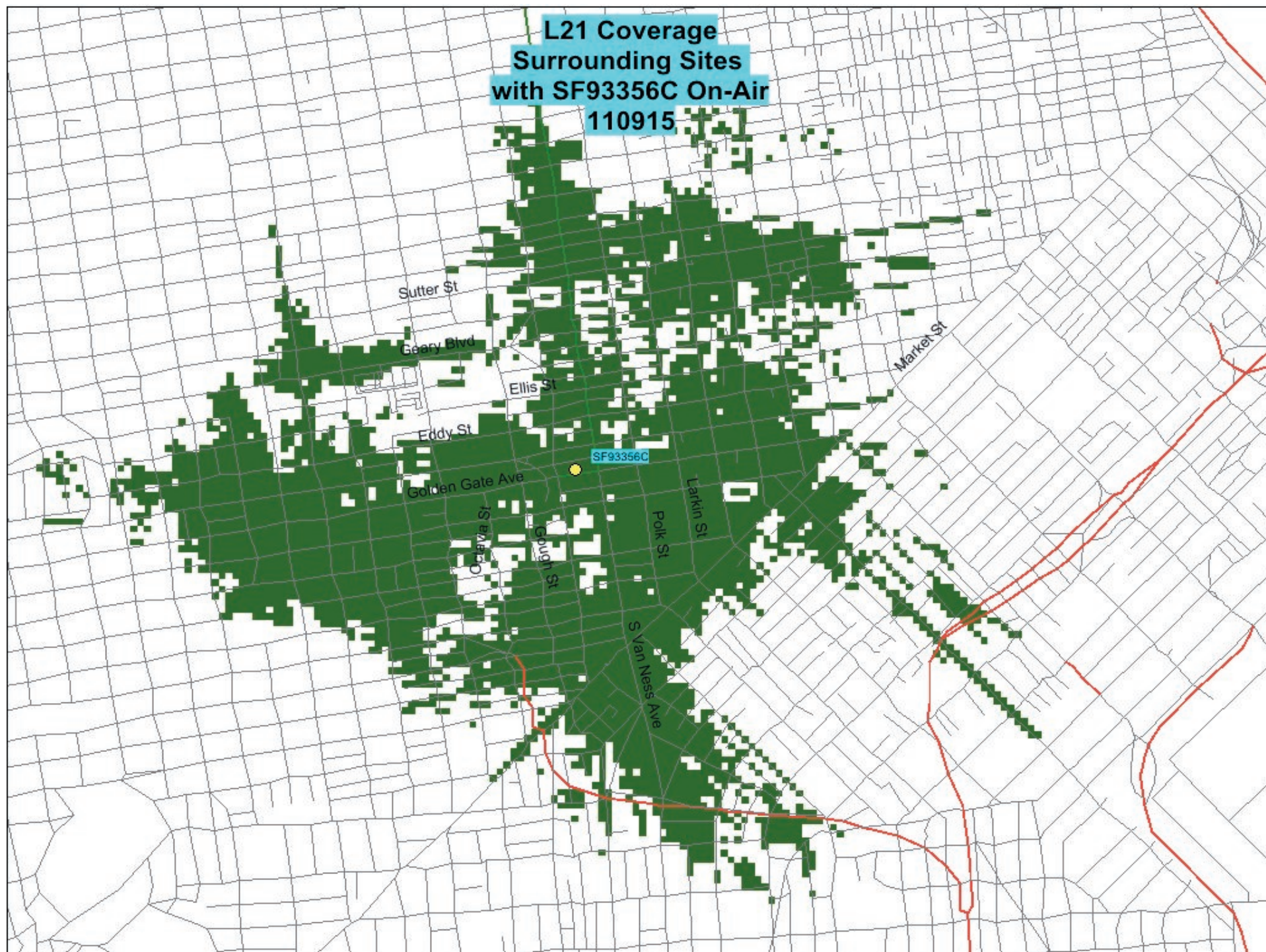


**L21 Coverage  
Surrounding Sites  
without SF93356C  
110915**





**L21 Coverage  
Surrounding Sites  
with SF93356C On-Air  
110915**





# T-Mobile®

WEST REGION  
1855 GATEWAY BLVD, SUITE 900  
CONCORD, CA 94520

## SF93356C - OPERA PLAZA

601 VAN NESS AVE  
SAN FRANCISCO, CA 94102

CONDITIONAL USE AUTHORIZATION: 2015-011424CUA

### PROJECT DESCRIPTION

- INSTALL NEW T-MOBILE UNMANNED TELECOMMUNICATION FACILITY CONSISTING OF:
1. INSTALL (9) (N) ANTENNAS
  2. INSTALL (3) (N) RRU 11 B-12
  3. INSTALL (N) CIENA
  4. INSTALL (N) H-FRAME
  5. INSTALL (N) ANTENNA MOUNTS
  6. INSTALL (N) MICROWAVE ANTENNA
  7. INSTALL (2) (N) 19" RACKS
  8. INSTALL (N) PBC 6200 CABINET
  9. INSTALL (N) GPS ANTENNA, PAINT TO MATCH (E) PENTHOUSE
  10. RUN NEW TELCO AND POWER FROM WEST SIDE GARAGE TELCO ROOM TO SOUTH TOWER
  11. INSTALL (N) FRP SCREEN WALLS IN FRONT ALL SECTORS
  12. PAINT ALL (N) FRP SCREEN WALLS & VENTS TO MATCH THE (E) PENTHOUSE

### PROJECT INFORMATION

SITE NAME:	OPERA PLAZA	SITE #:	SF93356C
SITE TYPE:	ROOFTOP PENTHOUSE - FACADE MOUNT	JURISDICTION:	CITY & COUNTY OF SAN FRANCISCO
COUNTY:	SAN FRANCISCO	POWER:	PG&E
APN:	0762/026-479	TELEPHONE:	AT#T
SITE ADDRESS:	601 VAN NESS AVE SAN FRANCISCO, CA 94102		
CURRENT ZONING:	RC-4		
CONSTRUCTION TYPE:	-		
OCCUPANCY TYPE:	RESIDENTIAL-COMMERCIAL, HIGH DENSITY		
PROPERTY OWNER:	OPERA PLAZA HOMEOWNERS ASSOCIATION 601 VAN NESS SAN FRANCISCO, CA 94102 CONTACT: AARON LEVINSON (415) 927-1901		
APPLICANT:	T-MOBILE 1855 GATEWAY BLVD, SUITE 900 CONCORD, CA 94520 MIKE BRENNAN (858) 334-6117		
LEASING CONTACT:	ATTN: NICOLE SAPUTO NSAPUTO@MODUS-CORP.COM (925) 360-4960		
ZONING CONTACT:	ATTN: KEVIN BOWYER KBOWYER@MODUS-CORP.COM (408) 219-5442		
CONSTRUCTION CONTACT:	ATTN: HOLLY KIRKPATRICK (415) 716-8361 HOLLY.KIRKPATRICK@TMOBILE.COM		
LATITUDE:	37° 46' 52" N (37.78111) NAD 83		
LONGITUDE:	122° 25' 17.44" W (-122.42151) NAD 83		
AMSL:	±79'		

### VICINITY MAP



### DRIVING DIRECTIONS

- FROM: 1855 GATEWAY BLVD. SUITE 900, CONCORD, CA 94520  
TO: 601 VAN NESS AVE, SAN FRANCISCO, CA 94102
1. HEAD SOUTHEAST ON GATEWAY BLVD 1.77 FT
  2. TURN RIGHT ONTO CLAYTON RD 0.2 MI
  3. TAKE THE RAMP ONTO CA-242 S 0.3 MI
  4. MERGE ONTO CA-242 S 0.9 MI
  5. MERGE ONTO I-680 S 3.3 MI
  6. TAKE EXIT 46 FOR CALIFORNIA 24 TOWARD LAFAYETTE/OAKLAND 1.2 MI
  7. CONTINUE ONTO CA-24 W 5.8 MI
  8. KEEP LEFT TO STAY ON CA-24 W 2.3 MI
  9. KEEP LEFT AT THE FORK TO STAY ON CA-24 W 4.3 MI
  10. TAKE EXIT 2B FOR INTERSTATE 580 W 1.0 MI
  11. MERGE ONTO I-580 W 0.6 MI
  12. TAKE EXIT 19A ON THE LEFT TO MERGE ONTO I-80 W TOWARD SAN FRANCISCO 7.9 MI
  13. TAKE EXIT 1 C TOWARD CIVIC CENTER 0.2 MI
  14. MERGE ON HARRISON ST 0.1 MI
  15. TURN RIGHT ONTO 9TH ST 0.5 MI
  16. SLIGHT RIGHT ONTO LARKIN ST 0.3 MI
  17. TURN LEFT ONTO TURK ST 0.2 MI
  18. TURN LEFT AT THE 2ND CROSS STREET ONTO VAN NESS AVE 348 FT
- END AT: 601 VAN NESS AVE, SAN FRANCISCO, CA 94103
- ESTIMATED TIME: 41 MINS ESTIMATED DISTANCE: 29.2 MI

### 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:

1. 2013 CALIFORNIA ADMINISTRATIVE CODE (INCL. TITLES 24 & 25)
2. 2013 CALIFORNIA BUILDING CODE
3. 2013 CALIFORNIA ELECTRICAL CODE
4. 2013 CALIFORNIA MECHANICAL CODE
5. 2013 CALIFORNIA PLUMBING CODE
6. 2013 CALIFORNIA FIRE CODE
7. LOCAL BUILDING CODES
8. CITY/COUNTY ORDINANCES
9. ANS/VEIA-TIA-222-G

ALONG WITH ANY OTHER APPLICABLE LOCAL & STATE LAWS AND REGULATIONS

### HANDICAP REQUIREMENTS

THIS FACILITY IS UNMANNED & NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS & REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH CALIFORNIA STATE ADMINISTRATIVE CODE, TITLE 24 PART 2, SECTION 1105B.3.4.2, EXCEPTION 1

### SHEET INDEX

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T-2	FIRE DEPARTMENT CHECKLIST	-
T-3	RF EXPOSURE	-
T-4	RF SIGNAGE	-
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A-2	EQUIPMENT & ANTENNA PLANS	-
A-3	ELEVATIONS	-
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A-5	ELEVATIONS	-
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### APPROVAL

RF

LEASING

ZONING

CONSTRUCTION

T-MOBILE

PG&E

T-Mobile®

WEST REGION  
1855 GATEWAY BLVD, SUITE 900  
CONCORD, CA 94520

PRECISION DESIGN

Drafting, Inc.

Phone: (530) 823-6546  
11768 Atwood Rd, Suite 20 Auburn, CA 95603



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### OPERA PLAZA

SF93356C  
601 VAN NESS AVE  
SAN FRANCISCO, CA

### ISSUE STATUS

△	DATE	DESCRIPTION
	04/15/15	2D 90%
	05/27/15	2D 100%
	06/30/15	CD 90%
	08/17/15	CD 100%

DRAWN BY:	EDC
CHECKED BY:	F. CASTILLO
APPROVED BY:	B. McCOMB
DATE:	08/17/15
SHEET TITLE:	

### TITLE SHEET

SHEET NUMBER

T-1

FIRE DEPARTMENT CHECKLIST

2.06 Submittal Requirements for Cellular Antenna Sites

PROVIDED: SEE SHEET T-1	✓	REFERENCE: 2013 SFBC, 2013 SFFC, 2013 SFMC and FCC OET Bulletin 65 (97-01)
		1. Provide a description of work on the plans.
PROVIDED: SEE SHEETS A-1-8	✓	2. Plans shall include plan views and elevations showing all equipment locations and cable runs.
PROVIDED: SEE SHEET A-2	✓	3. Plans shall include antenna cut-sheets and equipment list on a drawing sheet.
PROVIDED: SEE SHEET T-3	✓	4. Include a copy of the signed and stamped RF report on a drawing sheet as a reference to identify the exclusion area required to prevent occupational exposures in excess of the FCC guidelines (47CFR1.1310 and FCC OET Bulletin 65 edition 97-01).
PROVIDED: SEE SHEET T-3	✓	5. The RF report shall indicate whether or not the site under review is a part of a multiple transmitter site and shall show compliance with FCC 47CFR1.1307(b)(3), as amended - all transmitters shall not exceed 5% of the power density exposure limit.
NOT APPLICABLE	✓	6. Drawings shall reflect the striped/exclusion areas for workers per the above RF Report with a minimum radius of 1 foot.
NOT APPLICABLE	✓	7. Plans shall include a quantitative three-dimensional image of the RF levels from each antenna located near an egress point (e.g. penthouse stair; fire escape, roof walking paths; skylights, etc.).
PROVIDED: SEE SHEET T-4	✓	8. "Notice to Workers" warning signage, as applicable per the above RF Report, shall be permanently mounted at the stairwell side of the roof-access door (ANSI C95.2-1982 (Reference [3]) - yellow or more durable color for outdoor longevity)
PROVIDED: SEE SHEET T-4	✓	9. Camouflaged antennas shall have 4inch x 4inch signage permanently mounted to the exterior of the RF screen as provided below. The sign shall be weatherproof with contrasting background color and shall contain the yellow triangle around the antenna symbol (ANSI C95.2-1982 (Reference [3]) - yellow or more durable color for outdoor longevity). Signage location(s) and detail of the sign shall be included on the plans.

NOT APPLICABLE



10. Cables/wiring shall not be allowed in exit enclosures, smoke-proof towers, elevator shafts, or in front of dry standpipes. 2013 CFC 1022.4 and 509.2

NOT APPLICABLE



11. Antennas shall not be mounted closer than the exclusion zone plus 4 feet for installations near fire escapes, stair penthouse doors, exterior standpipe outlets, skylights, or other fire department operations consideration.

PROVIDED: SEE SHEET T-4



12. There is no guarantee that the fire department will not shut down the power to the site in an emergency situation although in order to reduce the site operator's possible loss of service the following information may be provided at the equipment room entrance:

- Provide emergency shutdown procedure signage. The sign shall include the following:
  - Emergency 24 hour/7 day a week NOC / field technician telephone number for RF shut-down
  - Cell site identification number
  - Map to location of electrical main - electrical main shall be clearly identified with a permanent red label and white lettering.
  - Map to location of battery cabinets and breakers - cabinets and breakers shall be clearly identified with a permanent red label and white lettering.
  - Any other relevant information or procedures as required for the individual cellular site.
- The sign shall be clearly labeled in a phenolic label with a white background and black lettering. The title block shall be a red background and 1" high white lettering. Multiple signs may need to be installed based upon the cellular site configuration.
- A copy of the signage shall be included on a drawing sheet. See attached sample.



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CONCORD, CA 94520

PRECISION DESIGN  
Drafting, Inc.



Phone: (530) 823-6546  
11768 Alwood Rd, Suite 20 Auburn, CA 95603

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OPERA PLAZA

SF93356C  
601 VAN NESS AVE  
SAN FRANCISCO, CA

ISSUE STATUS			
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	05/27/15	ZD 100%	
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	08/17/15	CD 100%	

DRAWN BY:	EDC
CHECKED BY:	F. CASTILLO
APPROVED BY:	B. McCOMB
DATE:	08/17/15
SHEET TITLE:	
FIRE DEPARTMENT CHECKLIST	
SHEET NUMBER	

T-2



T-Mobile West LLC • Proposed Base Station (Site No. SF93356C)  
601 Van Ness Avenue • San Francisco, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by T-Mobile West LLC, a personal wireless telecommunications carrier, to evaluate the base station (Site No. SF93356C) proposed to be located at 601 Van Ness Avenue 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 a 10-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	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5–80 GHz	5.00 mW/cm <sup>2</sup>	1.00 mW/cm <sup>2</sup>
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

The site was visited by David DeSmet, a qualified engineer employed by Hammett & Edison, Inc., during normal business hours on February 13, 2015, a non-holiday weekday, and reference has been made to information provided by T-Mobile, including zoning drawings by Precision Design & Drafting, Inc., dated May 27, 2015.

Checklist

1. The location of all existing antennas and facilities at site. Existing RF levels.

There were observed directional panel antennas for use by Verizon Wireless installed high on the sides of the mechanical equipment penthouse above the roof of the northeast residential tower located at 601 Van Ness Avenue. Existing RF levels for a person at ground near the site were less than 2% of the most restrictive public exposure limit. The measurement equipment used was a Wandel & Goltermann Type EMR-300 Radiation Meter with Type 18 Isotropic Electric Field Probe (Serial No. F-0034). The meter and probe were under current calibration by the manufacturer.



HAMMETT & EDISON, INC.  
CONSULTING ENGINEERS  
SAN FRANCISCO

Y6MS  
Page 1 of 4

T-Mobile West LLC • Proposed Base Station (Site No. SF93356C)  
601 Van Ness Avenue • San Francisco, California

7. Plot or roof plan showing method of attachment of antennas, directionality of antennas, and height above roof level. Discuss nearby inhabited buildings.

The drawings show the antennas to be installed as described in Item 4 above. There were noted no buildings of similar height nearby.

8. Estimated ambient RF levels for proposed site and identify three-dimensional perimeter where exposure standards are exceeded.

For a person anywhere at ground, the maximum RF exposure level due to the proposed T-Mobile operation by itself, including the contribution of the microwave antenna, is calculated to be 0.0060 mW/cm<sup>2</sup>, which is 0.78% of the applicable public exposure limit. Ambient RF levels at ground near the site are therefore estimated to be below 2.8% of the limit. The maximum calculated cumulative level at the top-floor elevation of any nearby building is 19% of the public limit. The three-dimensional perimeter of RF levels equal to the public exposure limit is calculated to extend up to 59 feet out from the antenna faces and to much lesser distances above, below, and to the sides; this does not reach the roof of the building or any publicly accessible areas.

9. Describe proposed signage at site.

Due to their mounting locations and height, the T-Mobile antennas would not be accessible to unauthorized persons, and so no mitigation 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 antennas, including employees and contractors of the wireless carriers and of the property owner. No access within 12 feet directly in front of the T-Mobile 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<sup>†</sup> be posted at the roof access doors and on the screens in front of the antennas, readily visible from any angle of approach to persons who might need to work within that distance. Similar measures should already be in place for Verizon; the applicable keep-back distance and boundary markings for that carrier has not been determined as part of this study.

<sup>†</sup> 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.



HAMMETT & EDISON, INC.  
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SAN FRANCISCO

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Page 3 of 4

T-Mobile West LLC • Proposed Base Station (Site No. SF93356C)  
601 Van Ness Avenue • San Francisco, California

2. The location of all approved (but not installed) antennas and facilities. Expected RF levels from approved antennas.

No other WTS facilities are reported to be approved for this site but not installed.

3. The number and types of WTS within 100 feet of proposed site and estimates of additive EMR emissions at proposed site.

There were observed no other WTS facilities at the site or nearby.

4. Location (and number) of Applicant's antennas and back-up facilities per building and location (and number) of other WTS at site.

T-Mobile proposes to install nine directional panel antennas – three Andrew Model LNX-6515DS and six Ericsson Model AIR21 – behind new view screens to be installed on the sides of the mechanical equipment penthouse above the roof of the southern residential tower. The antennas would be mounted with up to 12° downtilt<sup>‡</sup> at an effective height of about 161½ feet above ground, 24½ feet above the roof, and would be oriented in groups of three toward 10°T, 140°T, and 260°T, to provide service in all directions. Also proposed to be located on the roof of the same tower is a microwave “dish” antenna, for interconnection of this site with others in the T-Mobile network.

For the limited purposes of this study, the transmitting facilities of Verizon are assumed to be as follows:

Service	Maximum ERP	Antenna Model	Downtilt	Height
AWS	4,100 watts	Andrew HBX-6516DS	12°	165 ft
PCS	1,300	Andrew HBX-6516DS	12	165
Cellular	2,700	Andrew LNX-6512DS	12	165
700 MHz	1,700	Andrew LNX-6512DS	12	165

5. Power rating (maximum and expected operating power) for all existing and proposed backup equipment subject to application.

The expected operating power of the T-Mobile transmitters is reflected in the resulting effective radiated power given in Item 6 below; the transmitters may operate at a power below their maximum rating. The power ratings for the Verizon transmitters are not known.

6. Total number of watts per installation and total number of watts for all installations at site.

The maximum effective radiated power (“ERP”) proposed by T-Mobile in any direction is 8,700 watts, representing simultaneous operation at 4,400 watts for AWS, 2,200 watts for PCS, and 2,100 watts for 700 MHz service. The maximum ERP assumed for the Verizon operation is as noted in the table in Item 4 above.

\* Assumed for the purposes of this study.



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CONSULTING ENGINEERS  
SAN FRANCISCO

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Page 2 of 4

T-Mobile West LLC • Proposed Base Station (Site No. SF93356C)  
601 Van Ness Avenue • San Francisco, California

10. Statement of authorship.

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration No. E-20309, which expires on March 31, 2017. This work has been carried out under her direction, and all statements are true and correct of her own knowledge except, where noted, when data has been supplied by others, which data she 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 T-Mobile West LLC at 601 Van Ness Avenue 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 is recommended to establish compliance with occupational exposure limits.



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

June 23, 2015



HAMMETT & EDISON, INC.  
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Page 4 of 4

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CONCORD, CA 94520

PRECISION DESIGN

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OPERA PLAZA

SF93356C  
601 VAN NESS AVE  
SAN FRANCISCO, CA

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△	DATE	DESCRIPTION
	04/15/15	ZD 90%
	05/27/15	ZD 100%
	06/30/15	CD 90%
	08/17/15	CD 100%

DRAWN BY: EDC

CHECKED BY: F. CASTILLO

APPROVED BY: B. McCOMB

DATE: 08/17/15

SHEET TITLE:

RF EXPOSURE

SHEET NUMBER

T-3

2.06 Submittal Requirements for Cellular Antenna Sites

REFERENCE: 2010 SFBC, 2010 SFFC, 2010 SFMC and FCC OET Bulletin 65 (97-01)

1. Provide a description of work on the plans.
2. Plans shall include plan views and elevations showing all equipment locations and cable runs.
3. Plans shall include antenna cut-sheets and equipment list on a drawing sheet.
4. Include a copy of the signed and stamped RF report on a drawing sheet as a reference to identify the exclusion area required to prevent occupational exposures in excess of the FCC guidelines (47CFR1.1310 and FCC OET Bulletin 65 edition 97-01).
5. The RF report shall indicate whether or not the site under review is a part of a multiple transmitter site and shall show compliance with FCC 47CFR1.1307(b)(3), as amended - all transmitters shall not exceed 5% of the power density exposure limit.
6. Drawings shall reflect the striped/exclusion areas for workers per the above RF Report with a minimum radius of 1 foot.
7. Plans shall include a quantitative three-dimensional image of the RF levels from each antenna located near an egress point (e.g. penthouse stair; fire escape, roof walking paths; skylights, etc.).
8. "Notice to Workers" warning signage, as applicable per the above RF Report, shall be permanently mounted at the stairwell side of the roof-access door (ANSI C95.2-1982 (Reference [3]) – yellow or more durable color for outdoor longevity)
9. Camouflaged antennas shall have 4inch x 4inch signage permanently mounted to the exterior of the RF screen as provided below. The sign shall be weatherproof with contrasting background color and shall contain the yellow triangle around the antenna symbol (ANSI C95.2-1982 (Reference [3]) – yellow or more durable color for outdoor longevity). Signage location(s) and detail of the sign shall be included on the plans.
10. Cables/wiring shall not be allowed in exit enclosures, smoke-proof towers, elevator shafts, or in front of dry standpipes. 2010 CFC 1022.4 and 509.2
11. Antennas shall not be mounted closer than the exclusion zone plus 4 feet for installations near fire escapes, stair penthouse doors, exterior standpipe outlets, skylights, or other fire department operations consideration.
12. There is no guarantee that the fire department will not shut down the power to the site in an emergency situation although in order to reduce the site operator's possible loss of service the following information may be provided at the equipment room entrance:
  - Provide emergency shutdown procedure signage. The sign shall include the following:

1. Emergency 24 hour/7 day a week NOC / field technician telephone number for RF shut-down
  2. Cell site identification number
  3. Map to location of electrical main – electrical main shall be clearly identified with a permanent red label and white lettering.
  4. Map to location of battery cabinets and breakers – cabinets and breakers shall be clearly identified with a permanent red label and white lettering.
  5. Any other relevant information or procedures as required for the individual cellular site.
- The sign shall be clearly labeled in a phenolic label with a white background and black lettering. The title block shall be a red background and 1" high white lettering. Multiple signs may need to be installed based upon the cellular site configuration.
  - A copy of the signage shall be included on a drawing sheet. See attached sample.

For further Information see the FCC website: <http://www.fcc.gov/oet/rrsafety>

EMERGENCY  
SHUT DOWN

FOR IMMEDIATE SHUT DOWN OF ALL RADIO  
FREQUENCY EMISSIONS OF THIS SITE,

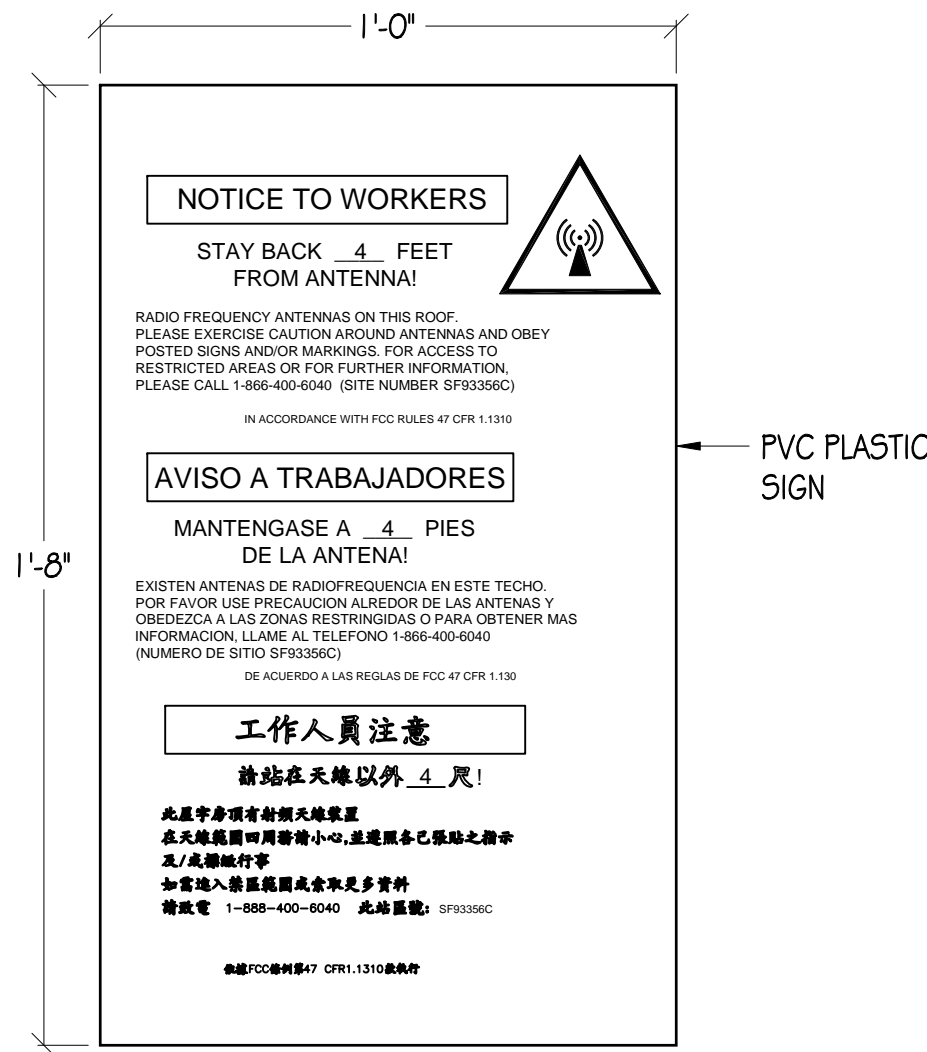
- 1) CALL CONTACT NUMBER AND GIVE SITE IDENTIFICATION NO.  
  
CONTACT PHONE NUMBER: 1-877-611-5868, PRESS #4, THEN PRESS #2  
  
SITE IDENTIFICATION NUMBER: SF93356C
- 2) DISCONNECT POWER AT MAIN SERVICE DISCONNECT:  
  
Map and/or verbiage
- 3) DISCONNECT BACK-UP POWER AT BATTERY DISCONNECT:  
  
Map and/or verbiage

Drawing notes:

1. Sign shall be a phenolic label with white background and black lettering. The title block shall be a red background and 1" high white lettering.
2. Contractor to place signs in following locations:
  - a) Cell site equipment room door
  - b) Battery location within proximity of battery disconnect
  - c) FCC room within proximity of the fire alarm panel
  - d) Building's main electrical room within proximity of the main shutoff and/or at the cell site main electrical disconnect

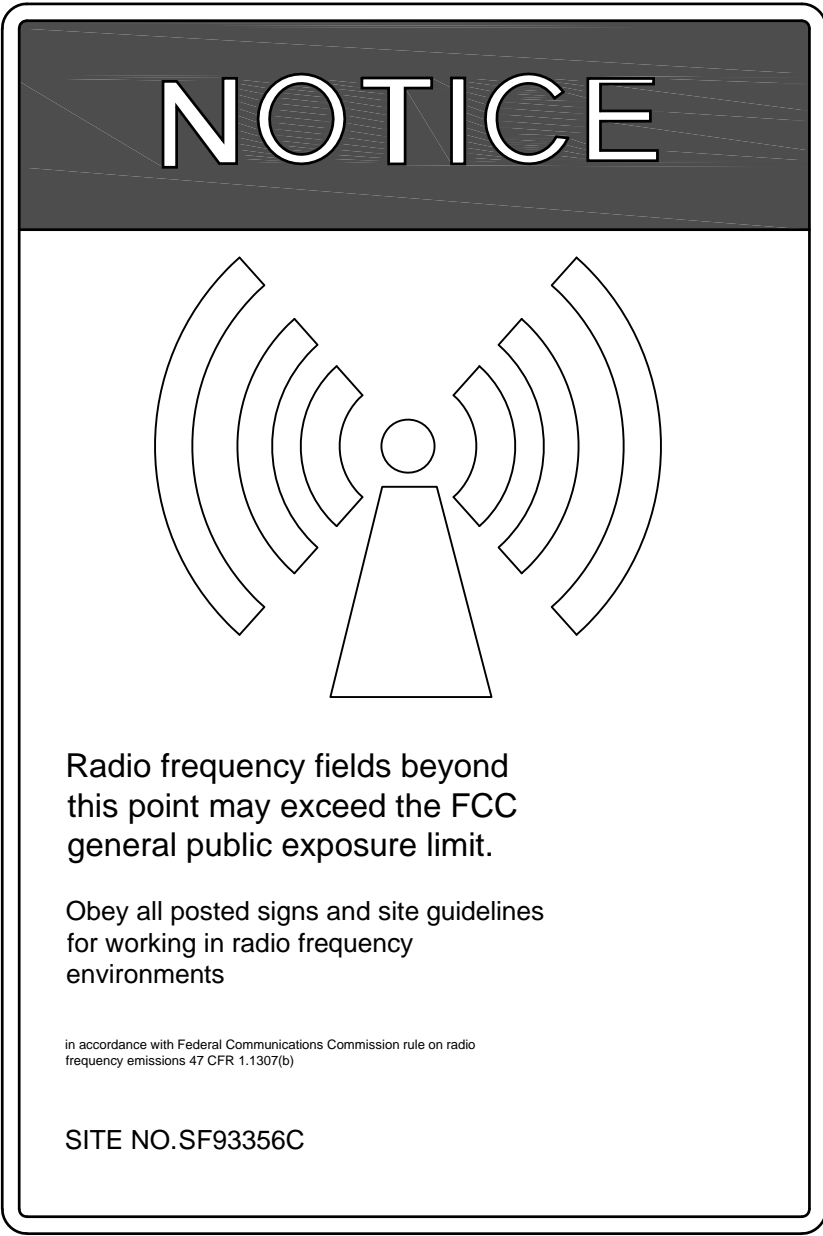
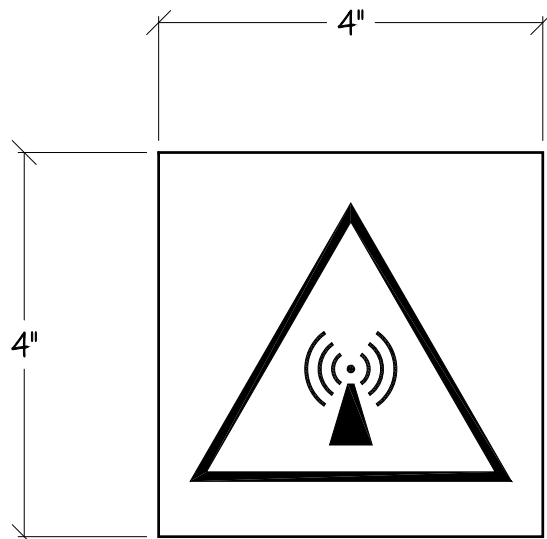
NOTES

1. WARNING SIGN TO BE PERMANENTLY MOUNTED AT ANTENNA LOCATIONS, STAIRWELL SIDE OF THE ROOF ACCESS STAIRWELL, ROOF ACCESS DOOR, IN THE FIRE CONTROL ROOM WITHIN PROXIMITY OF THE SHUT-DOWN SIGNAGE AND AS NOTED IN THE PLANS.
2. SIGN SHALL COMPLY WITH ANSI C95.2 COLOR, SYMBOL AND CONTENT CONVENTIONS.
3. SIGNAGE SHALL BE CLEARLY LABELED IN A PHENOLIC LABEL WITH WHITE BACKGROUND AND BLACK LETTERING AND SHALL BE READABLE FROM AT LEAST (15) FEET FROM SIGN.
4. CONTRACTOR TO VERIFY WITH THE CARRIER THE CORRECT CONTACT PHONE NUMBER PRIOR TO SIGN FABRICATION AND INSTALLATION.



4"x4" SIGNAGE NOTE

1. 4"x4" WARNING SIGN SHALL BE PERMANENTLY MOUNTED TO EXTERIOR OF CAMOUFLAGED ANTENNAS RF SCREENS.



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OPERA PLAZA

SF93356C  
601 VAN NESS AVE  
SAN FRANCISCO, CA

ISSUE STATUS

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DRAWN BY: EDC

CHECKED BY: F. CASTILLO

APPROVED BY: B. McCOMB

DATE: 08/17/15

SHEET TITLE:

RF SIGNAGE

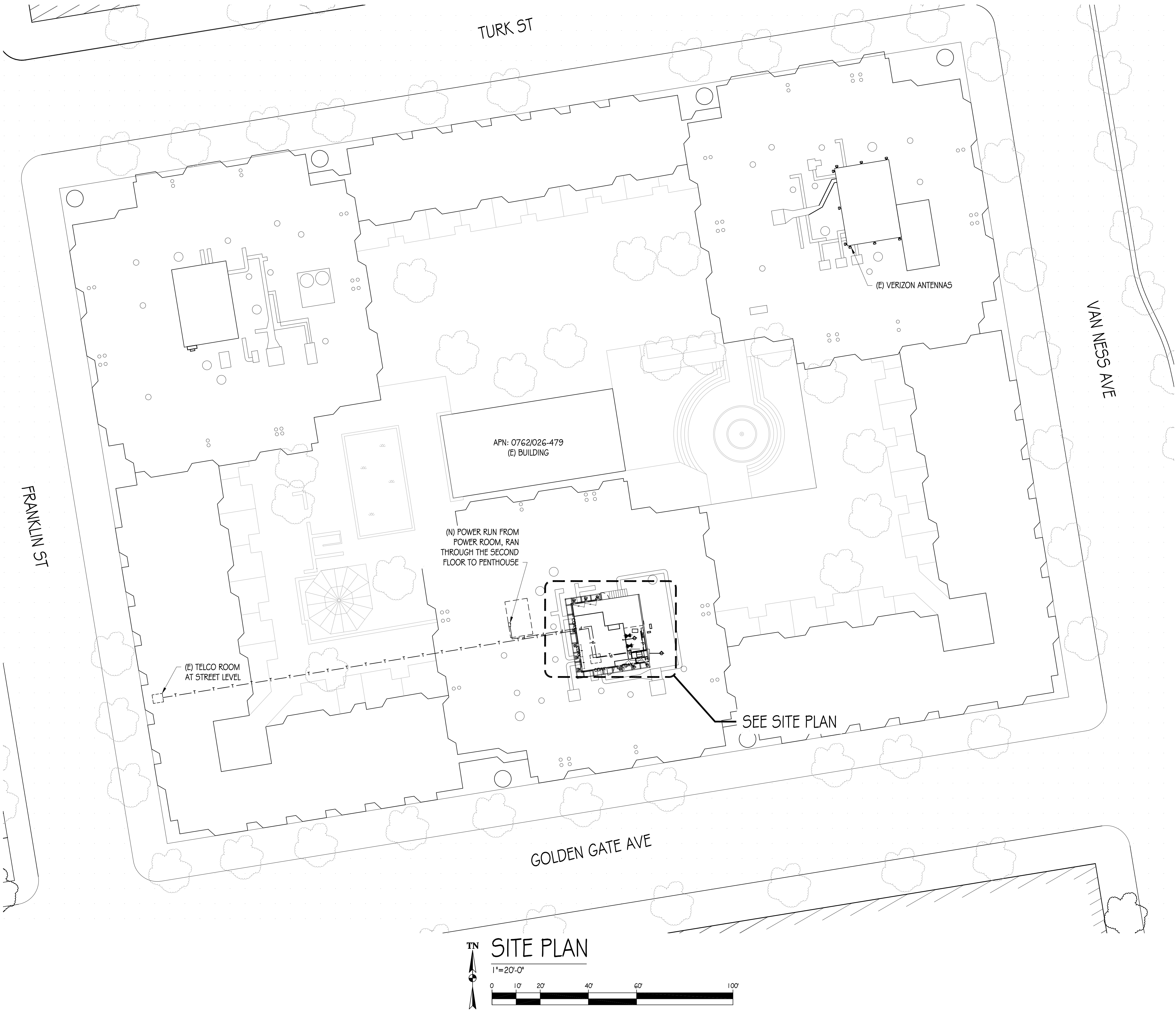
SHEET NUMBER

T-4



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, RUBBISH AND 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. 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. CONTRACTOR TO VERIFY THE LATEST/CURRENT RF DESIGN.



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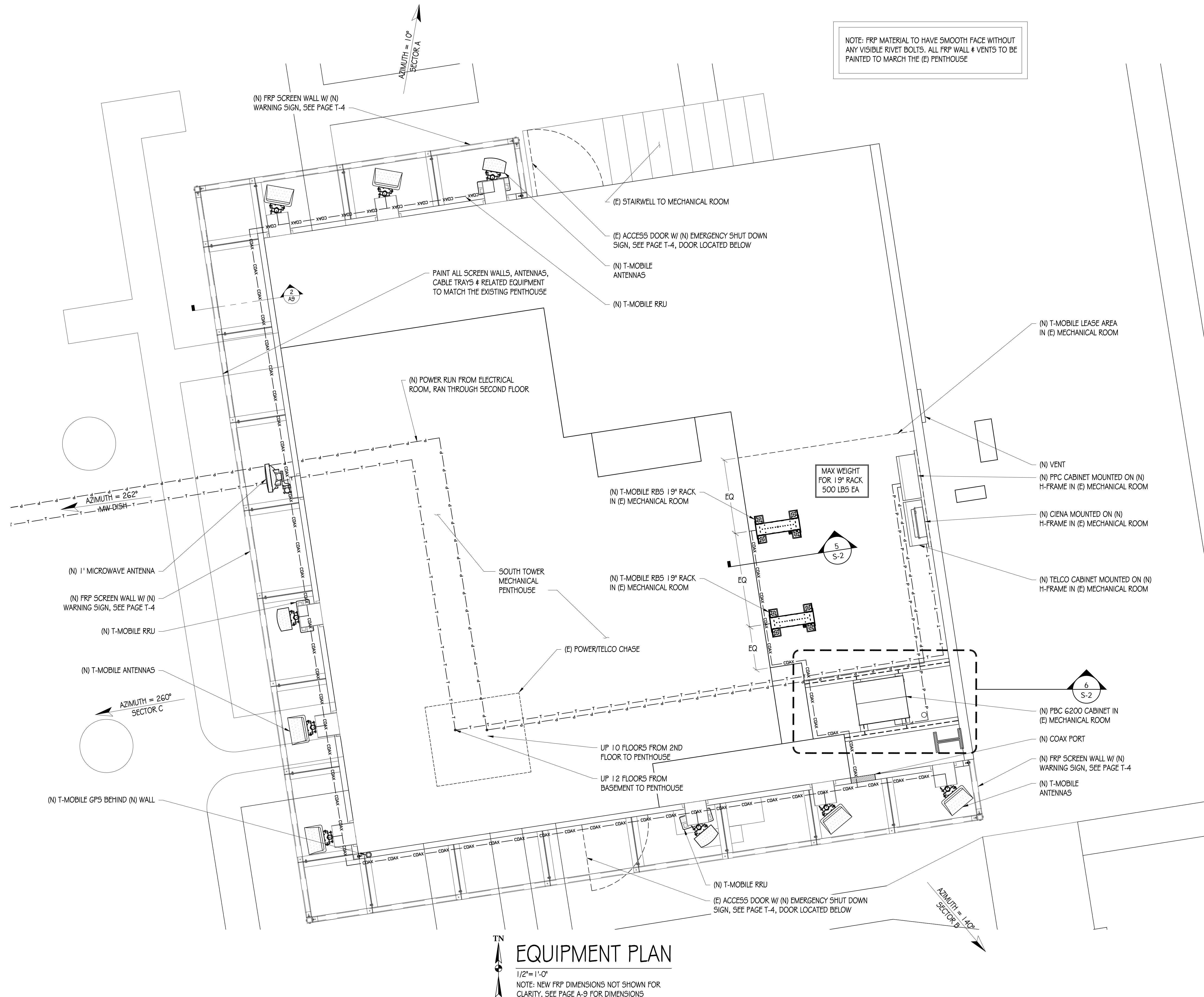
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NOTE: FRP MATERIAL TO HAVE SMOOTH FACE WITHOUT ANY VISIBLE RIVET BOLTS. ALL FRP WALL & VENTS TO BE PAINTED TO MATCH THE (E) PENTHOUSE

**EQUIPMENT PLAN**  
1/2" = 1'-0"  
NOTE: NEW FRP DIMENSIONS NOT SHOWN FOR CLARITY, SEE PAGE A-9 FOR DIMENSIONS

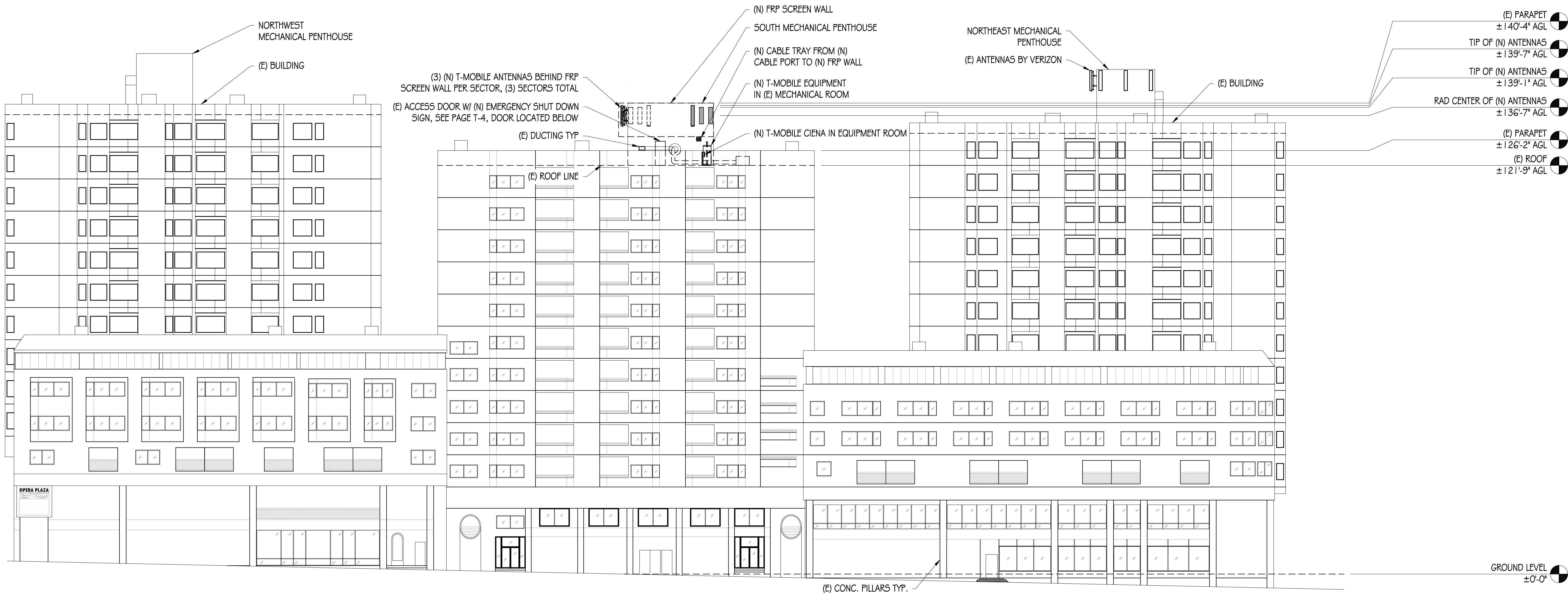


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EQUIPMENT PLAN
SHEET NUMBER
A-2



## NEW SOUTH ELEVATION

1/1 6"=1'-0"

NOTE: FRP MATERIAL TO HAVE SMOOTH FACE WITHOUT ANY VISIBLE RIVET BOLTS. ALL FRP WALL & VENTS TO BE PAINTED TO MATCH THE (E) PENTHOUSE

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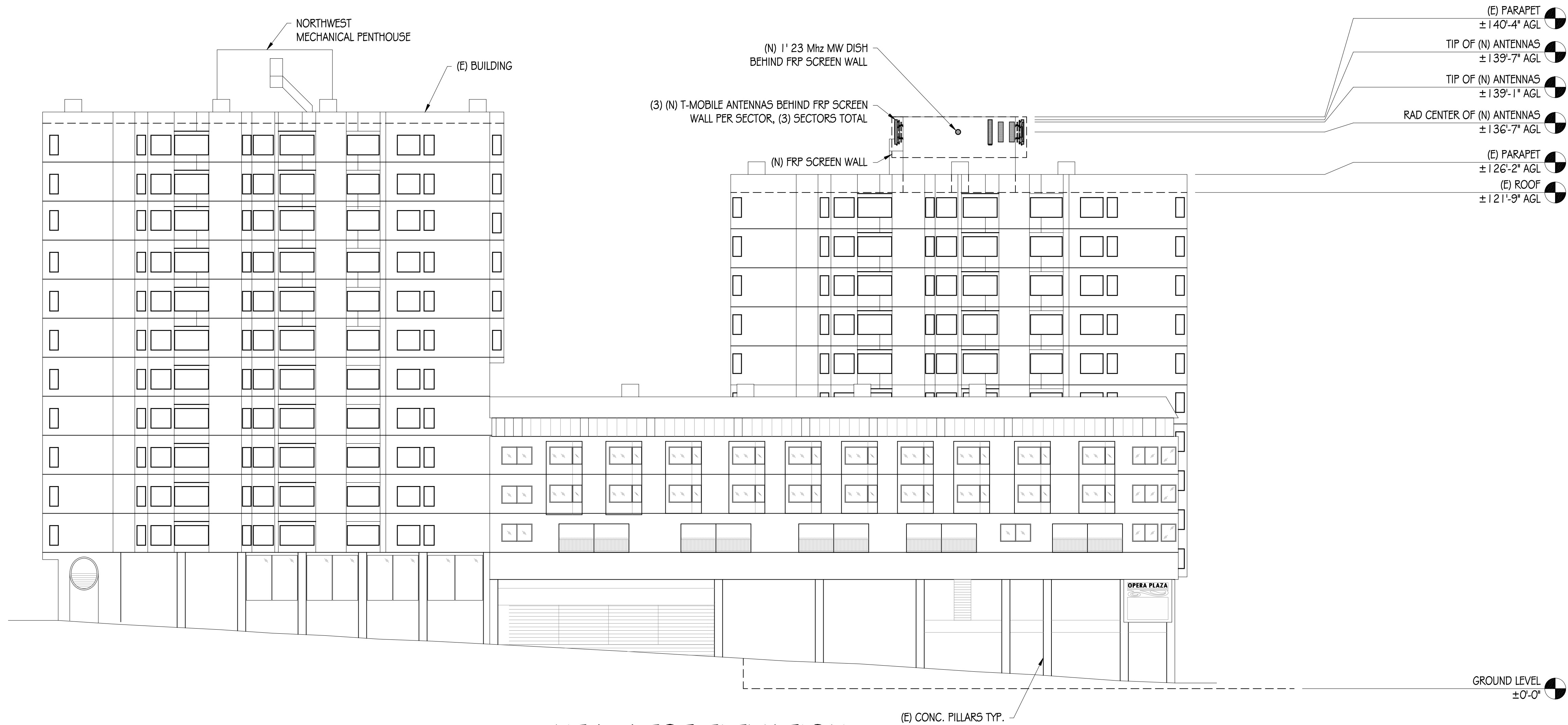
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ELEVATION

SHEET NUMBER

A-3





NEW WEST ELEVATION

1/16"=1'-0"

NOTE: FRP MATERIAL TO HAVE SMOOTH FACE WITHOUT ANY VISIBLE RIVET BOLTS. ALL FRP WALL & VENTS TO BE PAINTED TO MATCH THE (E) PENTHOUSE

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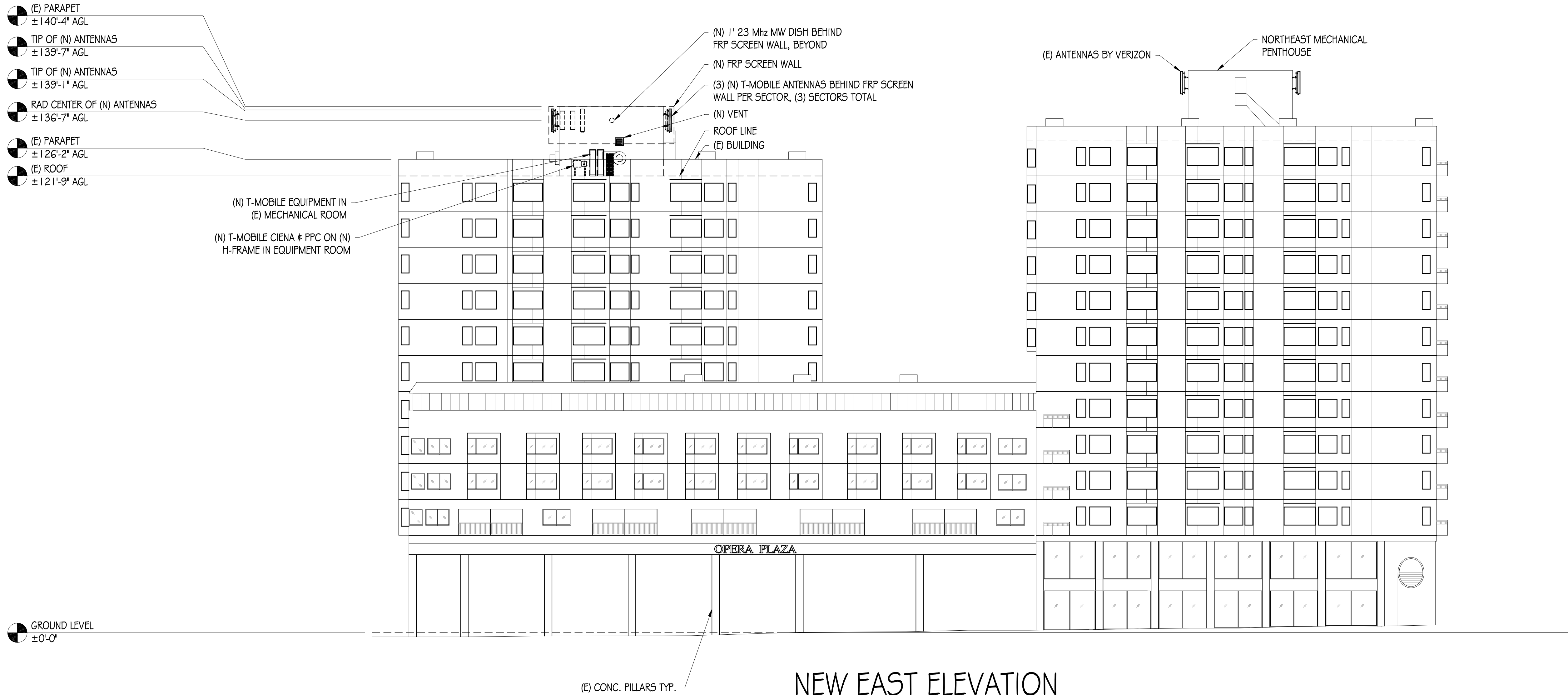
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ELEVATION

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A-4



NEW EAST ELEVATION

1/16"=1'-0"

NOTE: FRP MATERIAL TO HAVE SMOOTH FACE WITHOUT ANY VISIBLE RIVET BOLTS. ALL FRP WALL & VENTS TO BE PAINTED TO MATCH THE (E) PENTHOUSE



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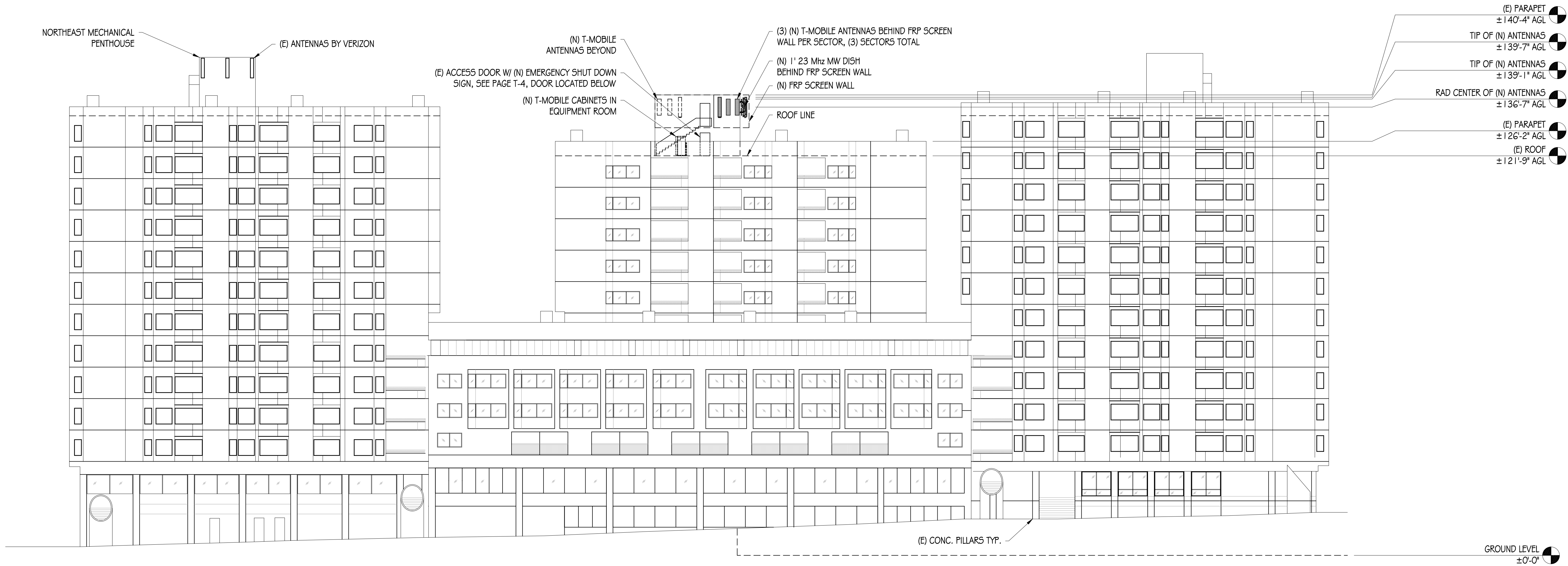
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ELEVATION

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A-5



## NEW NORTH ELEVATION

1/16"=1'-0"

NOTE: FRP MATERIAL TO HAVE SMOOTH FACE WITHOUT ANY VISIBLE RIVET BOLTS. ALL FRP WALL & VENTS TO BE PAINTED TO MATCH THE (E) PENTHOUSE

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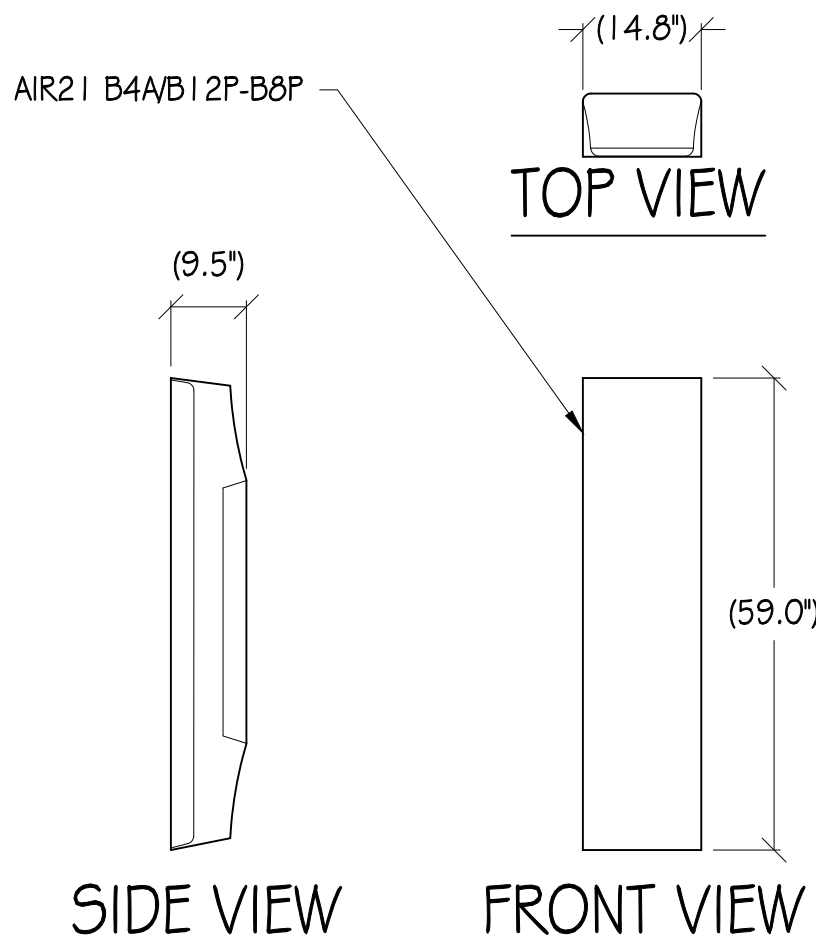
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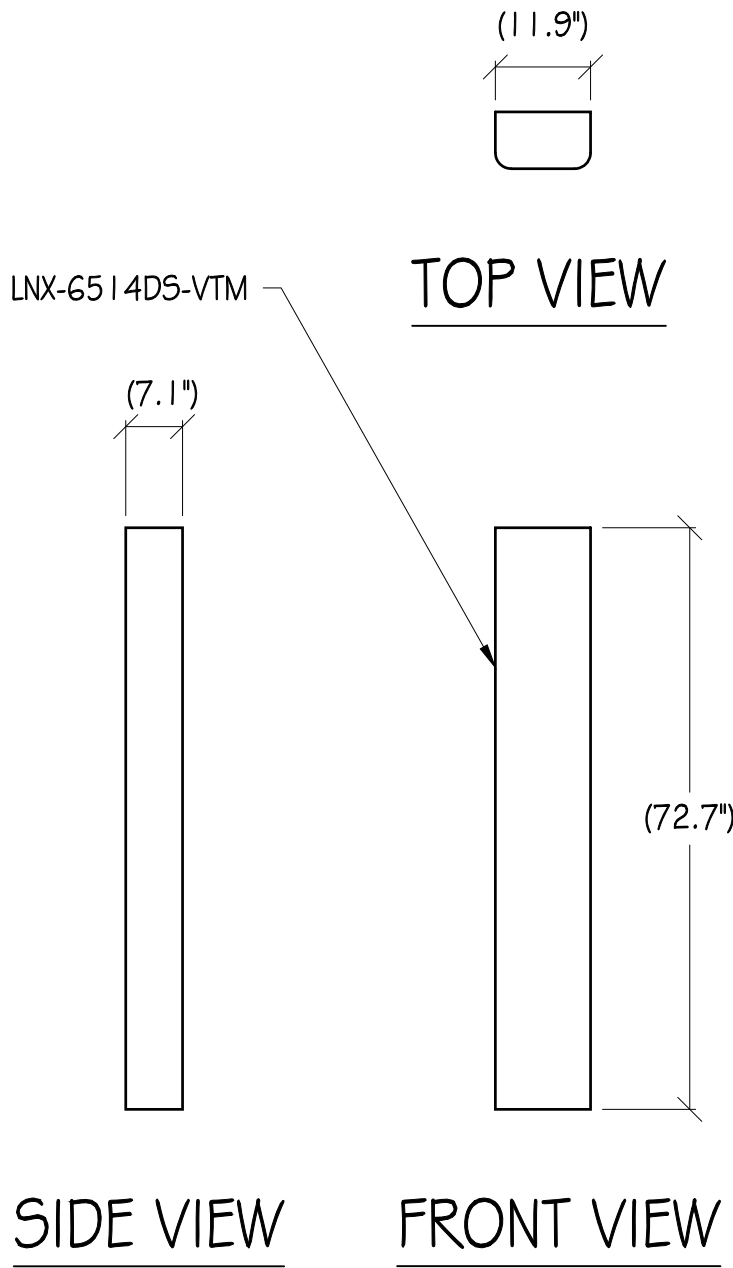


PROJECT GENERAL NOTES

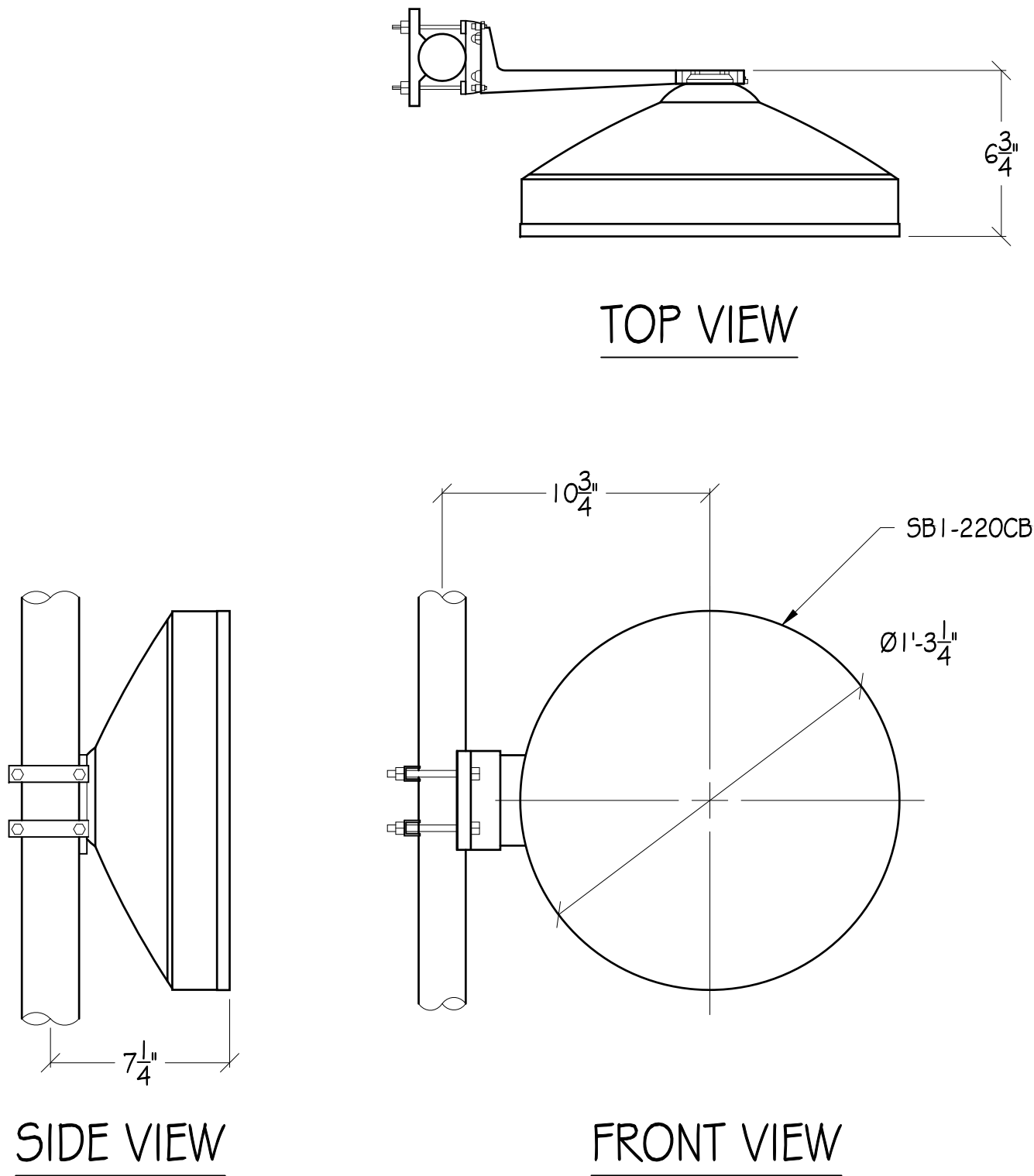
1. THIS FACILITY IS AN UNOCCUPIED WIRELESS TELECOMMUNICATION FACILITY.
2. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS NOTED OTHERWISE.
3. THE SCOPE OF WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS 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. 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.
8. 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.
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10. KEEP GENERAL AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND 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.
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12. CONTRACTOR TO VERIFY THE LATEST/CURRENT RF DESIGN.



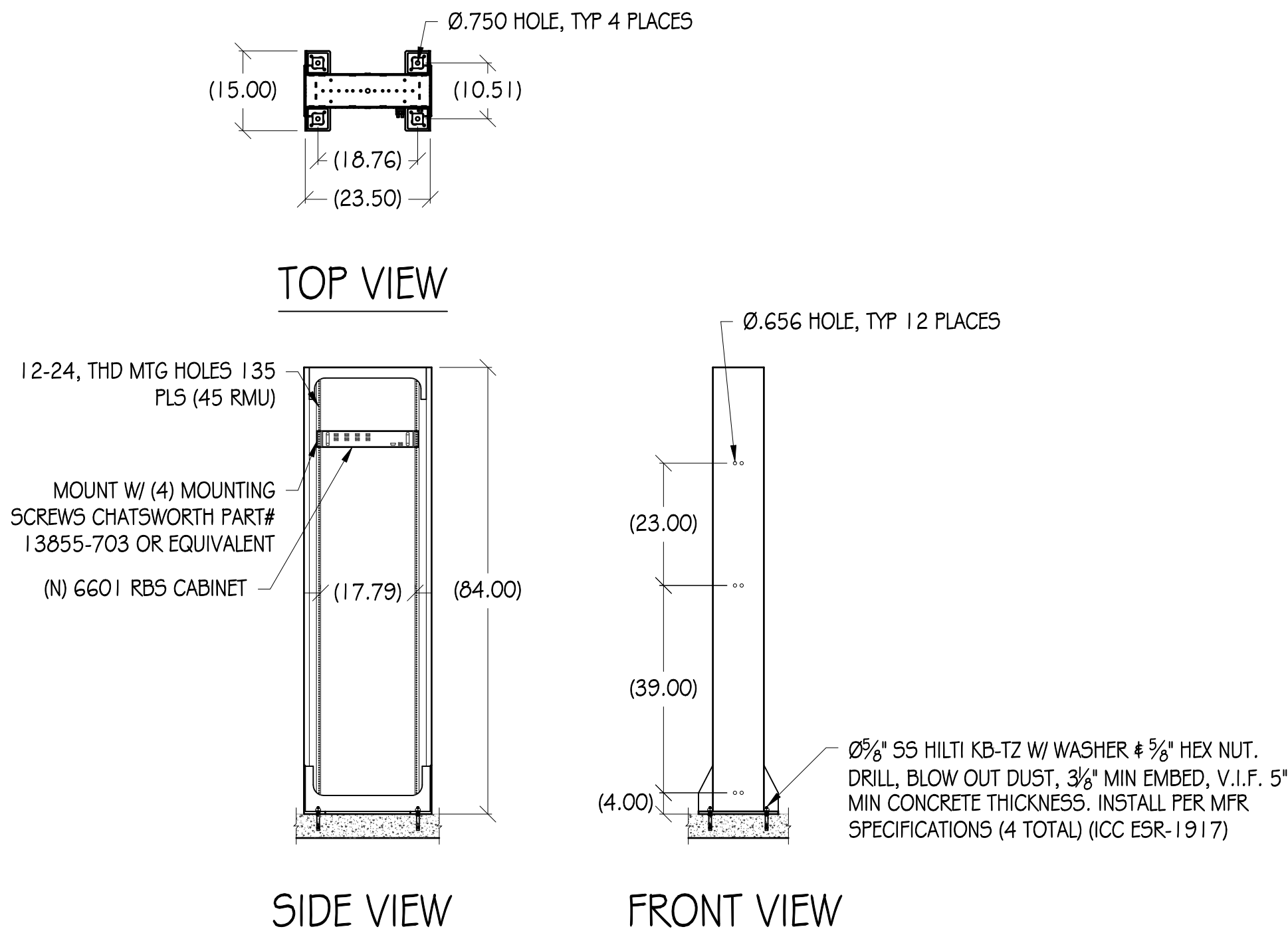
1 ANTENNA DETAIL  
1/2"= 1'



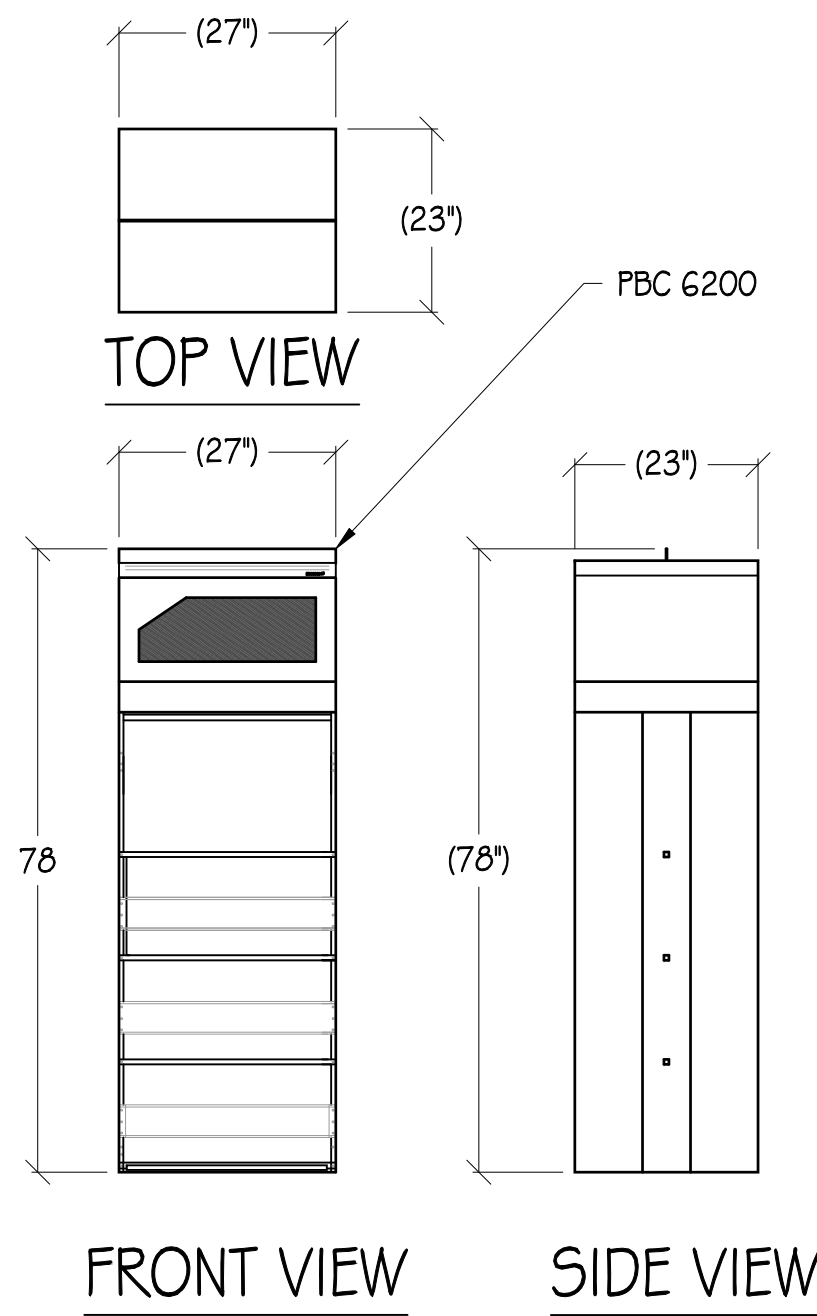
2 ANTENNA DETAIL  
1/2"= 1'



3 MICROWAVE DISH DETAIL  
1"= 6"



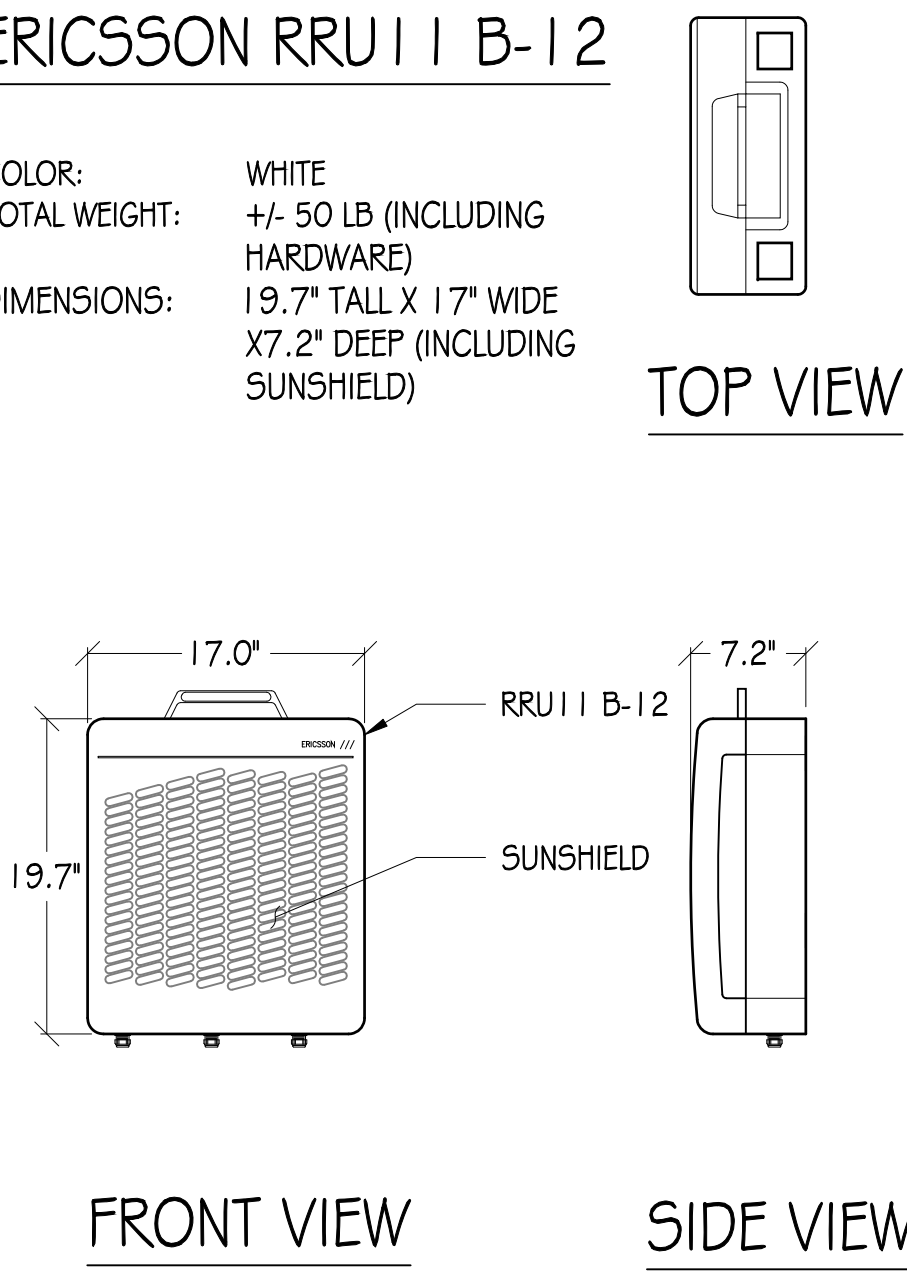
4 9" SEISMIC RACK DETAIL  
1/2"= 1'



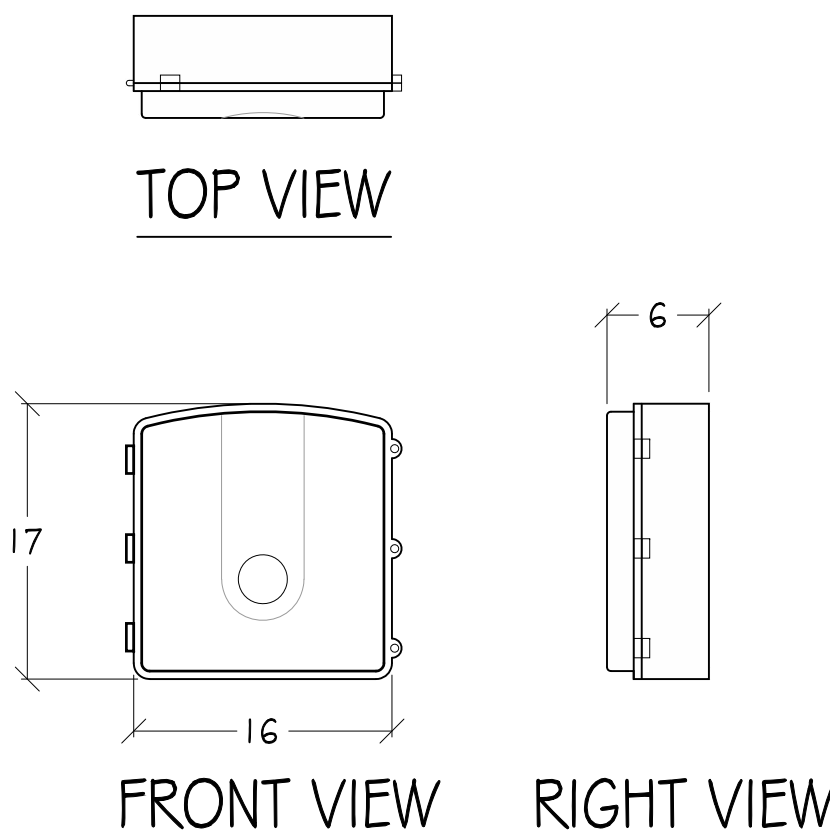
5 PBC 6200 DETAIL  
1/2"= 1'

ERICSSON RRU11 B-12

COLOR: WHITE  
TOTAL WEIGHT: +/- 50 LB (INCLUDING HARDWARE)  
DIMENSIONS: 19.7" TALL X 17" WIDE X 7.2" DEEP (INCLUDING SUNSHIELD)



6 ERICSSON RRU11 B-12 DETAIL  
1"= 1'



7 CIENA  
1/2"= 1'

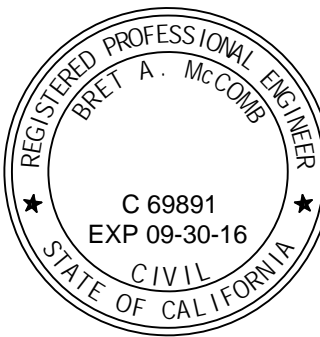
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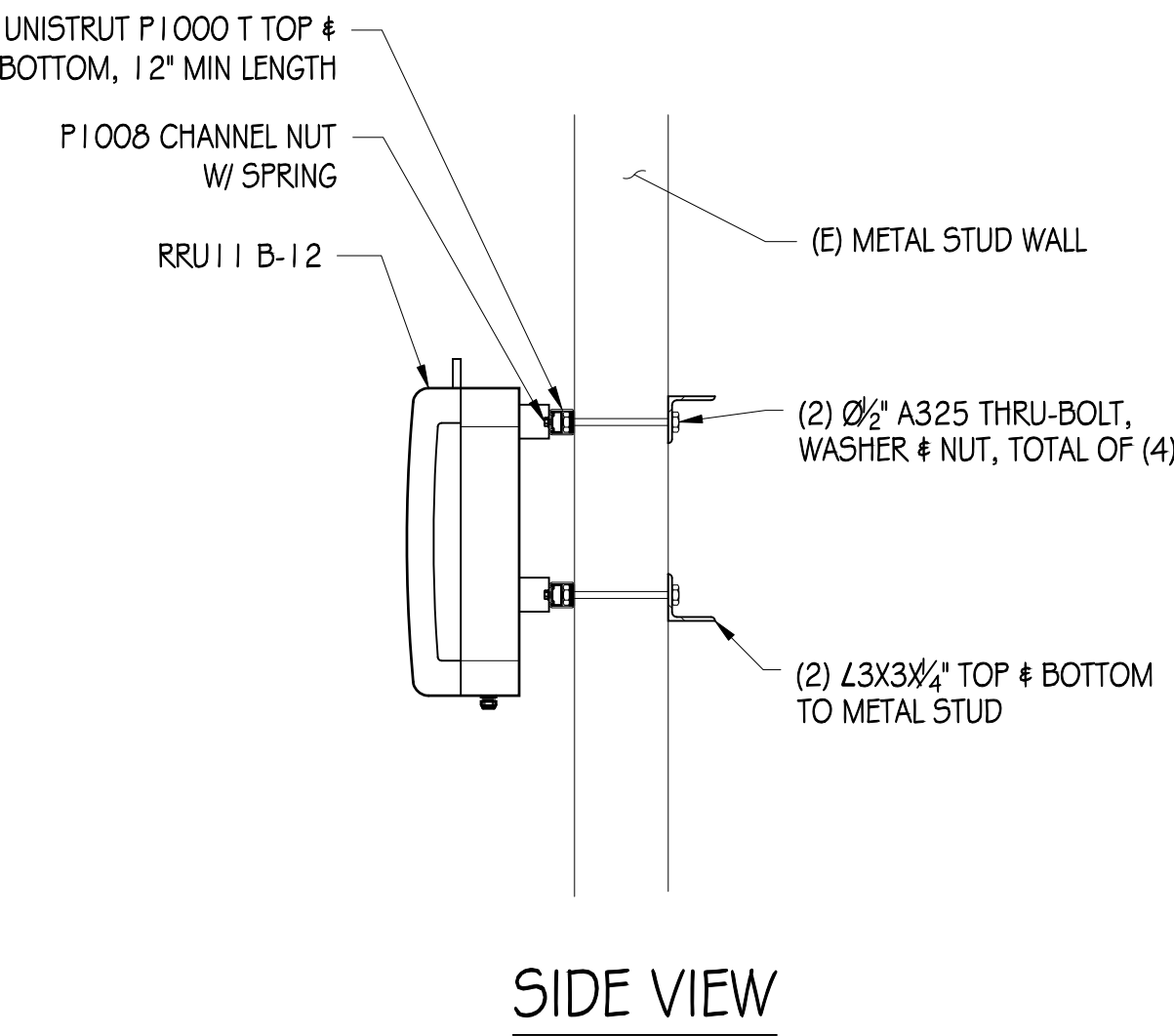
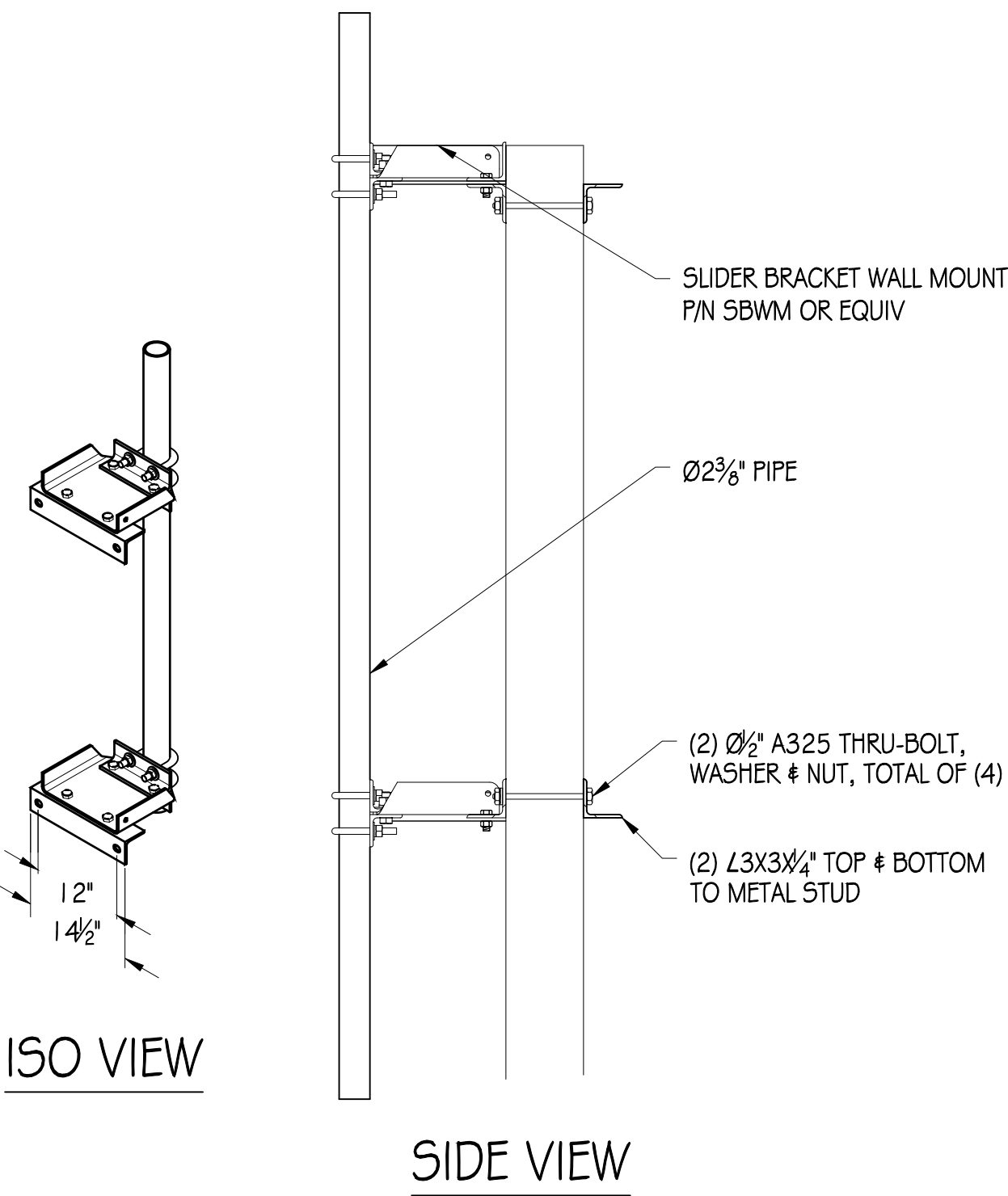
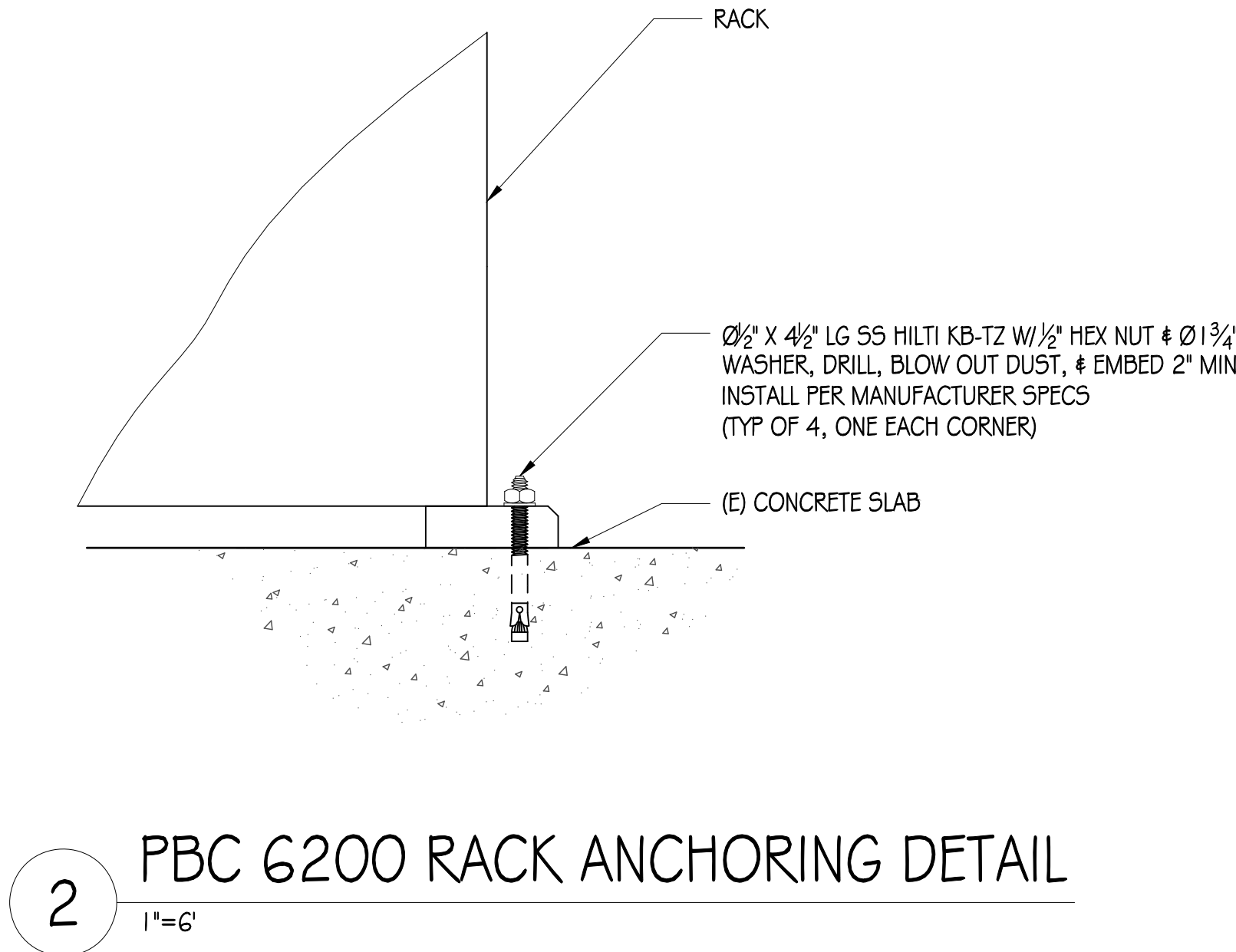
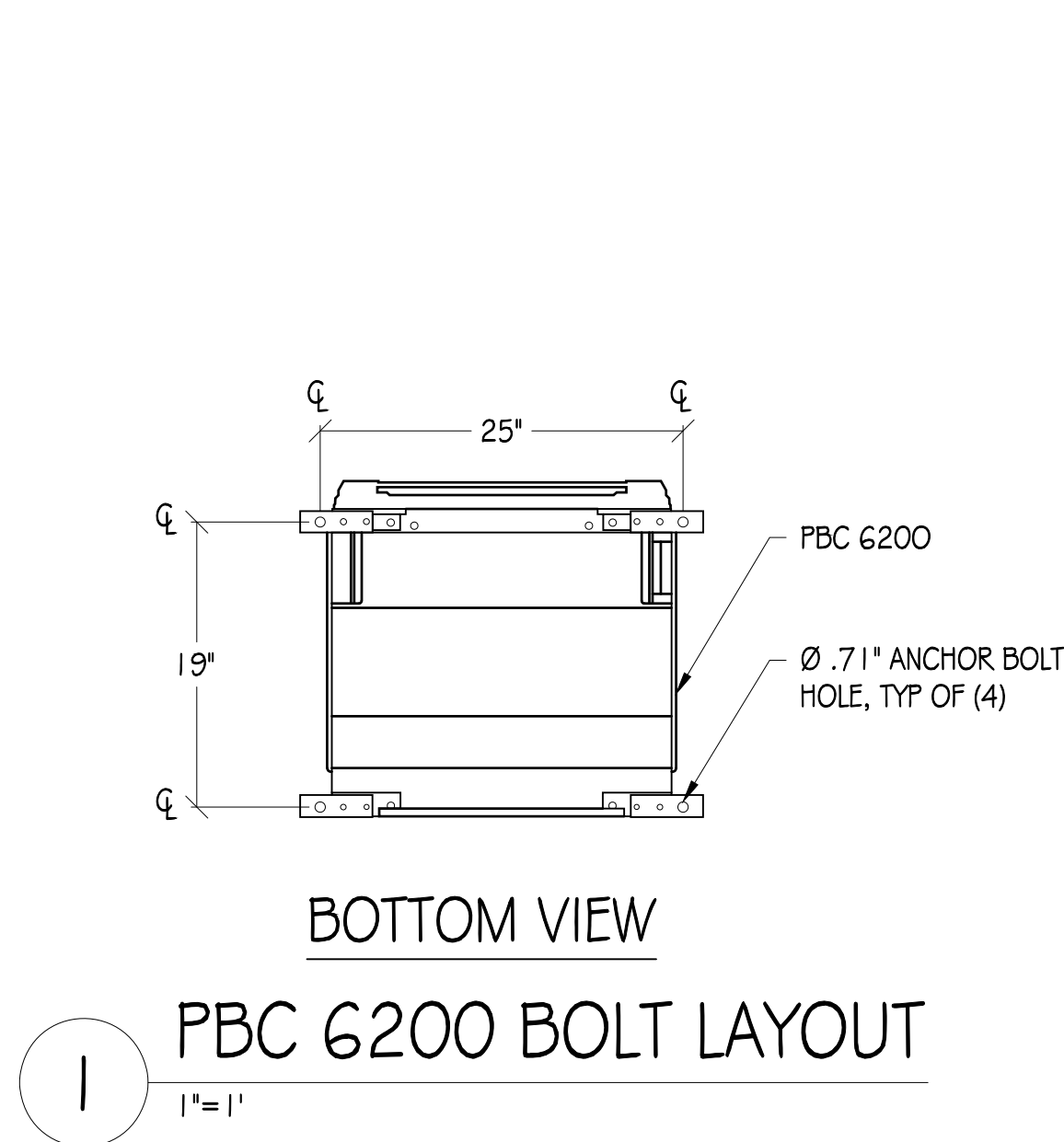
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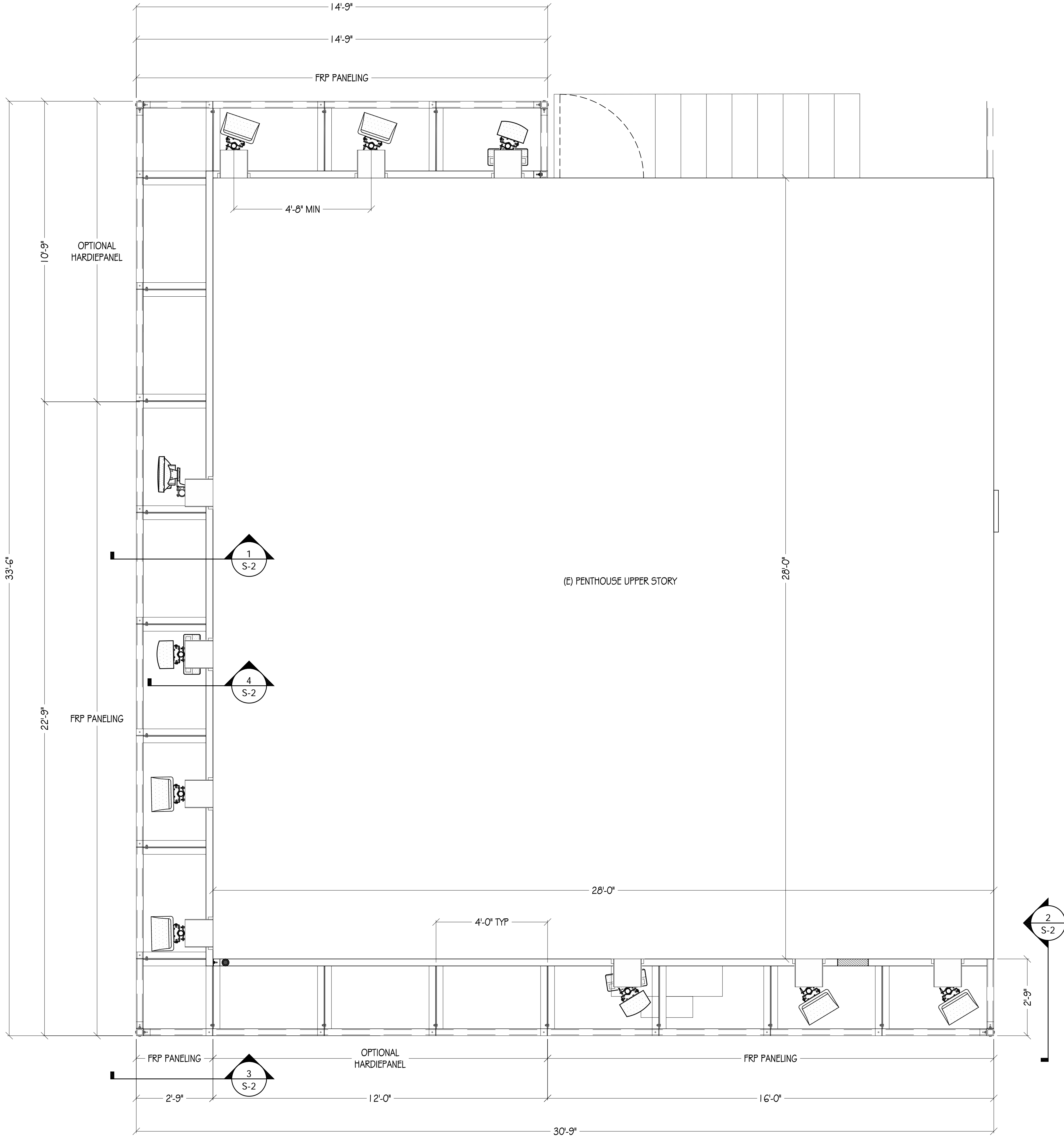
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A-8



FRP SHROUD LAYOUT

1/2"=1'-0"

NOTE:  
FRP PANEL OR HARDIE PANEL PER PLAN

### STRUCTURAL STEEL NOTES

1. ALL STEEL CONSTRUCTION INCLUDING FABRICATION, ERECTION AND MATERIALS SHALL COMPLY WITH ALL REQUIREMENTS OF THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND THE 2013 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 (T5 OR H55) 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 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 A325 MINIMUM. BOLTED CONNECTIONS SHALL BE BEARING TYPE. SEE PLANS FOR LOCATION, NUMBER, & SIZE OF BOLTS. SPECIAL INSPECTION NOT REQUIRED U.O.N.
6. THREADED RODS SHALL BE ASTM F593 CW 304/316 STAINLESS STEEL. 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 HDG 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 3/4" (OR K, WHICHEVER IS LARGER) HOLE @ WEB/FLANGE INTERSECTION UNLESS NOTED OTHERWISE.

### FRP NOTES

1. FRAMING MEMBERS IN FRONT OF ANTENNA HORIZONTAL BEAM WIDTH SHALL BE ASSEMBLED W/ FRP STRUCTURAL MEMBERS & FASTENERS ONLY.
2. FRP STRUCTURAL FRAMING MEMBERS ARE TO HAVE THE FOLLOWING MINIMUM DESIGN SPECIFICATIONS:  
 $F_y$  LONGWISE FLEXURAL STRESS W/ F.S.=3.0 1.0 KSI  
 $E$  MODULUS OF ELASTICITY 2600 KSI
3. FRP PANELS ARE TO HAVE THE FOLLOWING MINIMUM SPECIFICATIONS:  
 $F_y$  CROSSWISE FLEXURAL STRESS W/ F.S.=3.0 5 KSI  
CROSSWISE FLEXURAL MODULUS 1100 KSI
4. FRP BOLTING MINIMUM SINGLE SHEAR ALLOWABLE VALUES:  
Ø1/4" 5/16" NYLON BOLT; V=67# F5=3.0  
Ø1/2" FRP THREADED ROD & NUT; V=650# F5=4.0  
Ø3/8" FRP THREADED ROD & NUT; V=950# F5=4.0
5. PRIME & PAINT ALL FRP SURFACES PER THE FOLLOWING PROCESS:  
A. CLEAN SCREEN W/ DENATURED ALCOHOL  
B. APPLY DRYVIT NCB BASE COAT AND FIBERGLASS MESH PER DRYVIT SPECS D5402 AND D5413. FINISH TO LAP GAP TO FRP SCREEN  
C. APPLY DRYVIT DPR FINISH TO MATCH (E) BLDG FINISH TEXTURE.  
D. PAINT WITH ACRYLIC LATEX PAINT COLOR TO MATCH EXISTING BLDG FINISH COLOR.

### FASTENER SCHEDULE

1. 3/8" FRP PANEL TO STRUCTURE: Ø1/4" NYLON 5/16" BOLTS @ 1/2"
2. 5/8" HARDIE PANEL TO STRUCTURE: Ø1/4" SS OR GALV BOLTS @ 1/2"
3. FRP FRAMING TO FRP FRAMING: Ø1/2" FRP THREADED ROD AND NUTS, USE CLIPS FABRICATED FROM L STOCK AS REQD
4. FRP TO STEEL: Ø1/2" BOLT USE CLIPS FABRICATED FROM L STOCK AS REQD
5. STEEL L TO PENTHOUSE SIDING: #12 TEK OR EQUAL 9" OC (EVERY OTHER FLUTE)

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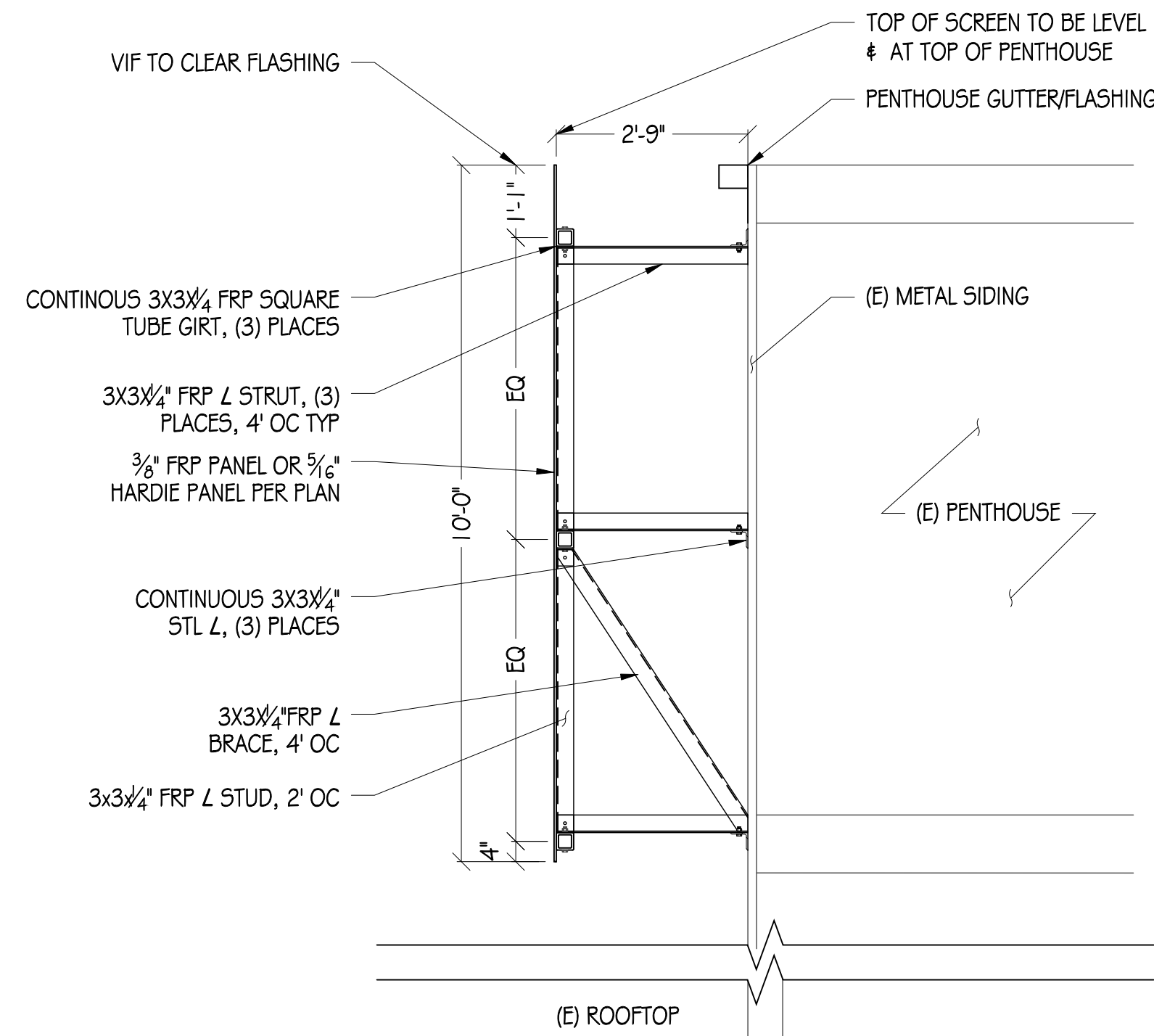
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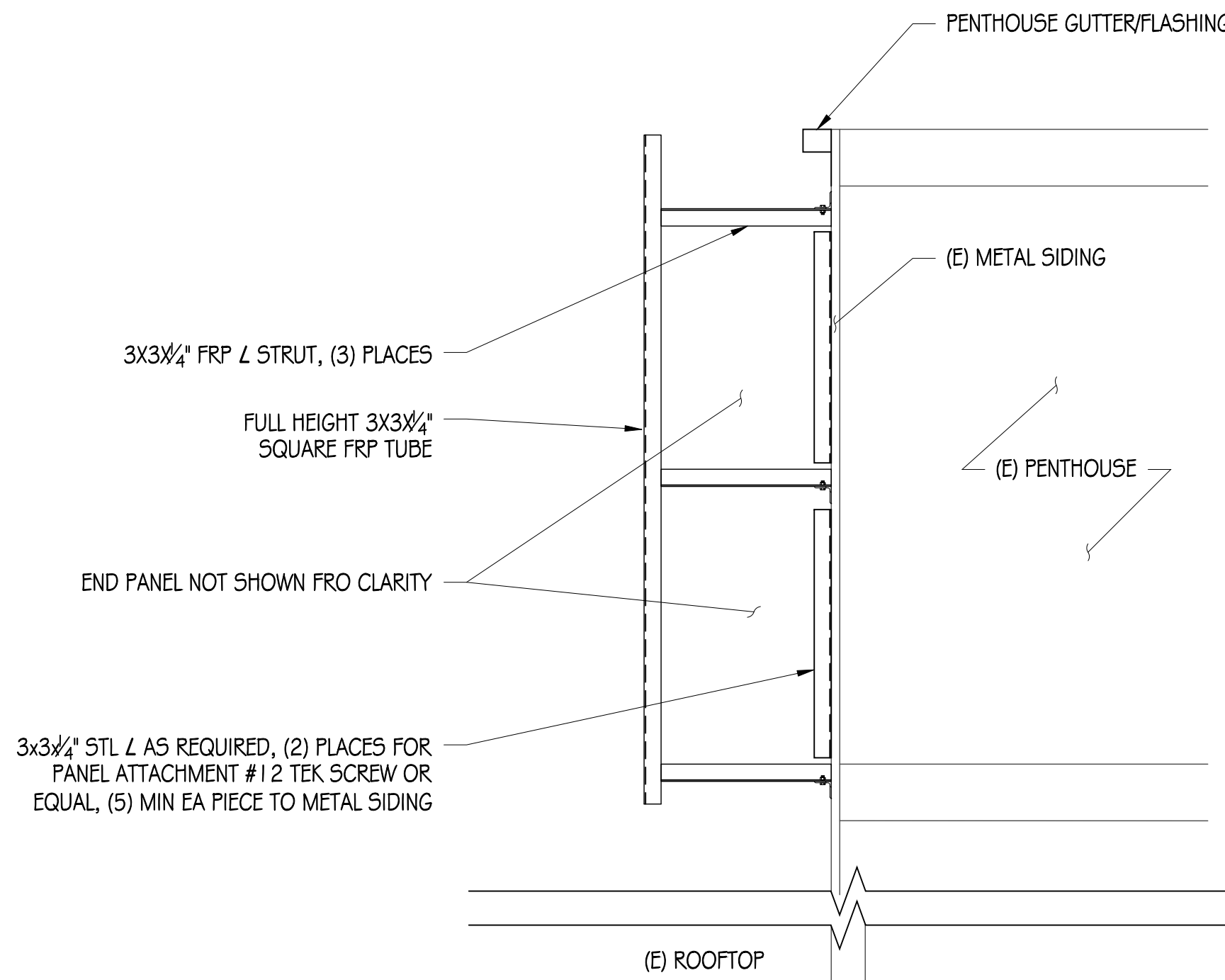
SHEET NUMBER

S-1



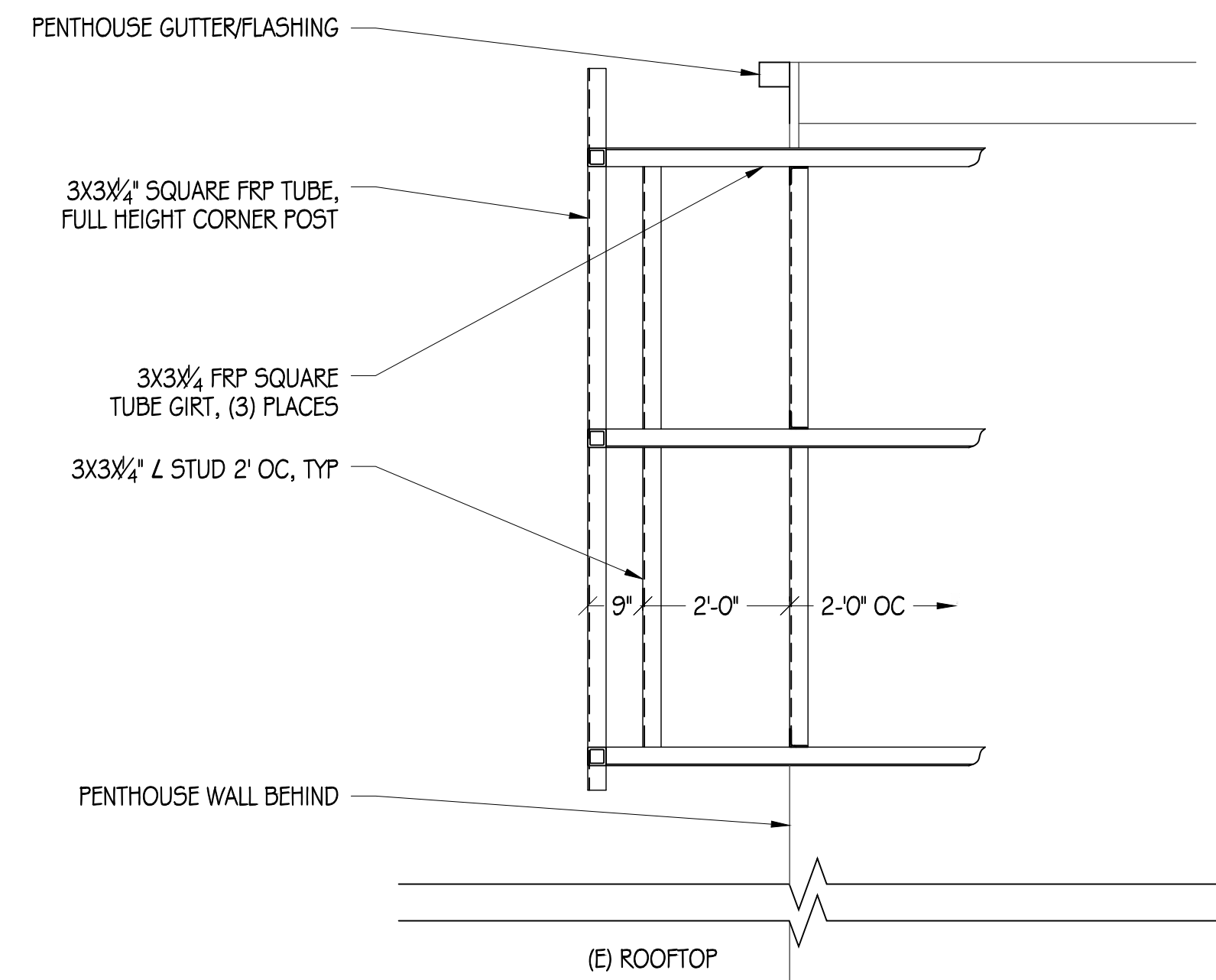
1  
1/2"=1'

FRP SHROUD SECTION



2  
1/2"=1'

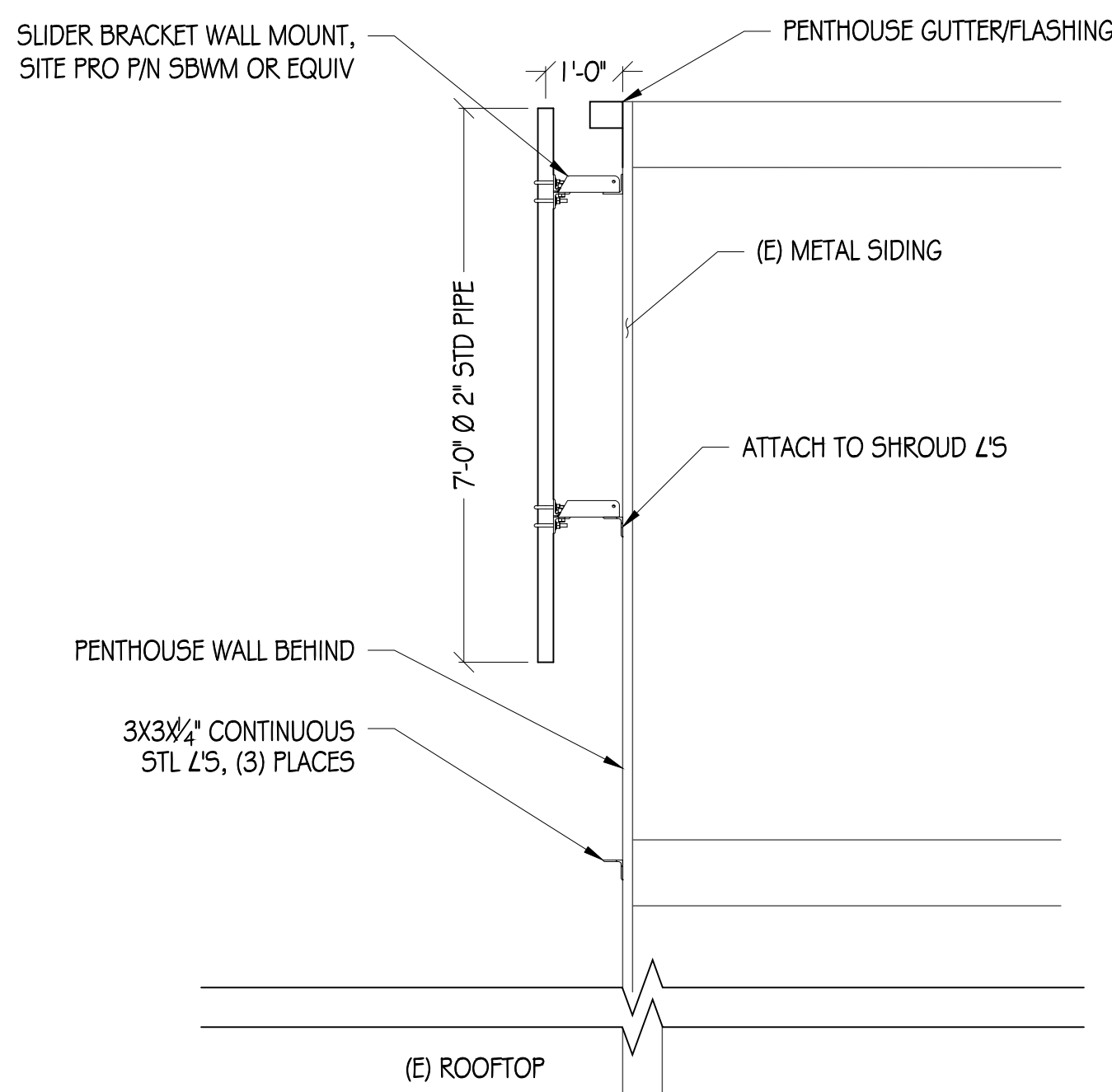
SHROUD END



3  
1/2"=1'

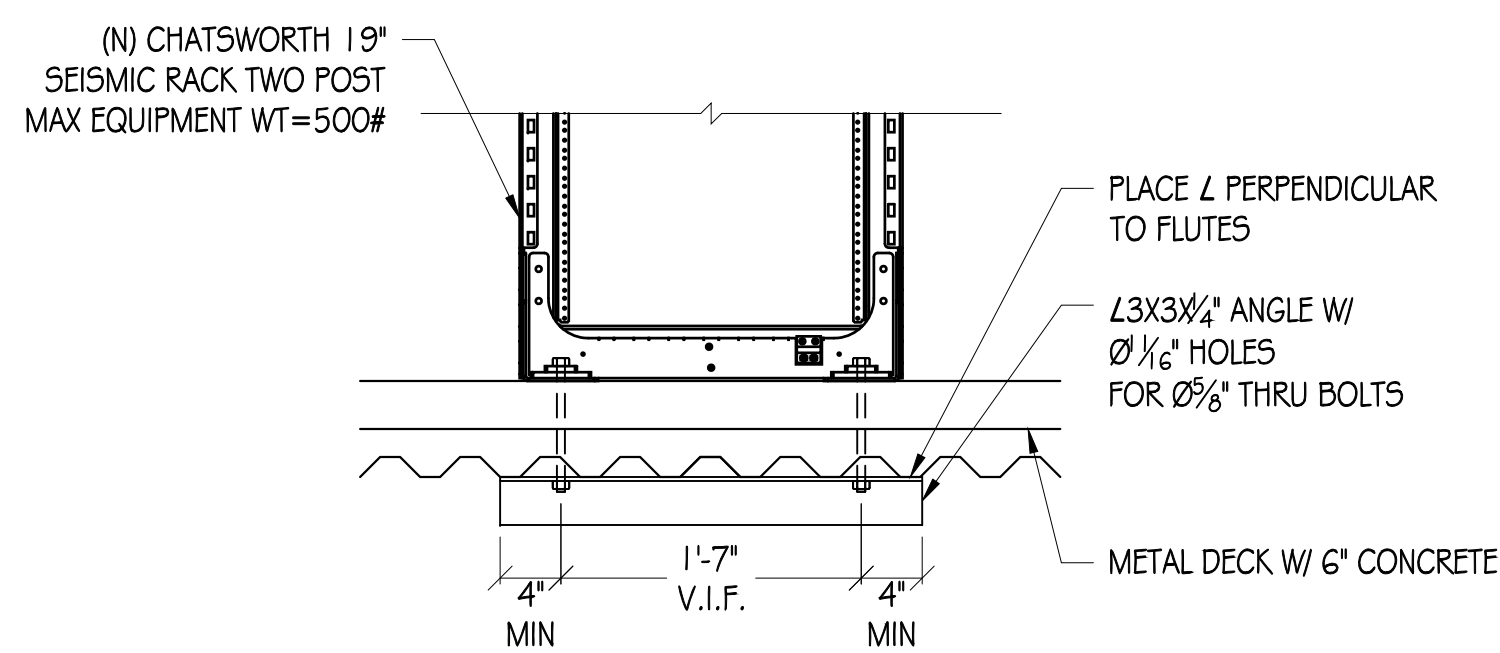
SHROUD CORNER

NOTE: PANEL NOT SHOWN FOR CLARITY



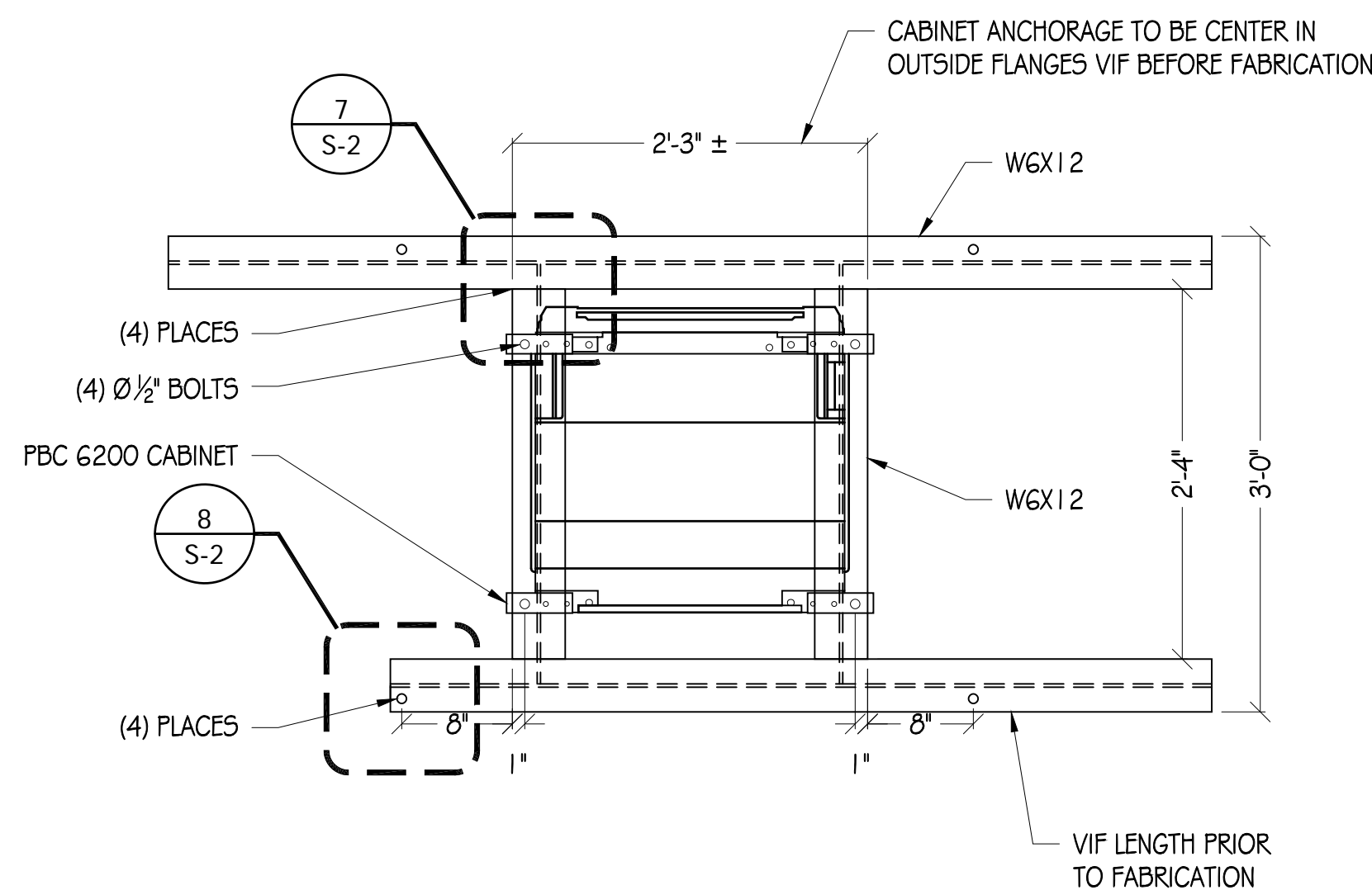
4  
1/2"=1'

ANTENNA MOUNT



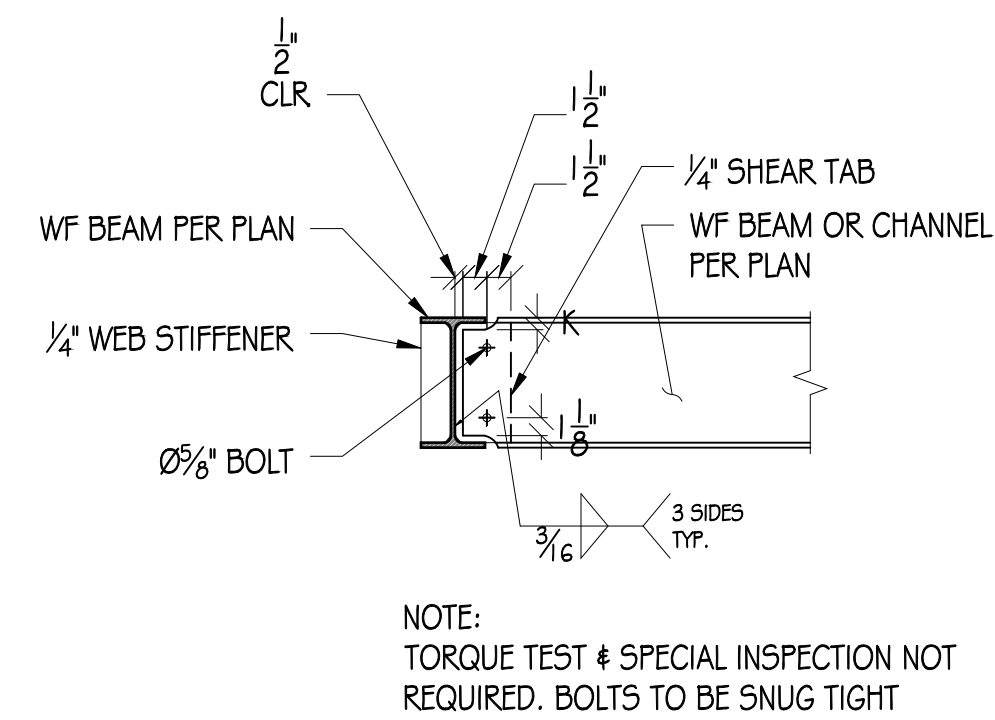
5  
1"=1'

SEISMIC RACK CONNECTION



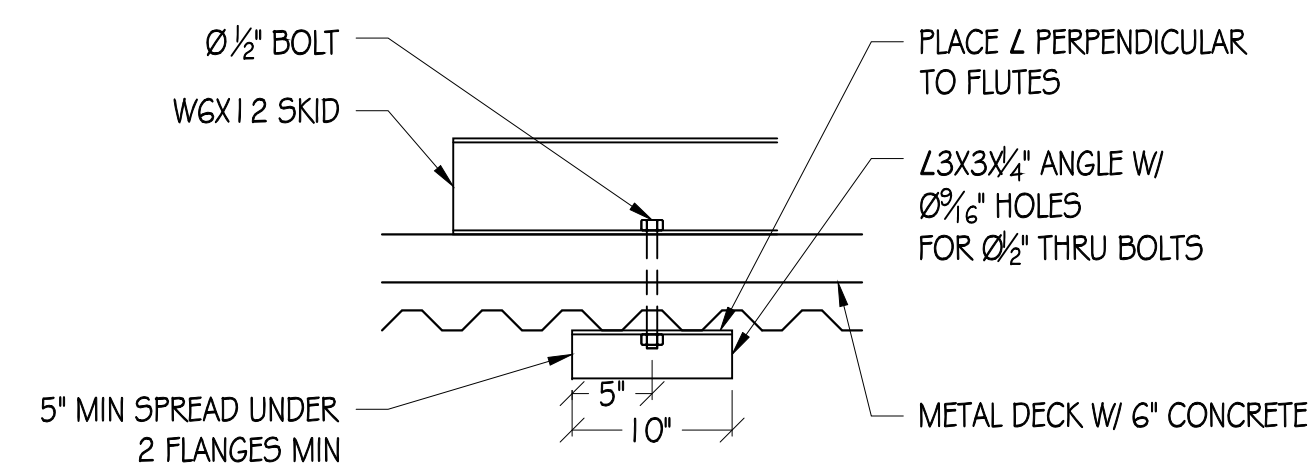
6  
1"=1'

PBC SKID DETAIL



7  
1"=1'

WF BEAM TO WF BEAM



8  
1"=1'

SKID CONNECTION DETAIL

△	DATE	DESCRIPTION	
	04/15/15	ZD 90%	
	05/27/15	ZD 100%	
	06/30/15	CD 90%	
	08/17/15	CD 100%	

DRAWN BY: EDC  
CHECKED BY: F. CASTILLO  
APPROVED BY: B. McCOMB  
DATE: 08/17/15

SHEET TITLE:

DETAILS

SHEET NUMBER









S-2



ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE NEC AS WELL AS ALL 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 MIN WITH TYPE XHHW, THWN, OR THHN INSULATION.
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.

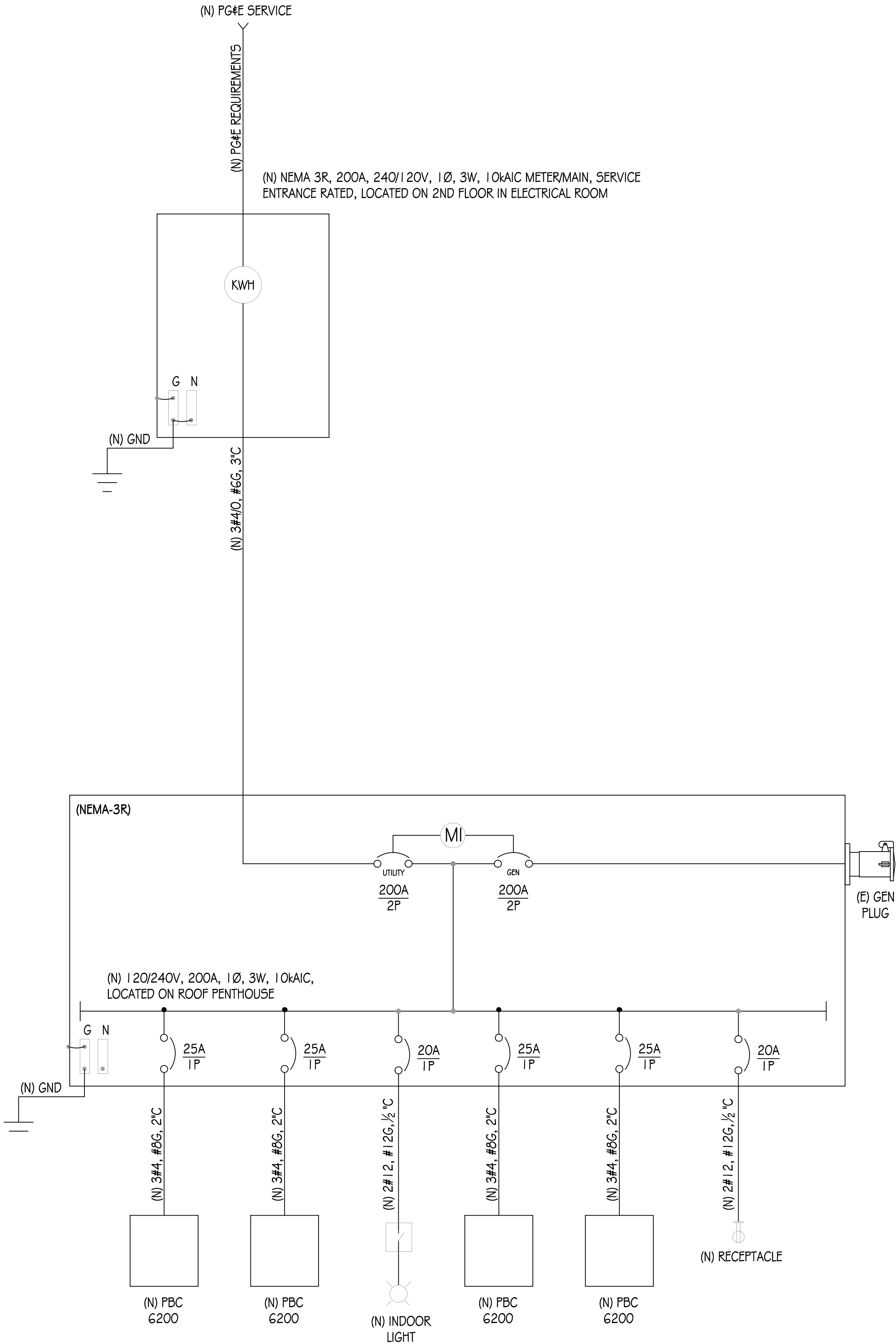
ELECTRIC LEGEND

-  METER
-  CIRCUIT BREAKER
-  SERVICE GROUND
-  WIRED CONNECTION
-  TIMER SWITCH, WATERPROOF
-  INDOOR LIGHT
-  GFI OUTLET, WATERPROOF
-  SMOKE DETECTOR

1 20/240V PANELBOARD

NAMEPLATE: PBD-1				SC LEVEL: 10kAIC				VOLTS: 120/240V, 1Ø, 3W			
LOCATION : CELLULAR EQUIPMENT SITE								BUS AMPS: 200A			
MOUNTING : EQUIPMENT RACK								MAIN CB: 200A			
ØA	ØB	CONT	LOAD DESCRIPTION	BKR AMP/ POLE	CIRCUIT NO		BKR AMP/ POLE	CONT	LOAD DESCRIPTION	ØA	ØB
LOAD VA	LOAD VA									LOAD VA	LOAD VA
2,700			(N) PBC 6200	25/1	01	02	25/1		(N) PBC 6200	2,700	
	2,700		(N) PBC 6200	25/1	03	04	25/1		(N) PBC 6200		2,700
100			(N) INDOOR LIGHT	20/1	05	06	20/1		(N) RECEPTACLE	100	
	-		SPACE		07	08			SPACE		-
-			SPACE		09	10			SPACE	-	
	-		SPACE		11	12			SPACE		-
-			SPACE		13	14			SPACE	-	
	-		SPACE		15	16			SPACE		-
-			SPACE		17	18			SPACE	-	
	-		SPACE		19	20			SPACE		-
-			SPACE		21	22			SPACE	-	
	-		SPACE		23	24			SPACE		-
2,800	2,700	PHASE TOTALS				PHASE TOTALS				2,800	2,700
TOTAL VA = 11,000											
125% CONTINUOUS LOADS = 13,750VA											
TOTAL AMPS =57.29A											

NOTE: EXISTING LOADS HAVE NOT BEEN FIELD VERIFIED. THEY ARE APPROXIMATE BASED ON EXISTING CB SIZES. CONTACT THE ENGINEER IF THE LOADS DIFFER FROM THAT WHICH IS SHOWN ON THE PLANS



SINGLE LINE DIAGRAM

**T-Mobile**  
WEST REGION  
1855 GATEWAY BLVD, SUITE 900  
CONCORD, CA 94520

PRECISION DESIGN  
& Drafting, Inc.  
Phone: (530) 823-6546  
11768 Atwood Rd, Suite 20 Auburn, CA 95603

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OPERA PLAZA

5F93356C  
601 VAN NESS AVE  
SAN FRANCISCO, CA

ISSUE STATUS

△	DATE	DESCRIPTION	
	04/15/15	ZD 90%	
	05/27/15	ZD 100%	
	06/30/15	CD 90%	
	08/17/15	CD 100%	

DRAWN BY: EDC

CHECKED BY: F. CASTILLO

APPROVED BY: B. McCOMB

DATE: 08/17/15

SHEET TITLE:

ELECTRICAL PLAN

SHEET NUMBER

E-1







OPERA PLAZA

SF93356C  
601 VAN NESS AVE  
SAN FRANCISCO, CA

ISSUE STATUS

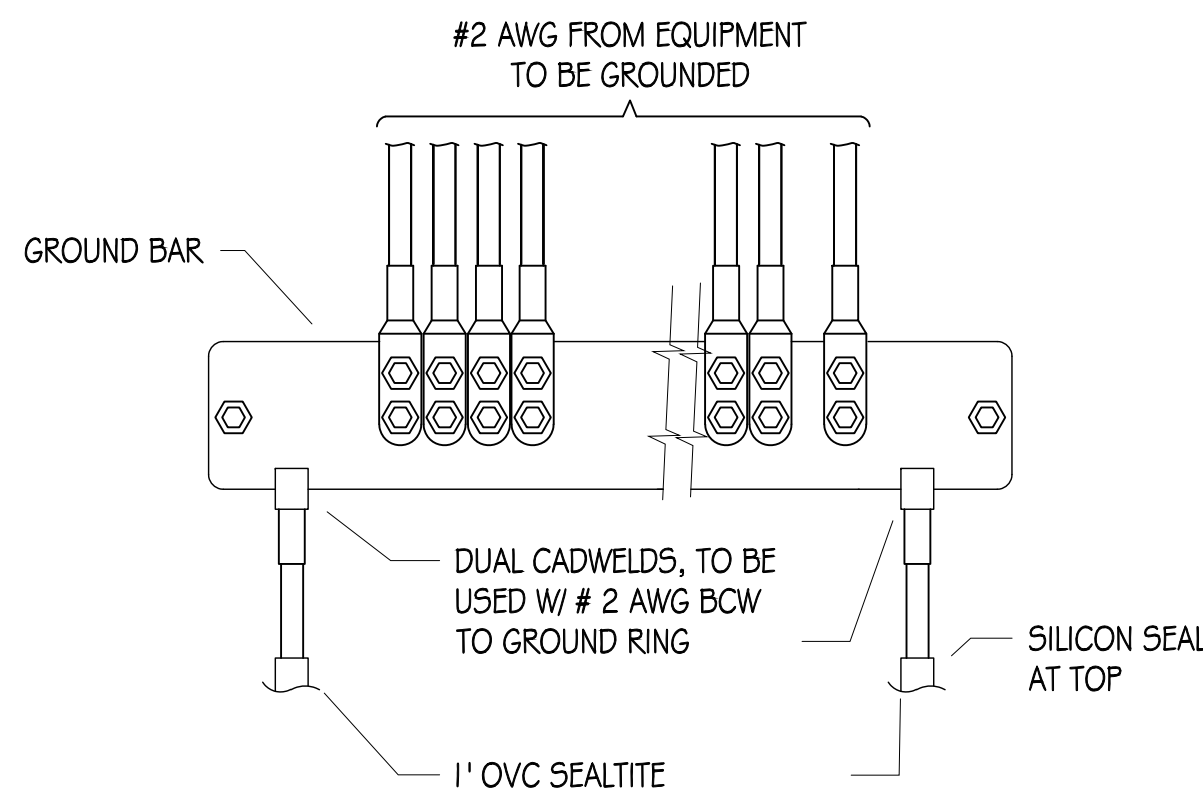
△	DATE	DESCRIPTION
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	05/27/15	ZD 100%
	06/30/15	CD 90%
	08/17/15	CD 100%

DRAWN BY: EDC  
CHECKED BY: F. CASTILLO  
APPROVED BY: B. McCOMB  
DATE: 08/17/15  
SHEET TITLE:

GROUNDING DETAILS

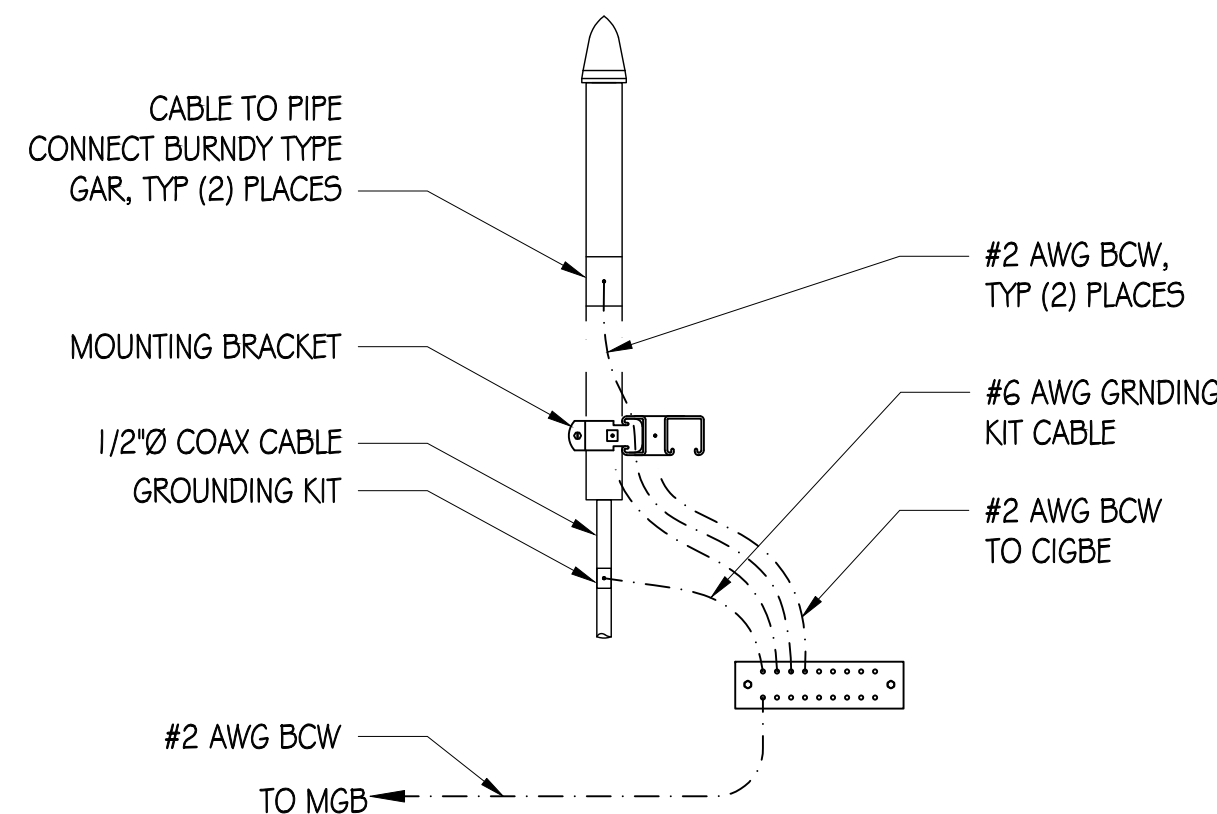
SHEET NUMBER

E-3

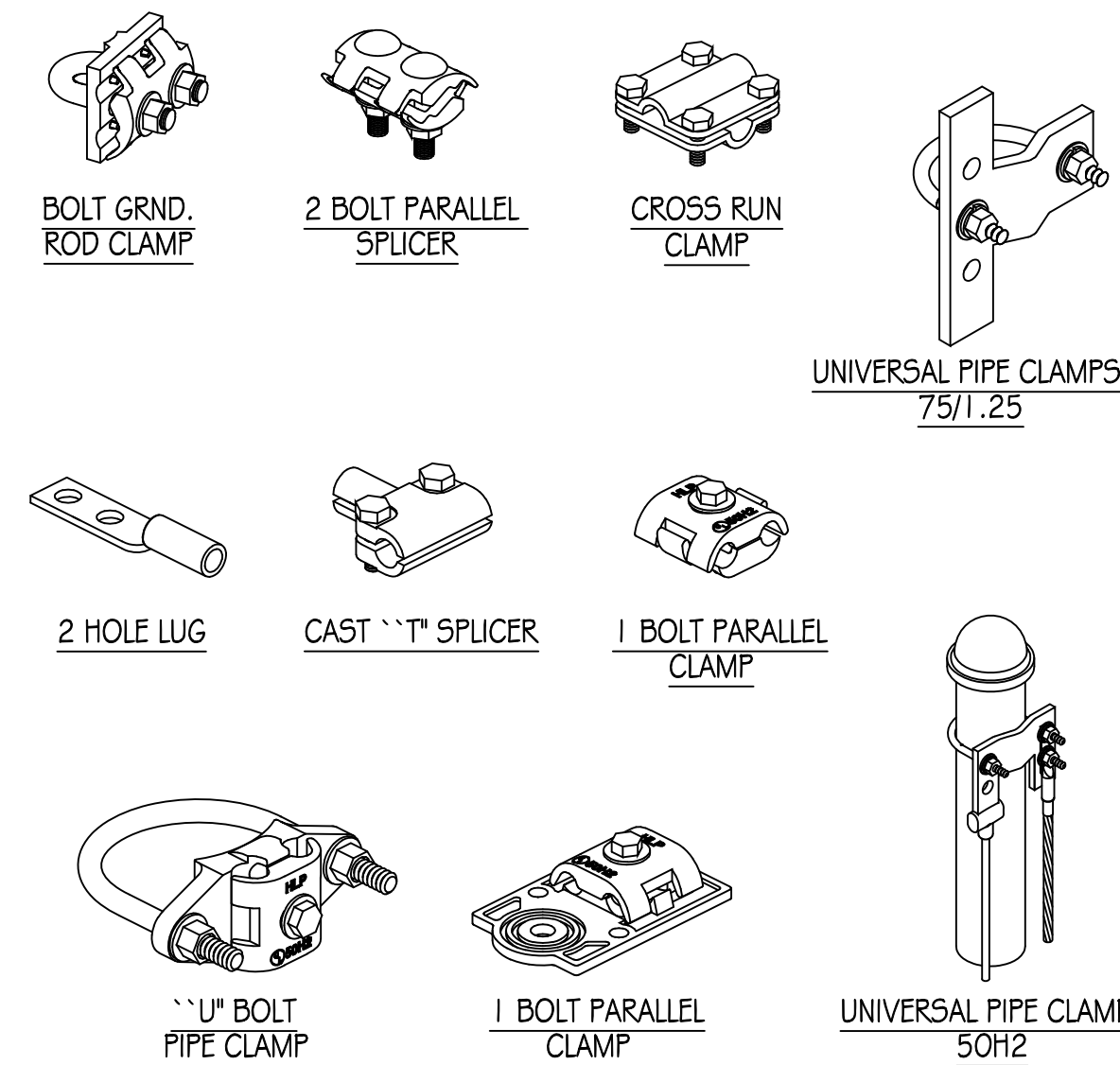


- NOTE:
1. CONTRACTOR TO UTILIZE KOPR-SHIELD (THANS & BETTS) ON ALL LUG CONNECTIONS OR APPROVED EQUAL
  2. ALL LUGS TO BE DUAL HOLE LONG BARREL AND CRIMPED TWICE WITH MFR'S RECOMMENDED TOOL

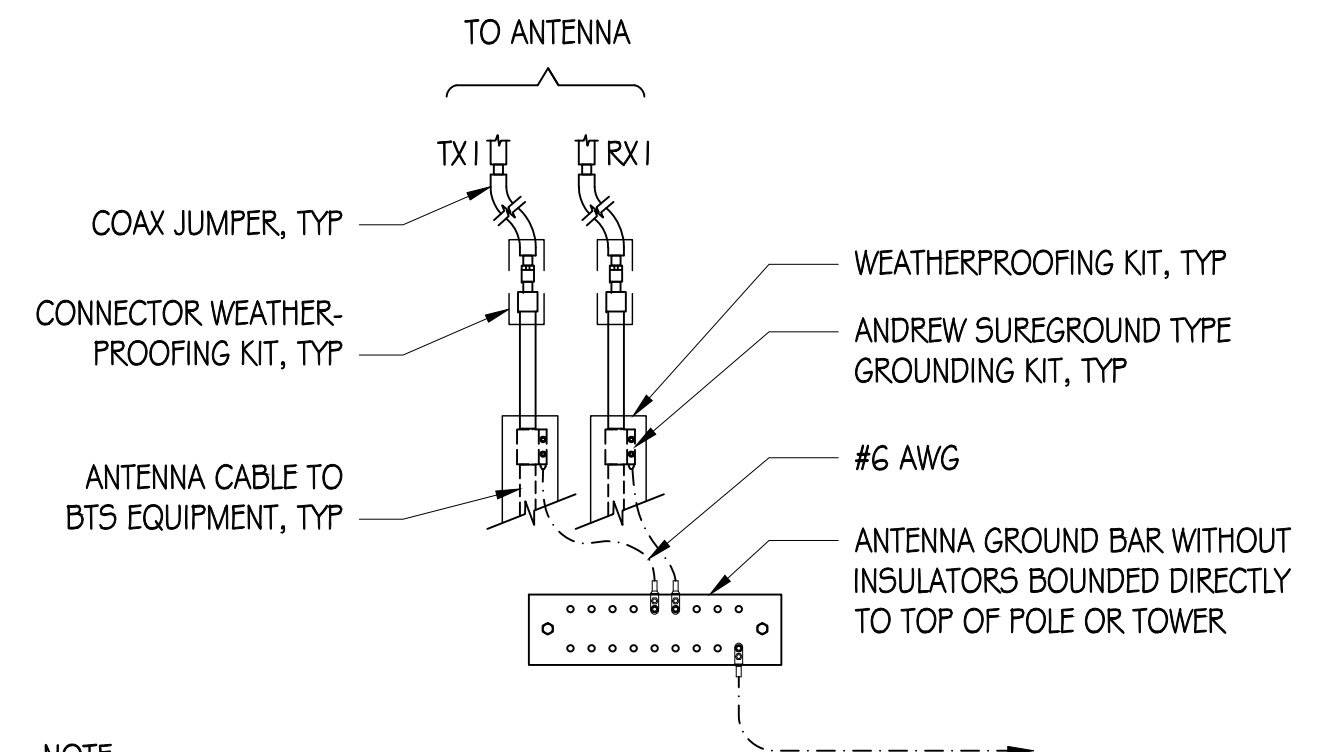
1 GROUNDING BAR CONNECTION DETAIL  
NTS



2 CADWELD CONNECTIONS  
NTS

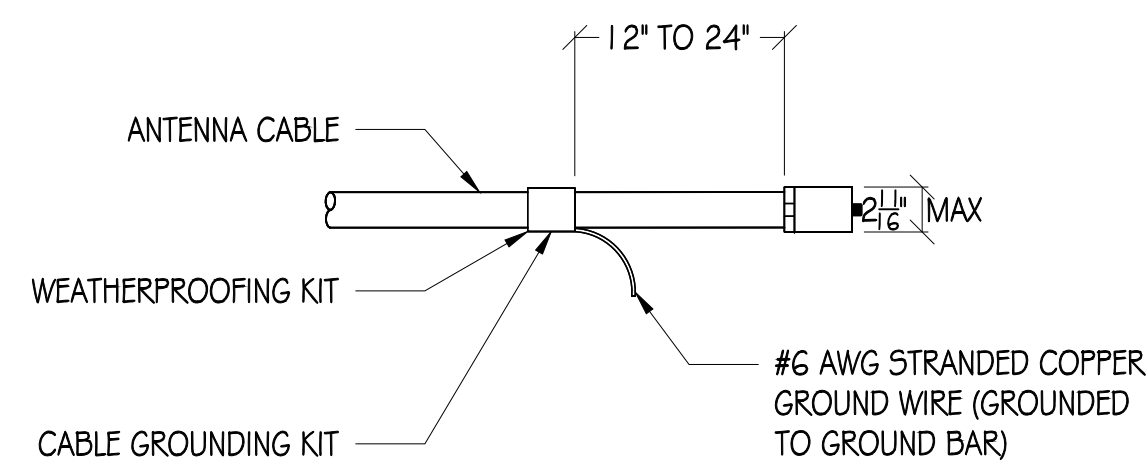


3 MECHANICAL CONNECTIONS  
NTS



- NOTE:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
  2. WEATHER PROOFING SHALL BE ANDREW TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED

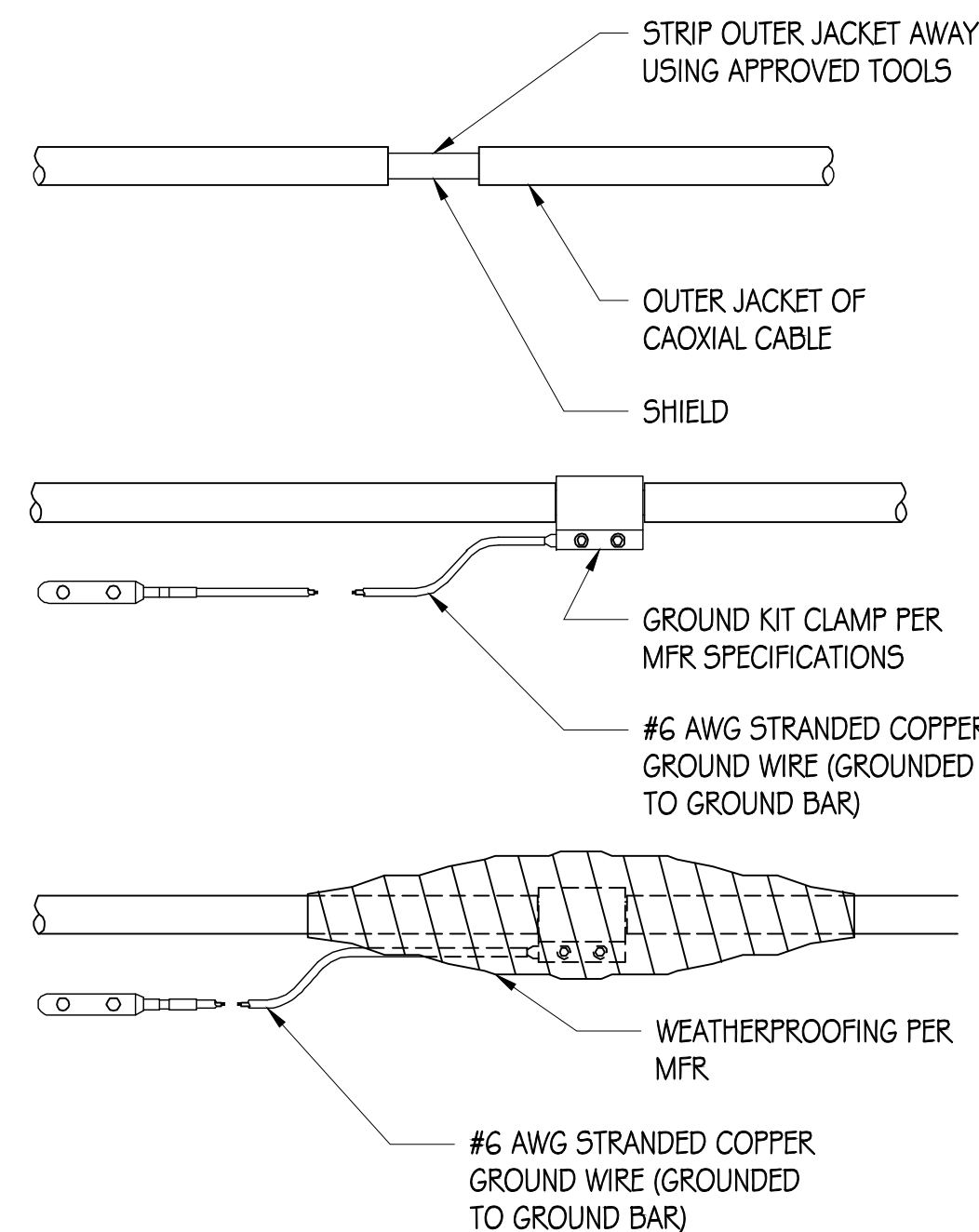
5 GRND CONNECTION TO GRND BAR  
1/2" = 1"



- NOTE:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT WIRE DOWN TO GROUND BAR.
  2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

7 GRND KIT TO ANTENNA CABLE  
1/2" = 1"

- NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR
  2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MFR
  3. WEATHER PROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY THE CABLE MFR



8 GROUND KIT  
1/2" = 1"