



**ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY  
PLANNING DEPARTMENT**

**STAFF REPORT**

**TO: EAST COUNTY BOARD OF ZONING ADJUSTMENTS**

**HEARING DATE:** October 27, 2022

**GENERAL INFORMATION**

**APPLICATION:** PLN2022-00179, Conditional Use Permit

**PROPERTY**

**OWNER:** Lakeside Motorsports Altamont LLC

**APPLICANT:** The Lyle Company Representative for T-Mobile

**PROPOSAL:** To modify an existing Conditional Use Permit, PLN2018-00247, (allowing a remote testing facility for autonomous electric vehicles) with the addition of a temporary non-commercial wireless telecommunications facility (T-Mobile)

**ADDRESS AND SIZE OF PARCEL:** 17001 Midway Road, east side, 0.5 miles south of I-205, unincorporated Mountain House area of Alameda County, designated Assessor's Parcel Number: 099B-7675-005-10. The parcel is approximately 81 acres.

**ZONING:** A (Agricultural) Zoning District

**GENERAL PLAN DESIGNATIONS:** This site lies within the boundaries of *East County Area Plan* (May 5, 1994, modified May of 2002). The *East County Area Plan* designates the site as Large Parcel Agriculture land use.

**ENVIRONMENTAL REVIEW:** This project is Categorically Exempt from the requirements of the California Environmental Quality Act; Article 19, Section 15301, Class 1, Existing Facilities.

**STAFF RECOMMENDATION**

Staff recommends that the East County Board of Zoning Adjustments approve the Conditional Use Permit, PLN2022-000179, allowing the modification of an existing Conditional Use Permit, PLN2018-00247, (allowing a remote testing facility for autonomous electric vehicles) with the addition of a temporary non-commercial wireless telecommunications facility (T-Mobile), based on drawings marked "Exhibit A," received August 04, 2022, on file with the Alameda County Planning Department. If the Board determines that the facility is appropriate, the conditions of approval should be considered in the Draft Resolution.

## **PARCEL ZONING HISTORY**

January 8, 1955, the 61st Zoning Unit classified the area into the “A” (Agricultural) District.

Between 1963 and 2007, eighteen Conditional Use Permits approved continuing operations for the operation of the motor speedway as an outdoor recreation facility. Special one-day events were permitted through twelve Administrative Conditional Use Permits.

March 27, 2007, Conditional Use Permit C-8471 for the continued operation of the facility was dropped by the applicant.

October 15, 2018, Pre-application meeting, PLN2018-00216, was held for the proposal of a remote testing facility for autonomous electrical vehicles.

April 25, 2019, Conditional Use Permit, PLN2018-00247, approved the operation of a remote testing facility for autonomous electric vehicles, with a mandatory review conducted one and a half years from the date of approval.

## **SITE AND CONTEXT DESCRIPTION**

Irregular in shape, the subject parcel is bound by Interstate 580 to the north and east, smaller rural parcels off Midway Road to the west, and grazing land to the south. The Altamont Raceway Park (ARP) opened in 1963 as a half-mile dirt oval raceway and was paved and reconfigured in 1966 to feature three separate racetracks integrated within the perimeter of the half-mile oval. Currently, 35 acres of ARP's 83-acre site are developed with paved racetracks, a pit/paddock area, grandstands, and other supporting infrastructure.

## **PROJECT DESCRIPTION**

The applicant proposes a modification to the Conditional Use Permit, PLN2018-00247, with the addition of a telecommunications facility exclusively for the remote testing facility (autonomous electric vehicles). The modifications include the following:

Tower specifications:

- Install one (1) 50-foot monopole
- Install three (3) Ericsson 4455 antennas (31.30 inches long x 20.91 inches wide by 6.97 inches deep)
- Install three (3) Air6419 B41 antennas (32.25 inches long x 10.87 inches wide by 6.97 inches deep)
- Install three (3) hybrid cables
- Move existing microwave dish from temporary lattice tower to new monopole (28 inches in diameter by 13.2 inches in depth)

Equipment area specifications:

- Install one (1) lite-site equipment pad
- Install chain link fence
- Install stairs with handrail
- Install one (1) E6160 cabinet
- Install one (1) B160 cabinet
- Install one (1) PPC cabinet with cam-lock and install conduit and conductor from existing panel
- Install one (1) cable tray

**OCTOBER 27, 2022 EAST COUNTY BOARD OF ZONING ADJUSTMENTS PLN2022-00179**

- Install one (1) RP6651 baseband unit for L6/L7/N6/L850+L19/L21 MB FDD MMBB
- Install one (1) RB6651 baseband unit for L2500/N2500 MMBB
- Install two (2) SFP+RHD 102 426/24

## **REFERRAL RESPONSES**

Alameda County Public Works Agency, Land Development Department: In a referral response dated September 27, 2022, the Land Development Department staff stated no comments for this application.

Alameda County Public Works Agency, Building Inspection Department: In a referral response dated August 11, 2022, the Building Inspections Department staff stated no objects to the application and the proposed work will require a Building Permit along with the following comments:

1. Engineering letter shall be submitted for structural adequacy of the new monopoles.
2. Soils report and/or geological study will be required to identify any geological hazards on the site and to provide foundation recommendations for new monopoles.
3. Foundation plans, details and structural calculations shall be submitted for monopole foundation.
4. Seismic anchorage details and structural calculations shall be submitted for any base-mounted equipment cabinet weighing more than 400-lbs.

Alameda County Fire Department: In a referral response dated August 15, 2022, the Fire Department staff stated that any new construction on the subject parcel shall comply with Building and Fire code requirements in effect at the time of Building Permit submittal.

Alameda County Code Enforcement: In a referral response dated October 10, 2022, the Code Enforcement staff stated no comments for the application.

Alameda County Sheriff's Office: In a referral response dated August 12, 2022, the Sheriff's Office stated no comments for the application.

## **STAFF ANALYSIS**

### **Conformance with the General Plan**

The land use designation at the site, Large Parcel Agriculture (LPA) requires a minimum parcel size of 100 acres and sets a maximum building intensity or floor area ratio (FAR) for non-residential buildings of 0.01 square foot per square foot of net parcel size, but not less than 20,000 square feet. In addition to agricultural uses, this designation permits recreational uses, limited residential uses, public and quasi-public uses, quarries and habitat protection. Also consistent with the designation are agricultural processing facilities (for example wineries, olive presses), limited agricultural support service uses (for example animal feed facilities, silos, stables, and feed stores), secondary residential units, visitor-serving commercial facilities (by way of illustration, tasting rooms, fruit stands, bed and breakfast inns), recreational uses, public and quasi-public uses, solid waste landfills and related waste management facilities, quarries, windfarms and related facilities, utility corridors, and similar uses compatible with agriculture.

In a Planning Commissioner hearing on October 1, 2018, the Planning Commissioners determined that the autonomous electrical vehicle testing facility use is consistent with the "Remote Testing Facility" definition under the Zoning Ordinance. Telecommunications facilities are typically considered public and quasi-public uses, but under the determination, the telecommunication facility use would therefore be an accessory use to testing facility.

### **Conformance with the Zoning Ordinance**

The subject property is located within an “A” (Agricultural) District, which is silent on telecommunications facilities. Therefore, reference is then directed to the Alameda County Development Standards for Siting of Telecommunication Facilities (Development Standards), adopted by the Board of Supervisors on October 2, 1997.

### **Telecommunication Policy (October 1997)**

This application must be considered under the policies set forth in the *Alameda County Development Standards for Siting of Telecommunication Facilities (Development Standards)*, adopted by the Board of Supervisors on October 2, 1997. Since the application is for a 50-foot-tall monopole, the Policy defines the facility as a Free-Standing Telecommunication Tower.

Policy A-2 states: “Telecommunications facilities may be allowed subject to a Conditional Use Permit in all areas except the H-1 (Highway Frontage) District, and in those PD (Planned Development) Districts, which specifically prohibit their use.” The subject site is in the A “Agricultural” district where telecommunication facilities are permitted with a Conditional Use Permit.

Policy B-1 and B-2 Siting Preferences: Telecommunications facilities are preferred to be located in 1) industrial locations, 2) commercial locations, 3) agricultural, and then 4) residential locations. The proposal is in an agriculturally zoned area. The order of preference for telecommunications facility mountings, based on their potential adverse visual impacts, is 1) façade mounts, 2) roof mounts, 3) ground mounts, and 4) free standing monopoles.

Policy I-2: Requires that all free-standing telecommunications towers be located and designed to minimize visual impacts. The towers shall incorporate appropriate techniques to camouflage, disguise and/or blend them into the surrounding environment or disguise them as a piece of art/sculpture, flag poles, or other visual forms that would not be considered an adverse visual impact. The proposed monopole is located on the inner ring of the existing track and not taller than the existing light poles scattered around the racetrack. The proposed tower is shorter than the existing temporary lattice tower.

Policy I-4 states: “Free standing telecommunications towers shall generally not be allowed within 1,000 feet of each other; unless the Board of Zoning Adjustments can make a determination that the cumulative visual impacts can be reduced by allowing facilities within 1,000 feet of one another.” Staff is unable to locate any other telecommunications facilities within 1,000 feet of the subject site.

Policy I-5 states: “All telecommunications towers shall be designed at the minimum functional height required for the coverage area unless related to an approved plan to reduce the impact(s) of future installations but shall not exceed 90 feet in accordance with Zoning Ordinance General Requirements, 17.52.090.A.” The proposed monopole does not exceed 90 feet.

The Site Compliance Report provided by the applicant concludes that the site complies with the FCC guidelines limiting public exposure to RF energy.

Summary: As proposed, the installation and operation of the temporary T-Mobile telecommunications facility at this location meets the overall intent of the Telecommunications Policy. Staff recommends approval of the application as proposed.

## **TENTATIVE FINDINGS BASED ON INFORMATION AVAILABLE PRIOR TO THE PUBLIC HEARING**

1. Is this use required by the public need?

Yes. The proposed facility will provide needed signal for the testing facility. The facility will support the broader need to move towards climate friendly technology, improve energy efficiency, and expand the use of renewable resources for cleaner transportation and waste reduction.

2. Will the use be properly related to other land uses and transportation and service facilities in the vicinity?

Yes. The facility has a minimal impact on the surrounding area. The existing rights-of-way provide safe and effective access to the facility. Utility sources and electrical connections are proximal to the site, and other necessary service facilities are available.

3. Will the use, if permitted, under all circumstances and conditions of this particular case, materially affect adversely the health or safety of persons residing in the vicinity, or be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood?

No. The use, if permitted, under all the circumstances and conditions of this particular case, will not materially affect adversely the health or safety of persons residing or working in the vicinity, or be materially detrimental to the public welfare or injuries to property or improvements in the neighborhood. The Site Compliance Report concludes that the site complies with the FCC guidelines limiting public exposure to RF energy.

4. Will the use be contrary to the specific intent clauses or performance standards established for the district in which it is to be considered?

No. The facility is consistent with the policies addressed in the Alameda County Development Standards for Siting of Telecommunication Facilities.

## **CONCLUSION AND RECOMMENDATION**

Staff recommends approval of this Conditional Use Permit to allow the modification of an existing Conditional Use Permit, PLN2018-00247, (allowing a remote testing facility for autonomous electric vehicles) with the addition of a temporary non-commercial Wireless Telecommunications facility (T-Mobile).

## **ATTACHMENTS**

- DRAFT Resolution for the East County Board of Zoning Adjustments
- Referral responses
- Photo Simulations
- RF Exposure Study
- Exhibit A, received August 4, 2022

PREPARED BY: William Chin, Planner

REVIEWED BY: Rodrigo Orduña, Assistant Deputy Director

**OCTOBER 27, 2022 EAST COUNTY BOARD OF ZONING ADJUSTMENTS PLN2022-00179**

**RESOLUTION NO. Z-XX-XX OF  
THE EAST COUNTY BOARD OF ZONING ADJUSTMENTS  
ADOPTED AT THE HEARING OF OCTOBER 27, 2022, CONCERNING  
CONDITIONAL USE PERMIT, PLN2022-00179**

**WHEREAS** The Lyle Company for T-Mobile has filed an application to modify an existing Conditional Use Permit, PLN2018-00247, (allowing a remote testing facility for autonomous electric vehicles) with the addition of a temporary non-commercial wireless telecommunications facility (T-Mobile), within the Agricultural Zoning District, located at 17001 Midway Road, east side, 0.5 miles south of I-205, unincorporated Mountain House area of Alameda County bearing Assessor's Parcel Number: 099B-7675-005-10; and

**WHEREAS** the Board did hold a virtual public hearing to consider the application, at the hour of 1:30 p.m. on the 27<sup>th</sup> day of October 2022, using the "Zoom Webinar"; and

**WHEREAS** it satisfactorily appears from affidavits on file that proper notice of said public hearing was given in all respects as required by law; and

**WHEREAS** this application has been reviewed in accordance with the provisions of the California Environmental Quality Act and has been found to be Categorically Exempt; Article 19, Section 15303, Class 3, New Construction or Conversion of Small Structures; and

**WHEREAS** a Pre-Hearing Analysis was submitted recommending the application be approved; and

**WHEREAS** the representative appeared at said public hearing in support of the application; and

**WHEREAS** the Board did hear and consider all said reports, recommendations and testimony as hereinabove set forth; and

**NOW THEREFORE**

**BE IT RESOLVED** that the Board finds that:

- (a) The use is required by the public need as the facility will provide needed signal for the testing facility. The facility will support the broader need to move towards climate friendly technology, improve energy efficiency, and expand the use of renewable resources for cleaner transportation and waste reduction.
- (b) The use will be properly related to other land uses, transportation and service facilities in the vicinity. The facility has a minimal impact on the surrounding area. The existing rights-of-way provide safe and effective

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access to the facility. Utility sources and electrical connections are proximal to the site, and other necessary service facilities are available

- (c) The use, if permitted, under all the circumstances and conditions of this particular case, will not materially affect adversely the health or safety of persons residing or working in the vicinity, or be materially detrimental to the public welfare or injuries to property or improvements in the neighborhood. The Site Compliance Report concludes that the site complies with the FCC guidelines limiting public exposure to RF energy.
- (d) The use will not be contrary to the specific intent clauses or performance standards established for the District in which it is to be considered. The facility is consistent with the policies addressed in the Alameda County Development Standards for Siting of Telecommunication Facilities adopted by the Board of Supervisors on October 2, 1997.

**NOW THEREFORE**

**BE IT FURTHER RESOLVED** that the Board does hereby approve the said application for the modification of an existing Conditional Use Permit, PLN2018-00247, (allowing a remote testing facility for autonomous electric vehicles) with the addition of a temporary non-commercial wireless telecommunications facility (T-Mobile, as shown by materials labeled Exhibit “A,” received August 04, 2022, on file with the Alameda County Planning Department subject to the following conditions:

**AUTHORIZATION**

- 1. Approval of this Conditional Use Permit, PLN2022-00090, authorizes the addition of a temporary non-commercial Wireless Telecommunications Facility (T-Mobile) for the existing remote testing facility for autonomous electric vehicles, subject to the plans marked “Exhibit A” received August 4, 2022.
- 2. This approval includes the following changes:

Tower specifications:

- Install one (1) 50-foot monopole
- Install three (3) Ericsson 4455 antennas (31.30 inches long x 20.91 inches wide by 6.97 inches deep)
- Install three (3) Air6419 B41 antennas (32.25 inches long x 10.87 inches wide by 6.97 inches deep)
- Install three (3) hybrid cables
- Move existing microwave dish from temporary lattice tower to new monopole (28 inches in diameter by 13.2 inches in depth)

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Ground Scope of Work:

- Install one (1) lite-site equipment pad
- Install chain link fence
- Install stairs with handrail
- Install one (1) E6160 cabinet
- Install one (1) B160 cabinet
- Install one (1) PPC cabinet with cam-lock and install conduit and conductor from existing panel
- Install one (1) cable tray
- Install one (1) RP6651 baseband unit for L6/L7/N6/L850+L19/L21 MB FDD MMBB
- Install one (1) RB6651 baseband unit for L2500/N2500 MMBB
- Install two (2) SFP+RHD 102 426/24

**ADDITIONAL MATERIALS TO BE SUBMITTED TO THE PLANNING DEPARTMENT**

3. Regulatory Program Fee. The applicant shall pay a cash sum of \$670.00 the Alameda County Planning Department (payable to Treasurer, County of Alameda) to help cover the Department's costs in administering its wireless communications regulatory program
4. Utility Tax Compliance: Within 30 days of approval the Applicant, shall submit to the Alameda County Planning Department evidence of business registration with the Alameda County Business Tax Unit in the form of a valid business certificate to ensure compliance with the County's utility tax regulations.
5. Carrier Contact Information: Within 30 days of approval the Applicant shall submit direct contact information for AT&T representatives or its successors to the Planning Department.

**GENERAL CONDITIONS**

6. The existing remote testing facility for autonomous electric vehicles shall continue to comply with the Conditions of Approval listed in the Conditional Use Permit, PLN2018-00247 which approved the facility to operate at the subject location.
7. Public Safety Interference. The approved facility shall not interfere with any public safety communications, and shall comply with the following regulations:
  - a. The carrier will provide an intermodulation report from a certified radio frequency engineering firm. This report must clearly conclude that no interference will be caused to public safety frequencies in use at said site.
  - b. The carrier will take all necessary steps and measures to mitigate any type of harmful interference, regardless of the status of the FCC licenses, within thirty days upon notification by the County that a problem exists.

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- c. If after thirty days the harmful effects of the carrier's radio frequency transmitters have not been mitigated, based on the judgment of the County, then the County will consider this as a violation of the conditions of this permit. The County then will have the right to cause the carrier's equipment to cease operation, including the disconnection of power to the carrier's equipment.
  - d. The carrier may, at its own discretion, cost, and effort, procure or obtain radio frequency equipment which it believes may mitigate the harmful effects of its transmitters to the public safety radio equipment. This could include, but is not limited to, RF filters, attenuators, or any combination thereof. If the carrier chooses to pursue this course of action, then the County requires that all such measures be completed within 90 days of notification by the County to the carrier. Should this action not successfully mitigate the harmful effects to the public safety radio equipment in the County's own judgment, the County retains the right to cause the carrier's equipment to cease to operate at the site.
  - e. The carrier will have the right to submit written plans and proposals to the County after the County has exercised its right to shut off the carrier's equipment, demonstrating a method of correcting the harmful effects of its equipment to the public safety radio system. If the County then agrees to the carrier's proposal, the carrier may take such mitigating steps at its own risk, cost, and prerogative. However, the County will determine if such measures are adequate, and will retain the right to cause the carrier's equipment to cease operation.
8. Indemnification. The property owner shall defend, indemnify, and hold harmless Alameda County and its agents, officers, and employees from any claim, action, or proceeding against Alameda County and its agents, officers and employees to attack, set aside, void, or annul Conditional Use Permit, PLN2022-000179, the findings of the CEQA determination, or any combination thereof. Such indemnification shall include, but not be limited to, an award of costs and attorney's fees incurred by Alameda County in its defense. The County shall promptly notify applicant of any such challenge.
9. Public Agency Approval. Maintain compliance with the requirements of the following agencies:
  - a. Alameda County Public Works Agency, Building Inspection Department
  - b. Alameda County Public Works Agency, Land Development Department
  - c. Alameda County Sheriff's Office
  - d. Alameda County Fire Department
  - e. Alameda County Zoning Enforcement
  - f. California State Public Utilities Commission
  - g. United States Federal Communications Commission

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10. Compliance with all laws and regulations. The applicant, owner, and any successor shall comply with all local, state, and federal regulations, laws, and ordinances during the life of this Permit. Failure to comply with all local, state, and federal regulations, laws, and ordinances may subject the permit to revocation in accordance with the Conditions of Approval herein and Alameda County Zoning Ordinance Section 17.54.030.
11. The project sponsor or its successors shall be responsible for payment of all reasonable costs associated with the necessary inspections of the conditions of approval contained in the authorization of the facility, including costs incurred by the Community Development Agency, the County Fire Department, the Building Inspection Division, the Public Works Agency or any other applicable Federal, State or County department or agency.
12. RF/EMF Emissions. Facilities shall be operated in a manner so as not to contribute to ambient RF/EMF emissions in excess of the current FCC adopted RF/EMF emission standards. In the event that a project implementation report to the FCC includes a finding that RF emissions for the site exceed FCC standards in any uncontrolled location, the Planning Department may require the applicant to correct the emission to the satisfaction of the FCC.
13. Co-location. The applicant and owner shall allow other existing and future wireless communications companies including public and quasi-public agencies using similar technology to co-locate antenna equipment and facilities, using the infrastructure at this site, wherever possible, provided that operations of existing users are not compromised, to the extent that all facilities shall minimize the number of buildings and antenna structures, and those facilities shall have a common access road, a common means of extending power and telephone lines, and a use of a common water tank or integrated water supply system when required. The applicant and other wireless carriers shall provide a mechanism for the construction and maintenance of shared facilities and infrastructure and shall provide for equitable sharing of cost in accordance with industry standards.
14. Status Reports. One year from the date of this approval, and on each five-year anniversary thereafter, permittee shall submit to the Planning Department a brief status report describing compliance with conditions of the permit including maintenance of equipment, fencing, landscaping, and antennas, a photograph of the site and verification that the facility is in compliance with an active FCC license. One report may be submitted for more than one site but shall clearly identify and describe each site separately.
15. Optional Review/Revocation/Revision. At any time during the term of this permit and after notice as provided for in the initial hearing, this matter may be set for rehearing by the Board of Zoning Adjustments for the purpose of making a determination whether the use of the site has ceased for a period of six months, and whether the permit should be therefore revoked, or whether conditions previously imposed should be modified or new conditions should be added to assure continued affirmative findings for this permit. This

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reconsideration may include imposition of requirements such as painting antennas and support structures, and/or other treatments of the antennas and other appurtenances to ensure public safety, compatibility with the surrounding neighborhood and with applicable policy. Any condition modified or added shall have the same force and effect as if originally imposed.

16. Transfer of Operations. Any entity that has acquired the facilities as authorized under this permit may maintain the benefits of the existing use permit provided that a letter of notification is submitted to the Board of Zoning Adjustments within six months after such transaction, and all conditions of approval for the subject facility are carried out by the new operator/permittee.
17. Site Restoration. Permittee shall provide written notification to the Planning Department upon cessation of operations on the site. The permittee/property owner shall remove all improvements authorized under this permit from the site and the property shall be returned to its pre-application condition within three months of cessation.
18. Project Guarantee. Application for Building Permits to implement any portion of this Conditional Use Permit or continued operation of an existing wireless telecommunications facility shall be accompanied by a financial guarantee, which shall be indexed annually for inflation, satisfactory to County Counsel, for the removal of the facility in the event that its use is abandoned, or its use permit expires or is terminated. The amount of the guarantee per facility may be reduced or eliminated if, a) the applicant has more than one telecommunications facility in the County, and/or b) the property owner and lessee of the sites provides for removal of unused improvements through their lease agreements that are satisfactory to the County. If the owner or lessee does not remove any obsolete or unused facilities, as described in Condition #17 herein, the financial guarantee shall be used by the County to remove any obsolete or unused facilities. Applicant and/or property owner shall continue to be responsible for full site reclamation and shall provide additional funding as may be necessary to fully restore the site. Any unused financial guarantee shall be relinquished to the applicant upon termination of the use and removal of facility or transfer of the lease accompanied by a financial guarantee by the new lessee or owner in compliance with zoning requirements in effect at that time.
19. Signage. Permittee shall provide signage as required by the permitting authority (e.g. Fire Department, Planning Department) including phone numbers of the utility provider for use in case of an emergency. Signs shall be posted on the entrance to the building closest to the equipment. The antennas, cabinets, fencing, or mountings shall not be used for advertising.
20. Maintenance. All antennas and equipment shall be maintained in good condition throughout the term of the permit. This shall include keeping the equipment cabinets, fencing, and other structures graffiti free and in good condition.

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21. Expiration. Said Conditional Use Permit shall terminate once the lease for the remote testing facility ends and shall remain revocable for cause in accordance with Section 17.54.030 of the Alameda County Zoning Ordinance.

Pursuant to Section 17.52.050 of the Alameda County Zoning Ordinance, said Conditional Use Permit, PLN2022-00179 shall be implemented within a term of three (3) years of its issuance or it shall be of no force or effect. Implementation means the issuance of Building Permits within three (3) years of the approval date for this Conditional Use Permit.

**WEST COUNTY BOARD OF ZONING ADJUSTMENTS  
ALAMEDA COUNTY PLANNING DEPARTMENT**

Re: PLN2022-00179, Planning referral packet #1.pdf - 17011 Midway Rd., APN: 99B-7675-005-10

Tan, Samuel <Samuelt@acpwa.org>

Thu 8/11/2022 1:56 PM

To: Kajita, Carole, CDA <carole.kajita@acgov.org>

Carole,

BID has no objection to this Planning Dept. process. This work will require a building permit.

1. Engineering letter shall be submitted for structural adequacy of the new monopoles.
2. Soils report and/or geological study will be required to identify any geological hazards on the site and to provide foundation recommendations for new monopoles.
3. Foundation plans, details and structural calculations shall be submitted for monopole foundation.
4. Seismic anchorage details and structural calculations shall be submitted for any base-mounted equipment cabinet weighing more than 400-lb.

Regards,

*Samuel Tan, P.E.*

Supervising Plans Checker

Building Inspection Department | Alameda County Public Works

Office: (510) 670-5557

[samuelt@acpwa.org](mailto:samuelt@acpwa.org)

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**From:** Kajita, Carole, CDA <carole.kajita@acgov.org>

**Sent:** Thursday, August 11, 2022 9:38 AM

**To:** Gonzales, Fernando <fernando@acpwa.org>; Thompson, Stephen L., Sheriff <SIThompson@acgov.org>; Tan, Samuel <Samuelt@acpwa.org>; Peters, Michael, CDA <Michael.Peters@acgov.org>; County FP Plan Checks <countyfpplanchecks@acgov.org>

**Subject:** PLN2022-00179, Planning referral packet #1.pdf - 17011 Midway Rd., APN: 99B-7675-005-10

Hello,

Please see attached planning referral for T-Mobile telecommunication facility modification.

Location: 17011 Midway Rd. unincorporated Tracy (Mountain House)

APN: 99B-7675-005-10

Carole Kajita, Planner

Alameda County Planning Department

224 W. Winton Ave.

Hayward, CA 94544



# Alameda County Fire Department

## Fire Prevention Bureau

### Plan Review Comments

6363 Clark Ave, Dublin California 94568 Phone (925) 833-3473 Fax (925) 875-9387

08/15/2022

Alameda County  
Community Development Agency  
Planning Department  
224 West Winton Ave., Room 111  
Hayward, California 94544

<b>To</b>	Carole Kajita	<b>PLN #</b>	2022-00179
<b>Address</b>	17001 Midway		
<b>Job Description</b>	Modifications to Cell Site		
<b>Reviewed By</b>	Bonnie S. Terra, Division Chief		

**Review of Planning referrals are usually based on information and plans that lacking details for specific comments. The primary focus of our review is to assure fire access to the site. Specific fire and building code issues will be addressed during the regular building permit submittal and review process.**

#### **Conditions of Approval**

The following conditions shall be met prior the issuance of a building permit and fire clearance for occupancy.

1. Any new construction on either parcel shall comply with the building and fire code requirements in effect at the time of building permit submittal.

## Chin, William, CDA

---

**From:** Gonzales, Fernando  
**Sent:** Tuesday, September 27, 2022 1:05 PM  
**To:** Chin, William, CDA  
**Subject:** RE: PLN2022-00179 - Planning referral  
**Attachments:** PLN2022-00179, Referral packet #1.pdf

Hi William,

ACPWA's Land Development Section does not have any comment pertinent to the referenced CUP application.

Thank you.



**FERNANDO B. GONZALES, P.E.**

Associate Civil Engineer  
Engineering Review and Permits Section | Alameda County Public Works Agency  
399 Elmhurst Street, Room 141, Hayward, CA 94544  
e-mail: [fernando@acpwa.org](mailto:fernando@acpwa.org) | (510) 670-5267

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**From:** Chin, William, CDA <William.Chin@acgov.org>  
**Sent:** Tuesday, September 27, 2022 12:14 PM  
**To:** Gonzales, Fernando <fernando@acpwa.org>; Tan, Samuel <Samuelt@acpwa.org>  
**Subject:** PLN2022-00179 - Planning referral

Greetings, Sam and Fernando.

I've adopted a few applications from Carole and am following up on any comments from your department regarding the applications below.

PLN2022-00179 – CUP to modify existing CUP PLN20118-000247 that allowed a automobile testing facility

Attached is the original referral letter sent by Carole.

Regards,

William Chin

Planner | Alameda County Planning Department | Community Development Agency  
224 West Winton Avenue, Suite 111 – Hayward, CA 94544  
(510) 670-6519 | [William.Chin@acgov.org](mailto:William.Chin@acgov.org)

**General Plan and Zoning information now available via the [Public Access Map \(P.A.M\)](#)**

**CONFIDENTIALITY NOTICE:** This e-mail message includes attachments, if any, is intended only for the person(s) or entity(ies) to which it is addressed and may contain confidential and/or privileged material. Any

## Chin, William, CDA

---

**From:** Labayog, Edward, CDA  
**Sent:** Monday, October 10, 2022 9:59 AM  
**To:** Chin, William, CDA  
**Subject:** RE: PLN2022-00179

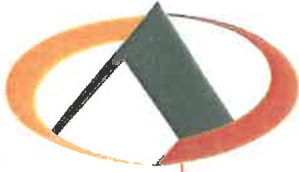
Greetings Will,

No comments from Code Enforcement.

*Edward J. Labayog*  
*Assistant Planning Director*  
*Code Enforcement Manager*

**ALAMEDA COUNTY | Community Development Agency**  
**Planning Department**  
224 W. Winton Avenue, Room 111 • Hayward, CA 94544  
Office 510-670-6556 | Fax 510-785-8793  
[edward.labayog@acgov.org](mailto:edward.labayog@acgov.org) | [www.acgov.org/cda](http://www.acgov.org/cda)

CONFIDENTIALITY NOTICE: This e-mail message including attachments, if any, is intended only for the person(s) or entity(ies) to which it is addressed any may contain confidential and/or privileged material. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.



ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY  
PLANNING DEPARTMENT

Chris Bazar  
Agency Director

PROJECT REFERRAL

Date: August 11, 2022  
RE:Case No: PLN2022-00179, Conditional Use Permit

Albert Lopez  
Planning Director

Due Date: AUGUST 25, 2022

224  
West Winton Ave  
Room 111

ACPWA Building Department  
Alameda County Public Works Department

Alameda Co. Fire Department  
Code Enforcement

Hayward  
California  
94544

Alameda Co. Sheriff's Office

phone  
510.670.5400  
fax  
510.785.8793

The following application is referred to you for your expedited review and recommendation:

To allow T-Mobile telecommunication facility modification, located at on 17001 Midway Road, APN: 99B-7675-005-10, Side: South; Distance: .08 meters.; south of cross Street: I-580, unincorporated area of Tracy (Mountain House) unincorporated Alameda County

www.acgov.org/cda

APN: 99B-7675-005-10

ADDRESS: 17001 Midway Road, unincorporated area of Tracy

ZONING: "A" Agriculture District

CEQA: Categorically Exempt, Section 15303, Class 3, New Construction or Conversion of Small Structures

Receipt of your comments by the indicated due date will enable the inclusion of relevant information in the preparation of a written staff report; otherwise, please initial and date below that your organization, department or agency has no comment and return this notice by the indicated due date. Please send a copy of your recommendation(s) to the applicant (owner & contact). If you have any questions, please contact me at the e-mail shown below.

Sincerely,

Carole Kajita

Carole Kajita, Planner  
Development Planning Division  
carole.kajita@acgov.org

cc: Applicant/Primary Contact: Peter Perkins, Lyle Company, T-Mobile Rep,  
Owner: Lakeside Motorsports Altamont LLC

attachments: Site and Floor Plans  
Supporting Documents

No Comment  Date 8/11/22

Aerial photograph showing the viewpoints for the photosimulations.

**Altamont**

17001 Midway Road  
Tracy, CA 95376

..T..Mobile

SCYH039A



1

*Temporary installation to be removed*



**Existing**

Photosimulation of the view looking southwest from the nearest freeway, the southbound 580 transition ramp.

**Altamont**

17001 Midway Road  
Tracy, CA 95376

..T..Mobile

SCYH039A

*Proposed monopole and antennas*



**Proposed**

Photosimulation of the view looking north from the edge of the track.

2

Temporary installation to be removed

Proposed monopole and antennas

Existing

**Altamont**  
17001 Midway Road  
Tracy, CA 95376

..T..Mobile..

SCYH039A

Proposed

3



Temporary installation to be removed

**Existing**

Photosimulation of the view looking east along the entrance road. Not a public viewpoint.

**Altamont**

17001 Midway Road  
Tracy, CA 95376

..T..Mobile..

SCYH039A



Proposed monopole and antennas

**Proposed**

**T-Mobile West LLC • Proposed Base Station (Site No. SCYH039A)  
17001 North Midway Road • Tracy, 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. SCYH039A) proposed to be located at 17001 North Midway Road near Tracy, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

**Executive Summary**

T-Mobile proposes to install six directional panel antennas on a new 50-foot steel pole to be sited at the Altamont Speedway, located at 17001 North Midway Road in unincorporated San Joaquin County near Tracy. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

**Prevailing Exposure Standard**

The U.S. Congress requires that the Federal Communications Commission (“FCC”) evaluate its actions for possible significant impact on the environment. A summary of the FCC’s exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The most restrictive limit for exposures of unlimited duration at several wireless service bands are as follows:

<u>Wireless Service Band</u>	<u>Transmit Frequency</u>	<u>“Uncontrolled” Public Limit</u>	<u>Occupational Limit (5 times Public)</u>
Microwave (point-to-point)	1–80 GHz	1.0 mW/cm <sup>2</sup>	5.0 mW/cm <sup>2</sup>
Millimeter-wave	24–47	1.0	5.0
Part 15 (WiFi & other unlicensed)	2–6	1.0	5.0
C-Band	3,700 MHz	1.0	5.0
CBRS (Citizens Broadband Radio)	3,550	1.0	5.0
BRS (Broadband Radio)	2,490	1.0	5.0
WCS (Wireless Communication)	2,305	1.0	5.0
AWS (Advanced Wireless)	2,110	1.0	5.0
PCS (Personal Communication)	1,930	1.0	5.0
Cellular	869	0.58	2.9
SMR (Specialized Mobile Radio)	854	0.57	2.85
700 MHz	716	0.48	2.4
600 MHz	617	0.41	2.05
[most restrictive frequency range]	30–300	0.20	1.0

**General Facility Requirements**

Base stations typically consist of two distinct parts: the electronic transceivers (also called “radios”) that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless



**T-Mobile West LLC • Proposed Base Station (Site No. SCYH039A)  
17001 North Midway Road • Tracy, California**

signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

**Computer Modeling Method**

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, “Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation,” dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna’s radiation pattern is not fully formed at locations very close by (the “near-field” effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the “inverse square law”). This methodology is an industry standard for evaluating RF exposure conditions and has been demonstrated through numerous field tests to be a conservative prediction of exposure levels.

**Site and Facility Description**

Based upon information provided by T-Mobile, including construction drawings by Leaf Communications, dated June 21, 2022, it is proposed to install six Ericsson directional panel antennas – three Model AIR6419 with integrated radios and three Model 4455 radios with integrated antennas – on a 50-foot steel pole to be sited at the south end of the infield at the Altamont Speedway, located at 17001 North Midway Road in rural San Joaquin County about a mile west of Tracy. The antennas would employ up to 19° downtilt in the BRS band and up to 12° downtilt in the AWS and PCS bands, would be mounted at an effective height of about 45 feet above ground, and would be oriented in identical pairs toward 0°T, 120°T, and 240°T, to provide service in all directions. The maximum effective radiated power in any direction would be 66,050 watts, representing simultaneous operation at 59,310 watts for BRS,\* 3,370 watts for AWS, and 3,370 watts for PCS service. Also proposed to be mounted at an effective height of 49 feet above ground on the same pole is an Andrew Model VHLP2 2-foot-tall microwave “dish” antenna for interconnection of this site with others in the T-Mobile network. There are reported no other wireless telecommunications base stations at the site or nearby.

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\* The manufacturer reports that the antenna transmits 75% of the time in this band; this factor is incorporated into the calculations.



**T-Mobile West LLC • Proposed Base Station (Site No. SCYH039A)  
17001 North Midway Road • Tracy, California**

**Study Results**

For a person anywhere at ground, the maximum RF exposure level due to the proposed T-Mobile operation, including the contribution of the microwave antenna, is calculated to be 0.32 mW/cm<sup>2</sup>, which is 30% of the applicable public exposure limit. The maximum calculated level at any nearby building<sup>†</sup> is 23% of the public exposure limit. It should be noted that these results include several “worst-case” assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

**No Recommended Mitigation Measures**

Due to their mounting location and height, the T-Mobile antennas would not be accessible to unauthorized persons, and so no measures are necessary to comply with the FCC public exposure guidelines. It is presumed that T-Mobile will, as a FCC licensee, take adequate steps to ensure that its employees or contractors receive appropriate training and comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

**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 17001 North Midway Road in Tracy, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

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<sup>†</sup> Located at least 170 feet away, based on the drawings.



**T-Mobile West LLC • Proposed Base Station (Site No. SCYH039A)  
17001 North Midway Road • Tracy, California**

**Authorship**

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2023. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.



*William F. Hammett*

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

July 28, 2022

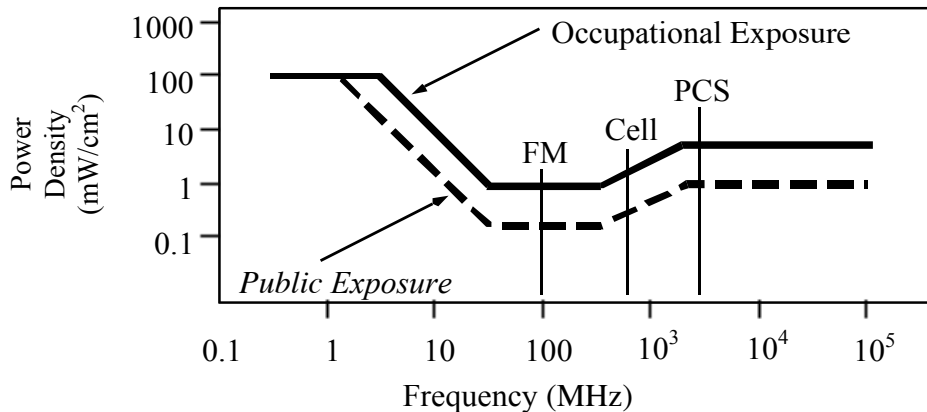


## FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements (“NCRP”). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers IEEE C95.1-2019, “Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz,” includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency Applicable Range (MHz)	Electromagnetic Fields (f is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm <sup>2</sup> )	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f<sup>2</sup></i>
3.0 – 30	1842/f	<i>823.8/f</i>	4.89/f	<i>2.19/f</i>	900/f <sup>2</sup>	<i>180/f<sup>2</sup></i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√f	<i>1.59√f</i>	√f/106	<i>√f/238</i>	f/300	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. Hammett & Edison has incorporated conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels in a computer program capable of calculating, at thousands of locations on an arbitrary grid, the total expected power density from any number of individual radio frequency sources. The program allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain more accurate projections.



## RFE.CALC™ Calculation Methodology

### Assessment by Calculation of Compliance with FCC Exposure Guidelines

Hammett & Edison has incorporated the FCC Office of Engineering and Technology Bulletin No. 65 (“OET-65”) formulas (see Figure 1) in a computer program that calculates, at millions of locations on a grid, the total expected power density from any number of individual radio frequency sources. The program uses the specific antenna patterns from the manufacturers and allows for the inclusion of uneven terrain in the vicinity, as well as any number of nearby buildings of varying heights, to obtain accurate projections of RF exposure levels. The program can account for spatial-averaging when antenna patterns are sufficiently narrow, and time-averaging is typically considered when operation is in single-frequency bands, which require time-sharing between the base station and the subscriber devices.

OET-65 provides this formula for calculating power density in the far-field from an individual RF source:

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

where ERP = total Effective Radiated Power (all polarizations), in kilowatts,  
RFF = three-dimensional relative field factor toward point of calculation, and  
D = distance from antenna effective height to point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to reflections, assuming a reflection coefficient of 1.6 ( $1.6 \times 1.6 = 2.56$ ). This factor is typically used for all sources unless specific information from FCC filings by the manufacturer indicate that a different reflection coefficient would apply. The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density.

Because antennas are not true “point sources,” their signal patterns may not be fully formed at close distances and so exposure levels may be lower than otherwise calculated by the formula above. OET-65 recommends the cylindrical model formula below to account for this “near-field effect”:

$$\text{power density} \quad S = \frac{180}{\theta_{\text{BW}}} \times \frac{0.1 \times P_{\text{net}}}{\pi \times D \times h} \quad \text{in mW/cm}^2$$

where  $P_{\text{net}}$  = net power input to antenna, in watts,  
 $\theta_{\text{BW}}$  = half-power beamwidth of antenna, in degrees,  
D = distance from antenna effective height to point of calculation, in meters, and  
h = aperture height of antenna, in meters.

The factor of 0.1 in the numerator converts to the desired units of power density.

OET-65 confirms that the “crossover” point between the near- and far-field regions is best determined by finding where the calculations coincide from the two different formulas, and the program uses both formulas to calculate power density.



**EXHIBIT A**  
**RECEIVED**  
 August 04, 2022  
 PLN2022-00179



**T-Mobile**  
 1855 GATEWAY BOULEVARD, 9TH FLOOR  
 CONCORD, CA 94520



1000 CALLE CORDILLERA,  
 SAN CLEMENTE, CA 92673  
 WWW.LEAFCOMM.COM  
 (949) 388-0192

**PROJECT: T-MOBILE E\_SC-593H: BB6648 (4402(L21/L19) + 4435(N41): 2X2 SPLIT MODE)**

**SITE NUMBER: SCYH039A**  
**SITE NAME: ZOOX-BTS1**  
**SITE TYPE: ENGINEERING DAS**

**CITY: TRACY**  
**COUNTY: SAN JOAQUIN**  
**JURISDICTION: SACRAMENTO CENTRAL VALLEY**

SITE NAME:  
 ZOOX-BTS1

SITE NUMBER:  
 SCYH039A

PROJECT ID:  
 E\_SC-593H: BB6648  
 (4402(L21/L19) + 4435(N41): 2X2  
 SPLIT MODE)

SITE ADDRESS:  
 17001 MIDWAY ROAD  
 TRACY, CA 95376

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	QA
0	11/05/2021	BDJ	90% CD - ISSUED FOR REVIEW	BDJ
1	01/26/2022	LG	100% CD - ISSUED FOR CX	BDJ
2	05/04/2022	LG	100% CD - REVISION	ML
3	06/21/2022	MM	100% CD - REVISION	ML



**SIGNED: 2022/07/21**  
**EXPIRES: 2023/09/30**

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

SHEET NAME:  
**TITLE SHEET**

SHEET NUMBER:  
**T-1**

**SITE INFORMATION**

PROPERTY OWNER: LAKESIDE MOTORSPORTS ALTAMONT LLC  
 2415 VICTORY BLVD. #556  
 BURBANK, CA 91506  
 CONTACT NAME/PHONE:  
 SITE ADDRESS: 17001 MIDWAY ROAD  
 TRACY, CA 95376

---

SITE NAME: ZOOX-BTS1  
 PROJECT ID: E\_SC-593H: BB6648 (4402(L21/L19) + 4435(N41): 2X2 SPLIT MODE)

---

APN #: 099B-7675-005-10  
 LATITUDE/LONGITUDE: 37.737553/-121.563215 (NAD83)  
 GROUND ELEVATION: ±279'  
 CURRENT ZONING: X  
 JURISDICTION: SACRAMENTO CENTRAL VALLEY  
 CURRENT USE: UNMANNED TELECOMMUNICATIONS FACILITY  
 CONSTRUCTION TYPE: V-B  
 PROPOSED USE: NO CHANGE

**PROJECT DESCRIPTION**

SCOPE OF WORK:  
 ((PROJECT) - RFDS REV 1)  
 CONSTRUCT LITE-SITE 15 WITH 50' MONOPOLE

ANTENNA SOW:  
 • INSTALL (3) ERICSSON 4455 ACTIVE ANTENNAS  
 • INSTALL (3) AIR6419 B41 ANTENNAS  
 • INSTALL (3) HYBRID CABLES  
 • MOVE (E) MW DISH FROM (E) COW TO (N) TOWER AND REALIGN

GROUND SOW:  
 • INSTALL LITE-SITE EQUIPMENT PAD  
 • INSTALL 50' MONOPOLE  
 • INSTALL CHAIN-LINK FENCE  
 • INSTALL STAIRS WITH HANDRAIL  
 • INSTALL (1) E6160 CABINET  
 • INSTALL (1) B160 CABINET  
 • INSTALL (1) PPC CABINET WITH A CAM-LOCK AND INSTALL CONDUIT AND CONDUCTOR FROM (E) PANEL  
 • INSTALL CABLE-TRAY  
 • INSTALL (1) RP6651 FOR L6/L7/N6/L850+L19/L21 MB FDD MMBB  
 • INSTALL (1) RB6651 FOR L2500/N2500 MMBB  
 • INSTALL (2) SFP+ RDH 102 426/24

**DRIVING DIRECTIONS**

DIRECTIONS FROM T-MOBILE OFFICE:  
 (1855 GATEWAY BOULEVARD, 9TH FLOOR, CONCORD, CA 94520)

- HEAD WEST TOWARD CLAYTON ROAD.
- TURN LEFT TOWARD CLAYTON ROAD.
- TURN RIGHT ONTO CLAYTON ROAD.
- USE THE RIGHT 2 LANES TO TAKE THE RAMP ONTO CA-242 S, MERGE ONTO CA-242 S.
- MERGE ONTO I-680 S.
- USE THE RIGHT 2 LANES TO TAKE EXIT 30A TO MERGE ONTO I-580 E TOWARD STOCKTON.
- TAKE EXIT 57 TOWARD N. GREENVILLE RD/ALTAMONT PASS ROAD.
- USE ANY LANE TO TURN SLIGHTLY LEFT ONTO SOUTHFRONT ROAD.
- TURN LEFT ONTO N GREENVILLE ROAD.
- TURN RIGHT ONTO ALTAMONT PASS ROAD.
- TURN LEFT ONTO N MIDWAY ROAD.
- TURN LEFT

17001 MIDWAY ROAD, TRACY, CA 95376

**DRAWING INDEX**

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
A-1	OVERALL SITE PLAN
A-2	EQUIPMENT PLANS
A-3	ANTENNA PLANS
A-4	ELEVATIONS
A-5	ELEVATIONS
D-1	SIGNAGE
D-2	DETAILS
D-3	DETAILS
D-4	DETAILS
D-5	BATTERY DETAILS
CD-1	CABLING DIAGRAM

**PROJECT TEAM**

APPLICANT: T-MOBILE WEST, LLC.  
 1855 GATEWAY BOULEVARD, 9TH FLOOR  
 CONCORD, CA 94520

A&E CONTACT: LEAF COMMUNICATIONS  
 1000 CALLE CORDILLERA,  
 SAN CLEMENTE, CA 92673  
 MEGAN LAMON - (949) 388-0192  
 MEGAN.LAMON@LEAFCOMM.COM

ENGINEER OF RECORD CONTACT: LEAF COMMUNICATIONS  
 1000 CALLE CORDILLERA,  
 SAN CLEMENTE, CA 92673  
 ESRA H. PERSELLIN, P.E. - (949) 388-0192  
 ESRA.PERSELLIN@LEAFCOMM.COM

SITE ACQUISITION CONTACT: LEAF COMMUNICATIONS  
 1000 CALLE CORDILLERA,  
 SAN CLEMENTE, CA 92673  
 DEREK PATTON - (949) 388-0192  
 DEREK.PATTON@LEAFCOMM.COM

SITE DEVELOPMENT MANAGER CONTACT: T-MOBILE WEST, LLC.  
 1855 GATEWAY BOULEVARD, 9TH FLOOR  
 CONCORD, CA 94520  
 JUAN PAREDES - (925) 826-8012  
 JUAN.PAREDES48@T-MOBILE.COM

**APPROVALS**

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES/MODS THEY MAY IMPOSE

LANDLORD: \_\_\_\_\_ DATE: \_\_\_\_\_  
(SIGNATURE)

RF ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
(SIGNATURE)

EQUIP. ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
(SIGNATURE)

SITE DEVELOPMENT MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
(SIGNATURE)

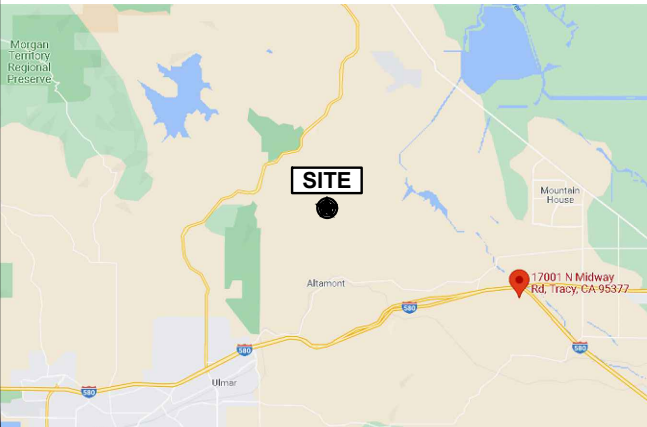
SITE ACQUISITION: \_\_\_\_\_ DATE: \_\_\_\_\_  
(SIGNATURE)

CONSTRUCTION MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
(SIGNATURE)

ZONING MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
(SIGNATURE)

FOPS: \_\_\_\_\_ DATE: \_\_\_\_\_  
(SIGNATURE)

**VICINITY MAP**



**REFERENCE DOCUMENTS**

MOUNT ANALYSIS: BY OTHERS  
 DATED: TBD

STRUCTURAL ANALYSIS: BY OTHERS  
 DATED: TBD

RFDS: REV 1  
 DATED: 06/08/2022

THE CONSTRUCTION DRAWINGS FOR REFERENCE SITE ARE ONLY VALID WITH A PASSING MOUNT ANALYSIS AND A PASSING STRUCTURAL ANALYSIS REPORT.

**APPLICABLE CODES**

ALL WORK SHALL BE PERFORMED AND MATERIALS 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:

2019 CALIFORNIA ADMINISTRATIVE CODE  
 2019 CALIFORNIA BUILDING CODE  
 2019 CALIFORNIA ELECTRICAL CODE  
 2019 CALIFORNIA MECHANICAL CODE  
 2019 CALIFORNIA FIRE CODE  
 2019 CALIFORNIA ENERGY CODE  
 ANSI/TIA-222-H  
 CITY/COUNTY ORDINANCES

THE FACILITY IS UNMANNED AND NOT FOR CONTINUOUS HUMAN HABITATION. DISABLED/CHALLENGED ACCESS IS NOT REQUIRED PER THE CALIFORNIA BUILDING CODE, SECTION 11B-203.4 (LIMITED ACCESS SPACE)

**SCALE NOTE**

DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR HALF SIZE. CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE EOR IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME



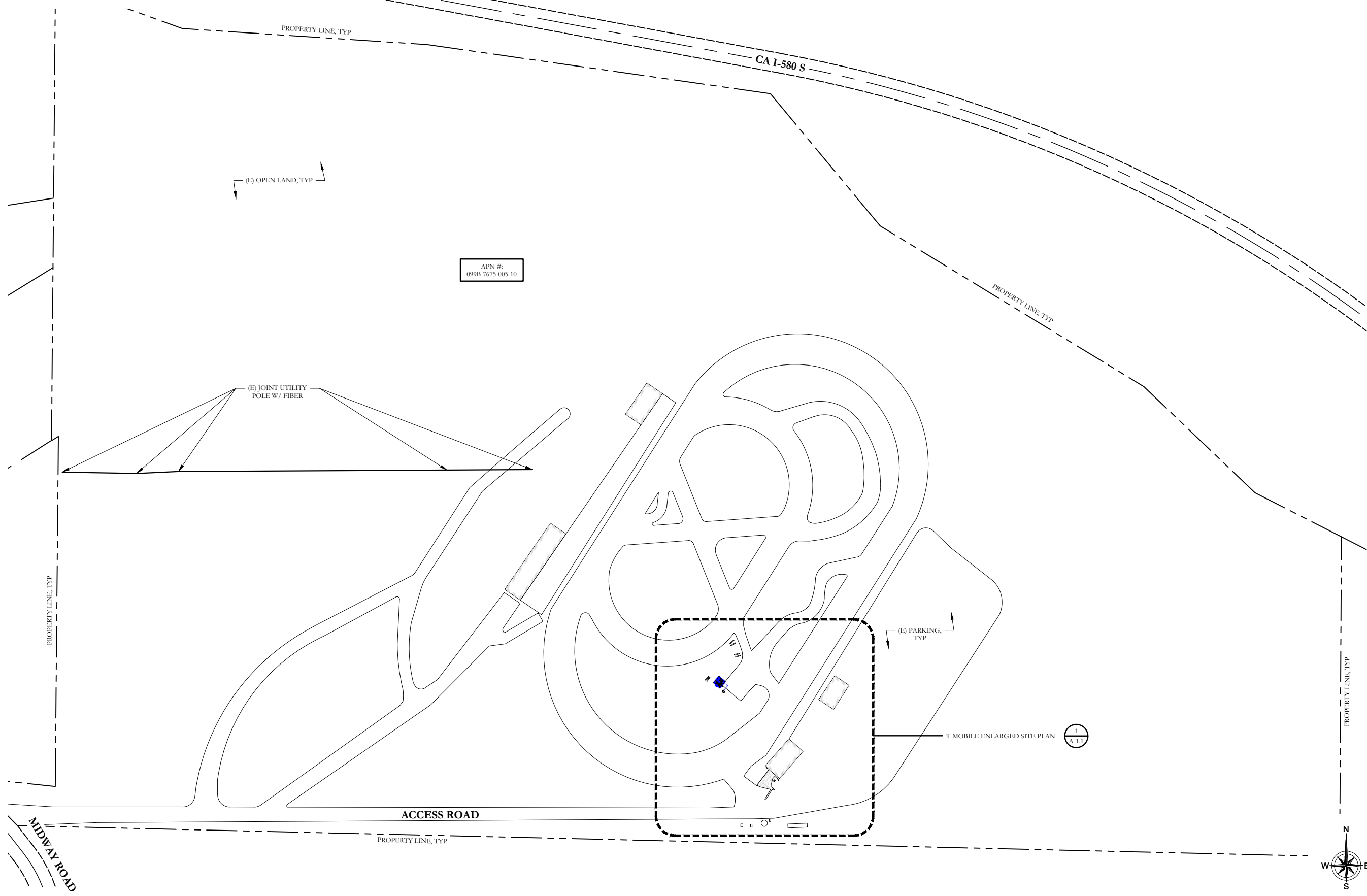
CALL CALIFORNIA ONE CALL  
 (800) 422-4133  
 CALL 3 WORKING DAYS  
 BEFORE YOU DIG!





**NOTES:**

- THESE DRAWINGS HAVE BEEN CREATED BY INFORMATION GATHERED AT THE SITE, EXISTING AS-BUILTS PROVIDED BY T-MOBILE AND WITHOUT A SURVEY. PLEASE VERIFY ALL DIMENSIONS, LENGTHS, PROPERTY LINES AND CONDUIT RUNS
- LEAF COMMUNICATIONS MAKES NO CLAIM AS TO THE CORRECTNESS OF THE ORIGINAL DESIGN OR THE CURRENT CONDITION OF THE STRUCTURE, WHICH IS ASSUMED TO BE IN GOOD CONDITION, FREE OF DAMAGE AND DETERIORATION
- CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING EQUIPMENT PRIOR TO CONSTRUCTION



**T-Mobile**  
 1855 GATEWAY BOULEVARD, 9TH FLOOR  
 CONCORD, CA 94520

**LEAF COMMUNICATIONS**  
 1000 CALLE CORDILLERA,  
 SAN CLEMENTE, CA 92673  
 WWW.LEAFCOMM.COM  
 (949) 388-0192

**SITE NAME:**  
 ZOOX-BTS1

**SITE NUMBER:**  
 SCYH039A

**PROJECT ID:**  
 E\_SC-593H: BB6648  
 (4402(L21/L19) + 4435(N41): 2X2  
 SPLIT MODE)

**SITE ADDRESS:**  
 17001 MIDWAY ROAD  
 TRACY, CA 95376

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	QA
0	11/05/2021	BDJ	90% CD - ISSUED FOR REVIEW	BDJ
1	01/26/2022	LG	100% CD - ISSUED FOR CX	BDJ
2	05/04/2022	LG	100% CD - REVISION	ML
3	06/21/2022	MM	100% CD - REVISION	ML

**LEAF COMMUNICATIONS**

**REGISTERED PROFESSIONAL ENGINEER**  
 JOSEPH FITZSIMONS  
 81603  
 CIVIL  
 STATE OF CALIFORNIA

**SIGNED: 2022/07/21**  
**EXPIRES: 2023/09/30**

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**SHEET NAME:**  
 OVERALL SITE PLAN

**SHEET NUMBER:**  
 A-1





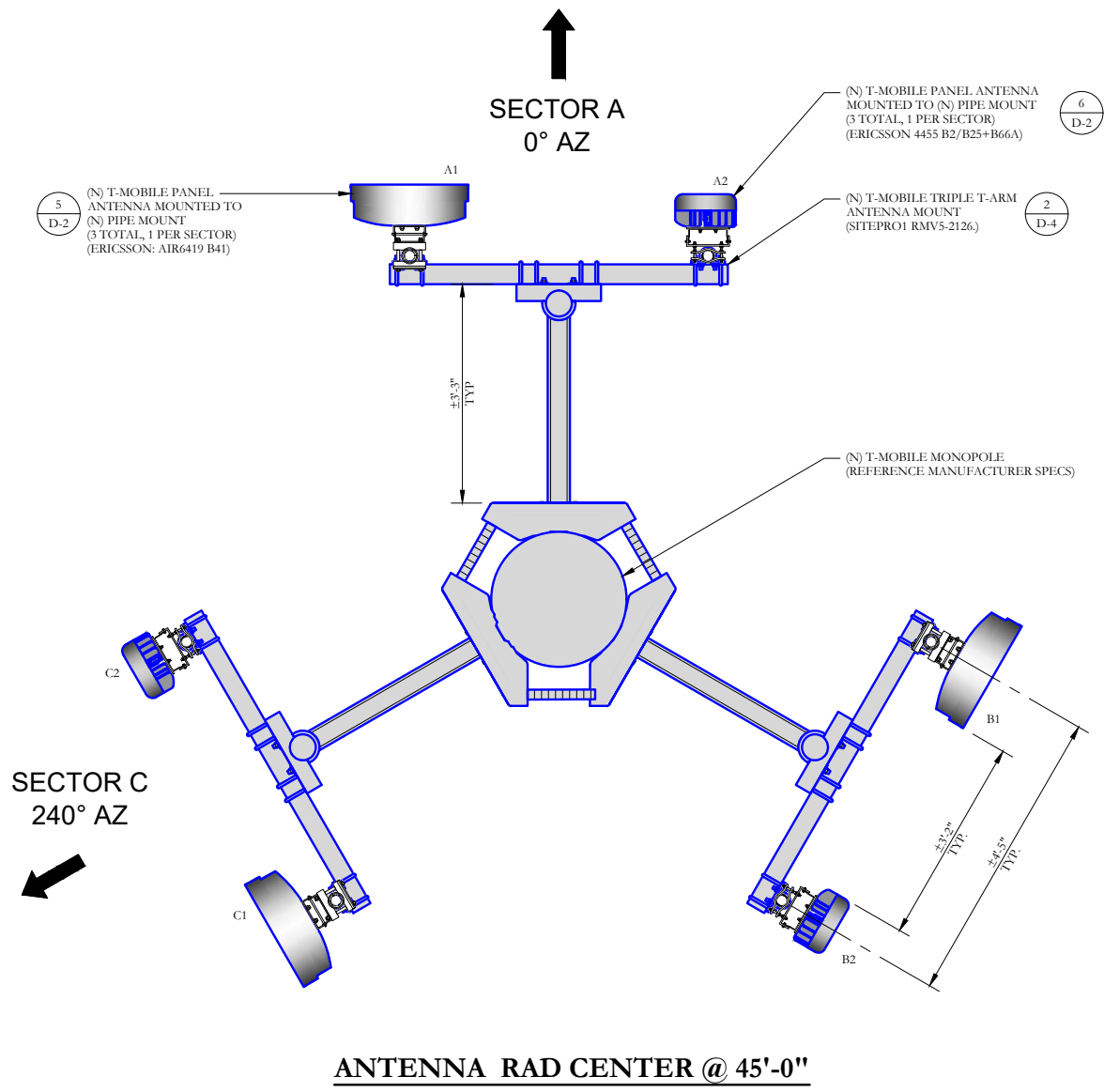
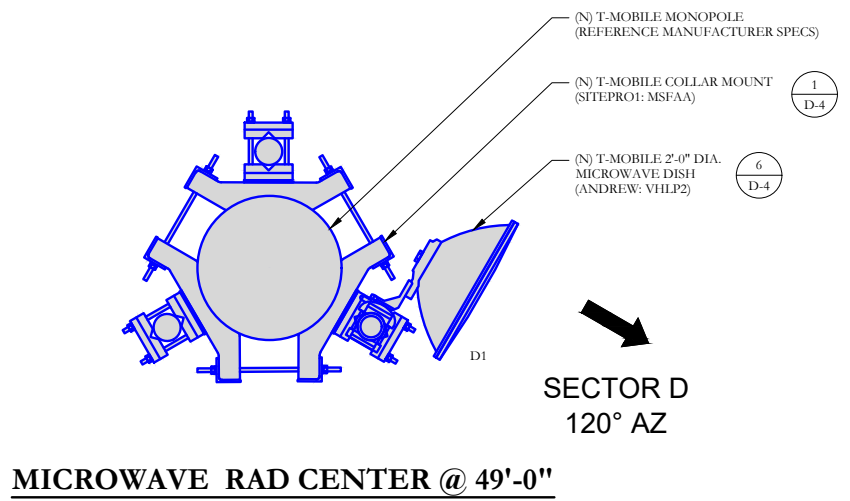
NEW ANTENNA SCHEDULE								
SECTOR	ANTENNA			ANTENNA SPEC'S WEIGHT (LBS) DIMENSIONS (LxWxD)	AZIMUTH	RAD CENTER	TMA / RRU	CABLE STATUS, TYPE AND LENGTH
	MANUFACTURER	MODEL	TECHNOLOGY					
ALPHA	A1	ERICSSON	AIR6419 B41 (M-MIMO)	L2100/ L1900 /N2500	83.00 LBS 32.25"x20.91"x6.97"	0°	45'-0"	(N) (1) HCS 6X24 4AWG - 50M
	A2	ERICSSON	AIR 4455 B2/B25+B66A		57.32 LBS 31.30"x10.87"x5.90"	0°	45'-0"	
BETA	B1	ERICSSON	AIR6419 B41 (M-MIMO)	L2100/ L1900 /N2500	83.00 LBS 32.25"x20.91"x6.97"	120°	45'-0"	(N) (1) HCS 6X24 4AWG - 50M
	B2	ERICSSON	AIR 4455 B2/B25+B66A		57.32 LBS 31.30"x10.87"x5.90"	120°	45'-0"	
GAMMA	C1	ERICSSON	AIR6419 B41 (M-MIMO)	L2100/ L1900 /N2500	83.00 LBS 32.25"x20.91"x6.97"	240°	45'-0"	(N) (1) HCS 6X24 4AWG - 50M
	C2	ERICSSON	AIR 4455 B2/B25+B66A		57.32 LBS 31.30"x10.87"x5.90"	240°	45'-0"	
DELTA	D1	ANDREW	VHLP2		24.7 LBS 28.00" DIA. x 13.2" DEPTH	120°	49'-0"	

**NOTES:**

- LEAF COMMUNICATIONS MAKES NO CLAIM AS TO THE CORRECTNESS OF THE ORIGINAL DESIGN OR THE CURRENT CONDITION OF THE STRUCTURE, WHICH IS ASSUMED TO BE IN GOOD CONDITION, FREE OF DAMAGE AND DETERIORATION
- CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING EQUIPMENT PRIOR TO CONSTRUCTION

**MOUNT ANALYSIS NOTES:**

- THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS
- CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION
- ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY THE EOR



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**LEAF COMMUNICATIONS**

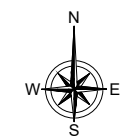
REGISTERED PROFESSIONAL ENGINEER  
JOSEPH J. FITZSIMONS  
81603  
CIVIL  
STATE OF CALIFORNIA

**SIGNED: 2022/07/21**  
**EXPIRES: 2023/09/30**

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**SHEET NAME:**  
ANTENNA PLAN

**SHEET NUMBER:**  
A-3





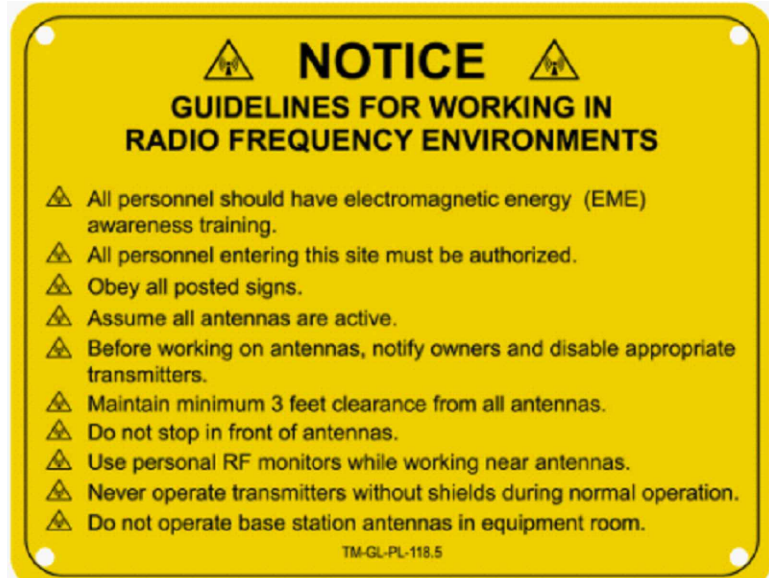




EMERGENCY CALL SIGN

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

1



RF FREQUENCY SIGN

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

2

NOT USED

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

3

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**LEAF COMMUNICATIONS**

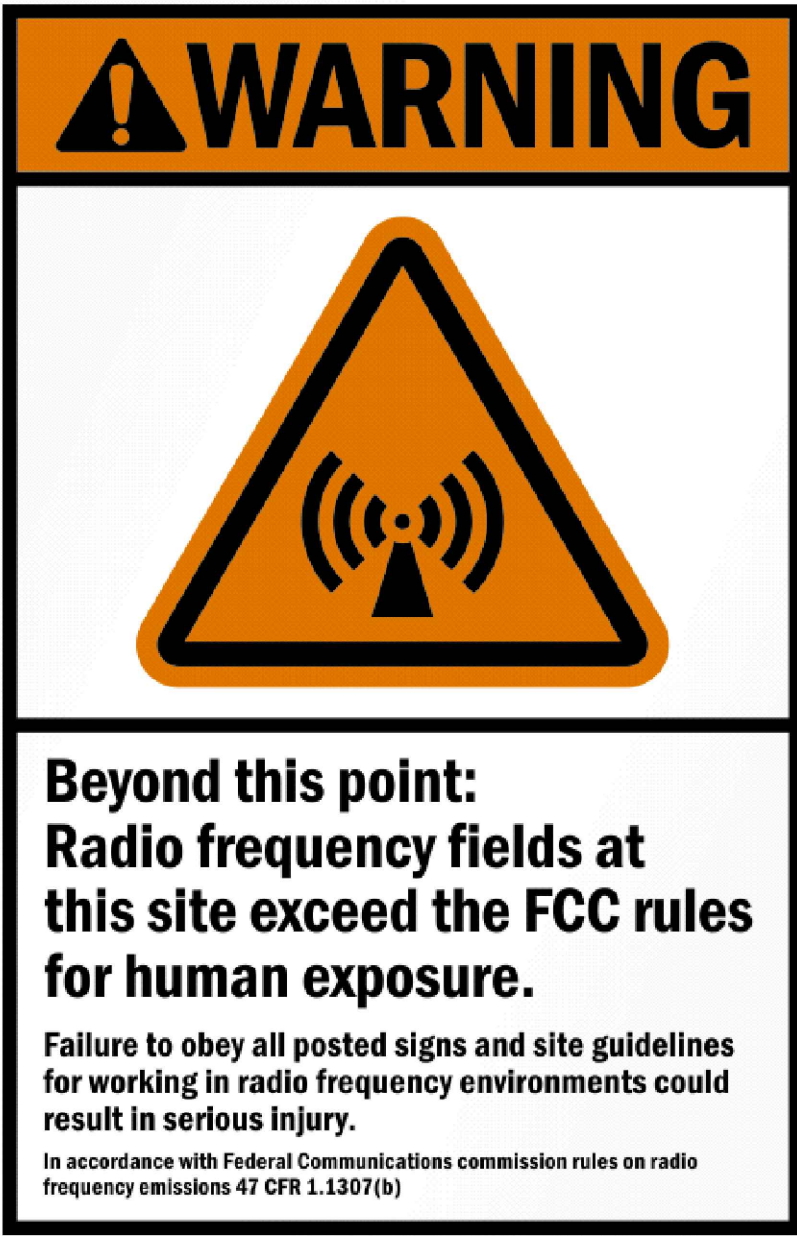


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SHEET NAME:  
SIGNAGE

SHEET NUMBER:  
D-1



WARNING RF ORANGE SIGN

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

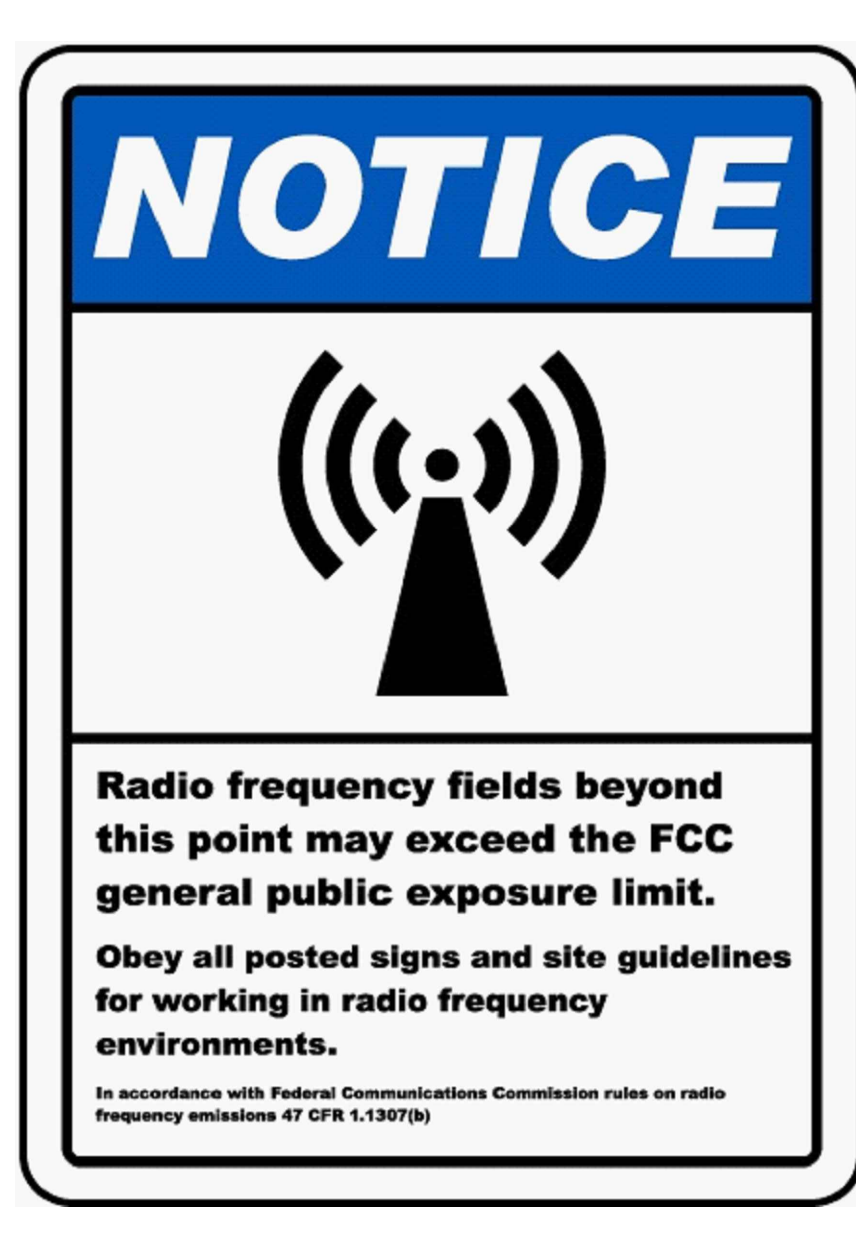
4



CAUTION RF YELLOW SIGN

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

5



NOTICE RF BLUE SIGNS

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

6





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PROJECT ID:  
E\_SC-593H: BB6648  
(4402(L21/L19) + 4435(N41): 2X2  
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SHEET NAME:  
DETAILS

SHEET NUMBER:  
D-4

NOT USED

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

7

NOT USED

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

8

NOT USED

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

9

NOT USED

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

4

NOT USED

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

5

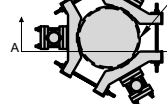
NOT USED

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

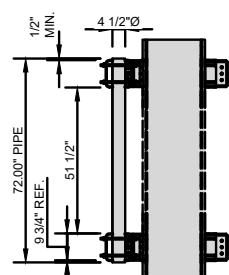
6

MANUFACTURER: SITEPRO1  
 MODEL: MSFAA  
 WEIGHT: 788.53 LBS

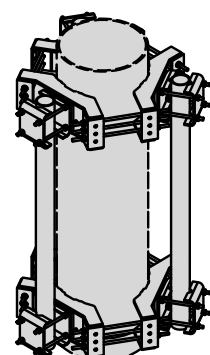
FOR POLES 12"  
 TO 45" DIA.



TOP VIEW



SECTION A-A



ISOMETRIC VIEW

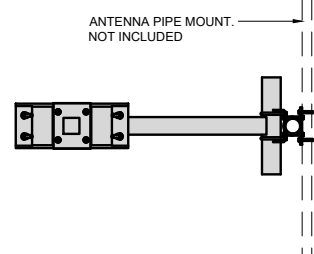
COLLAR MOUNT DETAIL

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

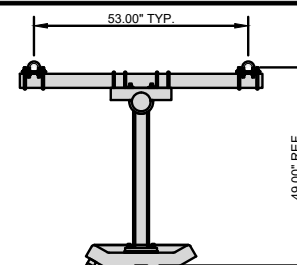
1

MANUFACTURER: SITE PRO 1  
 MODEL: RMV5-2126  
 DIMENSIONS: HxWxD in: 60"x120"  
 WEIGHT: 989.89 LBS

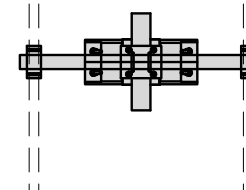
ANTENNA PIPE MOUNT.  
 NOT INCLUDED



SIDE



PLAN



FRONT

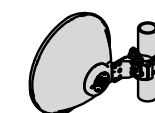
ANTENNA MOUNT DETAIL

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

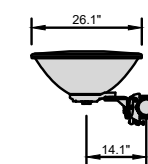
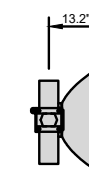
2

MANUFACTURER: ANDREW  
 MODEL: VHLP2  
 WEIGHT: 43.00 LBS

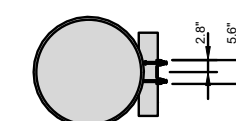
ISOMETRIC VIEW



SIDE VIEW



TOP VIEW



FRONT VIEW

MICROWAVE DISH DETAIL

24"x36" SCALE: NTS  
 11"x17" SCALE: NTS

3

# NSB 190FT Red Battery®

## Nominal Technical Specifications



### Electrical

	International Standard 20°C (68°F)	North American Standard 25°C (77°F)
8 hour capacity to 1.75 VPC	188 Ah	191 Ah
10 hour capacity to 1.80 VPC	190 Ah	192 Ah
Float Voltage	2.29 +/- 0.02 VPC	2.27 +/- 0.02 VPC
Nominal Voltage	12 V	
Impedance [1kHz]	2.2 mΩ @ 25°C (77°F)	
Conductance	2,400 S	
Short Circuit Current	6,000 A	

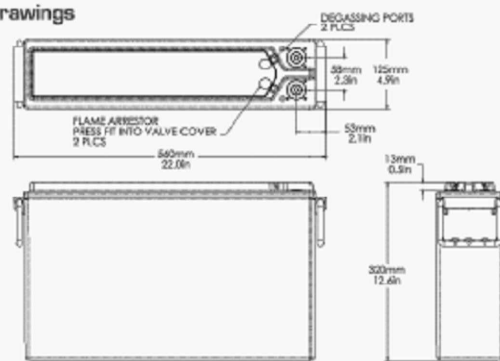
### Dimensions

Height	320 mm (12.6 in)	Weight	60 kg (132 lbs)
Width	125 mm (4.9 in)	Terminal	Female M8 x 1.25
Depth	560 mm (22.0 in)	Terminal Torque	8.0 Nm (71 in-lbs)

### Ah Capacity Ratings @ 25°C (77°F)

Capacity Discharge / hours	1	2	4	8	10
Capacity @ 25°C / Ah	150	167	181	191	192
End of Discharge / VPC	1.70	1.75	1.75	1.75	1.80

### Drawings



All NorthStar batteries are compliant with: Telcordia GR4228, IEC 60896; Bellcore GR63-Core, Issue 1; British, German, and Russian telecom standards; UL approved. NorthStar is registered to ISO 9001 and ISO 14001.

**NorthStar Americas**  
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4000 Continental Way  
Springfield, MD, 20683  
United States of America  
info@northstarbattery.com  
Tel: +1 417 575 8200  
Fax: +1 417 575 8250

**NorthStar Europe**  
SiteTel Sweden AB  
Steffens Väg 6-B  
SE-192 07 Solentuna,  
Stockholm, Sweden  
eu@northstarbattery.com  
Tel: +46 8 410 102 00  
Fax: +46 8 638 05 00

**NorthStar Middle East, Africa**  
SiteTel Sweden AB-JTL Branch  
Office 702, Saba 1 Tower  
Jumeirah Lake Towers, Dubai  
United Arab Emirates  
me@northstarbattery.com  
Tel: +971 4 423 8050  
Fax: +971 4 423 8061

**NorthStar Asia-Pacific**  
NS Asia Pacific Sdn. Bhd.  
Level 20, Menara Standard Chartered  
30 Jalan Sultan Ismail, 50250  
Kuala Lumpur, Malaysia  
asia@northstarbattery.com  
Tel: +60 3 2117 5354

www.northstarbattery.com



Form: SES-546-09-02 Issued: 11-11-13 ECO: 2383-513

## Red Long Life

Battery Type			NSB100FT HT Red	NSB155FT HT Red	NSB170FT HT Red	NSB190FT HT Red	NSB210FT HT Red
Electrolyte	Weight	/kg	6.3	9.6	8.8	10.0	10.5
		/lbs	13.9	21.2	19.4	22.0	23.1
		/litres	4.7	7.2	8.3	8.5	7.9
Volume	Weight	/gallons	1.2	1.9	2.2	2.2	2.1
		/kg	3.5	5.4	4.9	5.6	5.9
		/lbs	7.8	11.9	10.9	12.4	13.0
Acid	Volume	/litres	2.6	4.0	4.6	4.8	4.4
		/gallons	0.7	1.1	1.2	1.3	1.2
		Lead	Weight	/kg	12.3	18.4	20.1
/lbs	27.1			40.6	44.3	45.2	55.1
Lead Oxide	Weight	/kg	7.6	11.3	12.4	14.2	13.9
		/lbs	16.8	24.9	27.3	31.3	30.6
Cells	# of Cells		6	6	6	6	6
Total Weight	Weight	/kg	30.9	46.9	52.3	55.9	59.0
		/lbs	68.1	103.4	115.3	123.2	130.1



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SHEET NAME:  
BATTERY DETAILS

SHEET NUMBER:  
D-5

## BATTERY MANUFACTURER DATA SHEET

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

1

CFC CHAPTER 6 COMPLIANCE				
TOTAL ELECTROLYTE = 12 BATTERIES x 2.2 GAL/BATTERY = 26.4 GAL				
NEW B160 BATTERY ENCLOSURE (BATTERY DATA ELECTROLYTE DATA - 12V MONOBLOCKS)				
BATTERY MODEL	TOTAL # OF BATTERY UNITS INSTALLED	TOTAL ELECTROLYTE VOLUME (GAL) PER UNIT	TOTAL ELECTROLYTE WEIGHT (LBS) PER UNIT	% SULFURIC ACID BY VOL = ACID VOLUME/UNIT ELECTROLYTE VOLUME/UNIT
NSB190FT HT RED	12	2.2 GAL	22 LBS	59% = 1.3 GAL / 2.2 GAL
% SULFURIC ACID BY WEIGHT =		TOTAL ACID WEIGHT / TOTAL ELECTROLYTE WEIGHT	TOTAL SULFURIC VOLUME (GAL) =	TOTAL UNITS X SULFURIC VOLUME/UNITS =
56% = 148.8 LBS / 264 LBS			26.4 GAL =	12 UNITS X 2.2 GAL/UNIT =
			148.8 LBS =	12 UNITS X 12.4 LBS

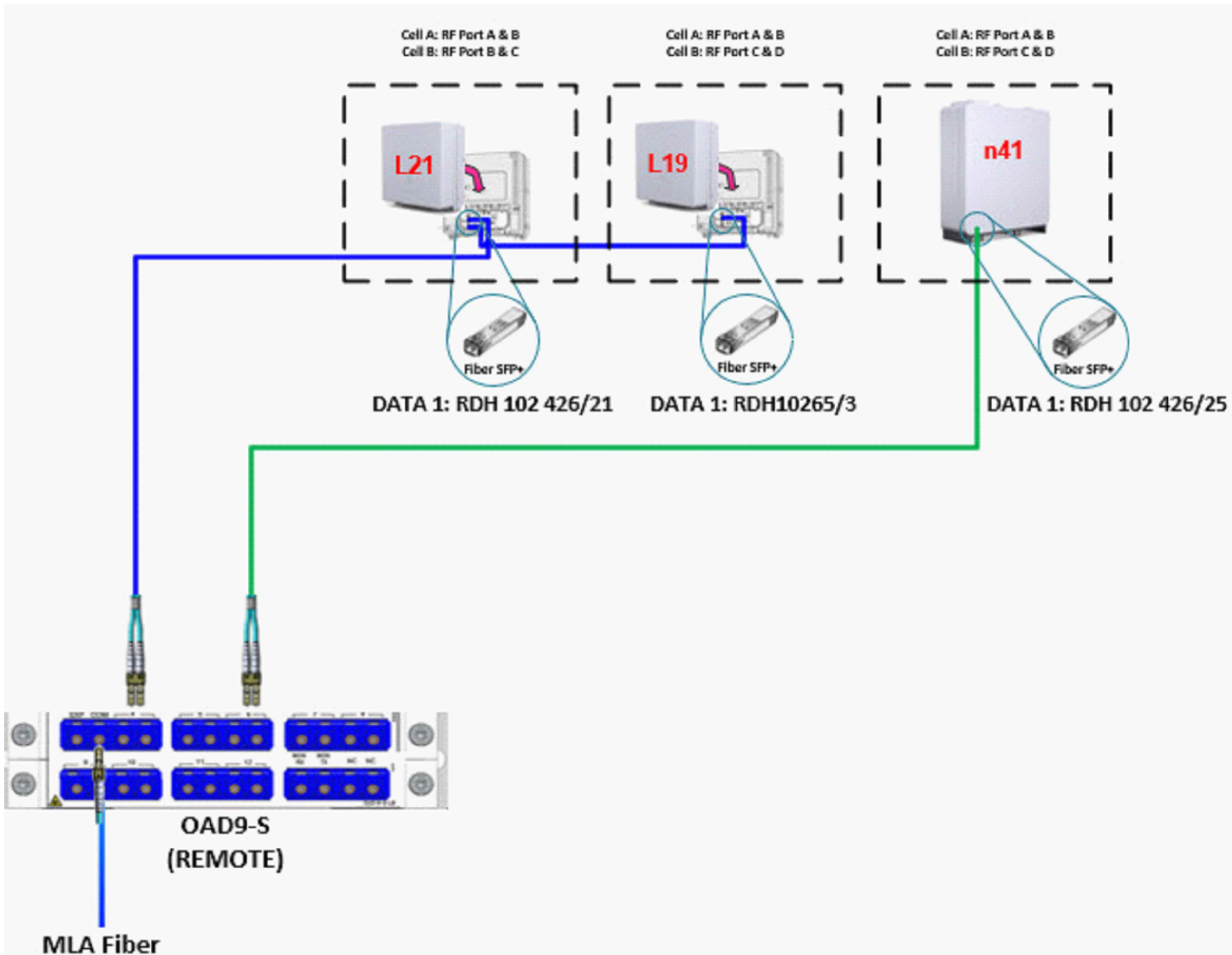
CFC CHAPTER 1206.2 COMPLIANCE					
8 HOUR CAPACITY TO 1.75 VPC					
BATTERY MODEL	NORTH AMERICAN STANDARD 25°C (77°F)	NOMINAL VOLTAGE	KILOWATT-HOURS (kWh)	TOTAL # OF BATTERY UNITS INSTALLED	kWh X TOTAL # OF BATTERY UNITS INSTALLED = TOTAL CAPACITIES
NSB190FT HT RED	191 Ah	12V	2.292	12	2.292 X 12 = 27.504 kWh
10 HOUR CAPACITY TO 1.80 VPC					
BATTERY MODEL	NORTH AMERICAN STANDARD 25°C (77°F)	NOMINAL VOLTAGE	KILOWATT-HOURS (kWh)	TOTAL # OF BATTERY UNITS INSTALLED	kWh X TOTAL # OF BATTERY UNITS INSTALLED = TOTAL CAPACITIES
NSB190FT HT RED	192 Ah	12V	2.304	12	2.304 X 12 = 27.648 kWh

BATTERY TECHNOLOGY	CAPACITY (PER CFC 1206.2)
LEAD ACID, ALL TYPES	70 kWh

## BATTERY DATA CHART

24"x36" SCALE: NTS  
11"x17" SCALE: NTS

2



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CABLING DIAGRAM

SHEET NUMBER:  
CD-1