Marin County on behalf of Marin Emergency Radio Authority (MERA)

Site Survey Report

December 29, 2015

Prepared by:

"Unleashing the Power of Technology"
Federal Engineering®

Federal Engineering, Inc.
10600 Arrowhead Dr., Suite 160
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703-359-8200

Executive Summary

The site surveys in this report are a combination of the previously completed site surveys of the existing MERA sites completed in 2010 that were updated with recent input from Marin County Department of Public Works (DPW) and new sites visited that consisted of mostly potential greenfield sites.

The new sites were prioritized in the Feasibility Study as follows:

1. Tomales
2. Martha
3. Wolfback Ridge
4. Muir Beach
5. Redwood Landfill
6. Coyote Peak/East Marshall
7. Golden Gate Bridge Toll Plaza

The development of the first four sites listed (1 through 4) had been funded as part of the budgeting process and are the highest priority. The new sites visited appear to be feasible locations with varying levels of challenges at each site ranging from space considerations at certain existing sites to lack of commercial power availability at some greenfield locations. These challenges will be further evaluated by the radio system vendor to determine final site feasibility prior to development of any of the new sites.

Per the Table of Content below the new site surveys are in alphabetical order followed by the previous site surveys that are also in alphabetical order.

Table of Contents

COUNTY OF MARIN

Land Mobile Radio
RF Site Assessment
COYOTE PEAK

Prepared by:

"Unleashing the Power of Technology"

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SECTION A: GENERAL SITE INFORMATION

Date: 11/19/2015	**Survey team:** Luis Camarillo and Bob Simmons
In attendance (customer, technical rep): Greg Miller	**Customer point of contact for escort (Phone/E-mail):** 415-473-7313 GMiller@marincounty.org
Site name: Coyote Peak	**Address:** 1700 Marshall Petaluma Rd, Petaluma, CA 94952
Site number (if applicable): N/A	
Radio system name: MERA	**County:** Marin
Proposed Site type: Remote TX/RX	**Site owner:** Marin County Office of Education
Comments: Not currently an existing MERA site but a potential candidate site for MERA coverage enhancement	

Latitude*: 38.186028	**Longitude*:** -122.825472	**Ground Elevation (AMSL) (meters):** 295.35

***The GPS should be operating in NAD83 datum. Decimal Degrees is the format of choice for *FE* propagation studies.**

SECTION B: SITE ACCESS and CONDITIONS

Specialized vehicle requirements to access site:	4WD is required to reach the potential site

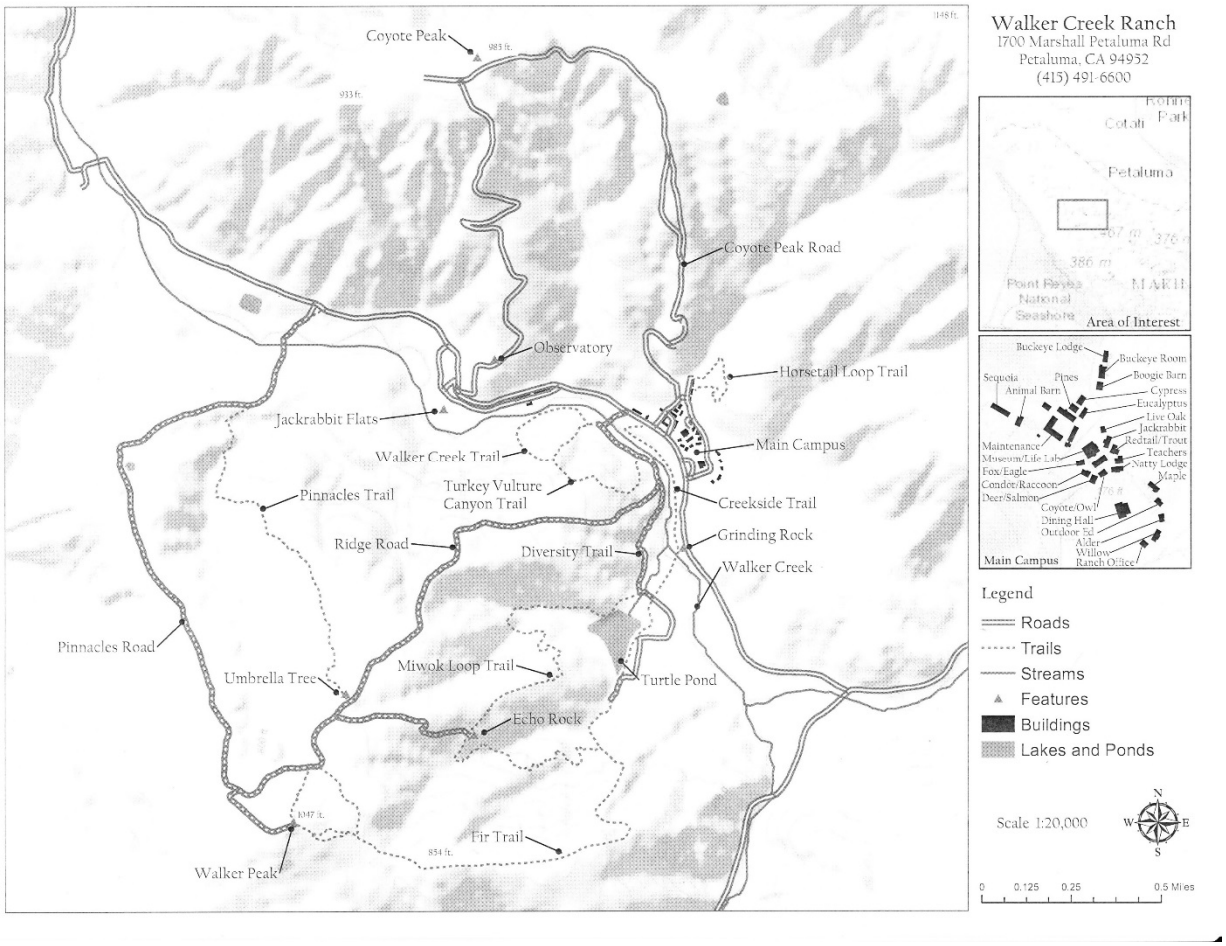
Comments: Approximately 20 miles northwest of the Marin EOF, the site is located at the Walker Creek Ranch, home to the Marin County Outdoor School and Conference Center. The ranch is located approximately 7.5 miles northeast of Marshall, and requires registration with the Ranch Office to access the radio site. The radio site is located approximately 1.5 miles away from the Ranch Office. A 4WD vehicle is required for going up a dirt road, and there are two gates on the way to the site.

SECTION C: PHYSICAL AVAILABILITY of SURROUNDING LAND SPACE (Observations)

Land around site:	**Hilly**	
Property zoning type:	**Unknown**	
Property ownership:	**Local**	
Are there other nearby existing radio tower sites?	☐ **Yes**	☑ **No**
Approximate distance from nearest power/telco utility:	1.5 miles to Ranch Office	

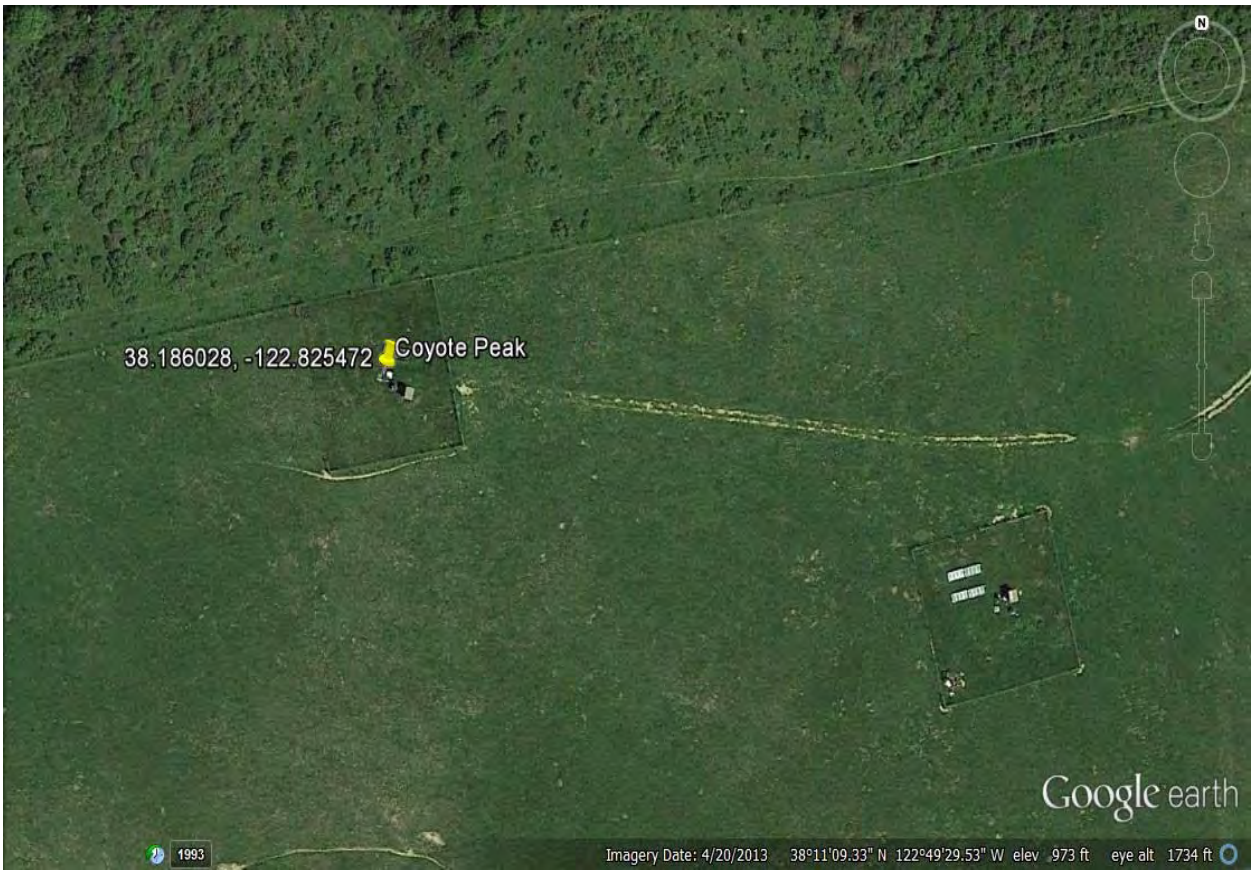
Comments: This site is a remote mountaintop site with no obvious microwave path obstructions. New communications shelter and tower structure are required for any equipment and antenna installations. Commercial power and telco connection are not available at the site.

SECTION D:	MAP TO SITE



Comments: Source: Walker Creek Ranch Office

SECTION E:	SITE PLAN



Comments: Source: Google

SECTION F:	SITE PHOTOS

1. Coyote Peak Site 1 Distance Shot

2. Coyote Peak Site 1 Close-up Shot

3. Coyote Peak Site 2 Distance Shot

4. Coyote Peak Site 2 Close-up Shot

5. Coyote Peak Surrounding Environment

6. Coyote Peak Available Land Space

SECTION G:	SITE ASSESSMENT SUMMARY

The survey team visited the Coyote Peak site, near the East Marshall site. The Coyote Peak site exhibited similar characteristics to the East Marshall site and thus is a potential greenfield location. Approximately 20 miles northwest of the Marin EOF, the site is located at the Walker Creek Ranch, home to the Marin County Outdoor School and Conference Center. The ranch is located approximately 7.5 miles east of Marshall (on Marshall Petaluma Rd), and requires registration with the Ranch Office to access the radio site. The radio site is located approximately 1.5 miles away from the Ranch Office. A 4WD vehicle is required for going up a dirt road, and there are two gates on the way to the site. East Marshall and Coyote Peak are not existing MERA sites, but they are potential candidate sites for MERA system coverage enhancements. Coyote Peak is a remote mountaintop site with no obvious microwave path obstructions. This location consists of two separate 100'x100' perimeter fences, with a 4'x6' wooden structure, a 20' metal pole (for antenna mounting), radio/SCADA equipment, and solar panels for each site. The two sites are approximately 450' apart from each other. Essentially a greenfield location, new communications shelter and tower structure are required for any equipment and antenna installations. Commercial power and telco connection are not available, and solar panels are used to power the existing equipment.

Land Mobile Radio
RF Site Assessment
EOF WATER TANK

Prepared by:

Federal Engineering, Inc.
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Fairfax, VA 22030
703 359-8200

SECTION A: GENERAL SITE INFORMATION

Date: 11/19/2015	**Survey team:** Luis Camarillo and Bob Simmons
In attendance (customer, technical rep): Greg Miller	**Customer point of contact for escort (Phone/E-mail):** 415-473-7313 GMiller@marincounty.org
Site name: EOF Water Tank	**Address:** Physical address for water tank is unknown; closest residential address is: 79 Skyview Terrace, San Rafael, CA 94903
Site number (if applicable): N/A	
Radio system name: MERA	**County:** Marin
Proposed Site type: Other see comments	**Site owner:** Las Gallinas Valley Sanitary District
Comments: Microwave relay site for EOF to be part of the existing microwave loop	

Latitude*: 38.0175	**Longitude*:** -122.546111	**Ground Elevation (AMSL) (meters):** 118.56

***The GPS should be operating in NAD83 datum. Decimal Degrees is the format of choice for *FE* propagation studies.**

SECTION B: SITE ACCESS and CONDITIONS

Specialized vehicle requirements to access site:	4WD vehicle may be required to reach the water tank facility

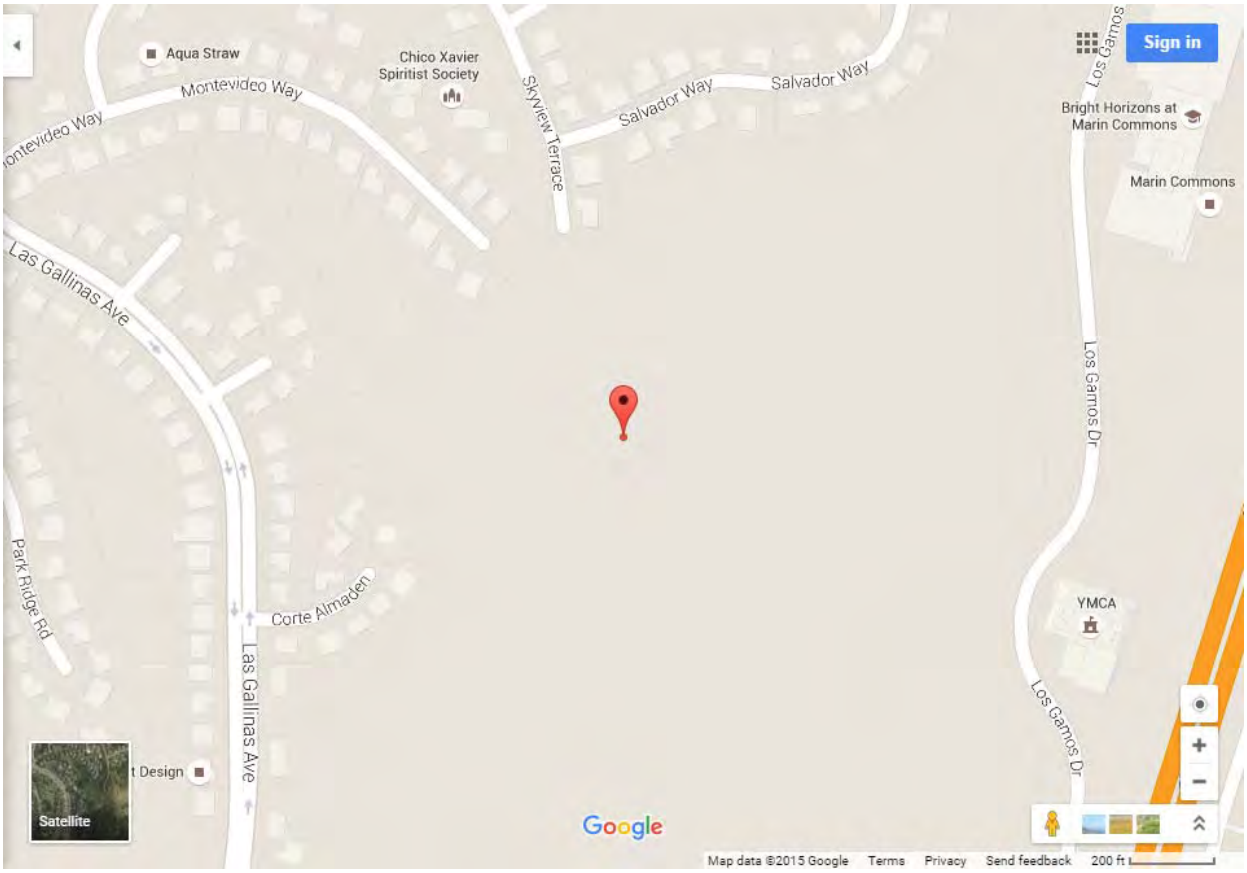
Comments: The water tank is located approximately 1.2 miles (driving distance) west of the Emergency Operations Facility (EOF). The closest major intersection is Las Gallinas Ave and Skyview Terrace. There is a locked fenced where Skyview Terrace ends (near Salvador Way) and a dirt road approximately 300 yards to the top of the hill where the water tank resides. The facility appears well secured with a high perimeter fence, exterior lighting and security cameras.

SECTION C: PHYSICAL AVAILABILITY of SURROUNDING LAND SPACE (Observations)

Land around site:	**Hilly**	
Property zoning type:	**Residential**	
Property ownership:	**Local**	
Are there other nearby existing radio tower sites?	☐ **Yes**	☑ **No**
Approximate distance from nearest power/telco utility:	Commercial power available / Telco unknown	

Comments: This is a developed site with no obvious microwave path obstructions. However, a self-supported tower structure or some type of rooftop mounting hardware is required for dish installations.

SECTION D:	MAP TO SITE



Comments: Source: Google

SECTION E:	SITE PLAN

Comments: Source: Google

SECTION F:	SITE PHOTOS

1. EOF Water Tank Aerial View Facing North

2. EOF Water Tank Aerial View Facing West

3. EOF Water Tank View From Skyview Terrace

4. EOF Water Tank View From Locked Gate

5. EOF Water Tank View of Dirt Access Road

6. EOF Water Tank Skyview Terrace View North

SECTION G:	SITE ASSESSMENT SUMMARY

The Emergency Operations Center (EOF) water tank is not currently an existing Marin Emergency Radio Authority (MERA) site, but it is a potential microwave relay site for EOF to be part of the existing microwave loop. The water tank is located approximately 1.2 miles (driving distance) west of the EOF. The closest major intersection is Las Gallinas Ave and Skyview Terrace. Although Skyview Terrace is a paved road, a 4WD vehicle may be required to reach the water tank facility. There is a locked gate where Skyview Terrace ends (near Salvador Way) and a dirt road approximately 300 yards to the top of the hill where the water tank resides. Commercial power is available at the site, however; availability of backup power sources is unknown. The facility appears well secured with a high perimeter fence, exterior lighting and security cameras. This is a developed site with no obvious microwave path obstructions. The survey team did not have access inside the perimeter fence or the water tank. Therefore, it is unknown whether floor space is available for new equipment placement, or whether a new shelter or outdoor cabinet is required. In addition, a self-supported tower structure or some type of rooftop mounting hardware may be required for any antenna and/or dish installations.

Land Mobile Radio
RF Site Assessment
GOLDEN GATE BRIDGE

Prepared by:

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SECTION A:	GENERAL SITE INFORMATION

Date: 11/20/2015	**Survey team:** Luis Camarillo and Bob Simmons
In attendance (customer, technical rep): Greg Miller	**Customer point of contact for escort (Phone/E-mail):** 415-473-7313 GMiller@marincounty.org
Site name: Golden Gate Bridge	**Address:** Golden Gate Bridge Toll Plaza, San Francisco, CA 94129-0601
Site number (if applicable): N/A	
Radio system name: MERA	**County:** San Francisco
Proposed Site type: Remote TX/RX	**Site owner:** Golden Gate Bridge Highway and Transportation District
Comments: Not currently an existing MERA site but a potential candidate site for MERA coverage enhancement	

Latitude*: 37.806833	**Longitude*:** -122.475722	**Ground Elevation (AMSL) (meters):** 64.61
***The GPS should be operating in NAD83 datum. Decimal Degrees is the format of choice for *FE* propagation studies.**		

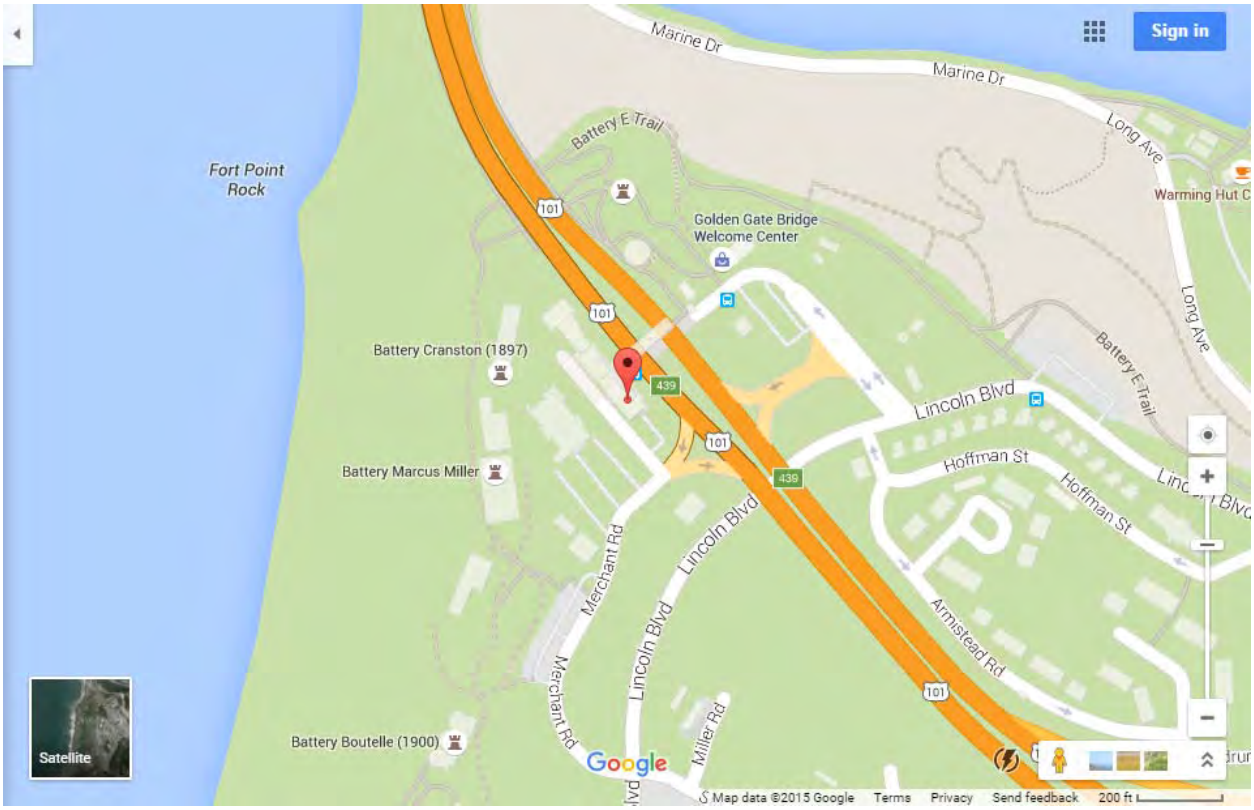
SECTION B:	SITE ACCESS and CONDITIONS

Specialized vehicle requirements to access site:	2WD vehicle can access the site
Comments: The potential Golden Gate Bridge site is located next to the Golden Gate Bridge Toll Plaza, on the southbound direction traveling into San Francisco. This location is in San Francisco County, approximately 15 miles south of the Marin County EOF. Next to the Toll Plaza is a Golden Gate Bridge Highway and Transportation District building. The building is a multi-story (40-ft) concrete structure with multiple rooftop antenna installations.	

SECTION C:	PHYSICAL AVAILABILITY of SURROUNDING LAND SPACE (Observations)

Land around site:	**Urban**	
Property zoning type:	**Commercial**	
Property ownership:	**Local**	
Are there other nearby existing radio tower sites?	☑ **Yes**	☐ **No**
Approximate distance from nearest power/telco utility:	Power/Telco available on site	
Comments: Due to the surrounding environment, there are potential microwave path obstructions, depending on the desired direction. There are several antennas and dishes installed on different rooftop structures. However, those structures are at capacity and the two other antenna pads have limited space available. The site has limited space for outdoor cabinets and no space available within the building for new equipment. Use of outdoor cabinets is not desired.		

SECTION D:	MAP TO SITE

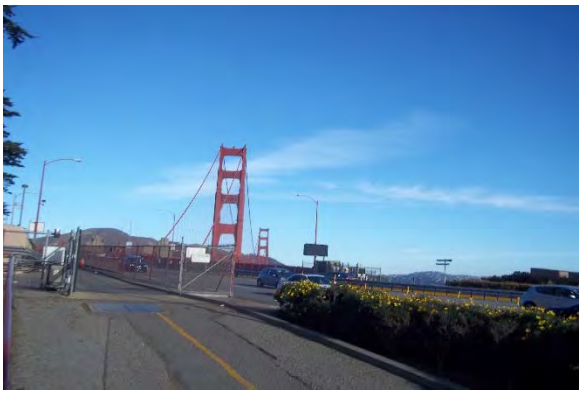


Comments: Source: Google

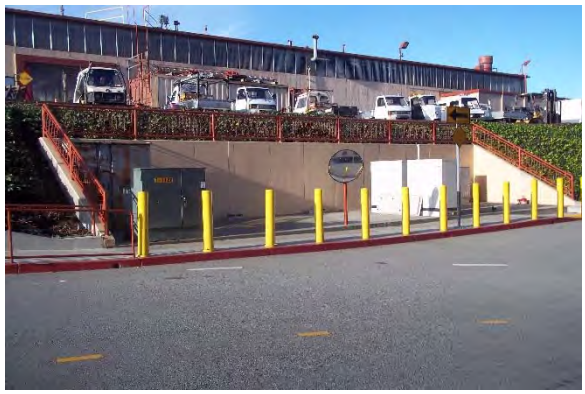
SECTION E:	SITE PLAN

Comments: Source: Google

SECTION F:	SITE PHOTOS



1. Golden Gate Bridge facing N from Toll Plaza



2. Golden Gate Bridge Available Cabinet Space

3. Golden Gate Bridge Available Wall/Bunker

4. Golden Gate Bridge Rooftop Structures

5. Golden Gate Bridge Antenna Pad Exterior

6. Golden Gate Bridge Antenna Pad Interior

SECTION G: SITE ASSESSMENT SUMMARY

The potential Golden Gate Bridge site is located next to the Golden Gate Bridge Toll Plaza, on the southbound direction traveling into San Francisco. This location is in San Francisco County, approximately 15 miles south of the Marin County EOF. Next to the Toll Plaza is a Golden Gate Bridge Highway and Transportation District building. Access to the entire site and rooftop requires registration with the District. The building is a multi-story, 40' concrete structure with multiple rooftop antenna installations. Due to the surrounding environment, there are potential microwave path obstructions, depending on the desired direction. There are several antennas and dishes installed on different rooftop structures. However, those structures are at capacity and the two other 8'x8' antenna pads have limited space available. On the northwest end of the site, there is a 15' concrete wall with a bunker underneath. However, mounting hardware and antenna tips cannot exceed the height of the wall. The site has limited space for outdoor cabinets and no space available within the building for new equipment. The County expresses that use of outdoor cabinets is not desired.

Land Mobile Radio
RF Site Assessment
MARTHA

Prepared by:

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SECTION A:	GENERAL SITE INFORMATION

Date: 11/20/2015	**Survey team:** Luis Camarillo and Bob Simmons
In attendance (customer, technical rep): Greg Miller	**Customer point of contact for escort (Phone/E-mail):** 415-473-7313 GMiller@marincounty.org
Site name: Martha	**Address:** No physical address for greenfield site; closest residential address is: 140 Lyford Drive, Tiburon, CA 94920
Site number (if applicable): N/A	
Radio system name: MERA	**County:** Marin
Proposed Site type: Remote TX/RX	**Site owner:** Private Developer (Martha Property)
Comments: Not currently an existing MERA site but a potential candidate site for MERA coverage enhancement	

Latitude*: 37.885056	**Longitude*:** - 122.449833	**Ground Elevation (AMSL) (meters):** 188.36
***The GPS should be operating in NAD83 datum. Decimal Degrees is the format of choice for *FE* propagation studies.**		

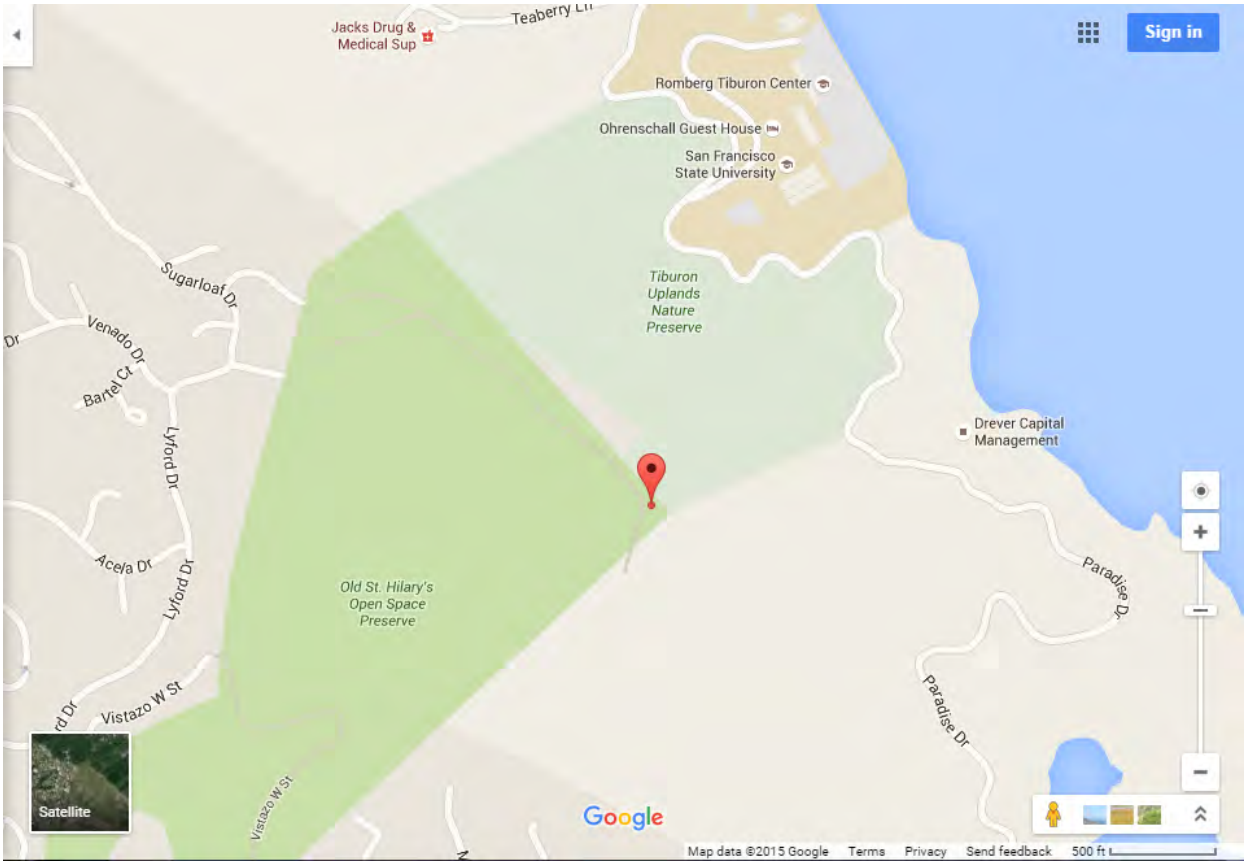
SECTION B:	SITE ACCESS and CONDITIONS

Specialized vehicle requirements to access site:	4WD is required to reach the potential greenfield site
Comments: The site is located approximately 10.5 miles southeast of the Emergency Operations Facility (EOF). The closest intersection is Lyford Drive and Sugarloaf Drive. There is a locked fenced where Lyford Drive ends and a dirt road (Heathcliff Fire Rd) approximately 700 yards to the location of the greenfield site.	

SECTION C:	PHYSICAL AVAILABILITY of SURROUNDING LAND SPACE (Observations)

Land around site:	**Hilly**	
Property zoning type:	**Residential**	
Property ownership:	**Local**	
Are there other nearby existing radio tower sites?	☐ **Yes**	☑ **No**
Approximate distance from nearest power/telco utility:	700 yards to residential area on Lyford Drive	
Comments: The proposed greenfield location is down the hill a ways so that the antenna cannot be seen from the top. As such, microwave path(s) may be a problem, and the severe physical down tilt required to cover the Paradise Drive area may result in RF hazard. New communications shelter and tower structure are required for any equipment and antenna installations. Commercial power and telco connection are not currently available at the site.		

SECTION D:	MAP TO SITE



Comments: Source: Google

SECTION E:	SITE PLAN

Comments: Source: Google

SECTION F:	SITE PHOTOS

1. Martha Greenfield Site Facing West

2. Martha Greenfield Site Facing North

3. Martha Greenfield Site Facing Northeast

4. Martha Greenfield Site Facing East

5. Martha Greenfield Site Facing Southeast

6. Martha Greenfield Site Facing South

SECTION G:	SITE ASSESSMENT SUMMARY

The Martha site is not currently an existing Marin Emergency Radio Authority (MERA) site, but it is a potential candidate site for system coverage enhancements. The site is located approximately 10.5 miles southeast of the Emergency Operations Facility (EOF). The closest intersection is Lyford Drive and Sugarloaf Drive. Lyford Drive is a paved road, but a 4WD vehicle is required on Heathcliff Fire Rd to reach the site location. There is a locked gate where Lyford Drive ends, and the site is located on a dirt road approximately 700 yards from the gate. This is a greenfield site with no commercial power and telco connection currently available. The proposed site location is down the hill a ways so that the antenna cannot be seen from the top. As such, microwave path(s) may be a problem, and the severe physical down tilt required to cover the Paradise Drive area may result in RF hazard. New communications shelter and tower structure are required for any equipment and antenna installations at this site.

Land Mobile Radio
RF Site Assessment
MUIR BEACH

Prepared by:

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SECTION A:	GENERAL SITE INFORMATION

Date: 11/19/2015	**Survey team:** Luis Camarillo and Bob Simmons
In attendance (customer, technical rep): Greg Miller	**Customer point of contact for escort (Phone/E-mail):** 415-473-7313 GMiller@marincounty.org
Site name: Muir Beach	**Address:** Muir Beach Overlook, Muir Beach, CA 94965
Site number (if applicable): N/A	
Radio system name: MERA	**County:** Marin
Proposed Site type: Remote TX/RX	**Site owner:** Muir Beach Community Services District
Comments: Not currently an existing MERA site but a potential candidate site for MERA coverage enhancement	

Latitude*: 37.863389	**Longitude*:** -122.585389	**Ground Elevation (AMSL) (meters):** 147.52
***The GPS should be operating in NAD83 datum. Decimal Degrees is the format of choice for *FE* propagation studies.**		

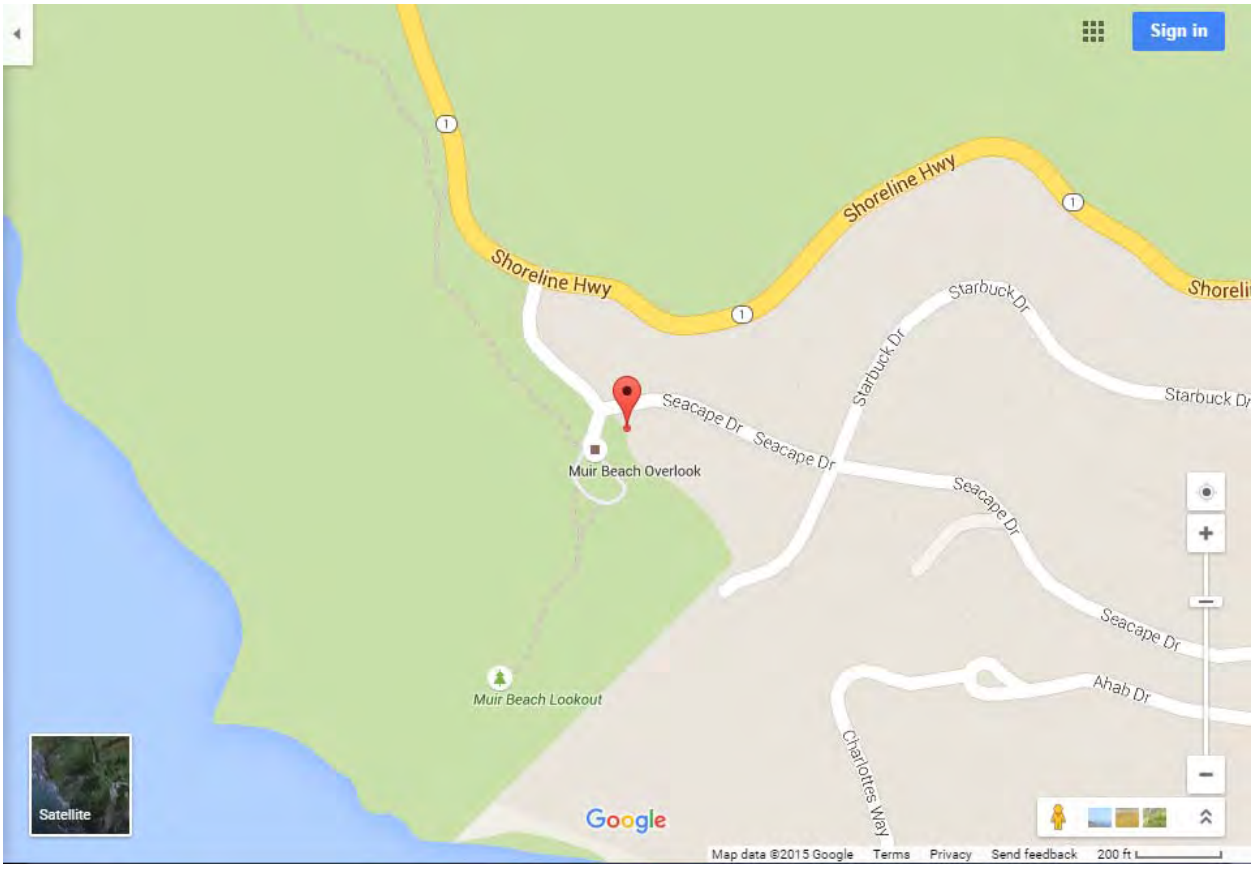
SECTION B:	SITE ACCESS and CONDITIONS

Specialized vehicle requirements to access site:	2WD vehicle can access the site
Comments: The Muir Beach Overlook is within the Golden Gate National Recreation Area approximately 11.5 miles southwest of the Marin County EOF. An existing water tank where radio/microwave equipment resides is located next to the southeastern corner of Seacape Drive and Muir Beach Overlook.	

SECTION C:	PHYSICAL AVAILABILITY of SURROUNDING LAND SPACE (Observations)

Land around site:	**Hilly**	
Property zoning type:	**Residential**	
Property ownership:	**Local**	
Are there other nearby existing radio tower sites?	☐ **Yes**	☑ **No**
Approximate distance from nearest power/telco utility:	Power available on site/Telco unknown	
Comments: The Muir Beach Community Services District constructed a newer Overlook Water Tank in 2010. Due to the surrounding environment, there are potential microwave path obstructions, depending on the desired direction. There are several microwave dishes installed on top of the newer water tank. It is unknown whether the facility has any space available for equipment and antenna installations. Therefore, new communications shelter and tower structure may be required for any new installations.		

SECTION D:	MAP TO SITE



Comments: Source: Google

SECTION E:	SITE PLAN

Comments: Source: Google

SECTION F:	SITE PHOTOS

1. Muir Beach Overlook Entrance

2. Muir Beach Water Tank Facing East

3. Muir Beach Water Tank Facing North

4. Muir Beach Removed Water Tank

5. Muir Beach Existing Ladder and Antenna

6. Muir Beach Surrounding Environment

SECTION G:	SITE ASSESSMENT SUMMARY

The Muir Beach Overlook is within the Golden Gate National Recreation Area approximately 11.5 miles southwest of the Marin County EOF. An existing water tank where radio/microwave equipment resides is located next to the southeastern corner of Seacape Drive and Muir Beach Overlook. This location is not an existing MERA site, but it is a potential candidate site for MERA system coverage enhancement. The Muir Beach Community Services District constructed a newer Overlook Water Tank in 2010. It appears that an older wooden water tank and steel ladder are in the process of being removed. There are several microwave dishes installed on the top of the newer water tank. The survey team did not have access inside or on top of the water tank. It is unknown whether the facility has any space available for additional equipment. Therefore, a new communications shelter and/or antenna structure(s) may be required for any new installations. There is commercial power at the site. Due to the surrounding landscape, there are potential microwave path obstructions, depending on the desired direction.

COUNTY OF MARIN

Land Mobile Radio
RF Site Assessment
REDWOOD LANDFILL

Prepared by:

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SECTION A: GENERAL SITE INFORMATION

Date: 11/19/2015	**Survey team:** Luis Camarillo and Bob Simmons
In attendance (customer, technical rep): Greg Miller	**Customer point of contact for escort (Phone/E-mail):** 415-473-7313 GMiller@marincounty.org
Site name: Redwood Landfill	**Address:** Physical address of site is unknown, located on northeast corner of Redwood Highway and San Antonio Road
Site number (if applicable): N/A	
Radio system name: MERA	**County:** Marin
Proposed Site type: Remote TX/RX	**Site owner:** Verizon Wireless
Comments: Not currently an existing MERA site but a potential candidate site for MERA coverage enhancement	

Latitude*: 38.163778	**Longitude*:** -122.575222	**Ground Elevation (AMSL) (meters):** 26.51

***The GPS should be operating in NAD83 datum. Decimal Degrees is the format of choice for *FE* propagation studies.**

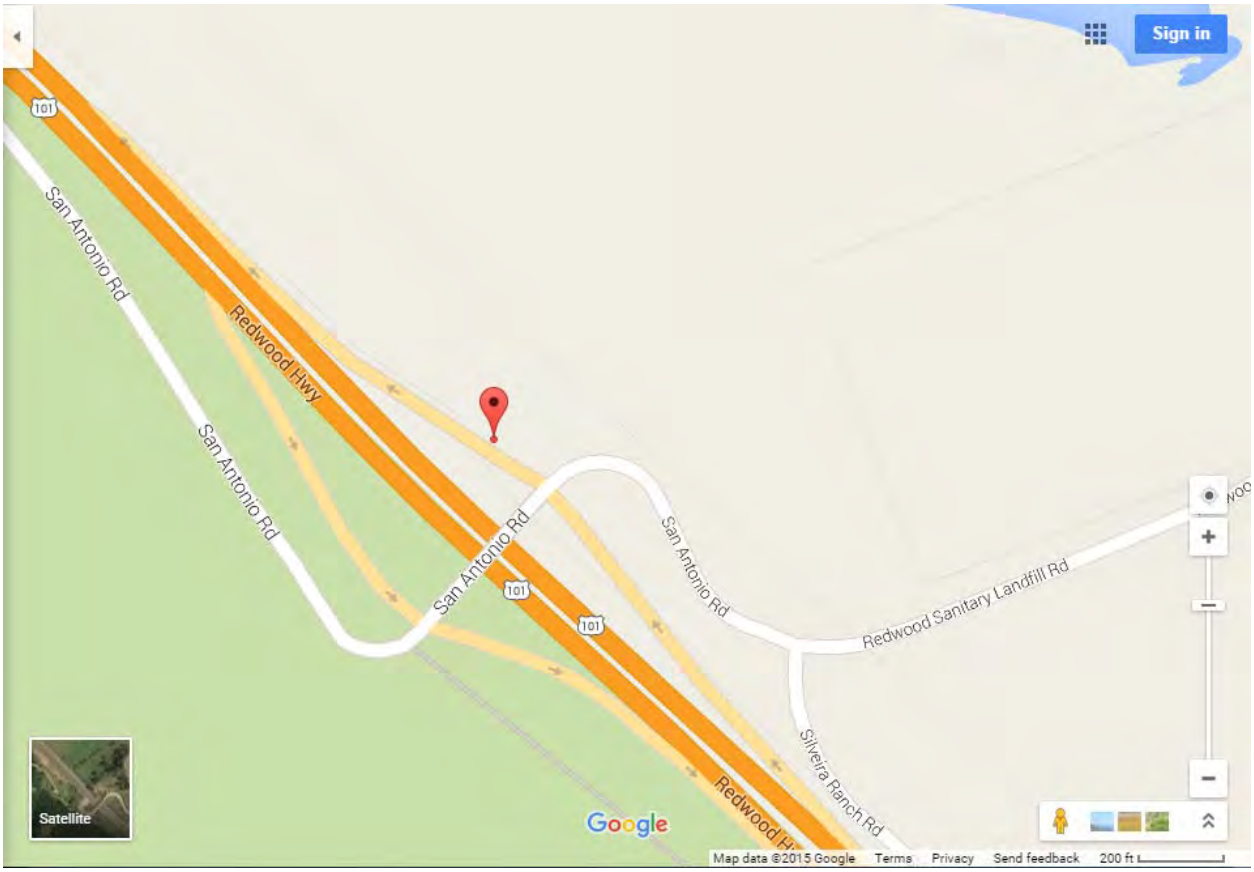
SECTION B: SITE ACCESS and CONDITIONS

Specialized vehicle requirements to access site:	2WD is required to reach the site
Comments: The site is located approximately 10.5 miles north of the Emergency Operations Facility (EOF). The site is located on the northeast corner of Redwood Highway and San Antonio Road, near Redwood Sanitary Landfill Road.	

SECTION C: PHYSICAL AVAILABILITY of SURROUNDING LAND SPACE (Observations)

Land around site:	**Hilly**	
Property zoning type:	**Commercial**	
Property ownership:	**Private**	
Are there other nearby existing radio tower sites?	☐ **Yes**	☑ **No**
Approximate distance from nearest power/telco utility:	Power/Telco appear available on site	
Comments: This is a developed Verizon Wireless cellular site. The site is located on a hill, but a higher hill to the east on the other side of the highway is a potential microwave path obstruction. There are two monopole tower structures next to the communications shelter on the southwest corner of the perimeter fence. It appears that the tower structures do not have any available space. Therefore, a new tower structure is required for any new antenna installations.		

SECTION D:	MAP TO SITE



Comments: Source: Google

SECTION E:	SITE PLAN

Comments: Source: Google

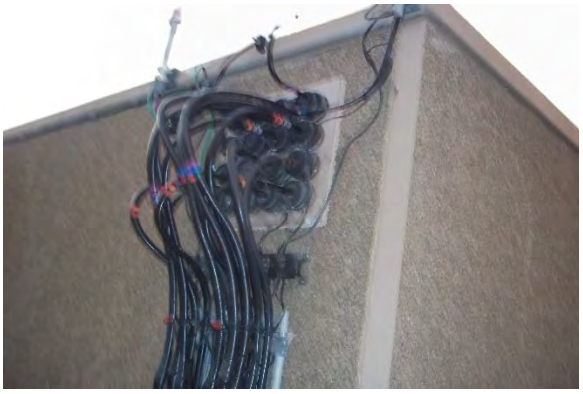
SECTION F:	SITE PHOTOS

1. Redwood Landfill Distance/Surrounding Shot

2. Redwood Landfill Site Compound

3. Redwood Landfill Communications Shelter

4. Redwood Landfill Diesel Generator



5. Redwood Landfill Cable Entry

6. Redwood Landfill Tower Structures

SECTION G:	SITE ASSESSMENT SUMMARY

The Redwood Landfill site is a developed Verizon Wireless cellular site. The site is on the northeast corner of Redwood Highway and San Antonio Road, near Redwood Sanitary Landfill Road approximately 10.5 miles north of the Marin County EOF. This location is not an existing MERA site, but it is a potential candidate site for MERA system coverage enhancement. The site has a 30'x40' perimeter fence, a 10'x14' prefabricated shelter, a 210-gallon diesel generator, and two 20' monopole tower structures. The survey team did not have access inside the perimeter fence or the shelter. Therefore, it is unknown whether the shelter has available space for new equipment installations. There is commercial power at the site. The site is located on a hill, but a higher hill to the east on the other side of the highway is a potential microwave path obstruction. The monopole tower structures are next to the communications shelter on the southwest corner of the perimeter fence. A new tower structure is required for any new antenna installations, as the existing tower structures do not appear to have additional space available.

Land Mobile Radio
RF Site Assessment
TOMALES

Prepared by:

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SECTION A:	GENERAL SITE INFORMATION

Date: 11/19/2015	**Survey team:** Luis Camarillo and Bob Simmons
In attendance (customer, technical rep): Greg Miller	**Customer point of contact for escort (Phone/E-mail):** 415-473-7313 GMiller@marincounty.org
Site name: Tomales	**Address:** Physical address of site is unknown, closest residential address is: 28775 Shoreline Highway, Tomales, CA 94971
Site number (if applicable): N/A	
Radio system name: MERA	**County:** Marin
Proposed Site type: Remote TX/RX	**Site owner:** Private Owner
Comments: Not currently an existing MERA site but a potential candidate site for MERA coverage enhancement	

Latitude*: 38.26225	**Longitude*:** -122.90396	**Ground Elevation (AMSL) (meters):** 96.01
***The GPS should be operating in NAD83 datum. Decimal Degrees is the format of choice for *FE* propagation studies.**		

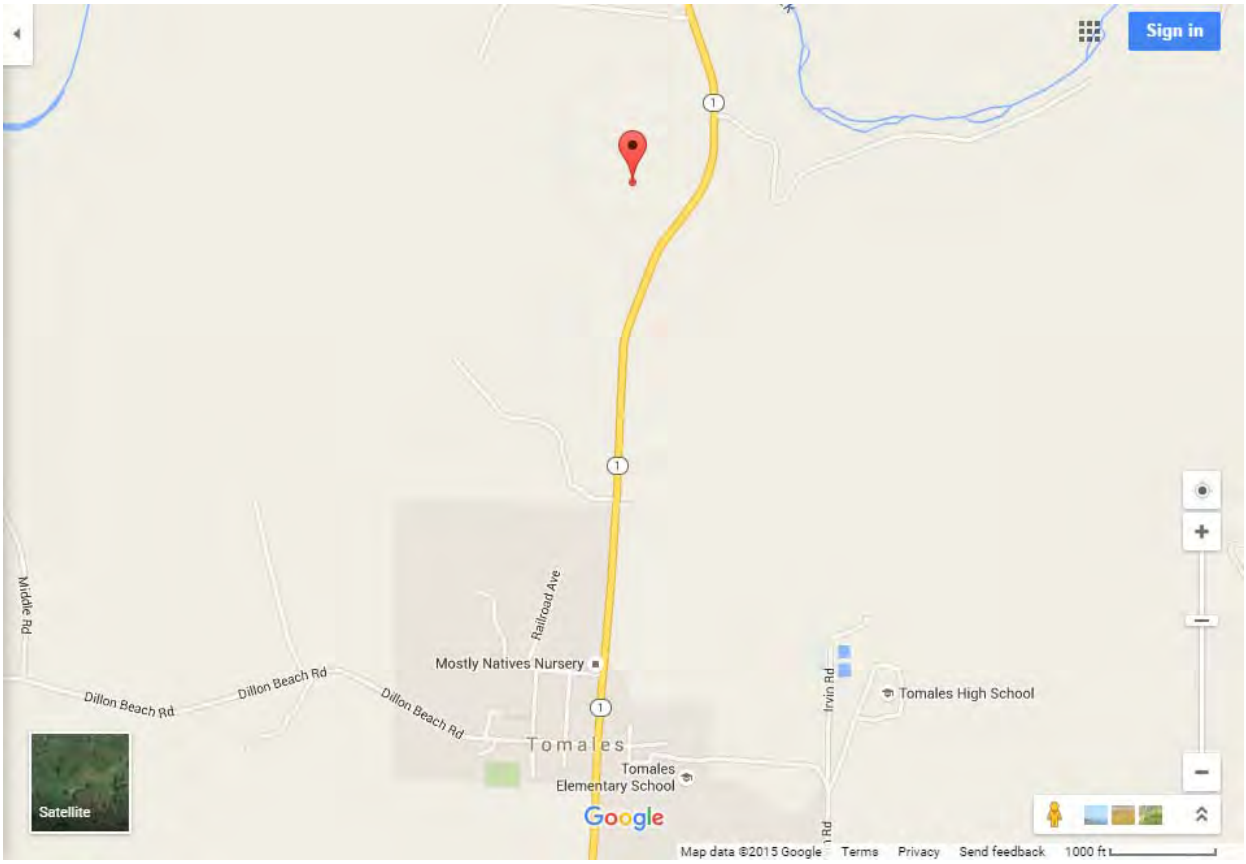
SECTION B:	SITE ACCESS and CONDITIONS

Specialized vehicle requirements to access site:	4WD is required to reach the site
Comments: The site is located approximately 25 miles northwest of the Emergency Operations Facility (EOF). The site is located adjacent a private ranch approximately one mile north of Tomales. Two electric gates on the ranch require opening to access the site when accessing the site through the private ranch property. A separate gravel road appears to provide access to the site when accessing from the main thoroughfare.	

SECTION C:	PHYSICAL AVAILABILITY of SURROUNDING LAND SPACE (Observations)

Land around site:	**Hilly**	
Property zoning type:	**Unknown**	
Property ownership:	**Private**	
Are there other nearby existing radio tower sites?	☑ **Yes**	☐ **No**
Approximate distance from nearest power/telco utility:	Power/Telco appear available at nearby cell site	
Comments: The desired location is at the top of the knoll a little way from a developed Verizon Wireless cell site. MERA had not planned to utilize the cell site, only the access road. The site is located on a hill, with no obvious microwave path obstructions. However, it is important to note that the nearby monopoles appear to be constructed so as to minimize impact to scenic vistas. New communications shelter and tower structure are required for any equipment and antenna installations at this greenfield site.		

SECTION D:	MAP TO SITE



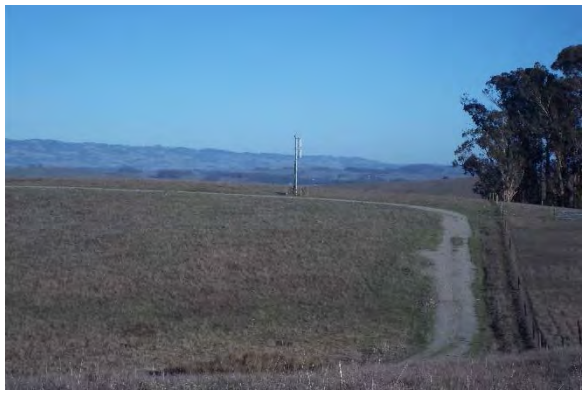
Comments: Source: Google

SECTION E:	SITE PLAN

Comments: Source: Google

SECTION F:	SITE PHOTOS

1. Tomales Site Surrounding Environment



2. Tomales Site Access Road

3. Tomales Site Nearby Cell Site

4. Tomales Site Nearby Shelter

5. Tomales Nearby Tower Structure 1

6. Tomales Nearby Tower Structure 2

SECTION G:	SITE ASSESSMENT SUMMARY

The Tomales site is located adjacent to a private ranch approximately one mile north of Tomales and approximately 25 miles northwest of the Marin County EOF. A 4WD vehicle is required to reach the site, and two electric gates require opening to access the site through the private property. A separate gravel road appears to provide access to the site when accessing from the main thoroughfare. This location is not an existing MERA site, but it is a potential candidate site for MERA system coverage enhancement. The desired greenfield location is at the top of the knoll a little way from a developed Verizon Wireless cell site. MERA had not planned to utilize the cell site, only the access road. New communications shelter and tower structure are required for any equipment and antenna installations at this greenfield site. It is important to note that nearby electrical and transmission lines are buried underground, and the nearby monopoles appear to be constructed to minimize impact to scenic vistas.

Land Mobile Radio
RF Site Assessment
WOLFBACK RIDGE

Prepared by:

Federal Engineering, Inc.
10600 Arrowhead Dr, Suite 160
Fairfax, VA 22030
703 359-8200

SECTION A:	GENERAL SITE INFORMATION

Date: 11/20/2015	**Survey team:** Luis Camarillo and Bob Simmons
In attendance (customer, technical rep): Greg Miller	**Customer point of contact for escort (Phone/E-mail):** 415-473-7313 GMiller@marincounty.org
Site name: Wolfback Ridge	**Address:** 200 Sundial Road, Sausalito, CA 94965
Site number (if applicable): N/A	
Radio system name: MERA	**County:** Marin
Proposed Site type: Remote TX/RX	**Site owner:** FM Broadcast
Comments: Not currently an existing MERA site but a potential candidate site for MERA coverage enhancement	

Latitude*: 37.850722	**Longitude*:** - 122.498583	**Ground Elevation (AMSL) (meters):** 339.24
***The GPS should be operating in NAD83 datum. Decimal Degrees is the format of choice for *FE* propagation studies.**		

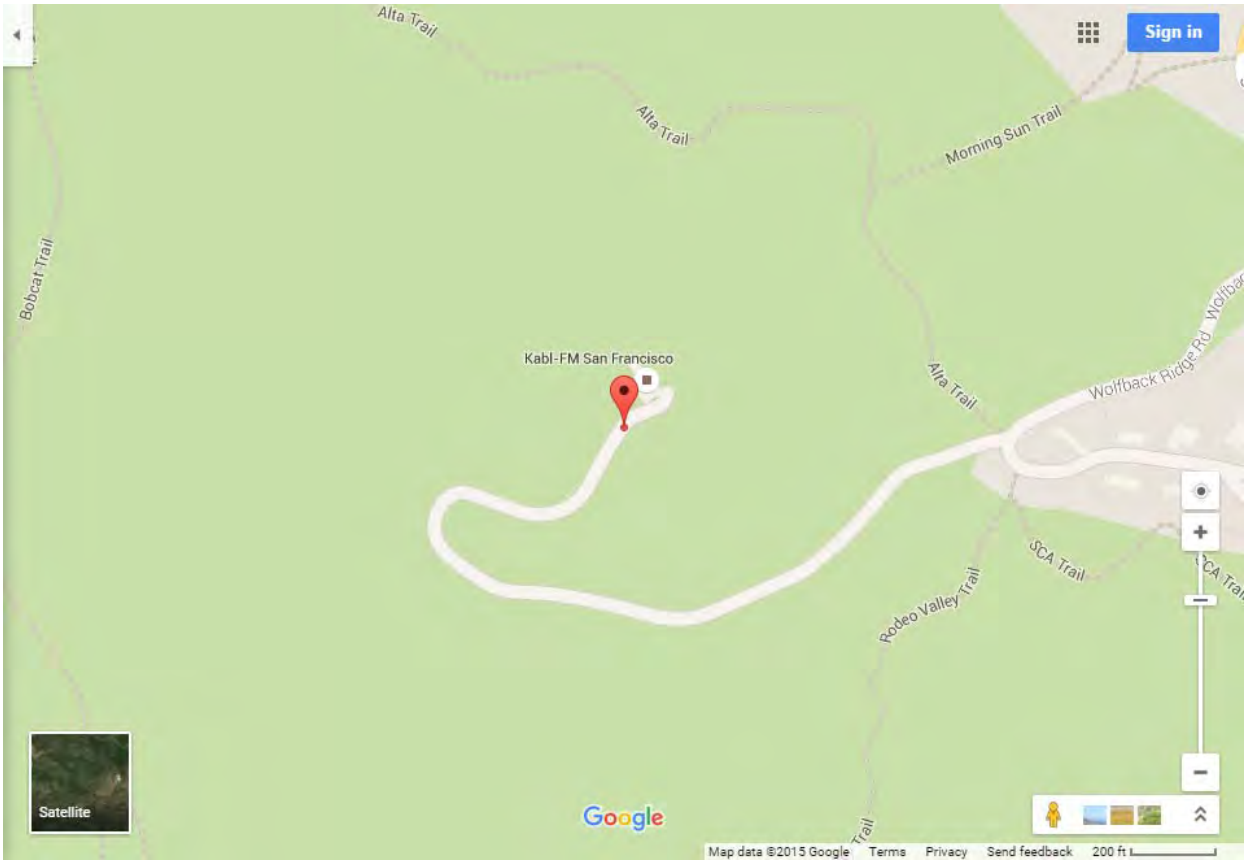
SECTION B:	SITE ACCESS and CONDITIONS

Specialized vehicle requirements to access site:	4WD is required to reach the site
Comments: The site is located approximately 12 miles south of the Emergency Operations Facility (EOF). The closest intersection is Wolfback Ridge Road and Highway 101. There is a locked gate where Wolfback Ridge Road curves to the east and a dirt road approximately 750 yards to the broadcast site.	

SECTION C:	PHYSICAL AVAILABILITY of SURROUNDING LAND SPACE (Observations)

Land around site:	**Hilly**	
Property zoning type:	**Residential**	
Property ownership:	**Local**	
Are there other nearby existing radio tower sites?	☑ **Yes**	☐ **No**
Approximate distance from nearest power/telco utility:	Power/Telco appear available on site	
Comments: This is a developed site with several FM broadcast towers within the compound. Concerns with this site are the high ambient RF levels and the potential for interference for both RF and audio equipment. The site is located on a hill, but the multiple tower structures onsite may be potential microwave path obstructions. It is unknown whether new communications shelter and tower structure are required for any equipment and antenna installations.		

SECTION D:	MAP TO SITE



Comments: Source: Google

SECTION E:	SITE PLAN

Comments: Source: Google

SECTION F:	SITE PHOTOS

1. View of Wolfback Ridge Rd Facing East

2. View of Site from Wolfback Ridge Rd

3. Wolfback Ridge Site Facing Northeast

4. Wolfback Ridge Site Compound/Buildings

5. Wolfback Ridge Site Tower Structures

6. Wolfback Ridge Site Access Road Facing SW

SECTION G: SITE ASSESSMENT SUMMARY

The Wolfback Ridge site is a developed site with several FM broadcast towers within the compound. Concerns with this site are the high ambient RF levels and the potential for interference for both RF and audio equipment. The site is located approximately 12 miles south of the Marin County EOF. The site is not an existing MERA site, but it is a potential candidate site for MERA coverage enhancement. The closest intersection is Wolfback Ridge Road and Highway 101. There is a locked gate where Wolfback Ridge Road curves to the east and a dirt road approximately 750 yards to the broadcast site. A 4WD vehicle is required to reach the site. The site is located on a hill, but the tower structures onsite may be potential microwave path obstructions. Because the survey team did not have access inside the perimeter fence and buildings, it is unknown whether a new communications shelter is required for any equipment installations. Some tower structures have visible antenna locations available, but it is unknown whether desired antenna heights are available for leasing. Depending on further research, a new tower structure may be required for any new antenna installations. Commercial power is available, and solar panels are present at the site as well.

Land Mobile Radio
Site Assessment -
Inventory Form

Barnabe

SECTION A: GENERAL SITE INFORMATION		
Site name: Mt. Barnabe	Address: 1 Barnabe Peak ave. Lagunitas, CA. 94938	
Radio system name: MERA	County: Marin	
Site phone: N/A	Site owner and/or manager: County of Marin	
Comments:		
Latitude: 38-01-37.7N	Longitude: 122-42-59.0W	Ground Elevation (AMSL) (meters): 414

SECTION B: SITE ACCESS		
Site accessible by standard 2WD vehicle? YES		
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) Sir Francis Drake dr. to Arroyo Rd to lower gate.		
Comments: Lower gate is an electronic keypad		

SECTION C: GENERAL SITE CONDITIONS and PERIMETER SECURITY			
Fence: No		Condition: Good	
Signs of Vandalism: No	Fence Lock: NO	Exterior Lighting: Yes. Turn of after use.	
Comments:			

SECTION D: PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)		
Ground around site:	Clean	
Property zoning type:		
Property ownership:	County of Marin	
Describe site surroundings:	Hill top site w/ 1 MERA site and a County Fire Lookout.	
Other site use-this site		
Other nearby sites:	Cell site on the same hill top	

Comments:	
SECTION E:	**TOWER DETAILS**
Antenna structure: **3 leg tower and a Monopole for the Microwave**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 23 **No. of tower legs: 3 Face width (lowest section): 3.658M Tube Type or Angle members:** Angle **Monopole base diameter: .6096M** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**GOOD**
Lines properly installed:	**YES**
Lines installed with drip loops:	**YES**
Transmission line connector condition:	**GOOD**
Ice bridge:	**YES**
Ice bridge condition:	**GOOD**
Ice bridge grounded:	**YES**
Line incrementally grounded	**YES**
Standard cable entry port device:	**YES**
Number of entry ports:	**8-4 AVAILABLE**
Grounding at tower top/antenna base:	**YES**
Grounding bars used on tower:	**YES**
Grounding at tower base:	**YES**
Grounding at each tower leg:	**YES**

Tower ground ring:	**YES**
Single-point ground system:	**YES**
Lines grounded at building entry:	**YES**
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
DB-638	9.14M	1	8		UHF-T	TX	NO	7/8	GOOD
DB-638	21.3M	1	8		UHF-T	RX	NO	7/8	GOOD
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: CBA BUILDING	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Pre-Fab CBA	
If Prefab shelter give Mfr./Model: CBA	If building, No. of stories/floors: _____
Room/Shelter condition:	GOOD
Dimensions:	Height 9' Width 10' Length 24'
Door lock:	YES
Lock condition:	GOOD
Door alarmed:	YES
Cable tray(s):	If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: ANDREW
No. of total racks/cabinets:	9
No. of racks used for equipment of interest:	9
Expansion space available in shelter:	MINIMAL
Expansion space available in racks:	no
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	YES
Ground bus bar:	YES
Evidence of shelter ground ring:	YES
Cable entry port/feed-throughs grounded:	YES
Does shelter have a 4 point ground:	YES
Is 4 point ground tied to a single point and to exterior:	YES
Frames/cabinets grounded:	YES
Rack mounted equipment grounded:	YES

Lightning arrestors installed:	**YES**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**NO**
Lightning arrestors grounded:	**YES**
Cable tray(s)grounded properly:	**YES**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**YES**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		8	
Quantar	Mot		8	
Quantar	Mot		8	
Quantar	Mot		8	
Quantar	Mot		8	
Quantar	Mot		8	
Quantar	Mot		8	
Remote Site Controller	Mot		6	
Combiner	TXRX		6	
GPS	Efratom		7	
UPS			7	
Microwave	Harris		3	
Channel Bank	Premesys		7	
Alarm System	Mot		6	
Microwave Battery Charger	LaMarche		4	
2 W Battery charger	LaMarche		5	
Power Panel	ADC		Wall	

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	CONSTELLATION
Traffic backhauled:	MERA and Marin County Fire
Backhaul redundant:	YES
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	HARRIS CONSTELLATION
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	SINGLE
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	YES
UPS:	YES; limited 1KVA
External Generator connector:	NO
BACKUP POWER GENERATOR:	YES
Fuel type: Propane	Tank Size: 500 GAL
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: La Marche (1 MW, 1 Radio)
Quantity of batteries: 16 (8 for MW, 8 for Radio)	Mfr. and model: 125AH TELCOM
Comments:	

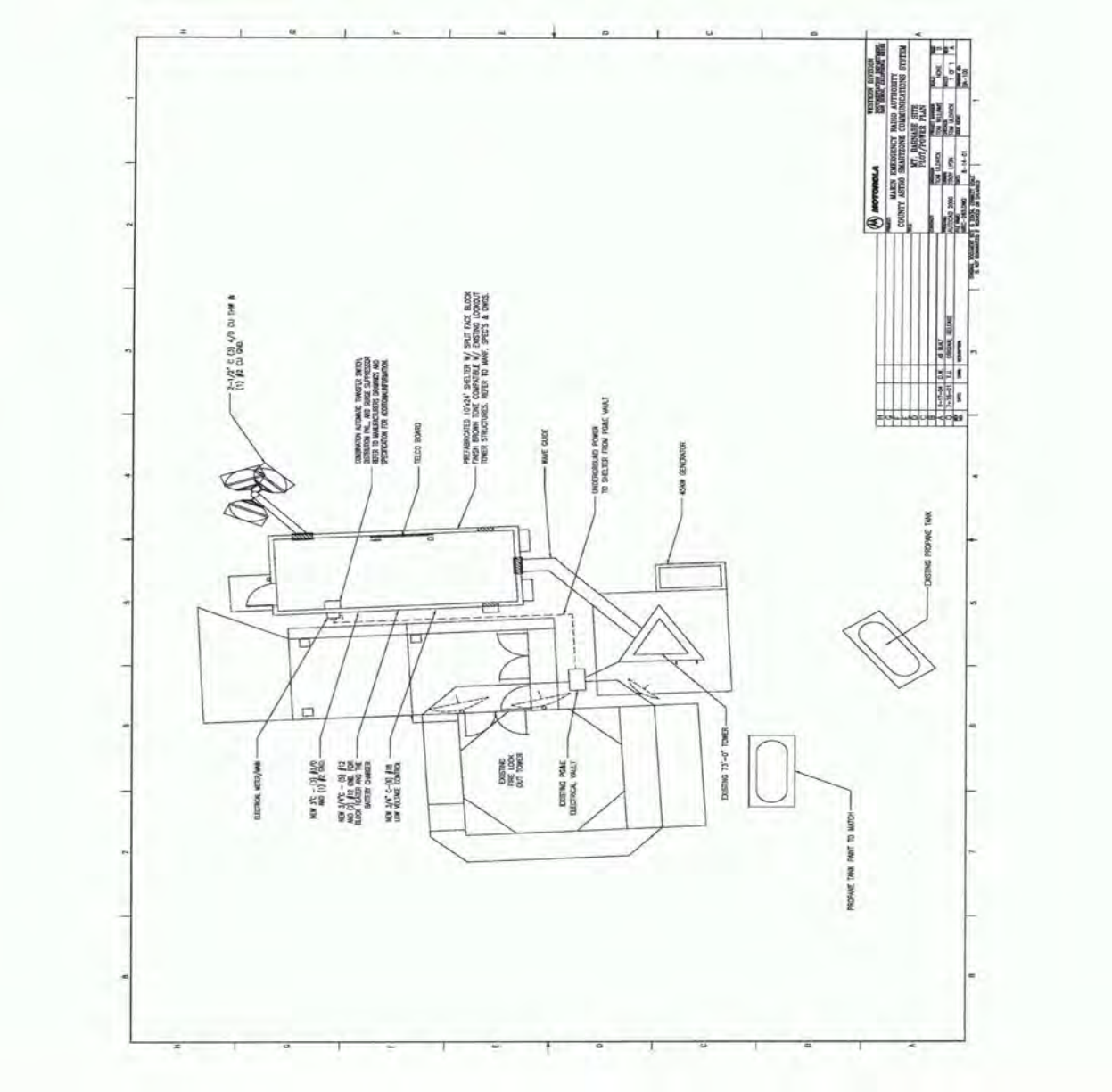
SECTION K:	OTHER SYSTEMS
HVAC:	**BARD**
HVAC Redundant:	**YES**
Active fire alarm system:	**YES**
Monitored:	**YES**
Monitored by:	**PRIME SITE/ RADIO SHOP**
Active fire suppression system:	**NO**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**YES**
Quantity: 2 Type: A/C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**YES MOSCAD**
HVAC failure alarm monitoring:	**YES MOSCAD**
Other failure alarm monitoring:	**YES MOSCAD**
Comments:	

SECTION L:	MAP TO SITE

Provide a street-level map of the site.

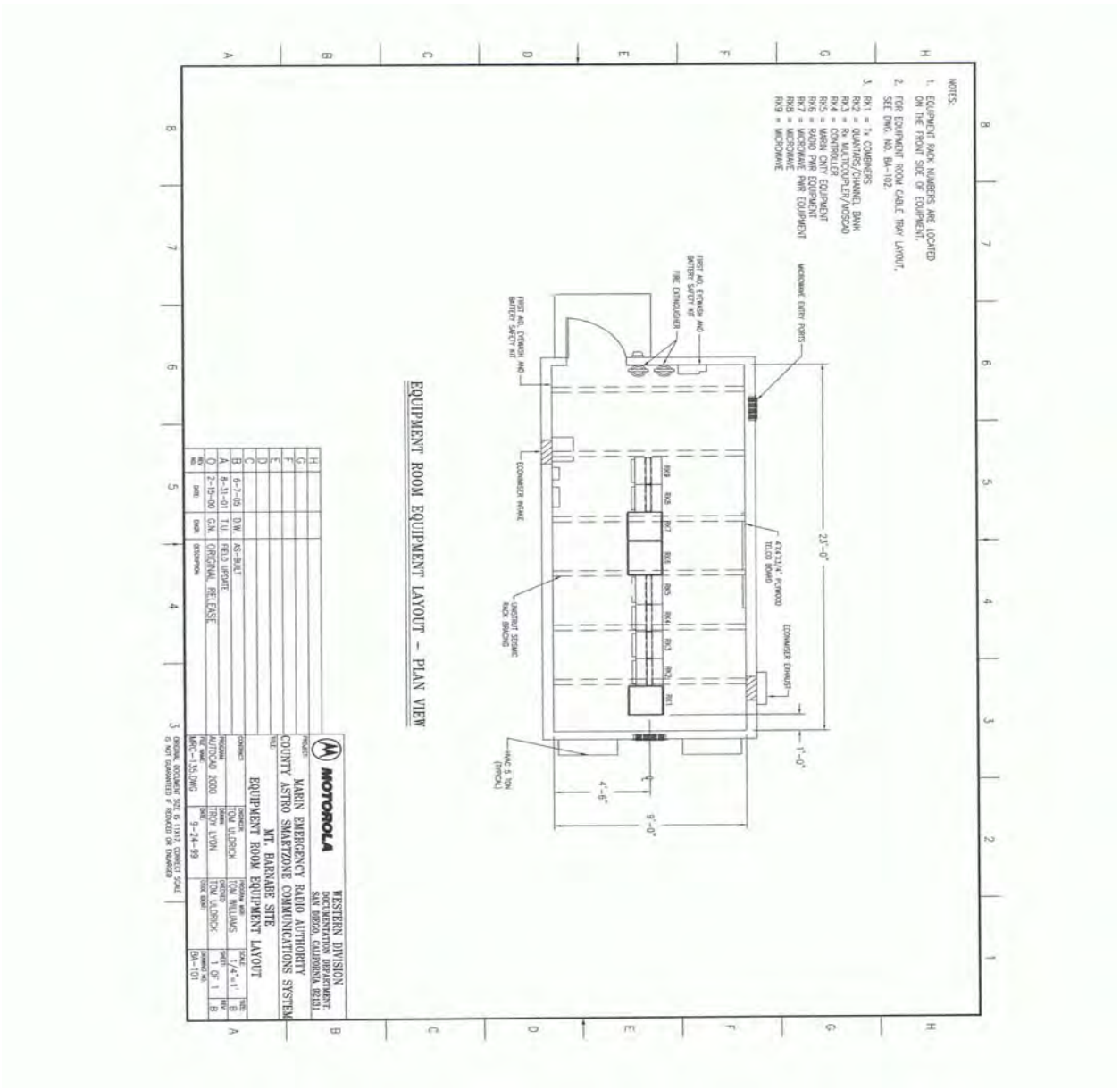
Comments:
BARNABE SITE ACCESS

SECTION M:	SITE PLAN
Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.	



Comments:

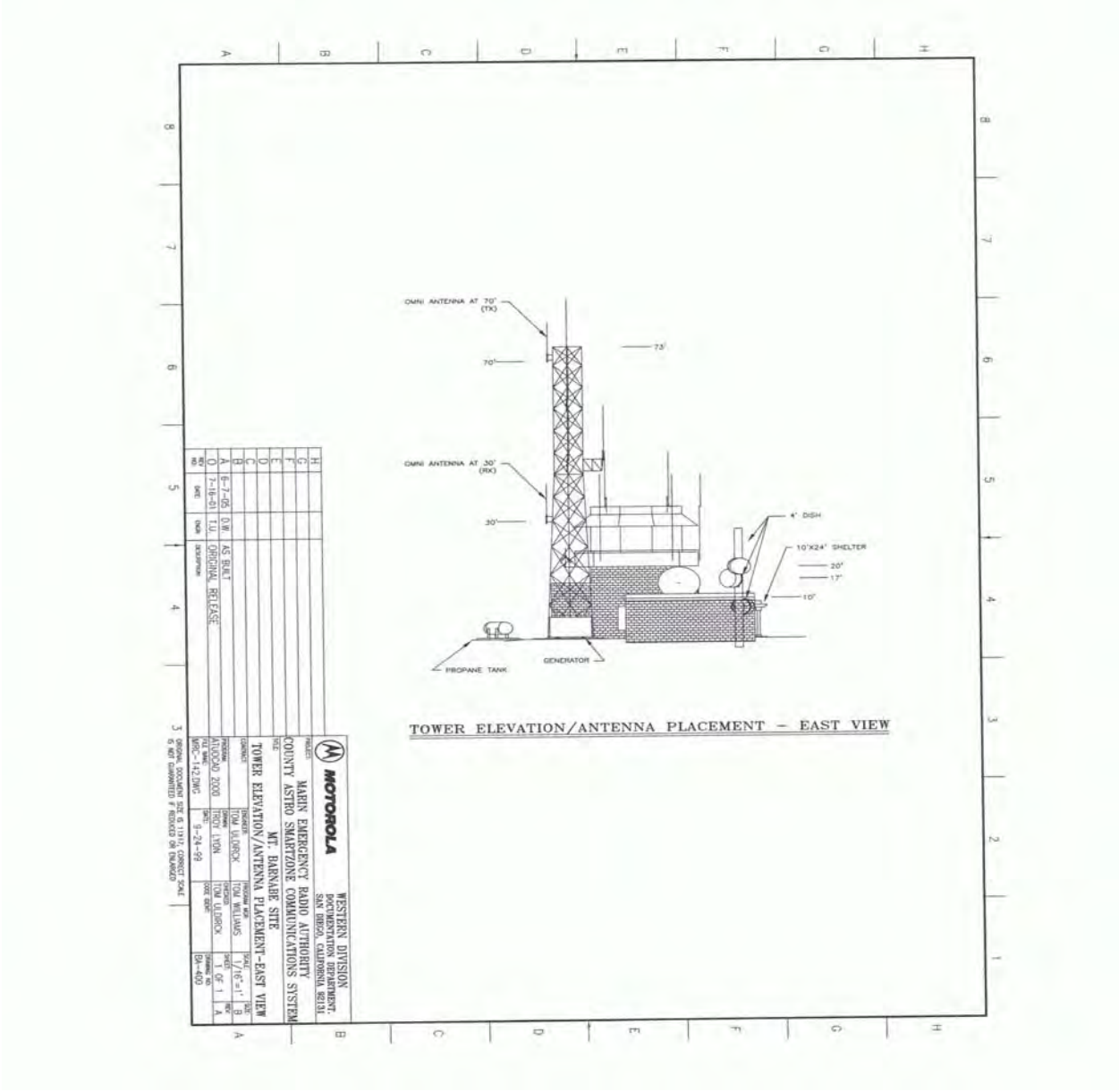
SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

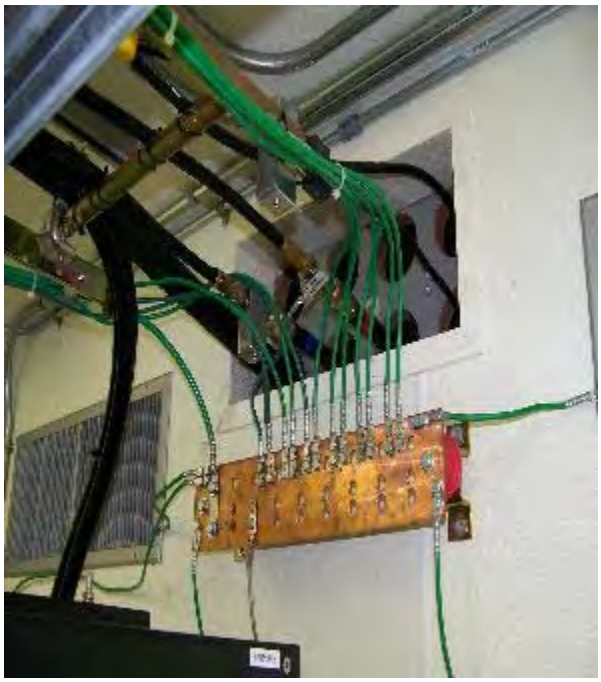
Provide a drawing that annotates tower height and antenna locations.

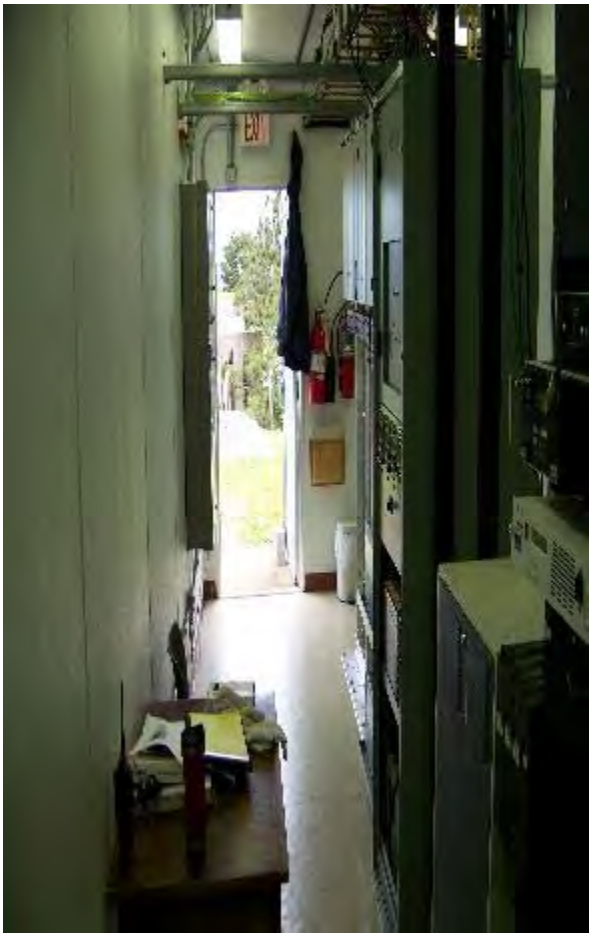


Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	





Land Mobile Radio
Site Assessment -
Inventory Form

Bayhill

SECTION A: GENERAL SITE INFORMATION			
Site name: Bayhill	Address: 2855 Bayhill rd. #1. Bodega, CA. 94923		
Radio system name: MERA	County: Marin		
Site phone: NA	Site owner and/or manager: Incline Partners		
Comments:			
Latitude: 38-20-29.7N	Longitude: 123-01-18.0W	Ground Elevation (AMSL) (meters): 220m	
SECTION B: SITE ACCESS			
Site accessible by standard 2WD vehicle? Yes, good weather			
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) HWY 1 TO BAYHILL RD			
Comments:			
SECTION C: GENERAL SITE CONDITIONS and PERIMETER SECURITY			
Fence: Yes, Shop key		Condition: Good	
Signs of Vandalism: No	Fence Lock: Shop key	Exterior Lighting: Yes, be sure to turn off	
Comments: This site is shared w/ Sonoma county			
SECTION D: PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)			
Ground around site:	Clean		
Property zoning type:			
Property ownership:	Incline Partners		
Describe site surroundings:	Hill top site with 4 buildings farm and home		
Other site use-this site	Cell site and other Public Safety		
Other nearby sites:	none		

Comments:	
SECTION E:	**TOWER DETAILS**
Antenna structure: **3 legged guyed tower**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 33.528m **No. of tower legs: 3 Face width (lowest section): 12 Tube Type or Angle members: tube** **Monopole base diameter: 8 inches for microwave tower** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**12 – 6 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**

Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:	ANTENNA DETAILS								
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	**Mounting Height**	**Tower leg**	**Gain (dBi)**	**Azimuth (If Applicable)**	**Frequency Range**	**Tx, Rx, or both antenna**	**Tower top amp**	**Cable size**	**Cable condition**
DB-682H120	12.80 m	1	8	130	UHF-T	Tx	No	7/8	Good
DB-638	33.53 m	1	8		UHF-T	Rx	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	**Mounting Height**	**Mount type**	**Gain (dBi)**	**Azimuth (If Applicable)**	**Frequency Range**	**Tx, Rx, or both antenna**	**Tower top amp**	**Cable size**	**Cable condition**
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: CBA Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Pre-Fab CBA	
If Prefab shelter give Mfr./Model: CBA	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 10 Length 20
Door lock:	Yes, 7 Pin site lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	5
No. of racks used for equipment of interest:	5
Expansion space available in shelter:	Minimal
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		3	
Quantar	Mot		3	
Quantar	Mot		3	
Quantar	Mot		3	
Quantar	Mot		3	
Remote Site Controller	NA		NA	
Combiner	DB		1	
GPS	Efratom		3	
UPS	MGE		3	
Microwave	Harris		5	
Channel Bank	Premesys		3	
Alarm System	Mot		3	
2 Way Battery charger	LaMarche		4	
Power Panel	ADC		Wall	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation
Traffic backhauled:	MERA and Sonoma County
Backhaul redundant:	Yes
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris Constellation
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes; limited 1KVA
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Propane	Tank Size: 3 tanks @500
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: LaMarche
Quantity of batteries: 8	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

SECTION L:	MAP TO SITE

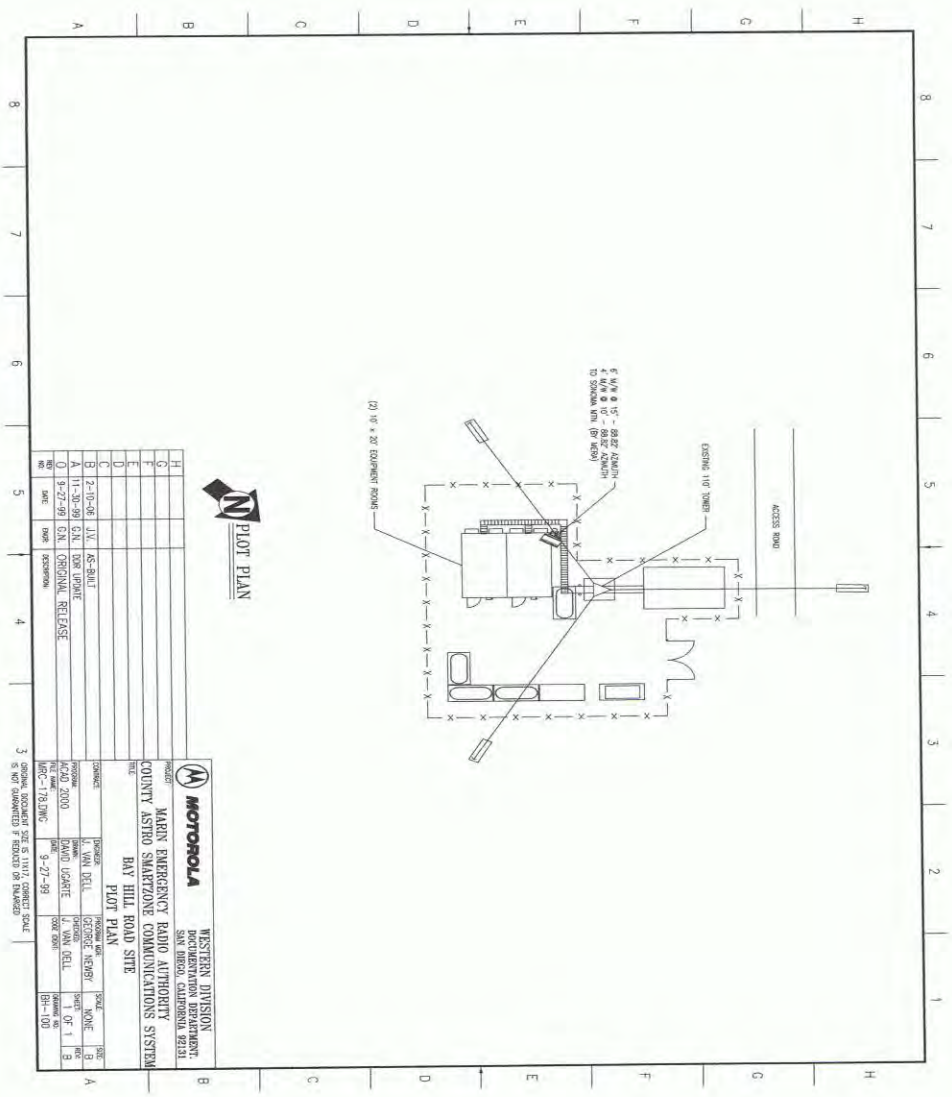
Provide a street-level map of the site.

Comments:

Bayhill Site Access

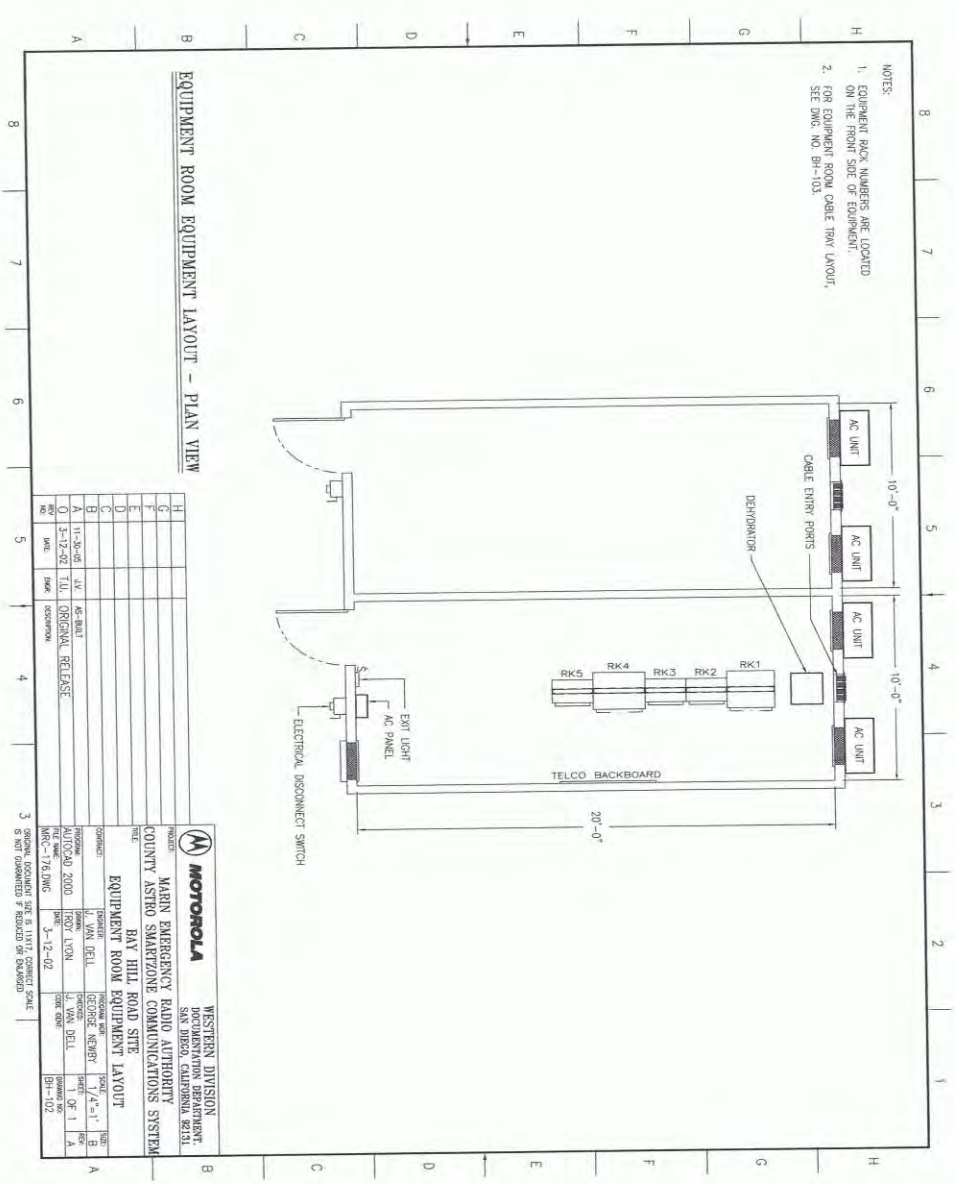
SECTION M:	SITE PLAN

Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.



Comments:

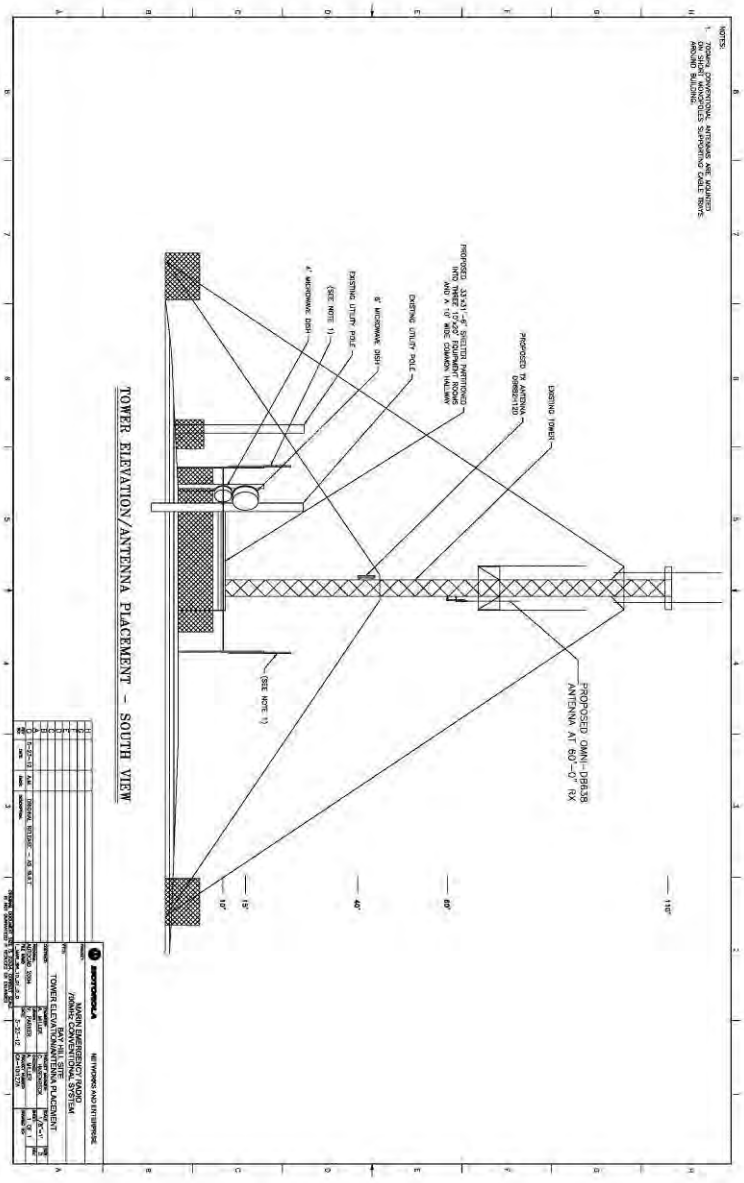
SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

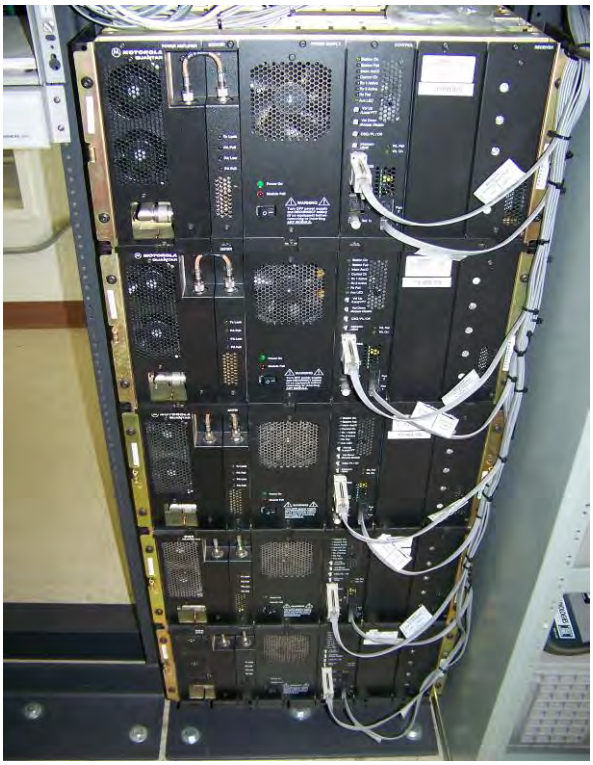
Provide a drawing that annotates tower height and antenna locations.



Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	



Land Mobile Radio
Site Assessment -
Inventory Form

Big Rock

SECTION A: GENERAL SITE INFORMATION		
Site name: Big Rock Ridge	Address: 325 H Ranch rd. Novato, CA. 94947	
Radio system name: MERA	County: Marin	
Site phone: NA	Site owner and/or manager: C & C Equipment Co	
Comments:		
Latitude: 38-03-32.7N	Longitude: 122-36-13.9W	Ground Elevation (AMSL) (meters): 573.0m

SECTION B: SITE ACCESS		
Site accessible by standard 2WD vehicle? 4WD at all times		
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) Lucas Valley rd to lower gate		
Comments: Lower gate has a combo lock and to fence use special key.		

SECTION C: GENERAL SITE CONDITIONS and PERIMETER SECURITY			
Fence: Yes, Shop key		Condition: Good	
Signs of Vandalism: No	Fence Lock: Shop key	Exterior Lighting: Yes, be sure to turn off	
Comments:			

SECTION D: PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)		
Ground around site:	Clean	
Property zoning type:		
Property ownership:	C & C Equipment Co	
Describe site surroundings:	Hill top site with 1 buildings	
Other site use-this site		
Other nearby sites:	AT&T Celluar	Commercial down road

Comments:	
SECTION E:	**TOWER DETAILS**
Antenna structure: **3 leg tower**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 36.57m **No. of tower legs: 4 Face width (lowest section): 12 Tube Type or Angle members: Tube type** **Monopole base diameter: _____** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**8 – 0 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**

Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
DB-682H120	16.76 m	1	8	330	UHF-T	Tx	No	7/8	Good
DB-682H120	16.76 m	1	8	330	UHF-T	Tx	No	7/8	Good
DB-638	30.48 m	1	8		UHF-T	Rx	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: Existing leased facility	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Existing block	
If Prefab shelter give Mfr./Model:	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 10 Length 20
Door lock:	Specific Site lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6”
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	13
No. of racks used for equipment of interest:	13
Expansion space available in shelter:	No
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 12 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		6	East 1
Quantar	Mot		7	East 2
Quantar	Mot		6	East 3
Quantar	Mot		7	East 4
Quantar	Mot		6	East 5
Quantar	Mot		7	East 6
Quantar	Mot		6	East 7
Quantar	Mot		7	East 8
Quantar	Mot		6	East 9
Quantar	Mot		6	East 10
Quanar	Mot		7	East 11
Remote Site Controller	Mot		8	
Combiner	DB		12	
Combiner	DB		13	
GPS	Efratom		6	
UPS			7	
Microwave	Harris		1,2,4	
Microwave	Aviat		1	
Channel Bank	Premesys		7	
Alarm System	Mot		6	
Microwave Battery Charger	LaMarche		8	
2 W Battery charger	LaMarche		8	
Power Panel	ADC		Wall	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation, TruPoint, Microstar
Traffic backhauled:	MERA and Novato PD
Backhaul redundant:	Yes, Loop
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris and Aviat
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Diesel	Tank Size: 300
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: LaMarche
Quantity of batteries: 20 for MW and 8 for radios	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Building provided**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

SECTION L:	MAP TO SITE

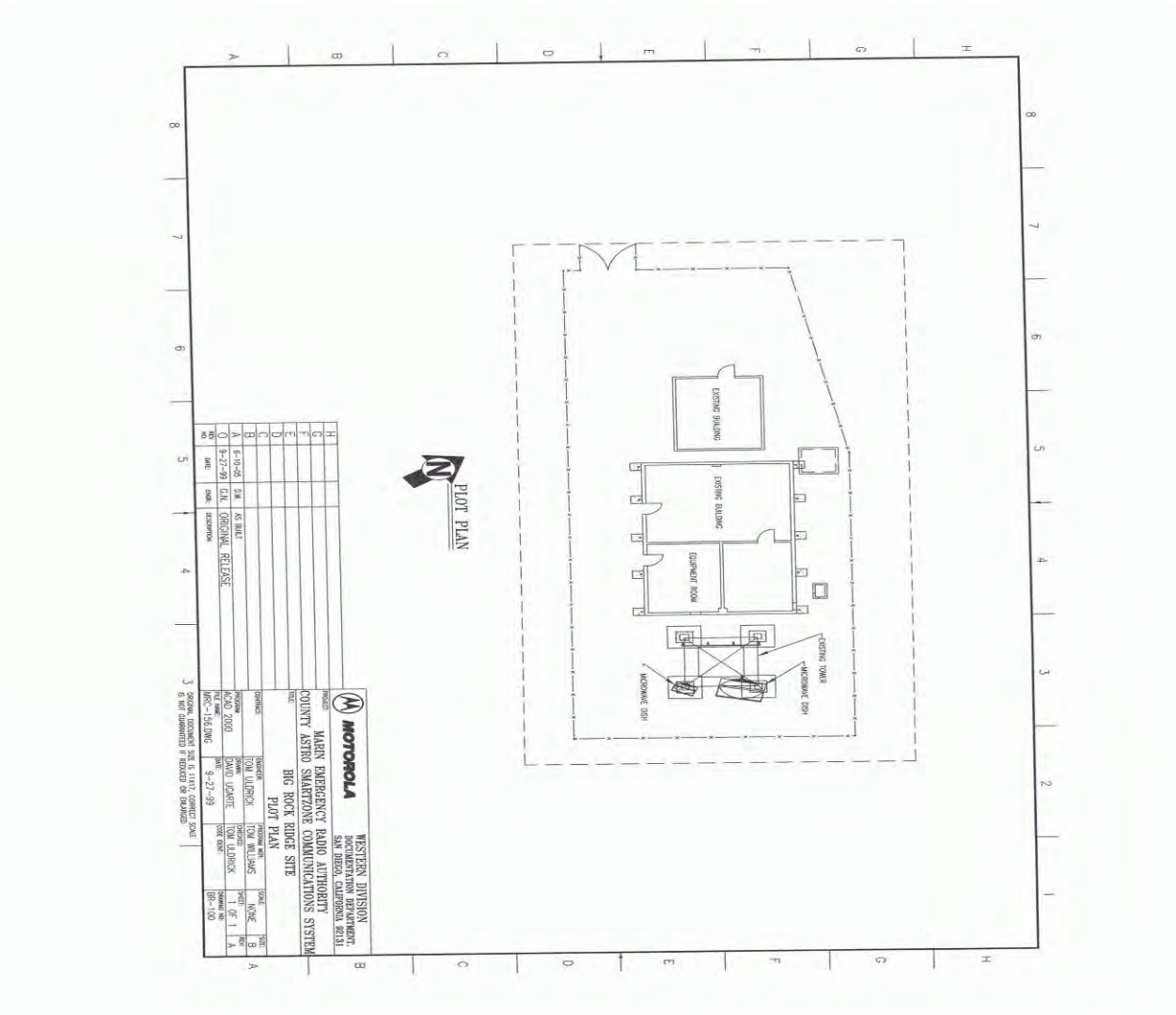
Provide a street-level map of the site.

Comments:

Big Rock Ridge Site Access

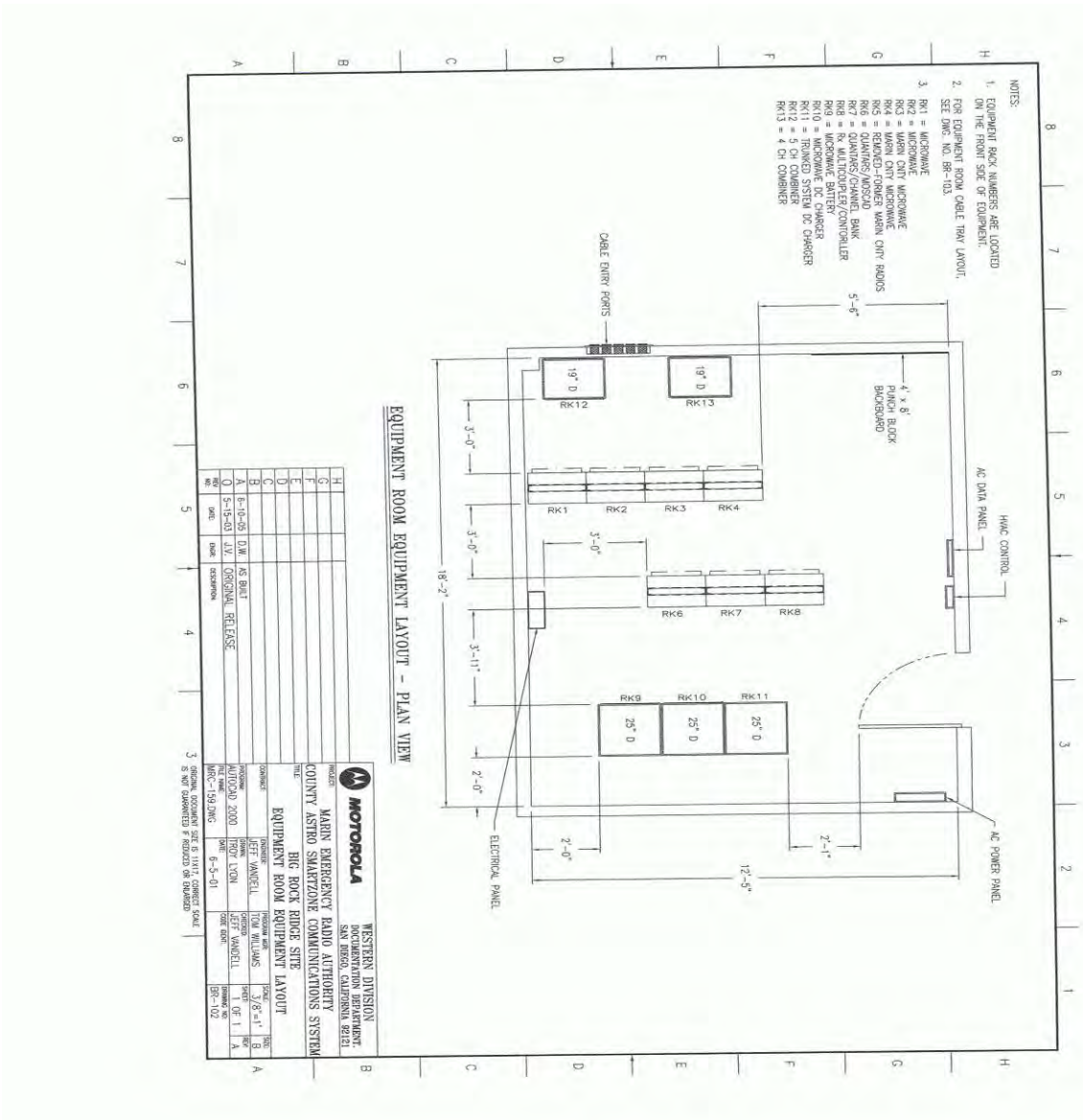
SECTION M:	SITE PLAN

Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.



Comments:

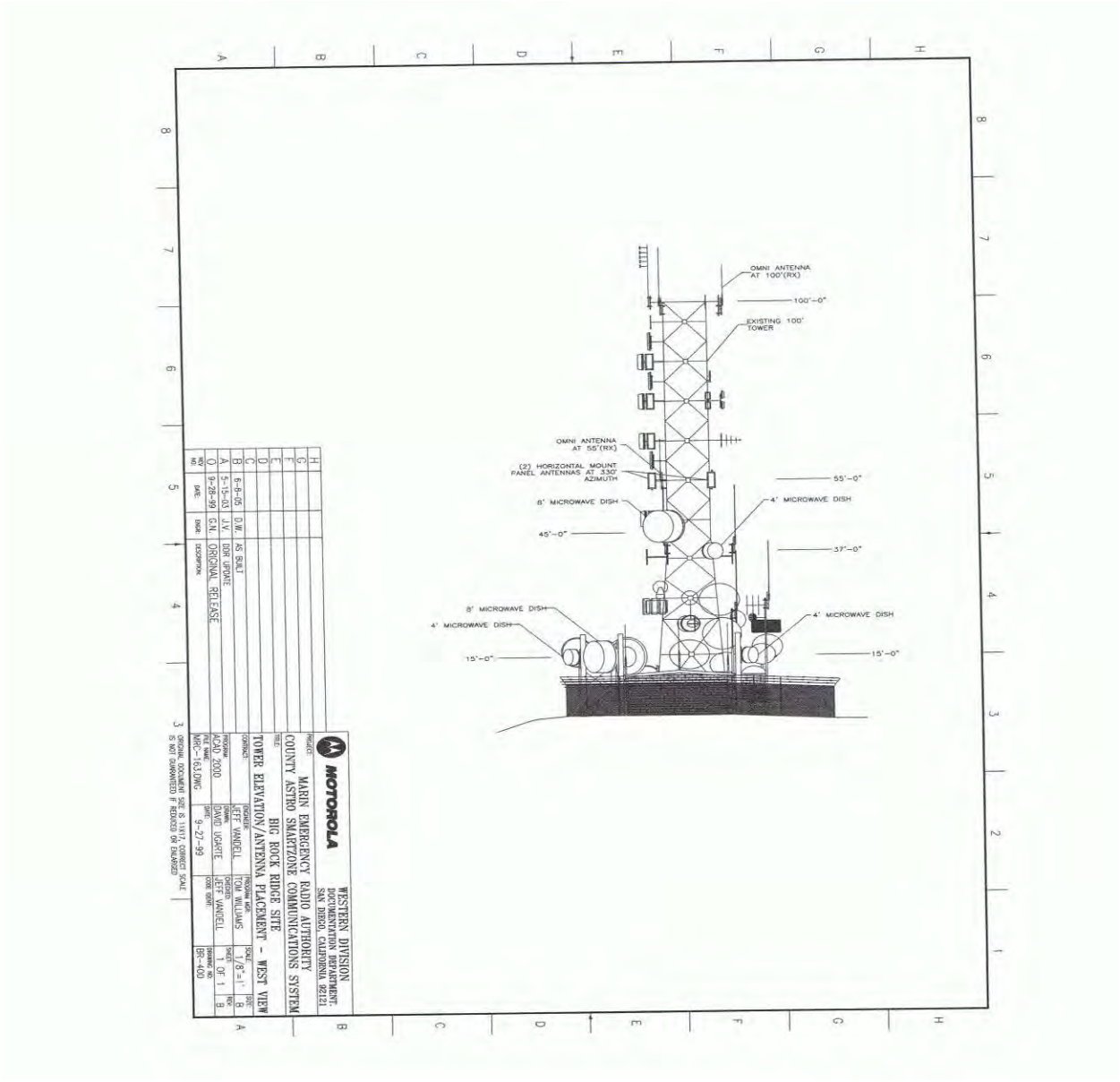
SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

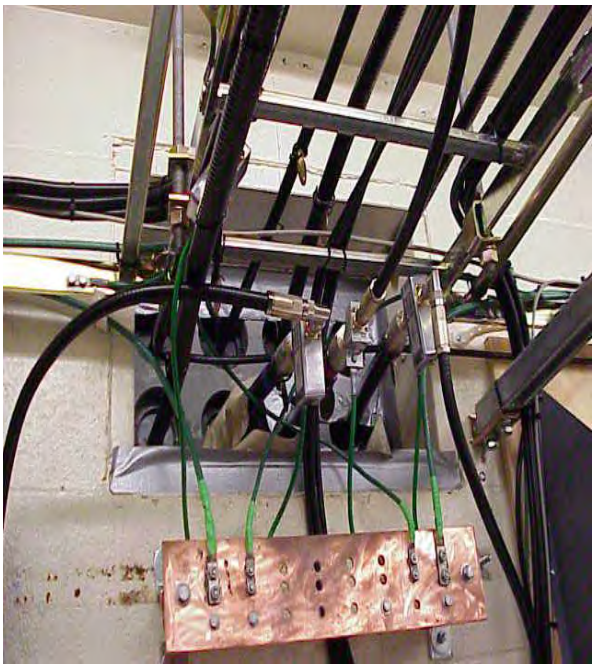
Provide a drawing that annotates tower height and antenna locations.

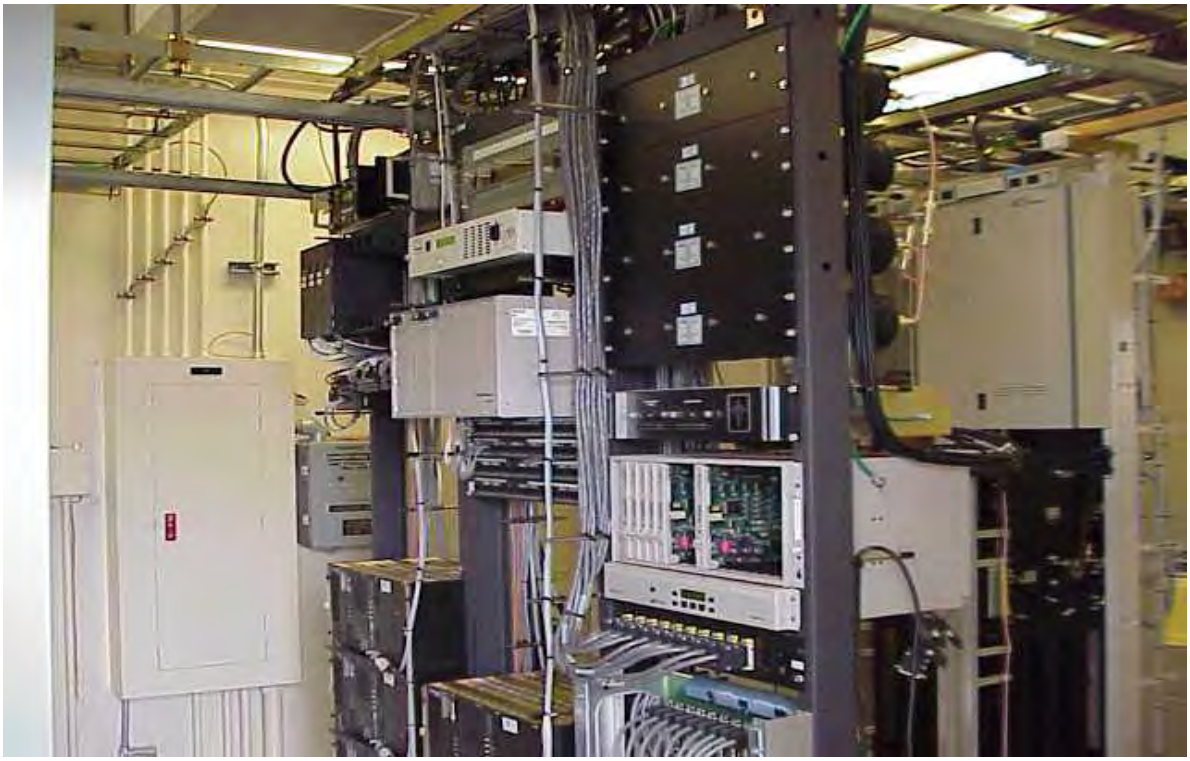


Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	





Land Mobile Radio
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Bolinas

SECTION A: GENERAL SITE INFORMATION		
Site name: Bolinas	Address: 615 Horseshoe Hill rd.	
Radio system name: MERA	County: Marin	
Site phone: NA	Site owner and/or manager: Martinelli Ranch	
Comments: Access by Horsehill rd.		
Latitude: 38-04-47.3N	Longitude: 122-43-12.7W	Ground Elevation (AMSL) (meters): 213.36m

SECTION B: SITE ACCESS		
Site accessible by standard 2WD vehicle? 4WD in good weather		
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) Horseshoe Hill Rd		
Comments: Fence uses shop key.		

SECTION C: GENERAL SITE CONDITIONS and PERIMETER SECURITY			
Fence: Yes, Shop key		Condition: Good	
Signs of Vandalism: No	Fence Lock: Shop key	Exterior Lighting: Yes, be sure to turn off	
Comments:			

SECTION D: PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)		
Ground around site:	Clean	
Property zoning type:		
Property ownership:	Martenelli Ranch	
Describe site surroundings:	Hill top site with 1 building	
Other site use-this site	Low power broadcast from KWMR	
Other nearby sites:	NA	

Comments:

SECTION E:	**TOWER DETAILS**
Antenna structure: **Monopole**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 10.6m **No. of tower legs: NA Face width (lowest section): 0 Tube Type or Angle members: NA** **Monopole base diameter: 12”** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**8 – 5 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**

Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
DB-638	4.57 m	1	8		UHF-T	TX	No	7/8	Good
DB-638	10.67 m	1	8		UHF-T	RX	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: CBA Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Pre-Fab CBA	
If Prefab shelter give Mfr./Model: CBA	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 10 Length 15
Door lock:	Yes, 7 Pin site lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	5
No. of racks used for equipment of interest:	5
Expansion space available in shelter:	Minimal
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		3	Bolinas 1
Quantar	Mot		3	Bolinas 2
Quantar	Mot		3	Bolinas 3
Quantar	Mot		3	Bolinas 4
Quantar	Mot		3	Bolinas 5
Remote Site Controller	NA		NA	
Combiner	DB		3	
UPS	Unknown		3	Limited 1KVA
Microwave	Harris		1	
Channel Bank	Premesys		6	
Alarm System	Mot		2	
2 W Battery charger	LaMarche		5	
Power Panel	ADC		Wall	
Comments:				

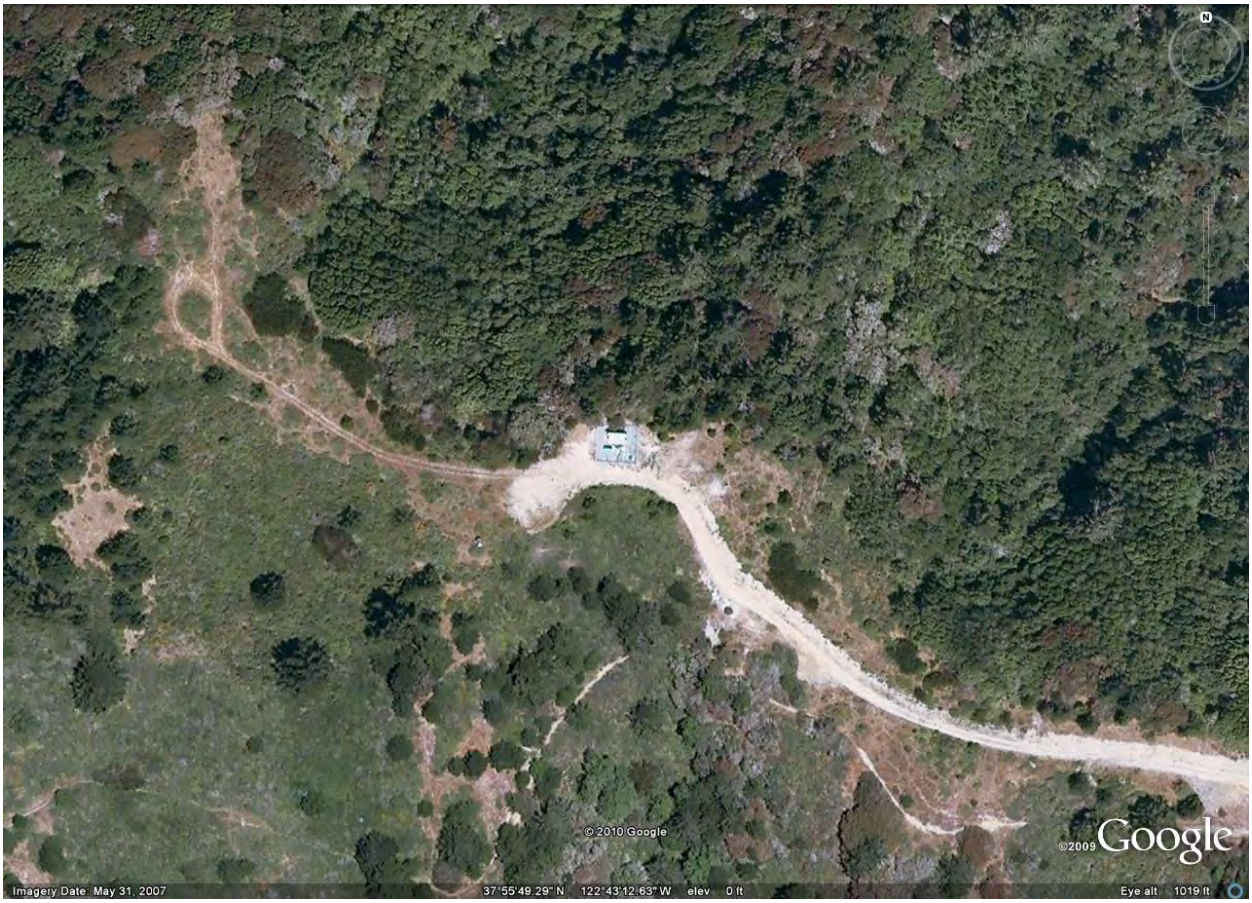
SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation
Traffic backhauled:	MERA
Backhaul redundant:	Yes, MHSB
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris Constellation
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes,
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Diesel	Tank Size: 300
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size:_____
Quantity of batteries: 8	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

SECTION L:	MAP TO SITE

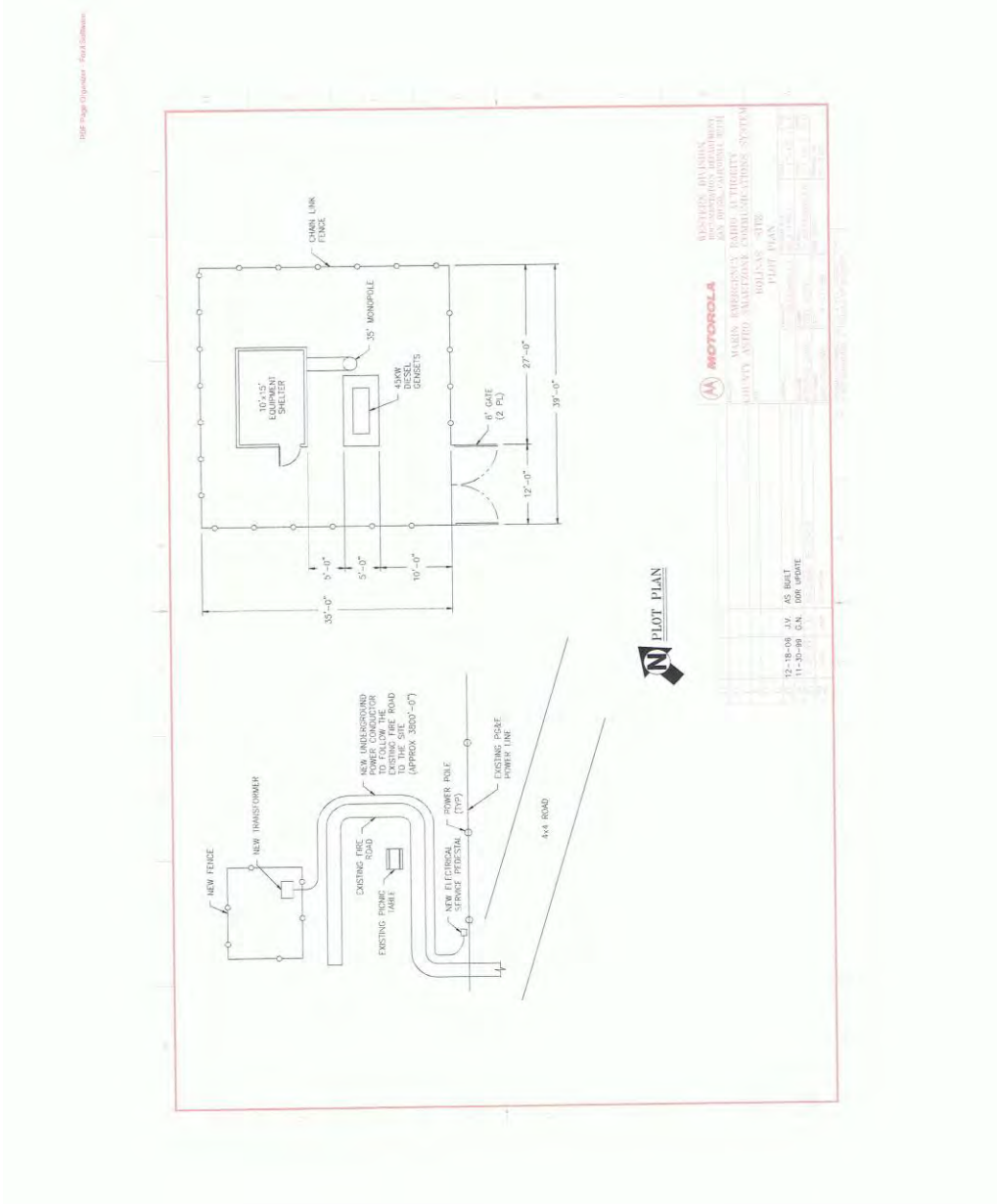
Provide a street-level map of the site.



Comments:

Bolinas Site Access

SECTION M:	SITE PLAN
Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.	



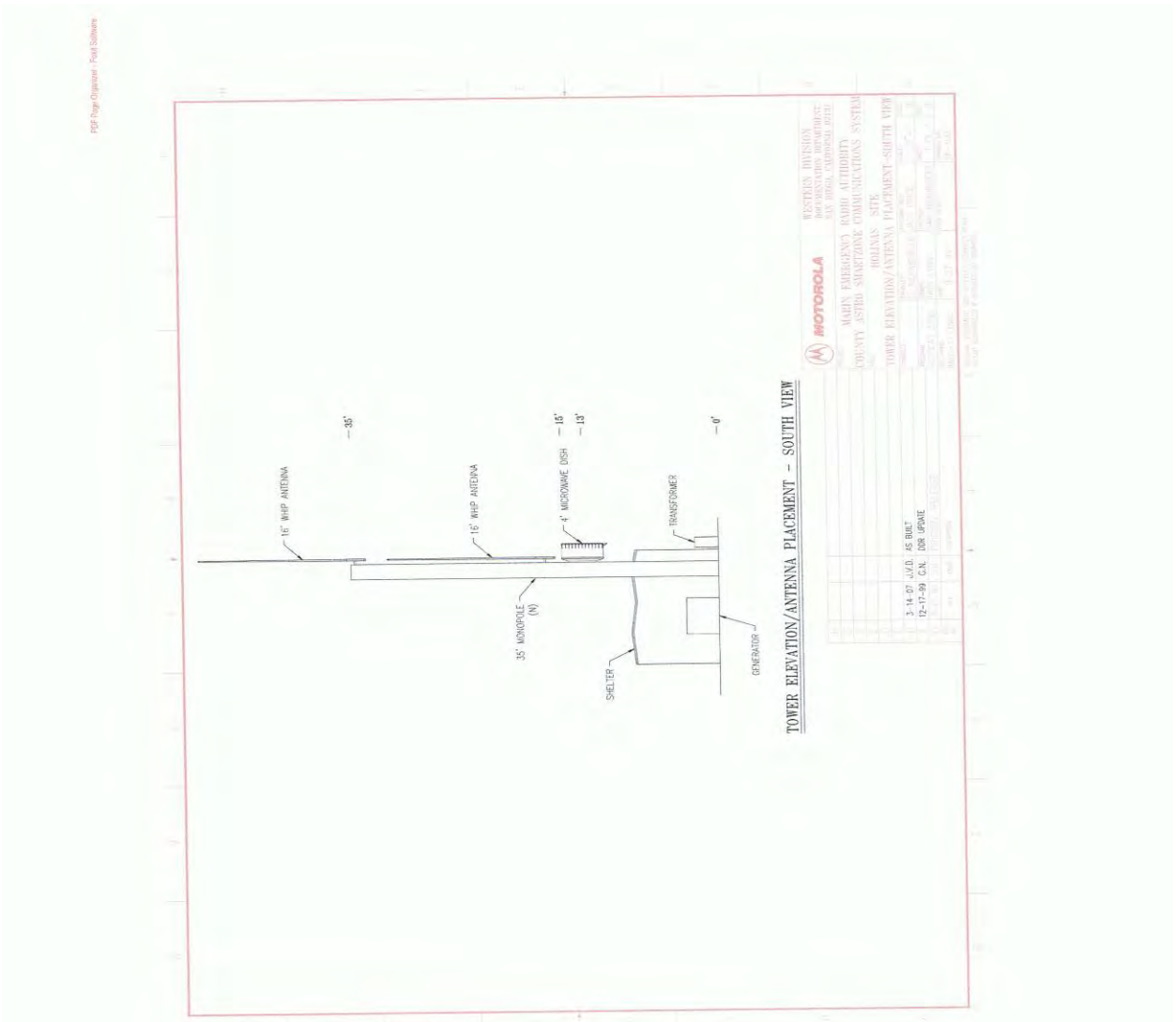
Comments:

SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	

Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

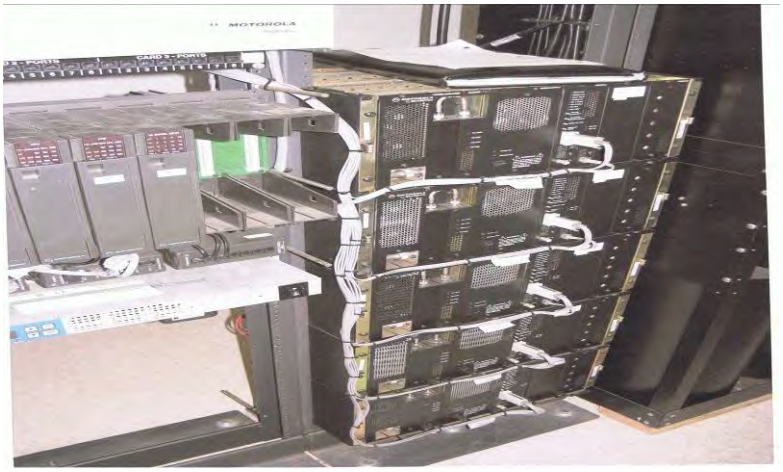
Provide a drawing that annotates tower height and antenna locations.



Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	



Land Mobile Radio
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Inventory Form

Burdell

SECTION A:	GENERAL SITE INFORMATION	
Site name: Burdell Mt.	Address: End of Burdell Mt fire road	
Radio system name: MERA	County: Marin	
Site phone: NA	Site owner and/or manager: American Tower	
Comments:		
Latitude: 38-20-53.7N	Longitude: 122-34-40.9W	Ground Elevation (AMSL) (meters): 450.79m

SECTION B:	SITE ACCESS	
Site accessible by standard 2WD vehicle? Yes, good weather		
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) Burdell Fire Rd. to site.		
Comments: Lower gate is a key card, site key and a combination key to fence.		

SECTION C:	GENERAL SITE CONDITIONS and PERIMETER SECURITY		
Fence: Yes, Site lock		Condition: Good	
Signs of Vandalism: No	Fence Lock: Site lock	Exterior Lighting: Yes, be sure to turn off	
Comments: Site has water tank and pump			

SECTION D:	PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)	
Ground around site:	Clean	
Property zoning type:		
Property ownership:	American Tower	
Describe site surroundings:	Hill top site multiple users in one building	
Other site use-this site		
Other nearby sites:	AT&T	

Comments:	
SECTION E:	**TOWER DETAILS**
Antenna structure: **4 leg tower**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 24.07m **No. of tower legs: 4 Face width (lowest section): 16 Tube Type or Angle members: Angle** **Monopole base diameter: NA** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**24 –18 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**

Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
DB-638	24.38 m	1	8		UHF-T	RX	No	7/8	Good
Log-periodic	13.72 m	1	8		UHF-T	TX	No	7/8	Good
Log-periodic	13.72 m	1	8		UHF-T	TX	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: Existing Lease facility	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Concrete	
If Prefab shelter give Mfr./Model:	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 12 Width 52 Length 42
Door lock:	Yes, front door Site lock and cage
Lock condition:	Good
Door alarmed:	Yes, inside facility
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	8
No. of racks used for equipment of interest:	8
Expansion space available in shelter:	Yes, with modification to space allocation inside
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		4	East 1
Quantar	Mot		5	East 2
Quantar	Mot		4	East 3
Quantar	Mot		5	East 4
Quantar	Mot		4	East 5
Quantar	Mot		5	East 6
Quantar	Mot		4	East 7
Quantar	Mot		5	East 8
Quantar	Mot		4	East 9
Quantar	Mot		4	East 10
Quantar	Mot		5	East 11
Remote Site Controller	Mot		7	
Combiner	DB		2	
Combiner	DB		2	
GPS	Efratom		3	
UPS	Unknown		3	Limited 1KVA
Microwave	Harris		1	
Channel Bank	Premesys		5	
Alarm System	Mot		4	
2 W Battery charger	LaMarche		8	
Power Panel	ADC		Wall	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation
Traffic backhauled:	MERA
Backhaul redundant:	Yes, Loop
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris Constellation
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes, Not all site
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes, Site Provided
Fuel type: Diesel	Tank Size: Unknown
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size:_____
Quantity of batteries: 8	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Site Provided, Mfr unknown**
HVAC Redundant:	**No**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

SECTION L:	MAP TO SITE

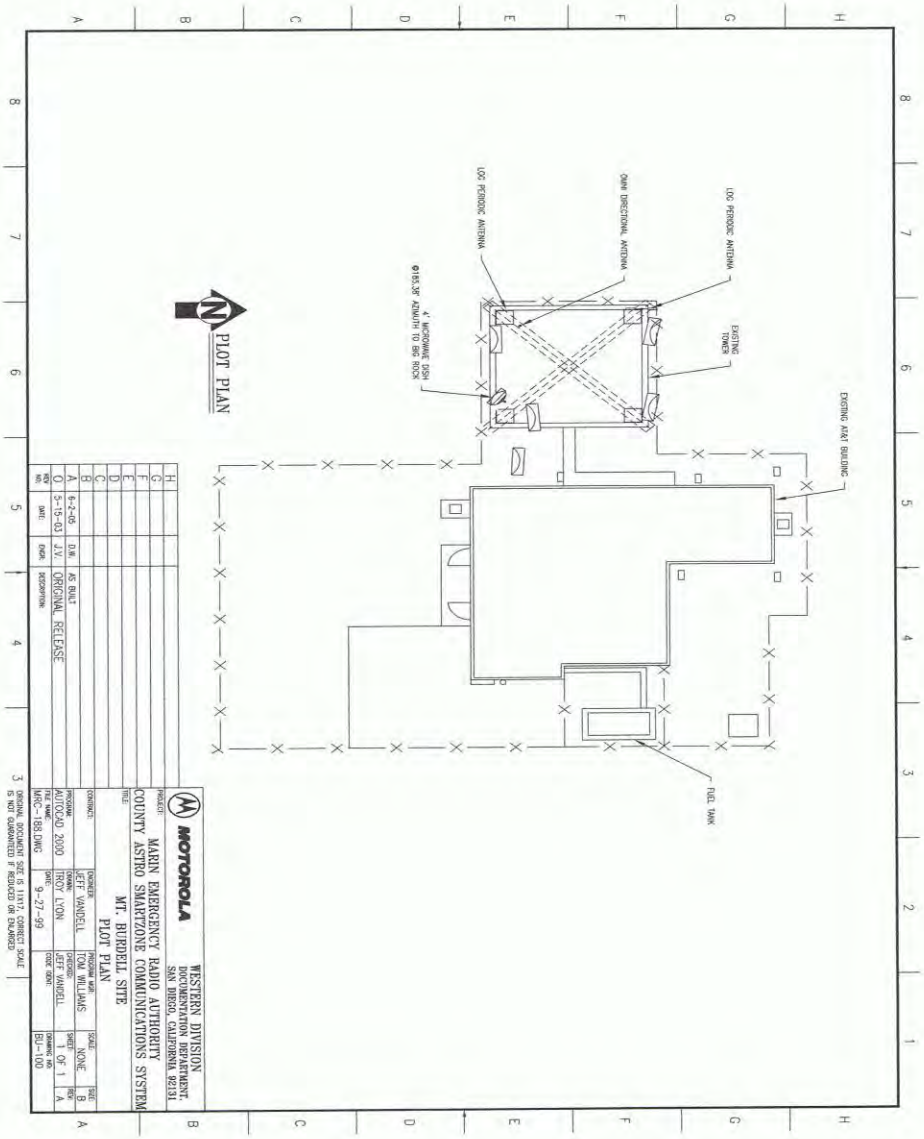
Provide a street-level map of the site.

Comments:

Burdell Site Access

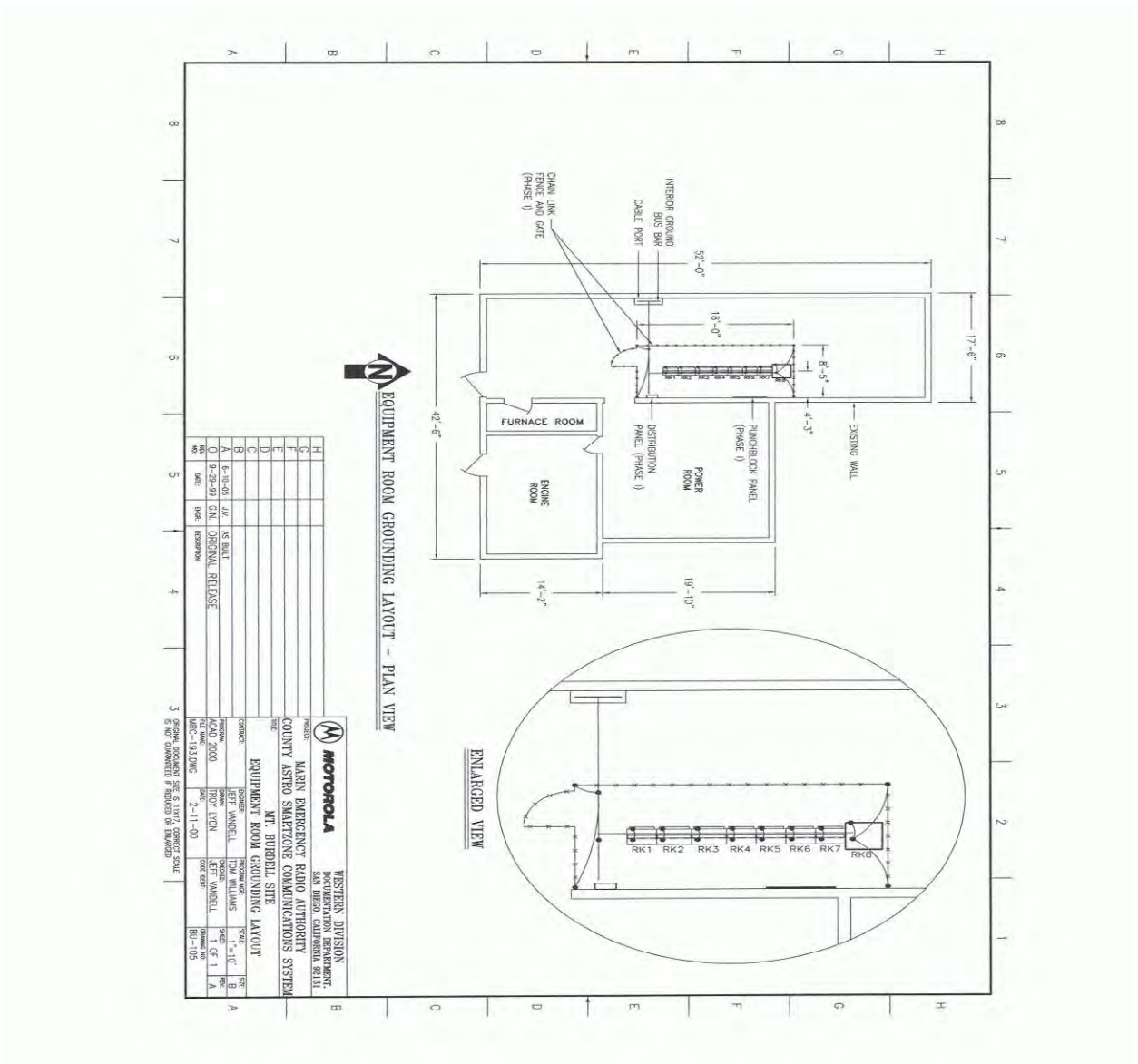
SECTION M:	SITE PLAN

Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.



Comments:

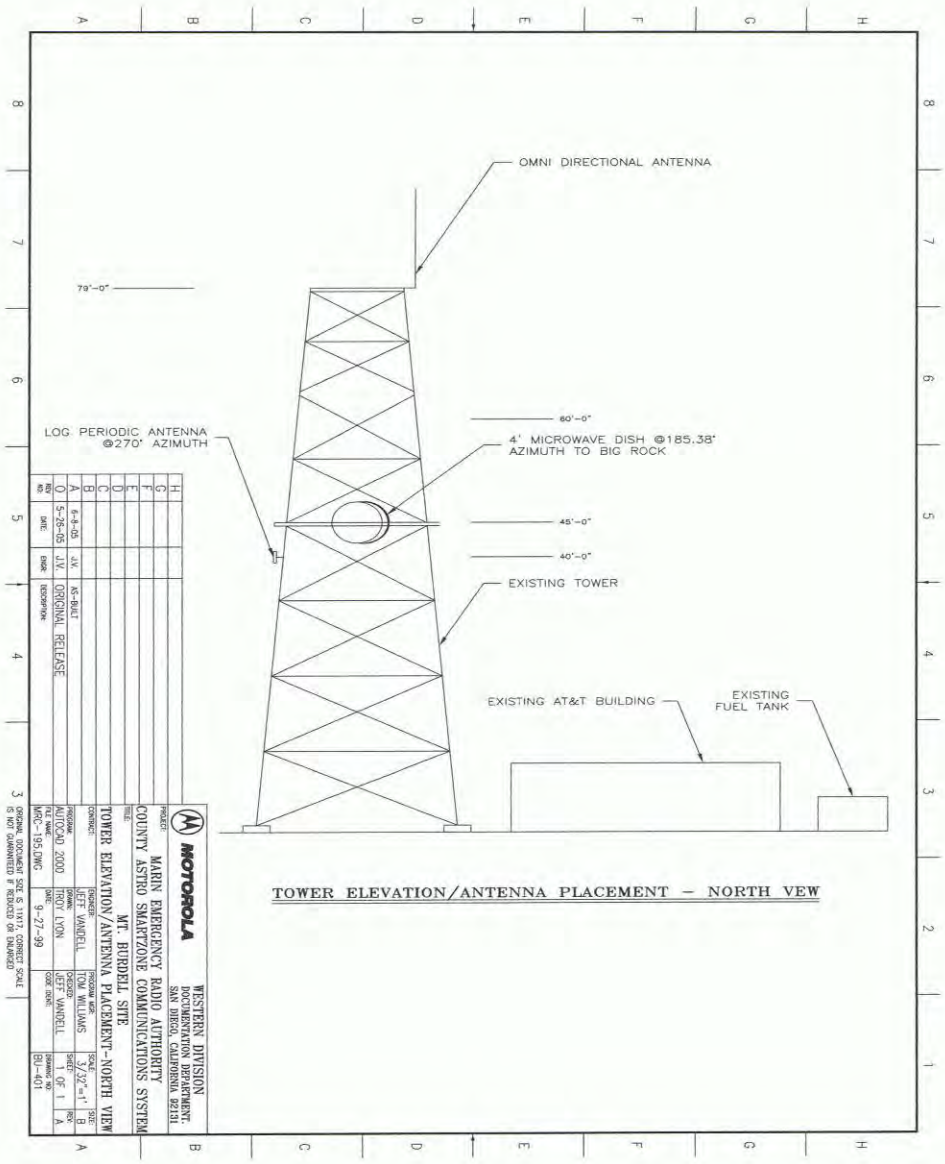
SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

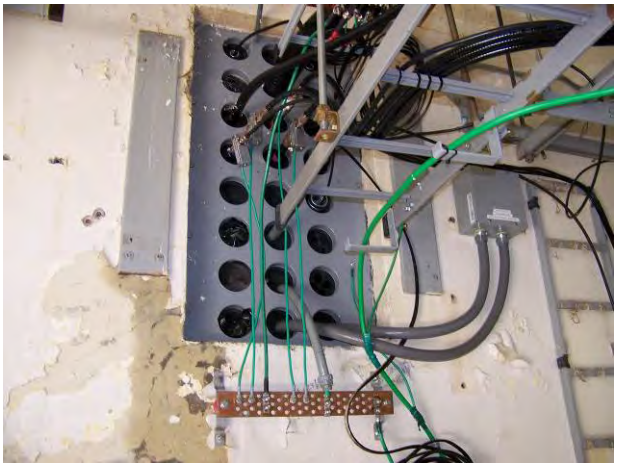
Provide a drawing that annotates tower height and antenna locations.

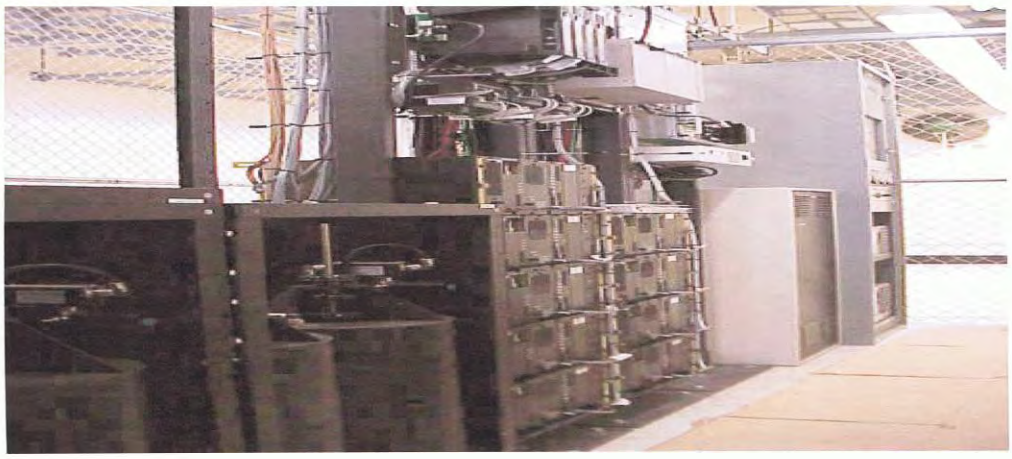


Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	





Land Mobile Radio
Site Assessment -
Inventory Form

Dollar Hill

SECTION A:	GENERAL SITE INFORMATION		
Site name: Dollar Hill	Address: End of Robert Dollar Drive		
Radio system name: MERA	County: Marin		
Site phone: NA	Site owner and/or manager: City of San Rafael		
Comments: Best to use Robert Dollar Drive entrance			
Latitude: 37-58-49.16N	Longitude: 122-31-45.58W	Ground Elevation (AMSL) (meters): 221	
SECTION B:	SITE ACCESS		
Site accessible by standard 2WD vehicle? Yes, good weather			
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) Laural to Robert Drive to lower gate then up hill			
Comments: Lower gate and fence use shop key.			
SECTION C:	GENERAL SITE CONDITIONS and PERIMETER SECURITY		
Fence: Yes, Shop key		Condition: Good	
Signs of Vandalism: No	Fence Lock: Shop key	Exterior Lighting: Yes, be sure to turn off	
Comments: Site has water tank and pump not in service presently and used for irrigation only			
SECTION D:	PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)		
Ground around site:	Clean		
Property zoning type:			
Property ownership:	City of San Rafael		
Describe site surroundings:	Hill top site with 2 buildings		
Other site use-this site			
Other nearby sites:	San Rafael Building	Commercial down road	
Comments:			

SECTION E:	TOWER DETAILS
Antenna structure: 3 leg tower	
Condition: Good	
ASR Posted:	ASR #: _____
Structure height (meters): 20 No. of tower legs: 3 Face width (lowest section): 12 Tube Type or Angle members: Tube Monopole base diameter: _____ Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)	
Visual condition of antenna mounting hardware: Good Tower loading/design documentation available: Yes Source: MERA	
Transmission line condition:	Good
Lines properly installed:	Yes
Lines installed with drip loops:	Yes
Transmission line connector condition:	Yes
Ice bridge:	Yes
Ice bridge condition:	Good
Ice bridge grounded:	Yes
Line incrementally grounded	Yes
Standard cable entry port device:	Yes - Microflect
Number of entry ports:	12 – 4 available
Grounding at tower top/antenna base:	Yes
Grounding bars used on tower:	Yes
Grounding at tower base:	Yes
Grounding at each tower leg:	Yes
Tower ground ring:	Yes
Single-point ground system:	Yes
Lines grounded at building entry:	Yes
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
DB-638	7.62 m	1	8		UHF-T	Tx	No	7/8	Good
DB-638	7.62 m	1	8		UHF-T	Tx	No	7/8	Good
DB-638	18.29 m	1	8		UHF-T	Rx	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: CBA Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Pre-Fab CBA	
If Prefab shelter give Mfr./Model: CBA	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 10 Length 20
Door lock:	Yes, 7 Pin site lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	9
No. of racks used for equipment of interest:	9
Expansion space available in shelter:	Minimal
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	
GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes
Rack mounted equipment grounded:	Yes
Lightning arrestors installed:	Yes

How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

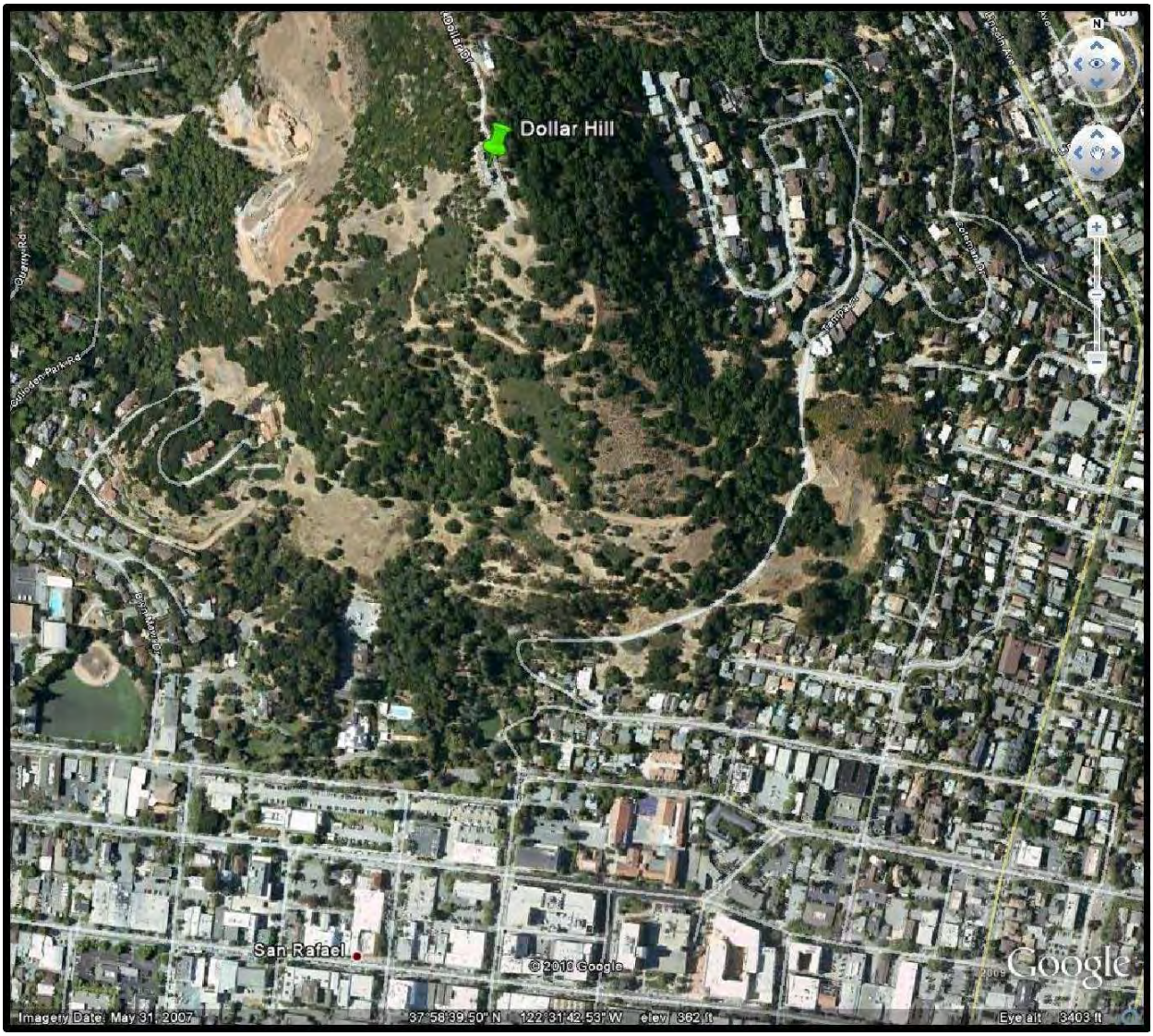
SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	**Mot**		**1**	**East 1**
Quantar	**Mot**		**6**	**East 2**
Quantar	**Mot**		**1**	**East 3**
Quantar	**Mot**		**6**	**East 4**
Quantar	**Mot**		**1**	**East 5**
Quantar	**Mot**		**6**	**East 6**
Quantar	**Mot**		**1**	**East 7**
Quantar	**Mot**		**6**	**East 8**
Quantar	**Mot**		**1**	**East 9**
Quantar	**Mot**		**6**	**East 10**
Quantar	**Mot**		**1**	**East 11**
Remote Site Controller	**Mot**		**7**	
Combinor	**DB**		**1**	
Combinor	**DB**		**2**	
GPS	**Efratom**		**3**	
UPS	Unknown		**3**	Limited 1KVA
Microwave	**Harris**		**4**	
Channel Bank	**Premesys**		**6**	
Alarm System	**Mot**		**5**	
Microwave Battery Charger	**LaMarche**		**P-1**	
2 W Battery charger	**LaMarche**		**P-2**	
Power Panel	**ADC**		**Wall**	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation
Traffic backhauled:	MERA
Backhaul redundant:	Yes, Loop
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris Constellation
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	
SECTION J:	**POWER SYSTEMS**
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes ——
UPS:	Yes, Not all site
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Propane	Tank Size: 500
Other backup power-UPS details:	——
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: two LaMarche, one for MW and one for radio
Quantity of batteries: 4 MW and 8 radio —	Mfr. and model: 125AH Telecom
Comments:	
SECTION K:	**OTHER SYSTEMS**

HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

SECTION L:	MAP TO SITE

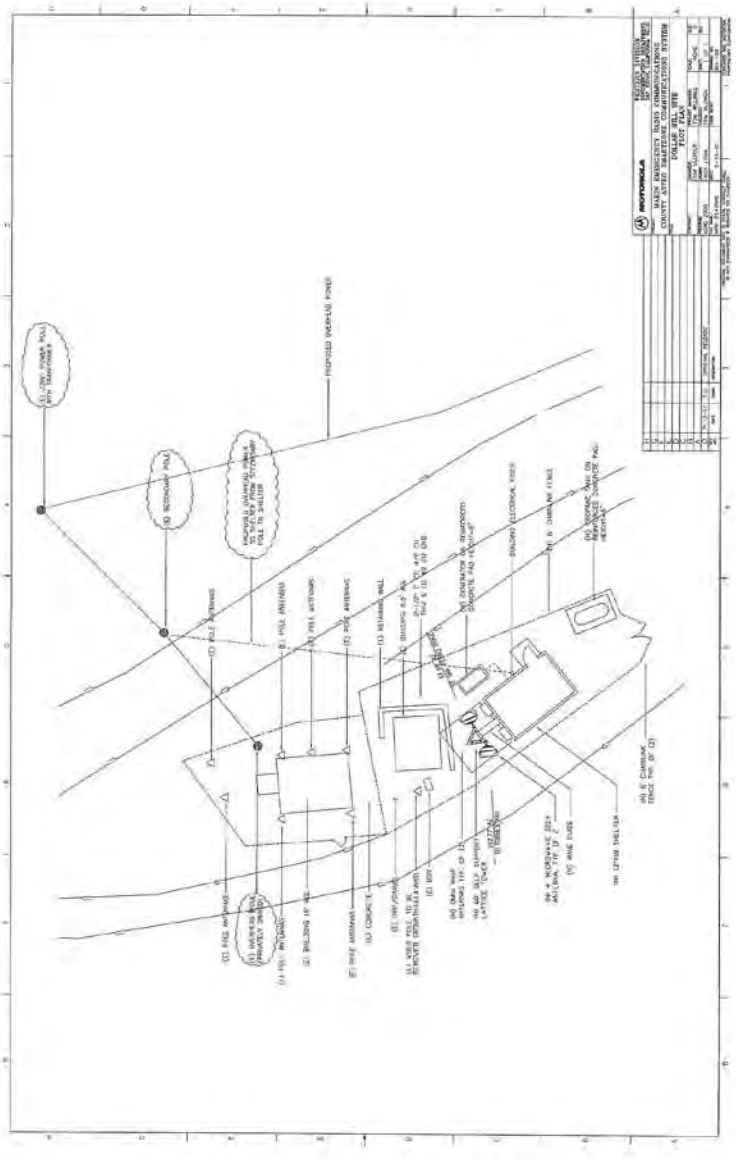
Provide a street-level map of the site.



Comments:

Dollar Hill Site Access

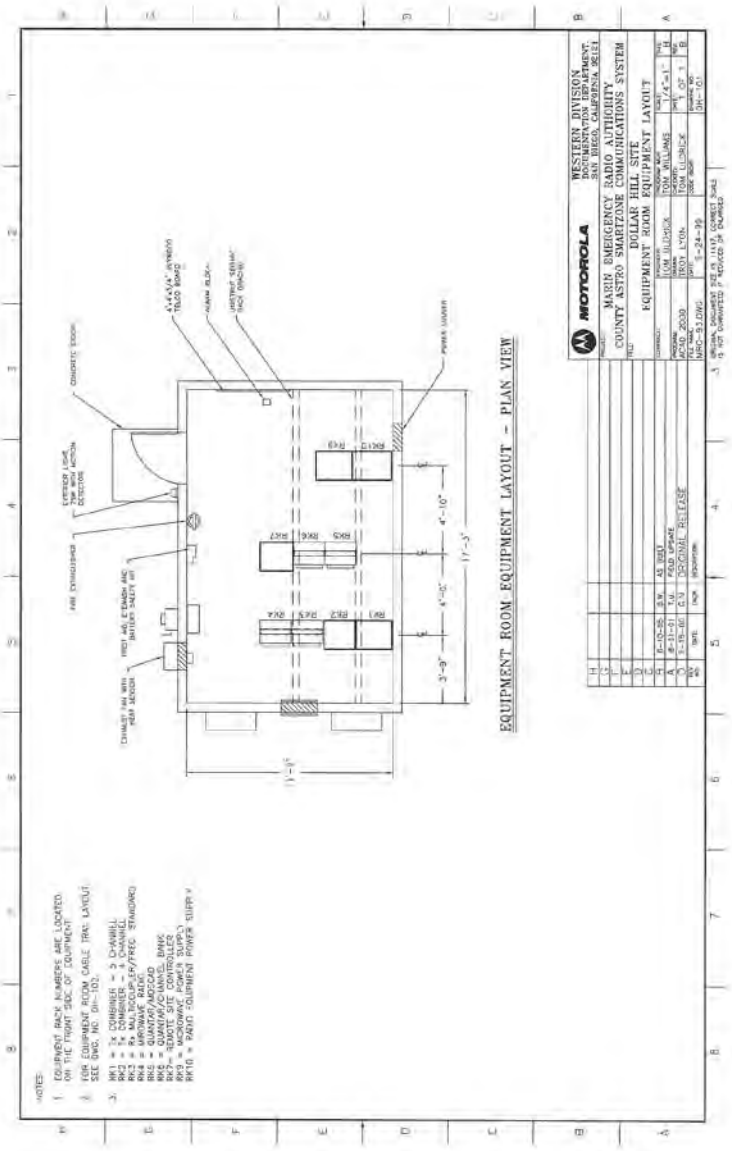
SECTION M:	SITE PLAN
Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.	



Comments:

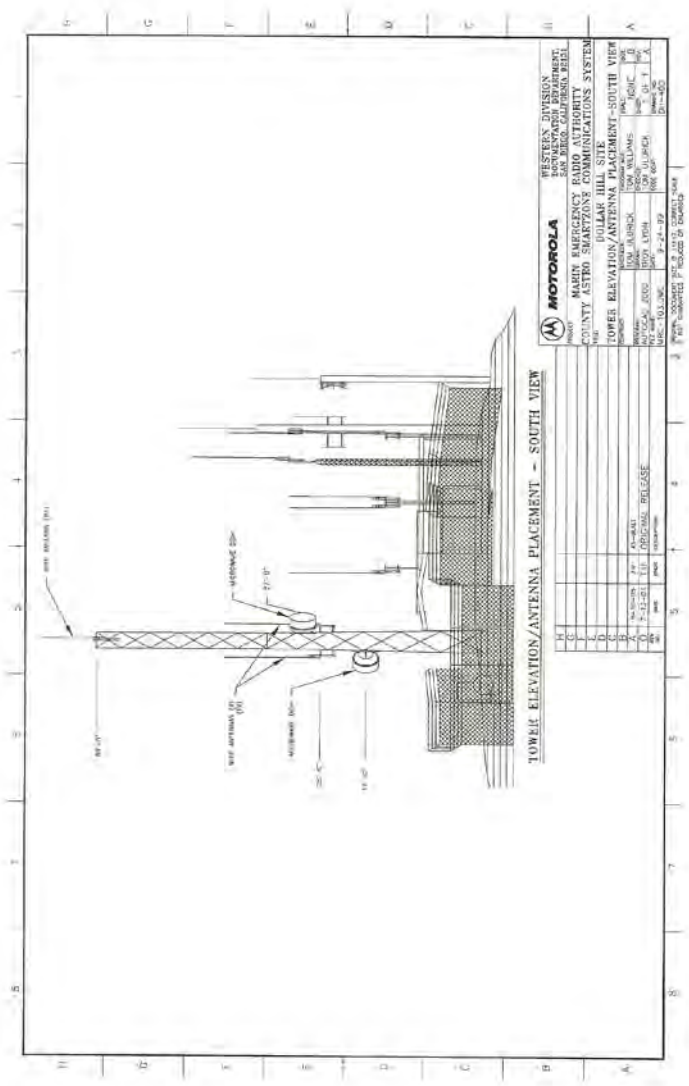
SECTION N:	RF HOUSING FLOOR PLAN

Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.



Comments:

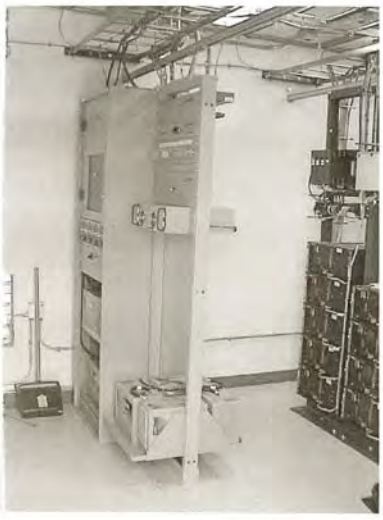
SECTION O:	TOWER-ANTENNA LAYOUT
Provide a drawing that annotates tower height and antenna locations.	



Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	



Land Mobile Radio
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Forbes Hill

SECTION A: GENERAL SITE INFORMATION		
Site name: Forbes Hill	Address: 195 Tamal Vista dr. San Rafael, CA. 94901	
Radio system name: MERA	County: Marin	
Site phone: NA	Site owner and/or manager: MMWD	
Comments:		
Latitude: 37-58-43.7N	Longitude: 122-32-33.9W	Ground Elevation (AMSL) (meters): 71.93m

SECTION B: SITE ACCESS		
Site accessible by standard 2WD vehicle? Yes, good weather		
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) Use Hepburn way for access		
Comments: Lower gate MMWD and fence uses shop key.		

SECTION C: GENERAL SITE CONDITIONS and PERIMETER SECURITY			
Fence: Yes, Shop key		Condition: Good	
Signs of Vandalism: No	Fence Lock: Shop key	Exterior Lighting: Yes, be sure to turn off	
Comments:			

SECTION D: PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)		
Ground around site:	Clean	
Property zoning type:		
Property ownership:	Marin Municipal Water District	
Describe site surroundings:	Hill top site	
Other site use-this site		
Other nearby sites:		
Comments:		

SECTION E:	TOWER DETAILS
Antenna structure: **3 leg tower**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 18.28m **No. of tower legs: 3 Face width (lowest section): 12 Tube Type or Angle members: tube** **Monopole base diameter: NA** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**12 – 4 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**
Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
DB-638	18.29 m	1	8		UHF-T	Rx	No	7/8	Good
0285 Panel	13.72 m	1	8		UHF-T	Tx	No	7/8	Good
0285 Panel	13.72 m	1	8		UHF-T	Tx	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: CBA Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Pre-Fab CBA	
If Prefab shelter give Mfr./Model: CBA	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 10 Length 20
Door lock:	Yes, 7 Pin site lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	10
No. of racks used for equipment of interest:	10
Expansion space available in shelter:	Minimal
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		4	East 1
Quantar	Mot		5	East 2
Quantar	Mot		4	East 3
Quantar	Mot		5	East 4
Quantar	Mot		4	East 5
Quantar	Mot		5	East 6
Quantar	Mot		4	East 7
Quantar	Mot		5	East 8
Quantar	Mot		4	East 9
Quantar	Mot		5	East 10
Quantar	Mot		4	East 11
Remote Site Controller	Mot		7	
Combiner	DB		1	
Combiner	DB		2	
GPS	Efratom		3	
UPS	Unknown		5	Limited 1KVA
Microwave	Harris		3	
Channel Bank	Premesys		5	
Alarm System	Mot		4	
Microwave Battery Charger	LaMarche		P-1	
2 W Battery charger	LaMarche		P-2	
Power Panel	ADC		Wall	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation
Traffic backhauled:	MERA
Backhaul redundant:	Yes, Loop
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris Constellation
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Propane	Tank Size: 500
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: LaMarche, 1 MW, 1 radio
Quantity of batteries: 12	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

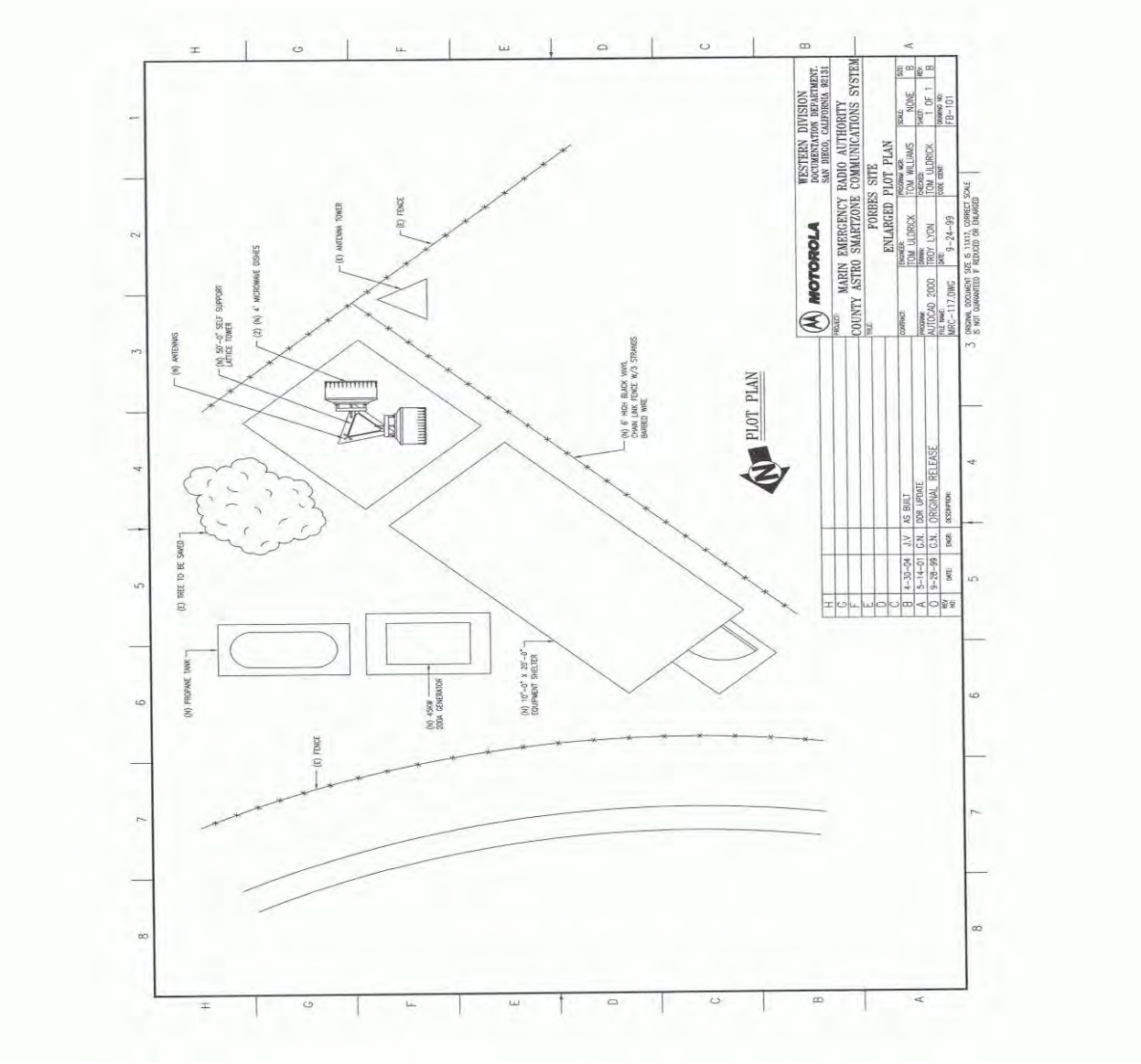
SECTION L:	MAP TO SITE

Provide a street-level map of the site.

Comments:

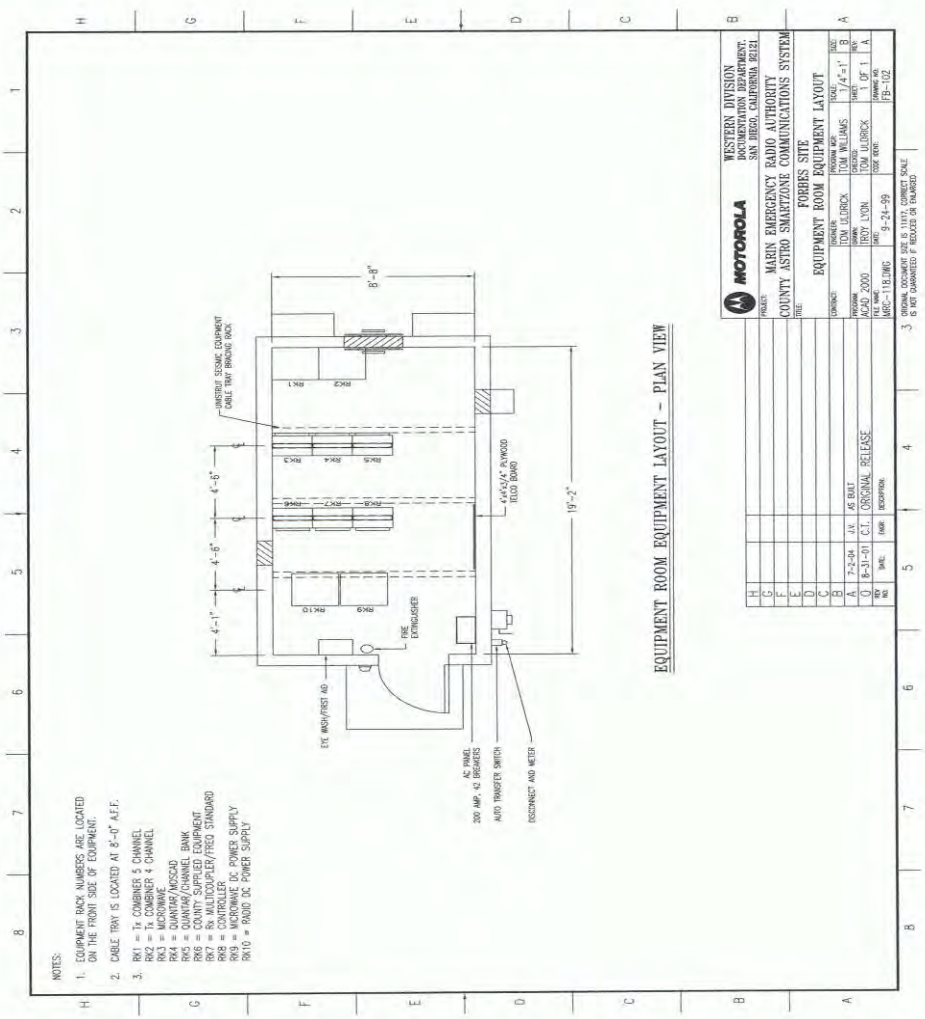
Forbes Site Access

SECTION M:	SITE PLAN
Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.	



Comments:

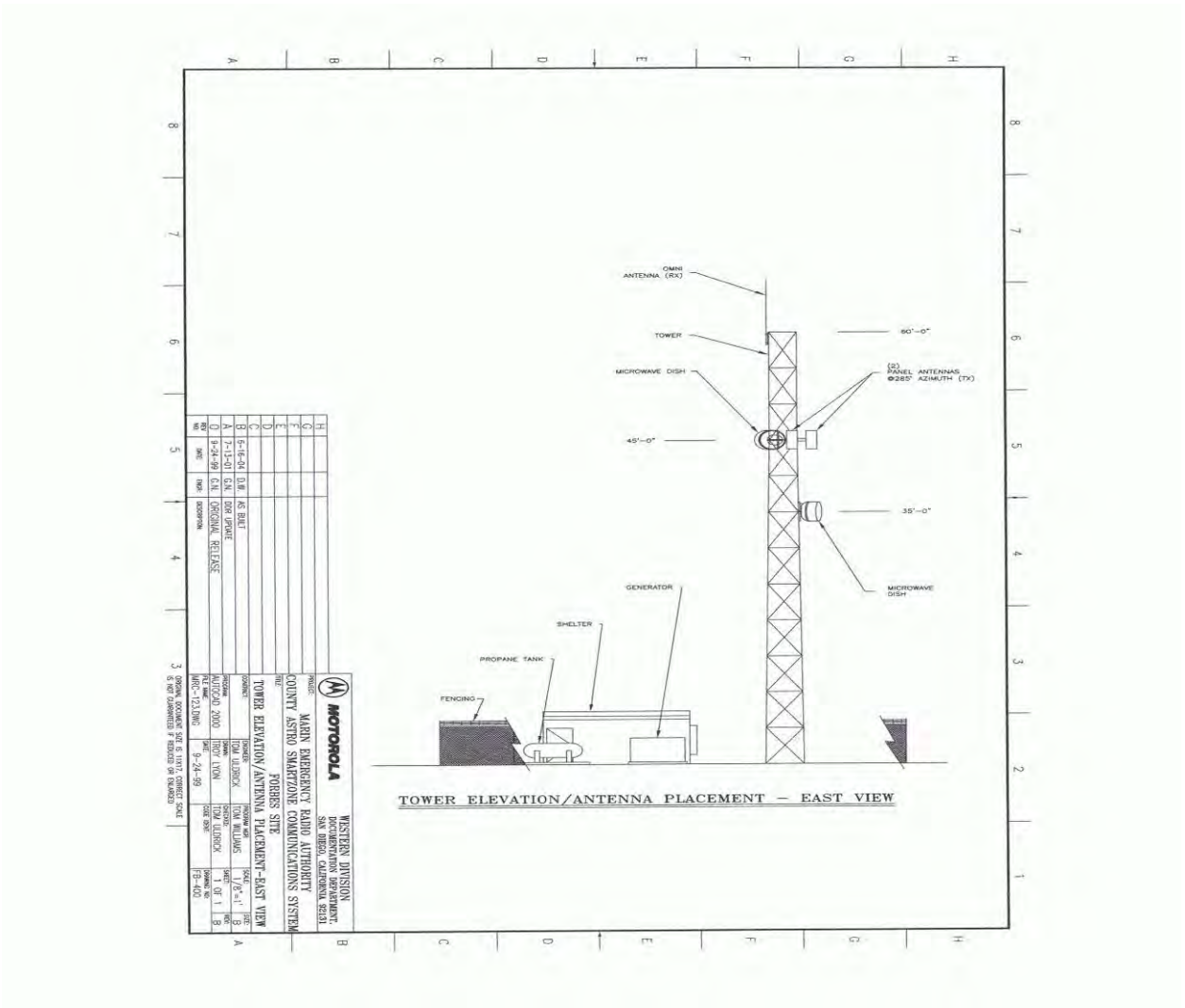
SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

Provide a drawing that annotates tower height and antenna locations.



Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	

Land Mobile Radio
Site Assessment -
Inventory Form

Mill Valley City Hall

SECTION A: GENERAL SITE INFORMATION		
Site name: Mill Valley City Hall	Address: 26 Corte Madera Dr. Mill Valley, CA. 94941	
Radio system name: MERA	County: Marin	
Site phone: NA	Site owner and/or manager: City of Mill Valley	
Comments:		
Latitude: 37-54-28.63N	Longitude: 122-32-50.8W	Ground Elevation (AMSL) (meters): 28.011mm

SECTION B: SITE ACCESS		
Site accessible by standard 2WD vehicle? Yes, good weather		
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) Upstairs at Mill Valley City Hall		
Comments:		

SECTION C: GENERAL SITE CONDITIONS and PERIMETER SECURITY			
Fence: No		Condition: Good	
Signs of Vandalism: No	Fence Lock:	Exterior Lighting: Yes, be sure to turn off	
Comments:			

SECTION D: PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)		
Ground around site:	Clean	
Property zoning type:		
Property ownership:	City of Mill Valley	
Describe site surroundings:	City Hall Downtown	
Other site use-this site		
Other nearby sites:	none	
Comments:		

SECTION E:	TOWER DETAILS
Antenna structure: **Building Rooftop**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 21.33m **No. of tower legs: NA Face width (lowest section): NA Tube Type or Angle members: NA** **Monopole base diameter: NA** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**4 – 1 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**
Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
DB-638	15.24 m	1	8		UHF-T	Tx	No	7/8	Good
DB-638	7.62 m	1	8		UHF-T	Tx	No	7/8	Good
DB-638	7.62 m	1	8		UHF-T	Rx	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: City Hall Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type Commercial	
If Prefab shelter give Mfr./Model:	If building, No. of stories/floors: 3
Room/Shelter condition:	Good
Dimensions:	Height 9' Width 10' Length 12'
Door lock:	Yes, Site specific lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model:
No. of total racks/cabinets:	7
No. of racks used for equipment of interest:	7
Expansion space available in shelter:	Minimal
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		2	East 1
Quantar	Mot		3	East 2
Quantar	Mot		2	East 3
Quantar	Mot		3	East 4
Quantar	Mot		2	East 5
Quantar	Mot		3	East 6
Quantar	Mot		2	East 7
Quantar	Mot		3	East 8
Quantar	Mot		2	East 9
Quantar	Mot		3	East 10
Quantar	Mot		2	East 11
Remote Site Controller	Mot		4	
Combiner	DB		1	
Combiner	DB		5/6	
GPS	Efratom		2	
UPS	MGE		3	
Microwave	NA		NA	
Channel Bank	Premesys		3	
Alarm System	Mot		2	
Microwave Battery Charger	NA		NA	
2 W Battery charger	LaMarche		1	
Power Panel	ADC		Wall	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Leased T1 to Mill Valley Public Safety Building
Traffic backhauled:	MERA
Backhaul redundant:	No
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.): Leased T-1 line to Mill Valley PSB; alarm system leased 4-wire circuit to Mill Valley PSB	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes; Limited 1KVA
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Diesel	Tank Size: Unknown
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: LaMarche
Quantity of batteries: 8	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

SECTION L:	MAP TO SITE

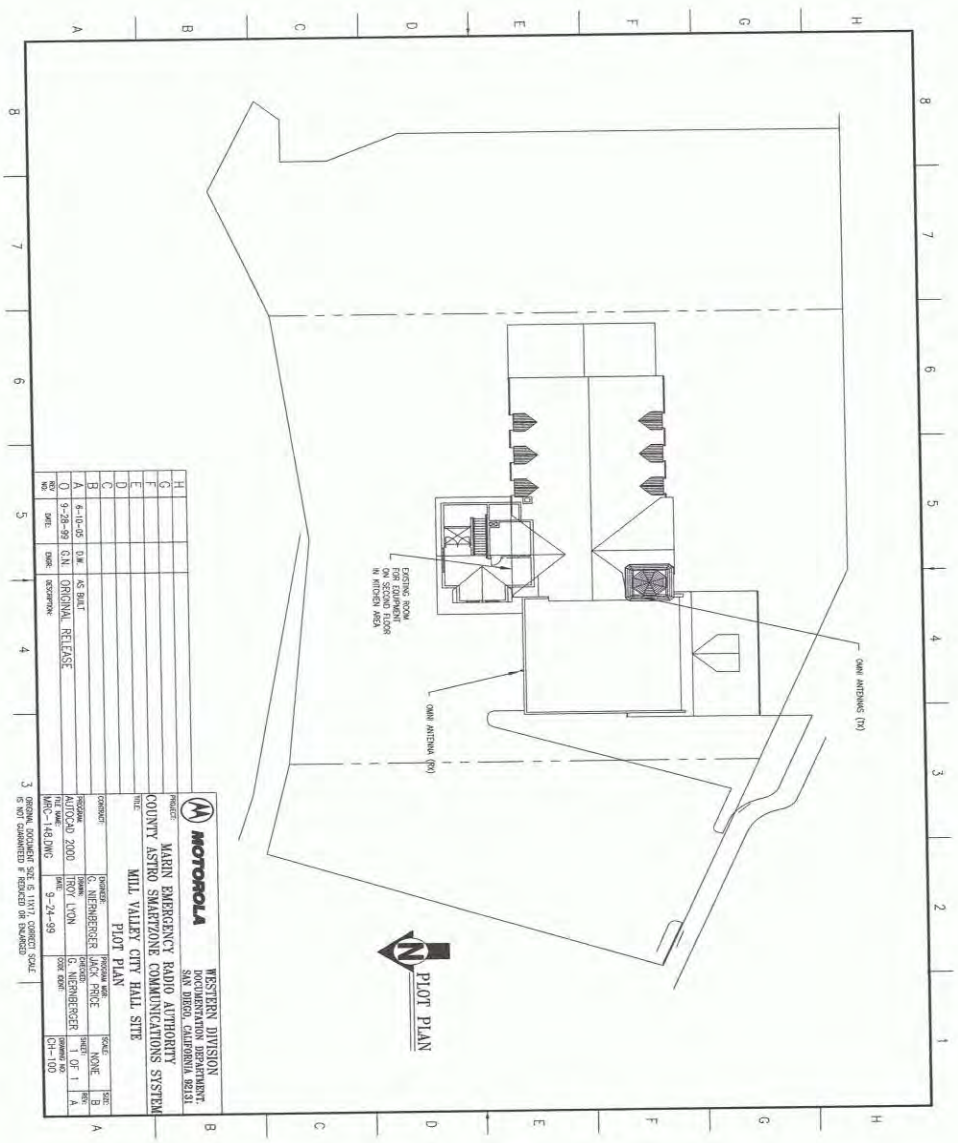
Provide a street-level map of the site.

Comments:

Mill Valley Site Access

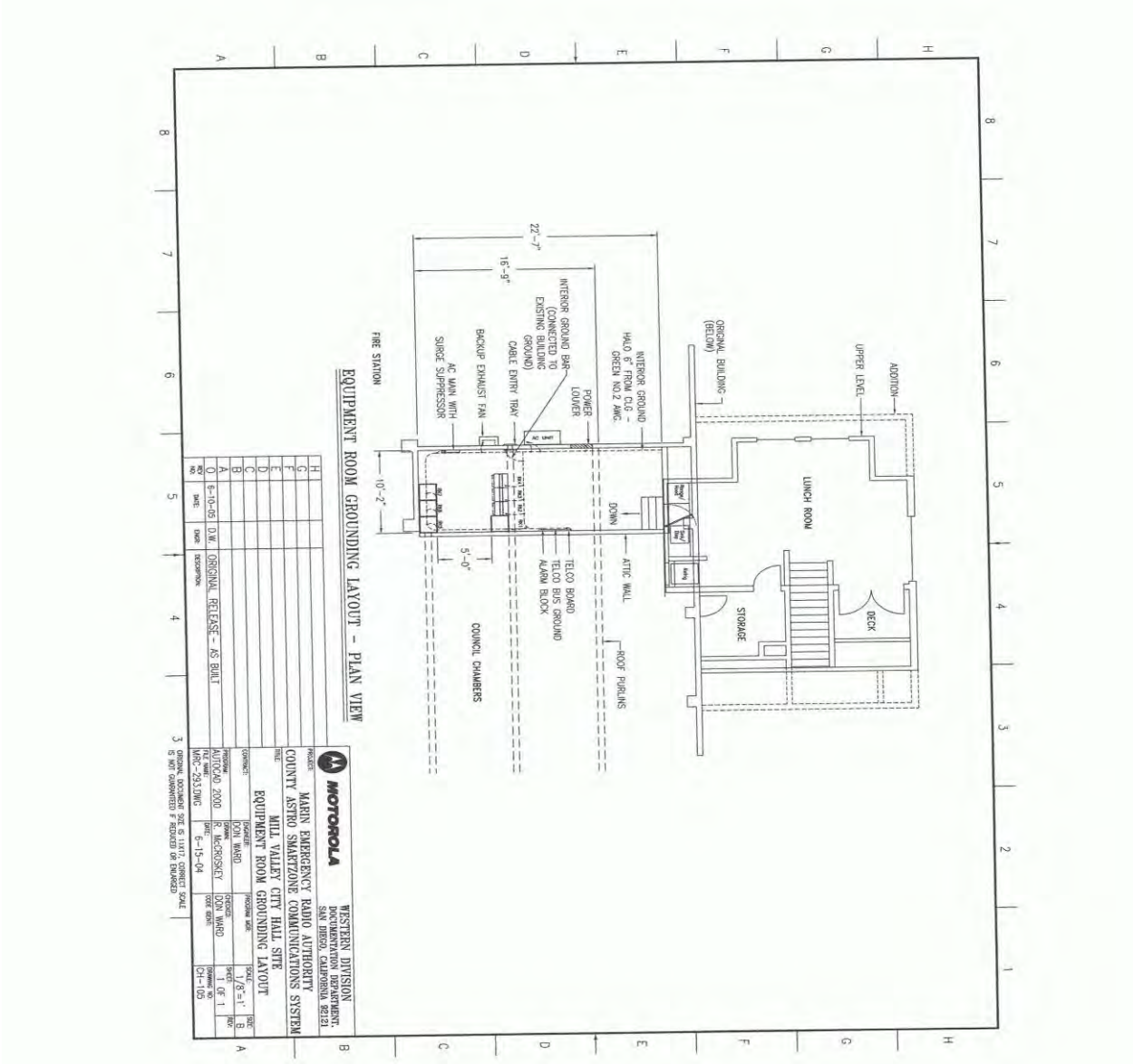
SECTION M:	SITE PLAN

Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.



Comments:

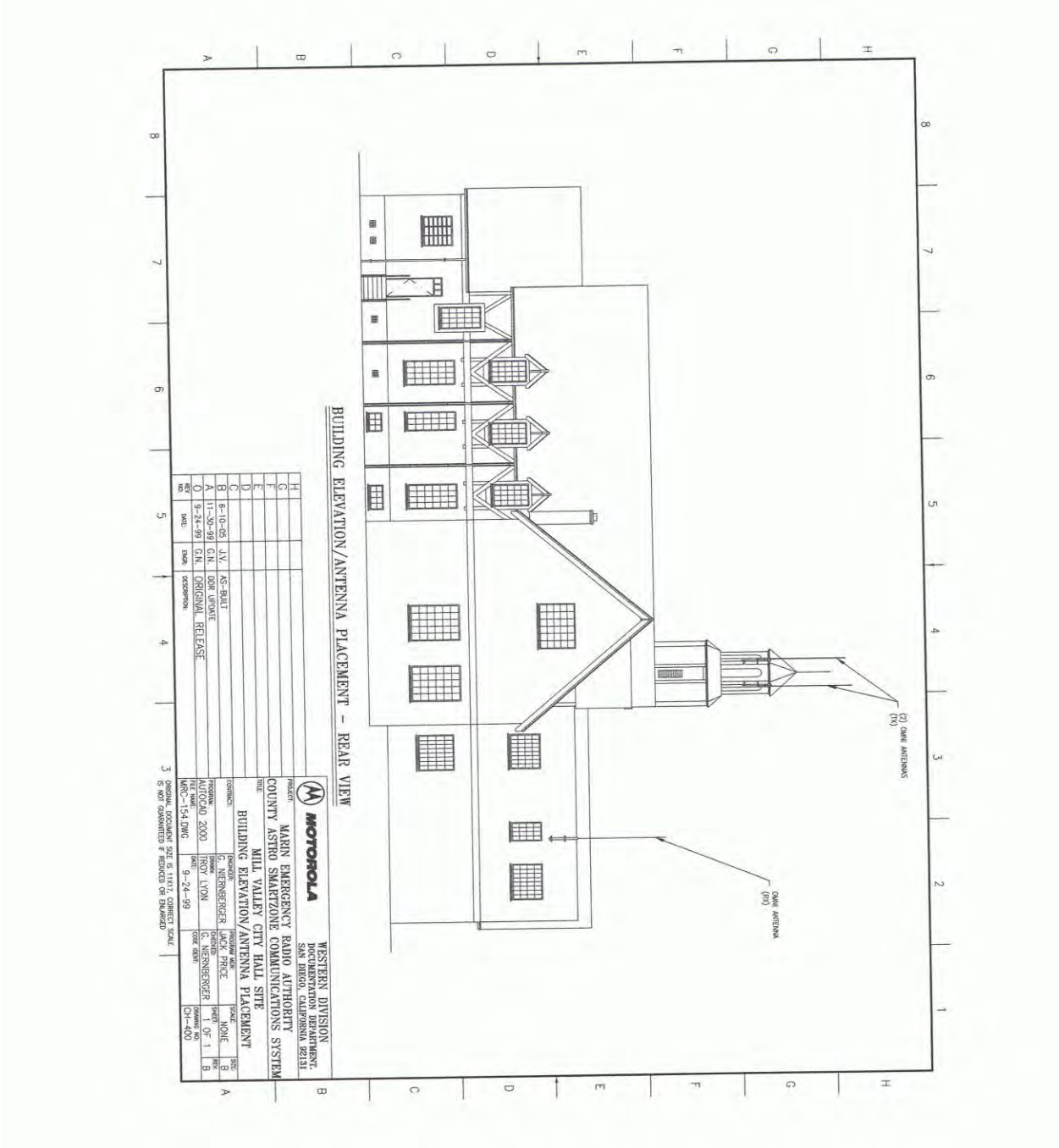
SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	



Comments:

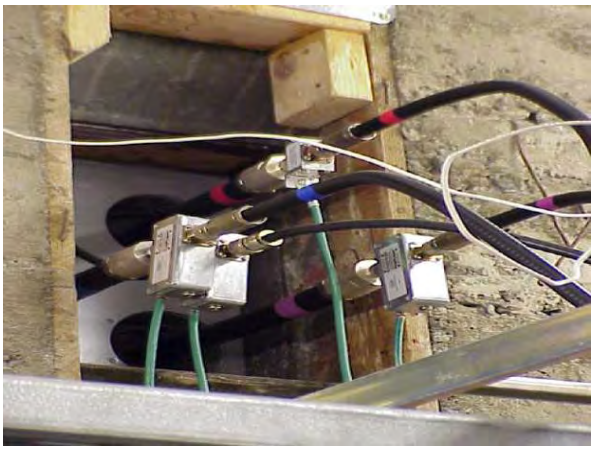
SECTION O:	TOWER-ANTENNA LAYOUT

Provide a drawing that annotates tower height and antenna locations.



SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	



Land Mobile Radio
Site Assessment -
Inventory Form

Mt Tamalpais

SECTION A:	GENERAL SITE INFORMATION	
Site name: Mt Tamalpais	Address: 2001 Ridgecrest BLVD. Mill Valley, CA. 94941	
Radio system name: MERA	County: Marin	
Site phone: NA	Site owner and/or manager: American Tower	
Comments:		
Latitude: 37-55-44.0N	Longitude: 122-35-15.0W	Ground Elevation (AMSL) (meters): 722.985m

SECTION B:	SITE ACCESS	
Site accessible by standard 2WD vehicle? No 4WD		
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.)		
Comments: Lower gate and fence use combination locks.		

SECTION C:	GENERAL SITE CONDITIONS and PERIMETER SECURITY		
Fence: Yes		Condition: Good	
Signs of Vandalism: No	Fence Lock: Combo	Exterior Lighting: Yes, be sure to turn off	
Comments:			

SECTION D:	PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)	
Ground around site:	Clean	
Property zoning type:		
Property ownership:	American Tower	
Describe site surroundings:	Hill top site with 2 buildings	
Other site use-this site		
Other nearby sites:	Many	Commercial down road
Comments:		

SECTION E:	TOWER DETAILS
Antenna structure: **Monopole**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 18.228m **No. of tower legs: NA Face width (lowest section): NA Tube Type or Angle members: NA** **Monopole base diameter: 12”** **Any obvious microwave path obstructions: Yes, limited to not above horizon**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**12 – 4 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**
Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Log-periodic	7.62 m	1	8		UHF-T	Tx	No	7/8	Good
DB-638	18.29 m	1	8		UHF-T	Rx	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Concrete	
If Prefab shelter give Mfr./	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 15 Length 20
Door lock:	Yes, site specific lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	11
No. of racks used for equipment of interest:	11
Expansion space available in shelter:	No
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		4	West 1
Quantar	Mot		4	West 2
Quantar	Mot		4	West 3
Quantar	Mot		4	West 4
Quantar	Mot		4	West 5
Quantar	Mot		4	West 6
Quantar	Mot		4	West 7
Remote Site Controller	Mot		7/8	
Combiner	TXRX		3	
GPS	Efratom		6	
UPS	Unknown		6	Limited 1KVA
Microwave	Harris/Aviat		4	
Channel Bank	Premesys		4	
Alarm System	Mot		6	
Microwave Battery Charger	LaMarche		P-1	
2 W Battery charger	LaMarche		P-2	
Power Panel	ADC		Wall	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Harris and Aviat
Traffic backhauled:	MERA
Backhaul redundant:	Yes, Loop
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Constellation, TruPoint, and IRU
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes, Not all site
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes, Site Provided
Fuel type: Propane	Tank Size: Unknown
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: LaMarche, 1 MW 1 Radio
Quantity of batteries: 28	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

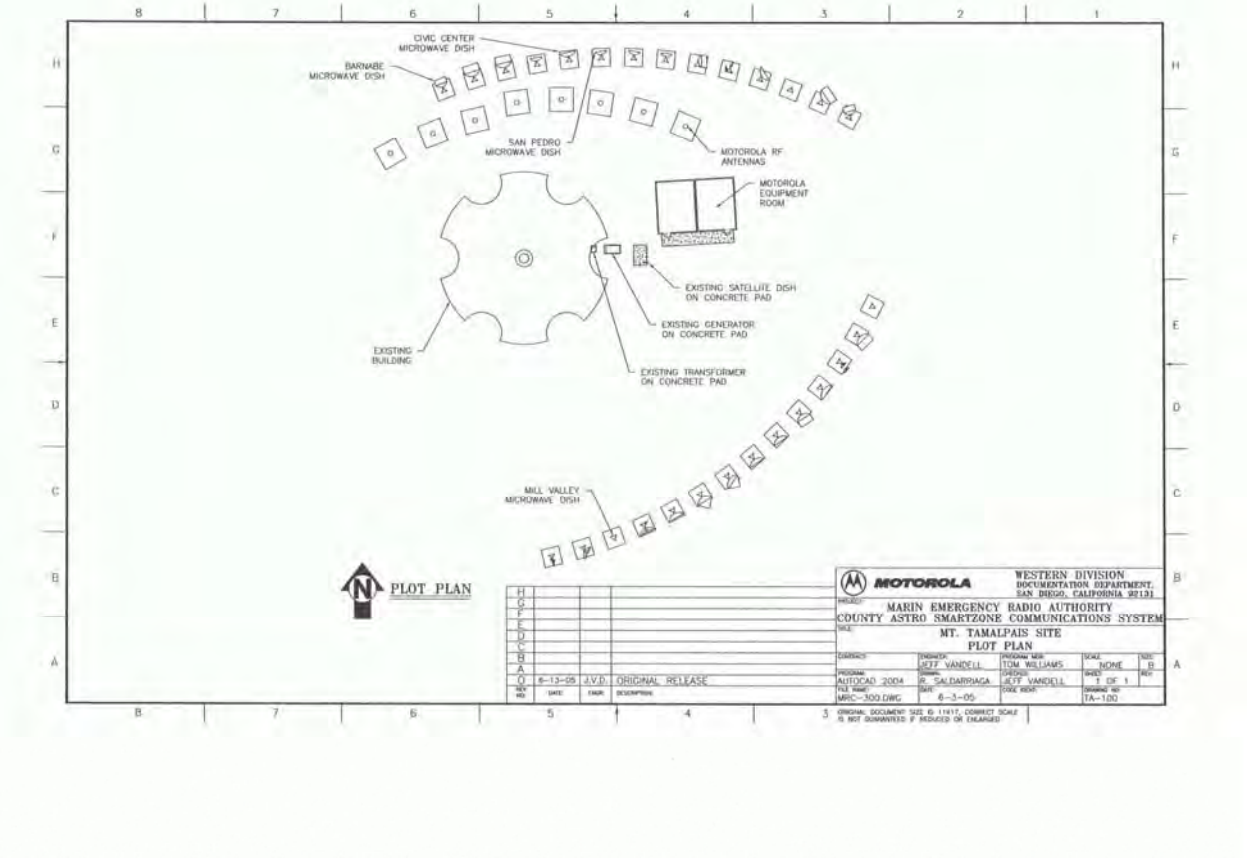
SECTION L:	MAP TO SITE

Provide a street-level map of the site.

Comments:

Tamalpais Site Access

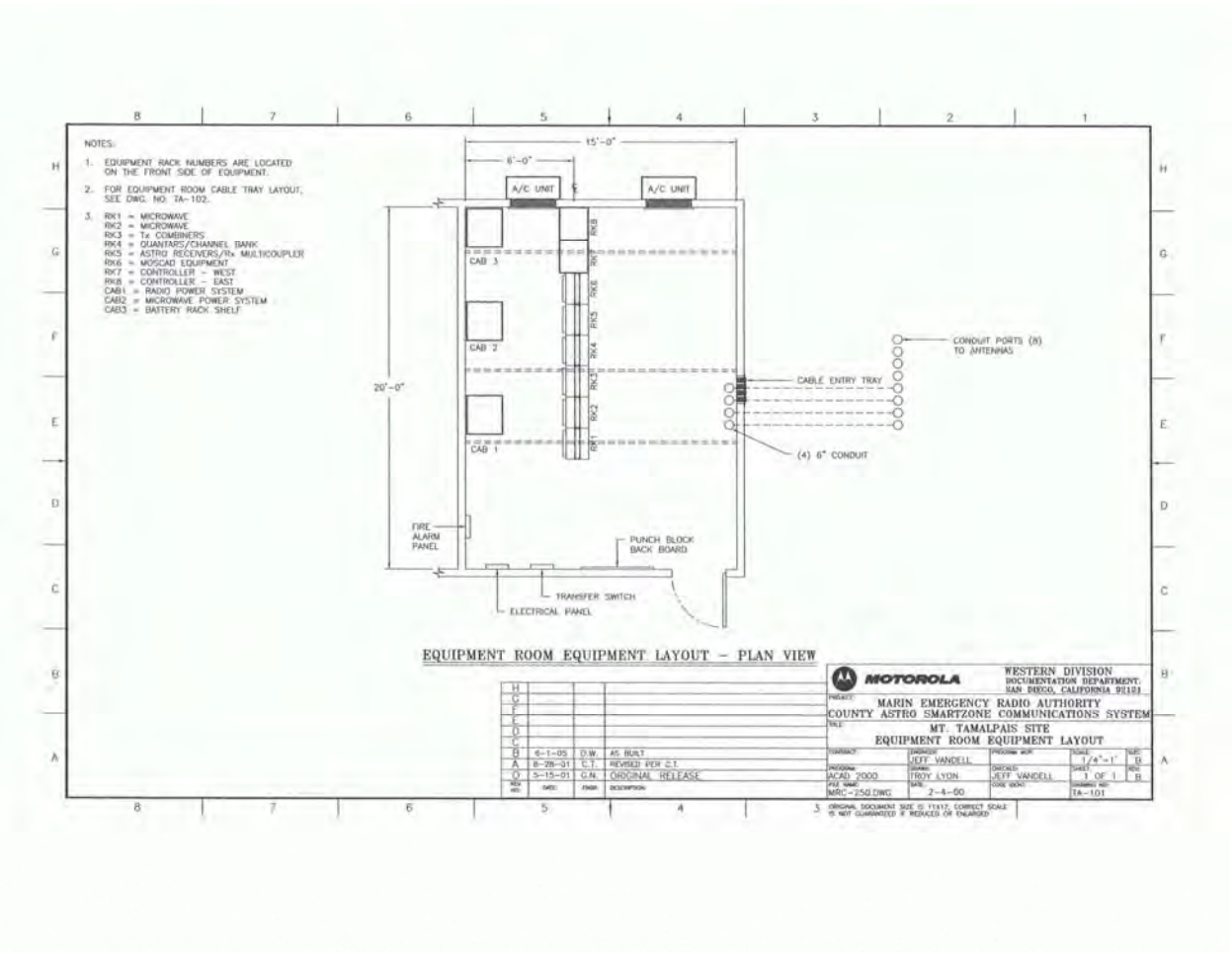
SECTION M:	SITE PLAN
Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.	



Comments:

SECTION N:	RF HOUSING FLOOR PLAN

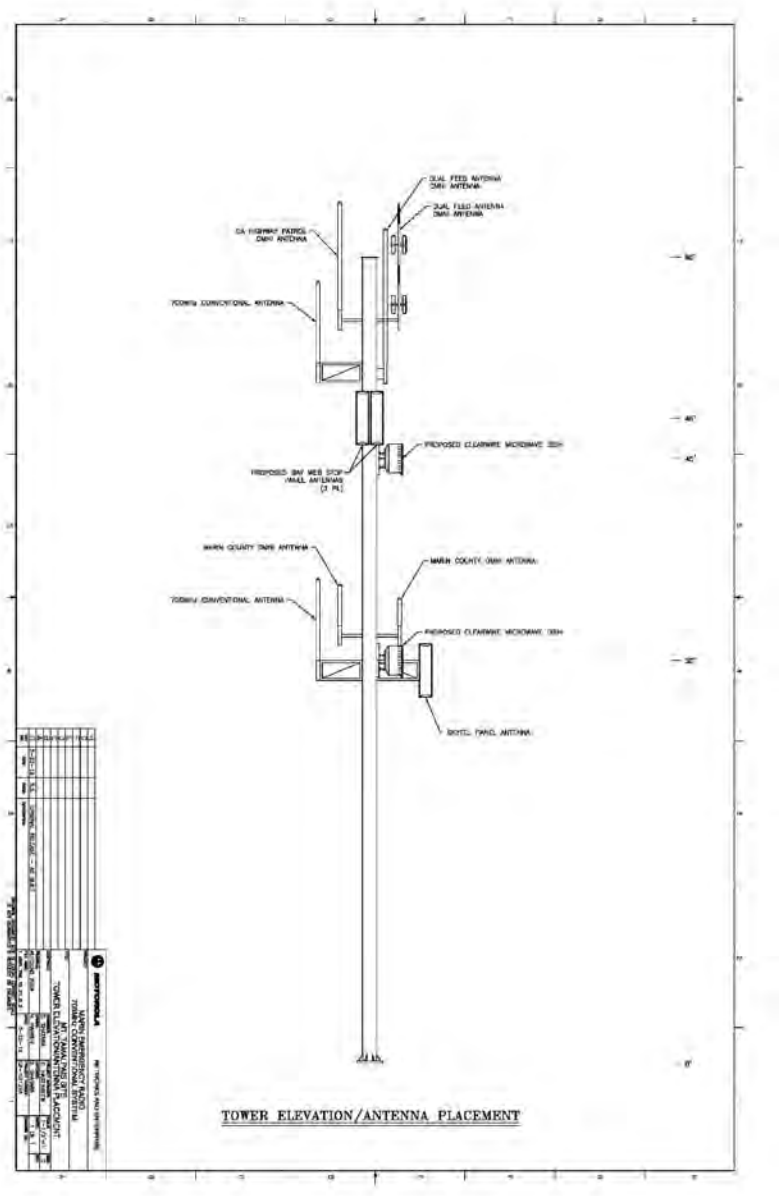
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

Provide a drawing that annotates tower height and antenna locations.



Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	

Land Mobile Radio
Site Assessment -
Inventory Form

Mt Tiburon

SECTION A: GENERAL SITE INFORMATION			
Site name: Mt Tiburon	Address: 99 1/2 Mt. Tiburon Rd.		
Radio system name: MERA	County: Marin		
Site phone: NA	Site owner and/or manager: MERA		
Comments:			
Latitude: 37-53-25.7N	Longitude: 122-27-52.9W	Ground Elevation (AMSL) (meters): 156.057m	
SECTION B: SITE ACCESS			
Site accessible by standard 2WD vehicle? Yes, good weather			
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.)			
Comments: MMWD key			
SECTION C: GENERAL SITE CONDITIONS and PERIMETER SECURITY			
Fence: Yes,		Condition: Good	
Signs of Vandalism: No	Fence Lock: MMWD	Exterior Lighting: Yes, be sure to turn off	
Comments:			
SECTION D: PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)			
Ground around site:	Clean		
Property zoning type:			
Property ownership:	MERA		
Describe site surroundings:	Hill top site		
Other site use-this site			
Other nearby sites:	None	Commercial down road	
Comments:			

SECTION E:	TOWER DETAILS
Antenna structure: **2 monopoles (1 for MW and 1 for radio)**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 18.288m radio, microwave is 6.09m **No. of tower legs:NA Face width (lowest section): NA Tube Type or Angle members: NA** **Monopole base diameter: 12”** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**8 – 4 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**
Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Panel	10.67 m	1	3		UHF-T	Tx	No	7/8	Good
Panel	10.67 m	1	3		UHF-T	Tx	No	7/8	Good
DB-638	18.29 m	1	8		UHF-T	Rx	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: CBA Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Pre-Fab CBA	
If Prefab shelter give Mfr./Model: CBA	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 10 Length 15
Door lock:	Yes, 7 Pin site lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	8
No. of racks used for equipment of interest:	8
Expansion space available in shelter:	Minimal
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	
GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		4	East 1
Quantar	Mot		3	East 2
Quantar	Mot		4	East 3
Quantar	Mot		3	East 4
Quantar	Mot		4	East 5
Quantar	Mot		3	East 6
Quantar	Mot		4	East 7
Quantar	Mot		3	East 8
Quantar	Mot		4	East 9
Quantar	Mot		3	East 10
Quantar	Mot		4	East 11
Remote Site Controller	Mot		2	
Combiner	DB		8	
Combiner	DB		7	
GPS	Efratom		3	
UPS	Unknown		3	Limited 1KVA
Microwave	Harris		6	
Channel Bank	Premesys		4	
Alarm System	Mot		1	
Microwave Battery Charger	LaMarche		1	
2 W Battery charger	LaMarche		5	
Power Panel	ADC		Wall	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation
Traffic backhauled:	MERA
Backhaul redundant:	Yes, Loop
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris Constellation
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes; limited
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Propane	Tank Size: 500
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: LaMarche, 1 MW 1 Radio
Quantity of batteries: 12	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

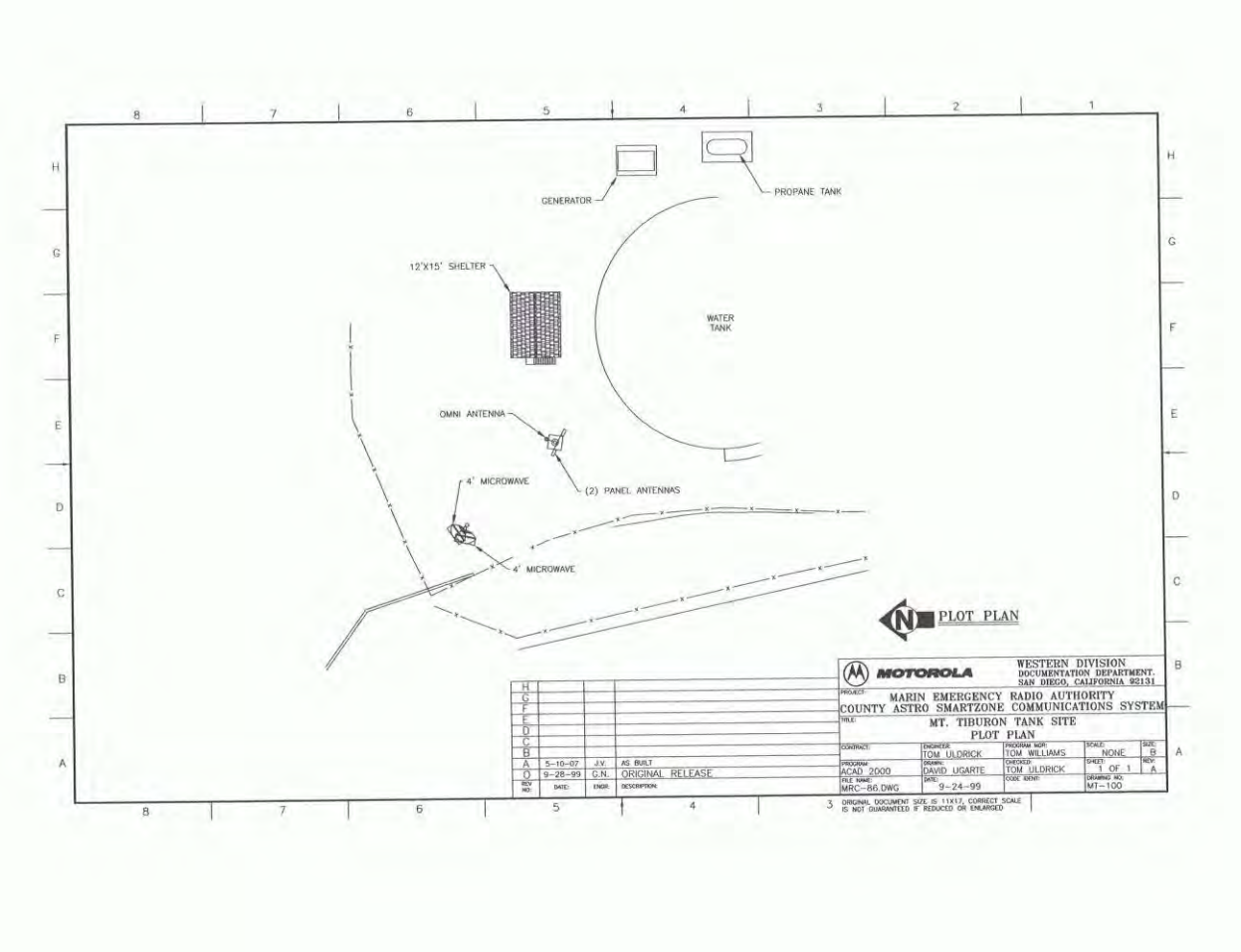
SECTION L:	MAP TO SITE

Provide a street-level map of the site.

Comments:

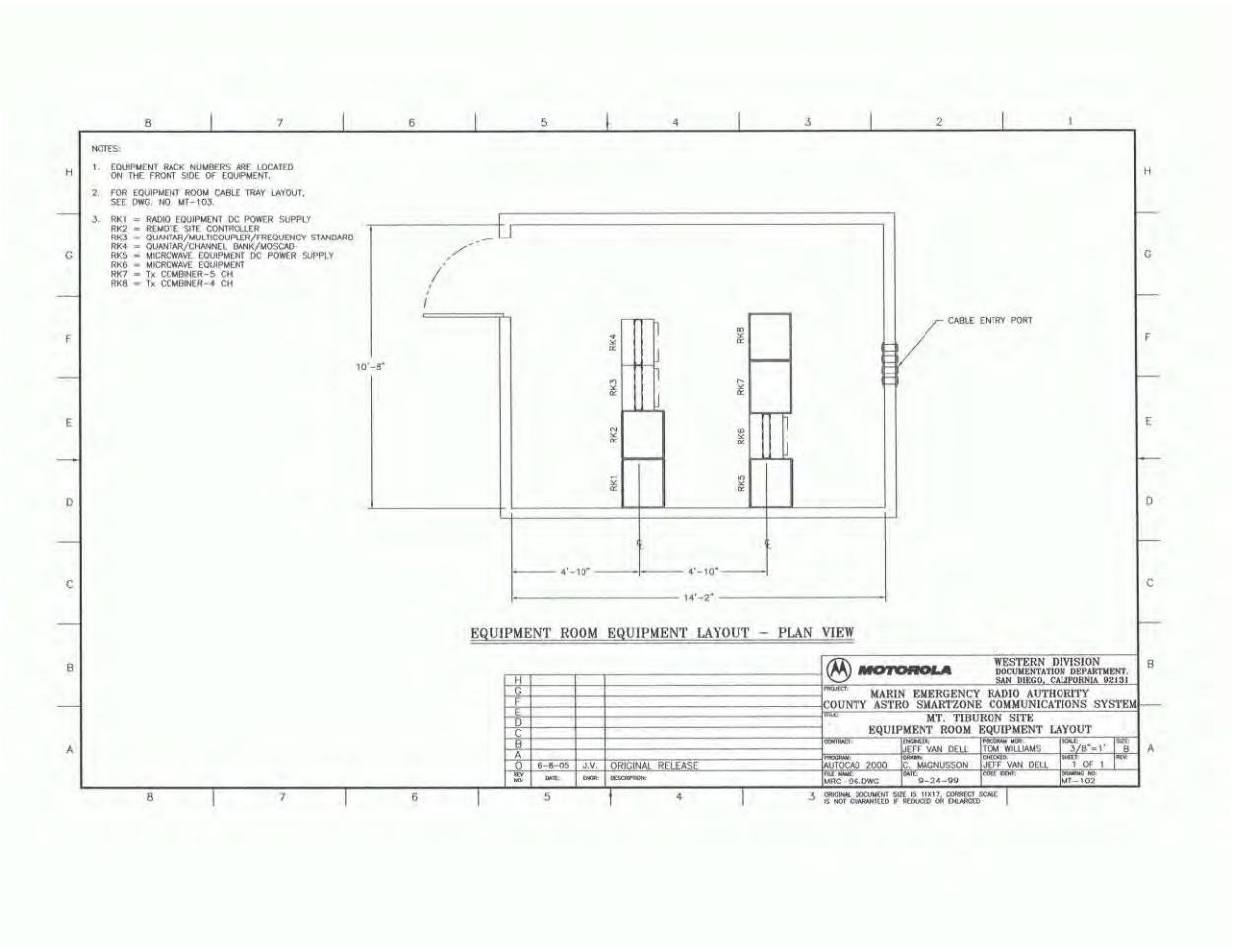
Mt. Tiburon Site Access

SECTION M:	SITE PLAN
Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.	



Comments:

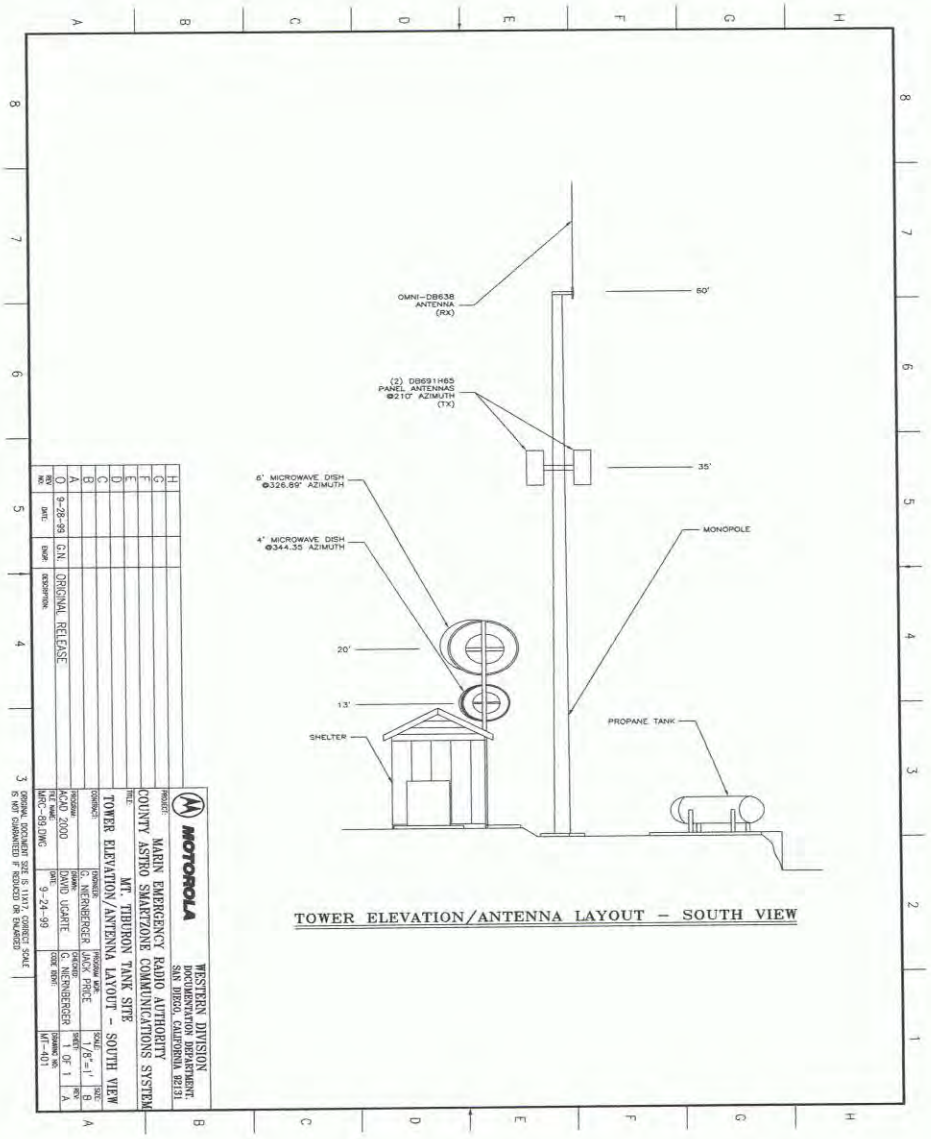
SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

Provide a drawing that annotates tower height and antenna locations.



TOWER ELEVATION/ANTENNA LAYOUT – SOUTH VIEW

Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	


MOTOROLA


KOHLER. POWER SYSTEMS

Land Mobile Radio
Site Assessment -
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PT Reyes

SECTION A:	GENERAL SITE INFORMATION		
Site name: Pt Reyes	Address: FAA Vortac Site Mt Vision Rd. Inverness, CA. 94937		
Radio system name: MERA	County: Marin		
Site phone: NA	Site owner and/or manager: FAA		
Comments:			
Latitude: 38-04-48.1N	Longitude: 122-52-02.0W	Ground Elevation (AMSL) (meters): 406.90m	
SECTION B:	SITE ACCESS		
Site accessible by standard 2WD vehicle? Yes, good weather			
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) FAA Vortac Site			
Comments: Lower gate (site specific) and fence use shop key.			
SECTION C:	GENERAL SITE CONDITIONS and PERIMETER SECURITY		
Fence: Yes, Shop key		Condition: Good	
Signs of Vandalism: No	Fence Lock: Shop key	Exterior Lighting: Yes, be sure to turn off	
Comments:			
SECTION D:	PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)		
Ground around site:	Clean		
Property zoning type:			
Property ownership:	Federal Aviation Administration		
Describe site surroundings:	Hill top site with 2 buildings		
Other site use-this site			
Other nearby sites:	FAA Site		
Comments:			

SECTION E:	TOWER DETAILS
Antenna structure: **2 monopoles (1 MW and 1 Radio)**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 5.18m (both) **No. of tower legs: NA Face width (lowest section): NA Tube Type or Angle members: NA** **Monopole base diameter: 12"** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**8– 5 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**
Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:	ANTENNA DETAILS								
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	**Mounting Height**	**Tower leg**	**Gain (dBi)**	**Azimuth (If Applicable)**	**Frequency Range**	**Tx, Rx, or both antenna**	**Tower top amp**	**Cable size**	**Cable condition**
DB-636	**3.66 m**	**1**	**6**		**UHF-T**	**Rx**	**No**	**7/8**	**Good**
DB-636	**4.57 m**	**1**	**6**		**UHF-T**	**Tx**	**No**	**7/8**	**Good**
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	**Mounting Height**	**Mount type**	**Gain (dBi)**	**Azimuth (If Applicable)**	**Frequency Range**	**Tx, Rx, or both antenna**	**Tower top amp**	**Cable size**	**Cable condition**
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: CBA Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Pre-Fab CBA	
If Prefab shelter give Mfr./Model: CBA	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 10 Length 20
Door lock:	Yes, 7 Pin site lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	6
No. of racks used for equipment of interest:	6
Expansion space available in shelter:	Minimal
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		4	West 1
Quantar	Mot		4	West 2
Quantar	Mot		4	West 3
Quantar	Mot		4	West 4
Quantar	Mot		4	West 5
Quantar	Mot		4	West 6
Quantar	Mot		4	West 7
Remote Site Controller	Mot		7	
Combiner	TXRX		5	
GPS	Efratom		3	
UPS	Unknown		3	Limited 1KVA
Microwave	Harris		6	
Channel Bank	Premesys		4	
Alarm System	Mot		1	
2 W Battery charger	LaMarche		4	
Power Panel	ADC		Wall	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation
Traffic backhauled:	MERA
Backhaul redundant:	Yes, Loop
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris Constellation
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Propane	Tank Size: 500
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: LaMarche
Quantity of batteries: 8	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

SECTION L:	MAP TO SITE

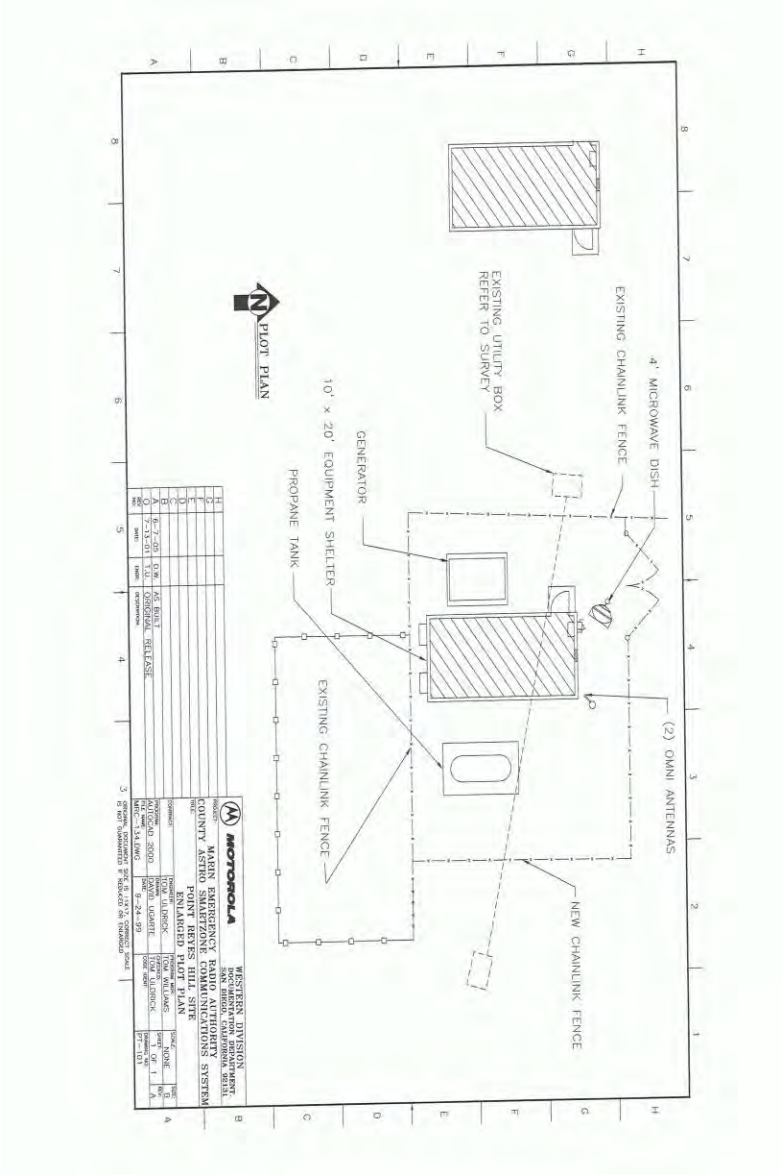
Provide a street-level map of the site.

Comments:

Pt. Reyes Site Access

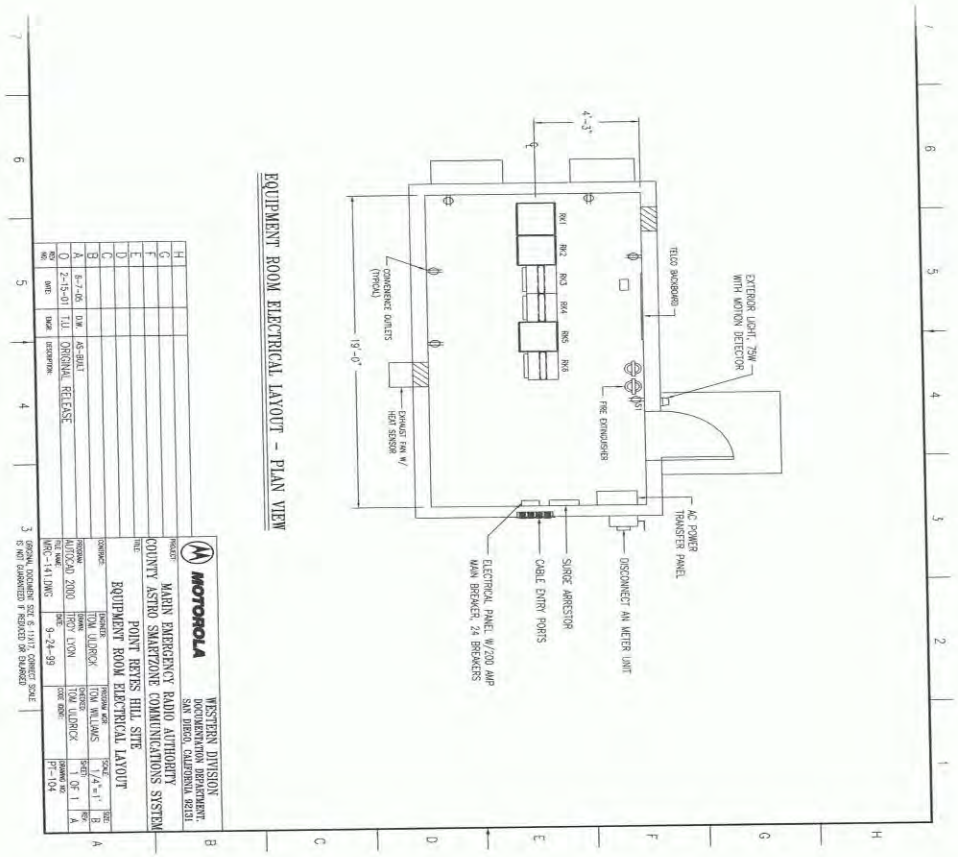
SECTION M:	SITE PLAN

Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.



Comments:

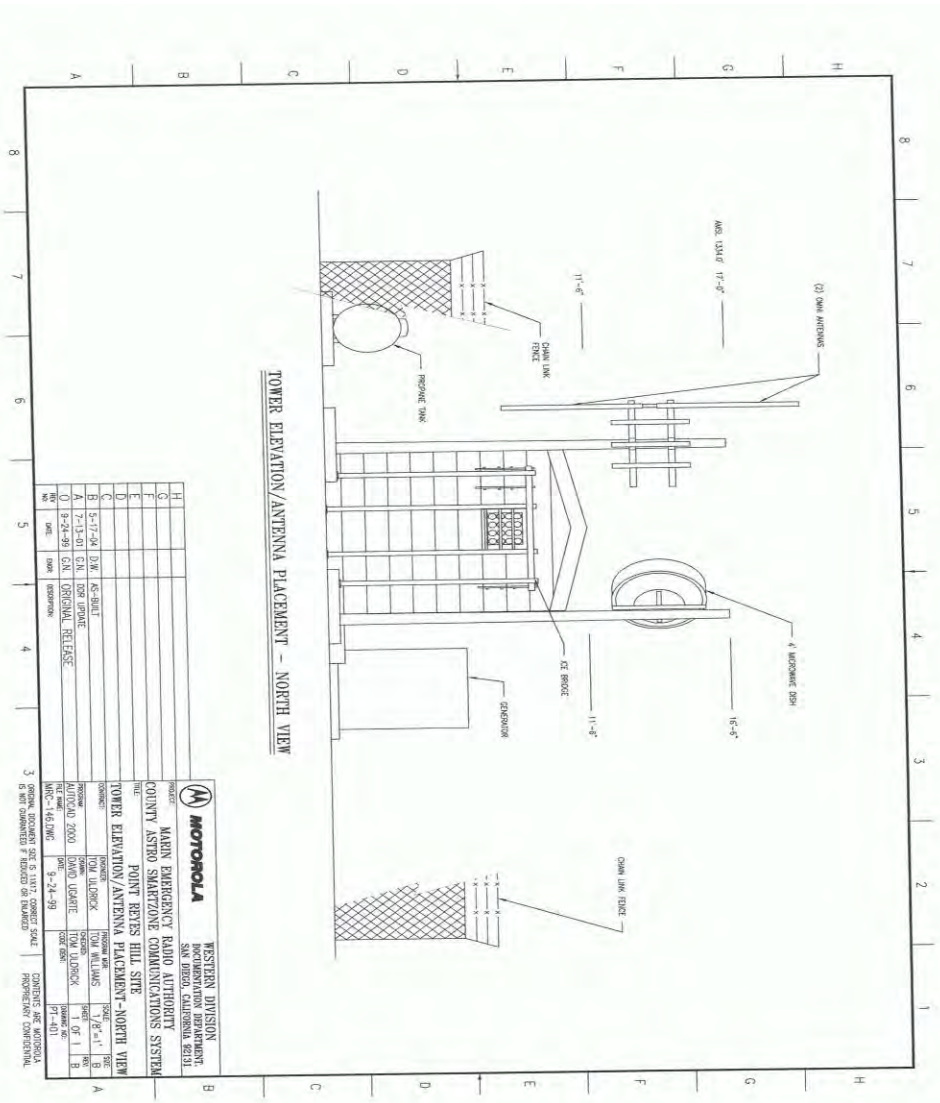
SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

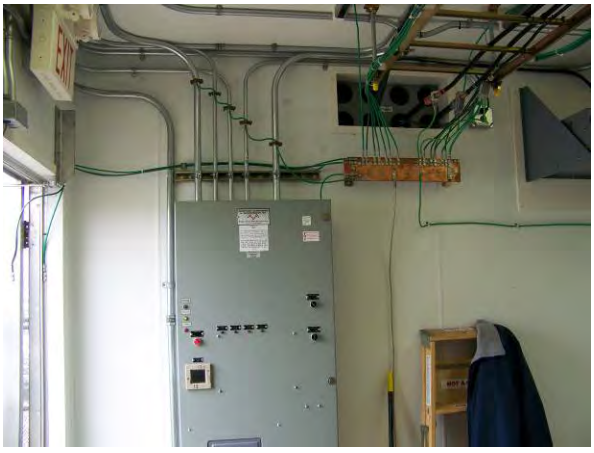
Provide a drawing that annotates tower height and antenna locations.



Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	



Land Mobile Radio
Site Assessment -
Inventory Form

San Pedro Ridge

SECTION A: GENERAL SITE INFORMATION		
Site name: San Pedro Ridge	Address: 2099 Bayhills Dr. San Rafael, CA. 94903	
Radio system name: MERA	County: Marin	
Site phone: NA	Site owner and/or manager: C & C Equipment Co	
Comments:		
Latitude: 37-59-24.7N	Longitude: 122-30-1.9W	Ground Elevation (AMSL) (meters): 304.8m

SECTION B: SITE ACCESS		
Site accessible by standard 2WD vehicle? Yes, good weather		
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) Sunny oaks dr. to Bayhills Dr.		
Comments: Lower gate is combination key pad and site fence is site specific key		

SECTION C: GENERAL SITE CONDITIONS and PERIMETER SECURITY			
Fence: Yes, Shop key		Condition: Good	
Signs of Vandalism: No	Fence Lock: Shop key	Exterior Lighting: Yes, be sure to turn off	
Comments:			

SECTION D: PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)		
Ground around site:	Clean	
Property zoning type:		
Property ownership:	C & C Equipment Co	
Describe site surroundings:	Hill top site with 1 building	
Other site use-this site		
Other nearby sites:	AT&T	Commercial down road

Comments:	
SECTION E:	**TOWER DETAILS**
Antenna structure: **3 leg tower**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 30.48m **No. of tower legs: 3 Face width (lowest section): 12 Tube Type or Angle members: Tube** **Monopole base diameter: NA** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**8 – 4 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**

Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:				ANTENNA DETAILS					
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	Mounting Height	Tower leg	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
DB-638	30.48 m	1	8		UHF-T	Rx	No	7/8	Good
DB-638	19.81 m	1	8		UHF-T	Tx	No	7/8	Good
DB-638	19.81 m	1	8		UHF-T	Tx	No	7/8	Good
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	Mounting Height	Mount type	Gain (dBi)	Azimuth (If Applicable)	Frequency Range	Tx, Rx, or both antenna	Tower top amp	Cable size	Cable condition
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: Concrete Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Concrete Building	
If Prefab shelter give Mfr./Model:	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 9Length 15
Door lock:	Yes, site specific
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6”
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	9
No. of racks used for equipment of interest:	9
Expansion space available in shelter:	None
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	

GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes

Rack mounted equipment grounded:	**Yes**
Lightning arrestors installed:	**Yes**
How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	Mot		5	East 1
Quantar	Mot		4	East 2
Quantar	Mot		5	East 3
Quantar	Mot		4	East 4
Quantar	Mot		5	East 5
Quantar	Mot		4	East 6
Quantar	Mot		5	East 7
Quantar	Mot		4	East 8
Quantar	Mot		5	East 9
Quantar	Mot		4	East 10
Quantar	Mot		5	East 11
Remote Site Controller	Mot		8	
Combiner	DB		1	
Combiner	DB		2	
GPS	Efratom		3	
UPS			3	
Microwave	Harris		4	
Channel Bank	Premesys		4	
Alarm System	Mot		5	
Microwave Battery Charger	LaMarche		6	
2 W Battery charger	LaMarche		7	
Power Panel	ADC		Wall	
Comments:				

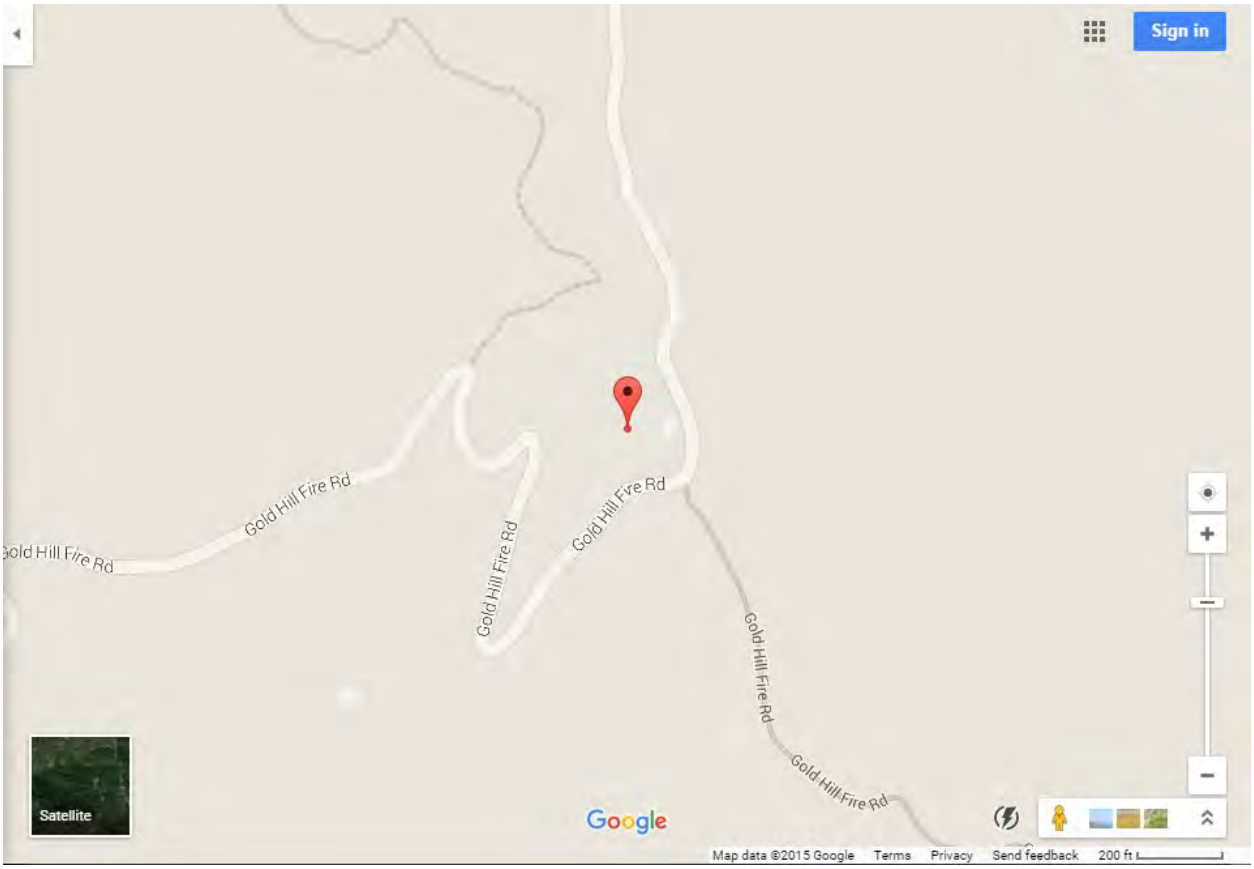
SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation
Traffic backhauled:	MERA
Backhaul redundant:	Yes, Loop
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris Constellation
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	

SECTION J:	POWER SYSTEMS
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes, Not all site
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Propane	Tank Size: 500
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: LaMarche
Quantity of batteries: 12	Mfr. and model: 125AH Telecom
Comments:	

SECTION K:	OTHER SYSTEMS
HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

SECTION L:	MAP TO SITE

Provide a street-level map of the site.



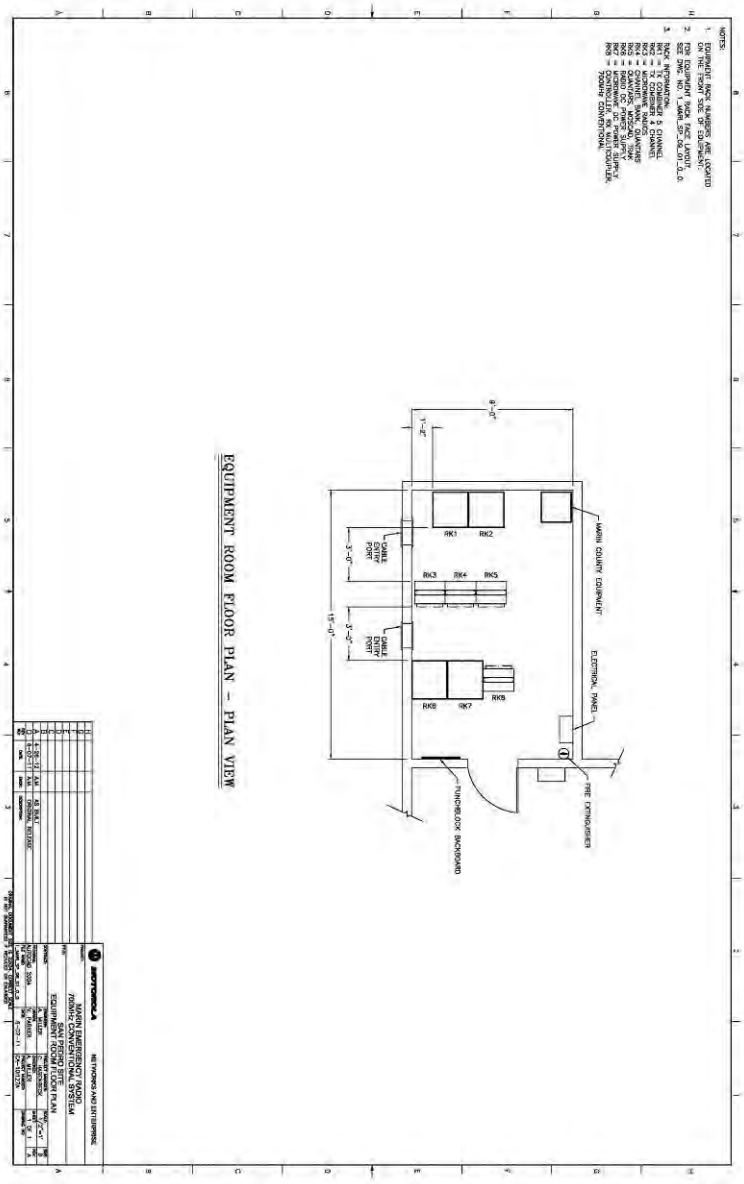
Comments:

San Pedro Site Access

SECTION M:	SITE PLAN
Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.	

Comments:

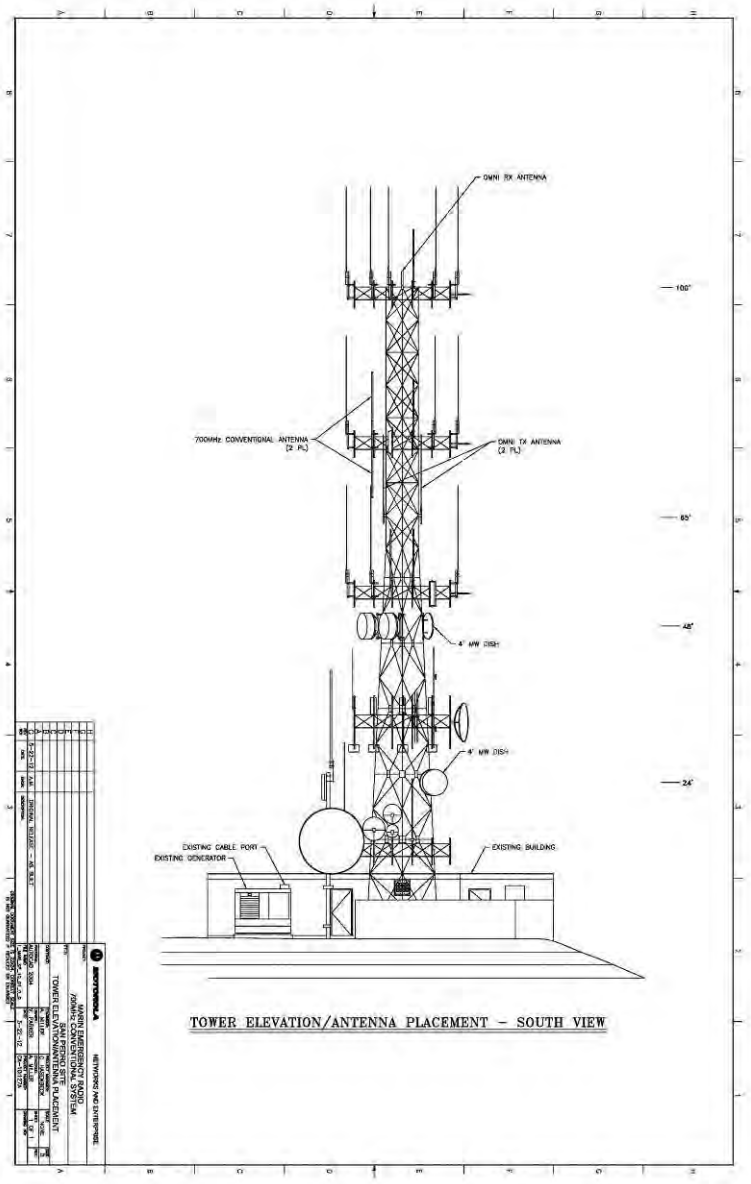
SECTION N:	RF HOUSING FLOOR PLAN
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.	



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

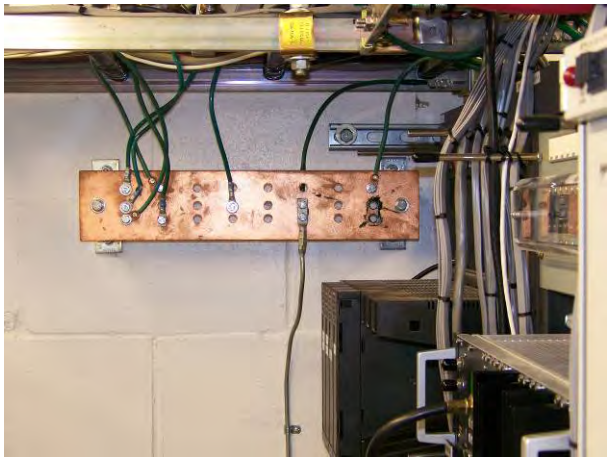
Provide a drawing that annotates tower height and antenna locations.

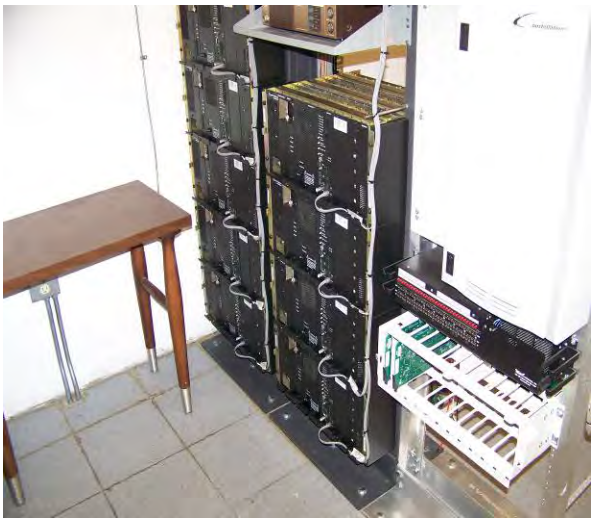


Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.	





Land Mobile Radio
Site Assessment -
Inventory Form

Sonoma Mt.

SECTION A:	GENERAL SITE INFORMATION		
Site name: Sonoma Mt.	Address: 2482 Sonoma Mt. Rd. Petaluma, CA 94903		
Radio system name: MERA	County: Marin		
Site phone: NA	Site owner and/or manager: Sonoma County		
Comments:			
Latitude: 38-20-54.0N	Longitude: 122-34-37.0W	Ground Elevation (AMSL) (meters): 683.05m	
SECTION B:	SITE ACCESS		
Site accessible by standard 2WD vehicle? Yes, good weather			
Describe site access below (i.e., nearby intersection, road type & length, special equipment – 4WD, combinations, key sets, etc.) Adobe Rd to Sonoma Mt. Rd.			
Comments: Lower gate is keypad and Fence uses combo.			
SECTION C:	GENERAL SITE CONDITIONS and PERIMETER SECURITY		
Fence: Yes, combo		Condition: Good	
Signs of Vandalism: No	Fence Lock: combo	Exterior Lighting: Yes, be sure to turn off	
Comments:			
SECTION D:	PHYSICAL AVAILABILITY OF SURROUNDING LAND SPACE (Observations)		
Ground around site:	Clean		
Property zoning type:			
Property ownership:	County of Sonma		
Describe site surroundings:	Hill top site with 3 buildings		
Other site use-this site			
Other nearby sites:	Sonoma County radio	Commercial down road	
Comments:			
SECTION E:	TOWER DETAILS		

Antenna structure: **3 leg guyed tower**	
Condition: Good	
ASR Posted:	**ASR #: _____**
Structure height (meters): 57.912m **No. of tower legs: 3 Face width (lowest section): 20" Tube Type or Angle members: Tube** **Monopole base diameter: NA** **Any obvious microwave path obstructions: No (Describe below and/or show on Site Plan)**	
Visual condition of antenna mounting hardware: Good **Tower loading/design documentation available: Yes Source: MERA**	
Transmission line condition:	**Good**
Lines properly installed:	**Yes**
Lines installed with drip loops:	**Yes**
Transmission line connector condition:	**Yes**
Ice bridge:	**Yes**
Ice bridge condition:	**Good**
Ice bridge grounded:	**Yes**
Line incrementally grounded	**Yes**
Standard cable entry port device:	**Yes - Microflect**
Number of entry ports:	**12 – 7 available**
Grounding at tower top/antenna base:	**Yes**
Grounding bars used on tower:	**Yes**
Grounding at tower base:	**Yes**
Grounding at each tower leg:	**Yes**
Tower ground ring:	**Yes**
Single-point ground system:	**Yes**
Lines grounded at building entry:	**Yes**
Comments:	

SECTION F:	ANTENNA DETAILS								
TOWER / MONOPOLE									
Antenna Type (Mfr.-Model)	**Mounting Height**	**Tower leg**	**Gain (dBi)**	**Azimuth (If Applicable)**	**Frequency Range**	**Tx, Rx, or both antenna**	**Tower top amp**	**Cable size**	**Cable condition**
Panel	**25.90 m**	**1**	**8**		**UHF-T**	**Tx**	**No**	**7/8**	**Good**
DB-638	**32.00 m**	**1**	**8**		**UHF-T**	**Rx**	**No**	**7/8**	**Good**
Comments:									

ROOF MOUNTED TOWER STRUCTURES									
Antenna Type (Mfr.-Model)	**Mounting Height**	**Mount type**	**Gain (dBi)**	**Azimuth (If Applicable)**	**Frequency Range**	**Tx, Rx, or both antenna**	**Tower top amp**	**Cable size**	**Cable condition**
Comments:									

SECTION G:	RF EQUIPMENT HOUSING
Shelter Type: CBA Building	
Provide a FLOOR PLAN diagram in SECTION N including dimensions, rack rows, wall equipment, etc.	
Shelter construction type: Pre-Fab CBA	
If Prefab shelter give Mfr./Model: CBA	If building, No. of stories/floors: _____
Room/Shelter condition:	Good
Dimensions:	Height 9 Width 10 Length 20
Door lock:	Yes, 7 Pin site lock
Lock condition:	Good
Door alarmed:	Yes
Cable tray(s):	Yes, If Yes, height above racks: 6"
Cable dehydrator system:	Mfr./Model: Andrew
No. of total racks/cabinets:	5
No. of racks used for equipment of interest:	5
Expansion space available in shelter:	Minimal
Expansion space available in racks:	No
Comments (location and access to room in larger building, shelter conditions and layout, etc.):	
GROUNDING	
Evidence of single-point ground system:	Yes
Ground bus bar:	Yes
Evidence of shelter ground ring:	Yes
Cable entry port/feed-throughs grounded:	Yes
Does shelter have a 4 point ground:	Yes
Is 4 point ground tied to a single point and to exterior:	Yes
Frames/cabinets grounded:	Yes
Rack mounted equipment grounded:	Yes
Lightning arrestors installed:	Yes

How many: 4 Mfr./Model: Polyphaser	
Telco:	**No**
Lightning arrestors grounded:	**Yes**
Cable tray(s)grounded properly:	**Yes**
All metal objects tied to interior halo (frames, windows, HVAC, Doors, fixtures):	**Yes**
Comments:	

SECTION H:	RADIO EQUIPMENT			
Agency Name and Equipment Type (i.e., repeater, voting receiver, base station, combiner, radio link, etc.)	**Mfr.**	**Model/Serial Number**	**Rack #**	**Additional Data (i.e., channel names, TX/RX frequencies, tone codes, etc.)**
Quantar	**Mot**		**3**	**Sonoma 1**
Quantar	**Mot**		**3**	**Sonoma 2**
Quantar	**Mot**		**3**	**Sonoma 3**
Quantar	**Mot**		**3**	**Sonoma 4**
Quantar	**Mot**		**3**	**Sonoma 5**
Quantar	**Mot**		3	**Sonoma 6**
Combiner	**DB**		**1**	
UPS	Unknown		**3**	Limited 1KVA
Microwave	**Harris**		**4**	Aviat as well
Channel Bank	**Premesys**		**6**	
Alarm System	**Mot**		**4**	
2 W Battery charger	**LaMarche**		**3**	
Power Panel	**ADC**		**Wall**	
Comments:				

SECTION I:	BACKHAUL SYSTEMS
Backhaul systems:	Constellation and TruPoint
Traffic backhauled:	MERA and Sonoma County
Backhaul redundant:	Partial
Backhaul provider(s):	
Backhaul equipment: Mfr./Model/Size:	Harris Constellation and Aviat
Comments (fractional T1, licensed microwave, UHF links, phone lines, LTE, WiFi, WiMAX, etc.):	
SECTION J:	**POWER SYSTEMS**
Service entrance voltage:	120/240
Phase:	Single
Circuit breaker panel capacity:	
Total No. of panels used:	1
Panel Type(s) used:	Mfr./Model/Size: ADC
Panel use: No. of open breaker slots:	
No. of installed but unused breakers:	
AC surge protection system:	ADC Mfr./Model/Size: ADC
AC disconnect:	Yes
UPS:	Yes, Not all site
External Generator connector:	No
BACKUP POWER GENERATOR:	Yes
Fuel type: Propane	Tank Size: 500
Other backup power-UPS details:	
DC power system:	Yes
Voltage: 48	Mfr./Model/Size: LaMarche
Quantity of batteries: 8	Mfr. and model: 125AH Telecom
Comments:	
SECTION K:	**OTHER SYSTEMS**

HVAC:	**Bard**
HVAC Redundant:	**Yes**
Active fire alarm system:	**Yes**
Monitored:	**Yes**
Monitored by:	**Prime Site/Radio Shop**
Active fire suppression system:	**No**
Type: _____	**Date of Last Inspection: _____**
Fire extinguisher(s) on site:	**Yes**
Quantity: 2 Type: A / C	**Date of Last Inspection: 2015**
Comments:	
Radio failure alarm monitoring:	**Yes MOSCAD**
HVAC failure alarm monitoring:	**Yes MOSCAD**
Other failure alarm monitoring:	**Yes MOSCAD**
Comments:	

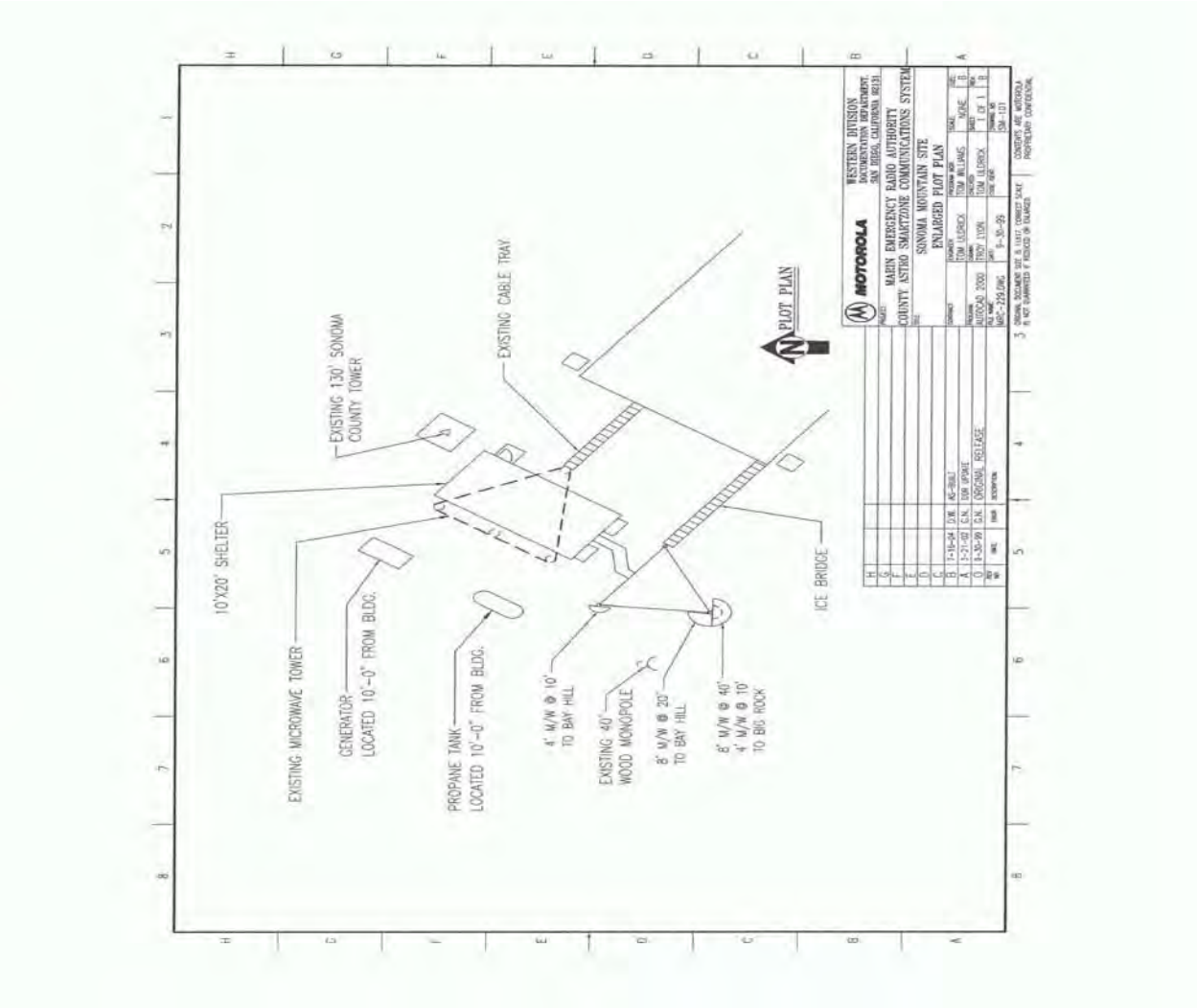
SECTION L:	MAP TO SITE

Provide a street-level map of the site.

Comments:

Sonoma Mt. Site Access

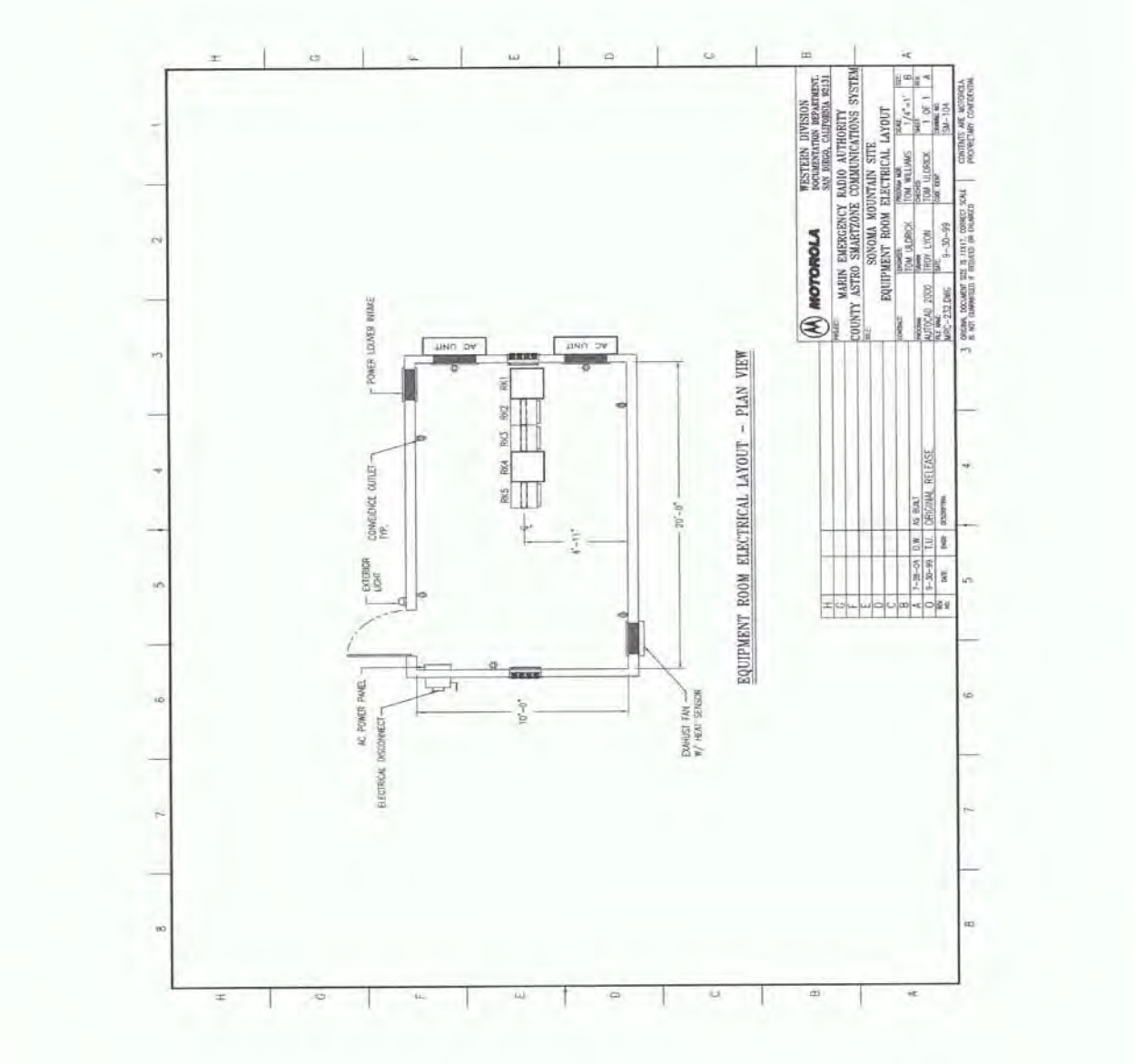
SECTION M:	SITE PLAN
Provide a site plan including shelter, tower, perimeter fence, and any other applicable structures.	



Comments:

SECTION N:	RF HOUSING FLOOR PLAN

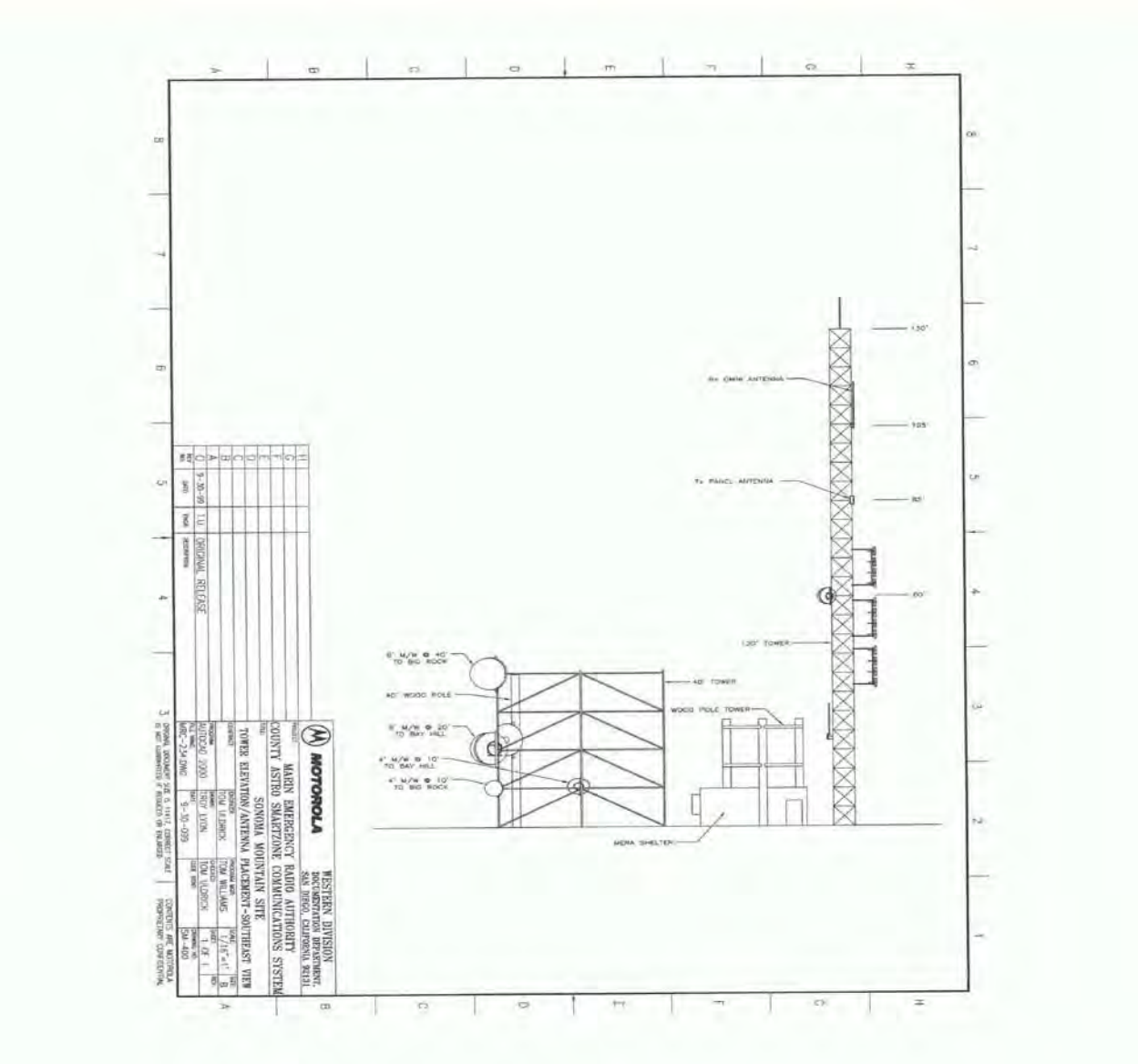
Provide a floor plan with rack locations, wall equipment, co-located systems, available space, etc.



Comments:

SECTION O:	TOWER-ANTENNA LAYOUT

Provide a drawing that annotates tower height and antenna locations.



Comments:

SECTION P:	SITE PHOTGRAPH LIST	
COMPLETED	**ITEM**	**NOTES**
	Overall site photo	Front, sides and rear, including trees
	Shelter/Bldg	Distance shot
	Shelter/Bldg	Exterior front, sides and rear
X	Tower structure or rooftop	Multiple elevations, roof mounted structures
	Tower Base	Foundation, model name plate
	Tower Leg Grounding	Each Leg
X	Antennas	Current and possible tower mounting position
	Roof Mounted Antennas and Structures	All angles
	Rooftop antenna mounting locations	If applicable
	Rooftop conduit routing	If applicable
	Rooftop conduit breakout box	If applicable
X	Waveguide/feed line	Entry/exit from Shelter
X	External Ground Bar	Exiting shelter/bldg
X	Ice Bridge	Full length, start /end of ice bridge, underside
	Generator (External)	Name plate, all angles, capacity indicator
X	Equipment Room (Inside)	All angles: front, sides, rear
X	Cable Tray/Ladder	All angles, show cable routing
	Cable Entry Panel (Wall feed through)	Inside and outside
	Standoff bracket	If applicable
	Equipment Room Grounding System	Bus bar, metal structures, racks/cabinets
X	Equipment Racks	All angles: front, sides, rear
X	Radio and Peripheral Equipment	Name/face plates, rear and front views
	Power Equipment (Internal)	AC panels (in/out), generator, battery bank
	AC Surge Device installation	Close up and focused
	Lightning Arrestor installation	Polyphaser, Transtector, other
	Site entry door and lock	Inside and outside
	Present and proposed rack locations	All angles: front, sides, rear
	Ethernet port termination (if any)	If applicable
	AC outlets	Close up and focused
	UPS	Nameplate, outlets
	Main Power breaker panels	AC Disconnect; Nameplate

SECTION Q:	SITE PHOTOS
Provide compressed photos in this section. Add additional pages as needed.