
IV. ENVIRONMENTAL IMPACT ANALYSIS

A. AESTHETICS

A. INTRODUCTION

An essential part of the Environmental Impact Report is an analysis of the impacts to a number of environmental resource factors that are specifically detailed in Appendix G of the CEQA Guidelines. Because this is a subsequent EIR, this analysis builds on the original 2000 EIR and expands the analysis to address the updates planned for the proposed Next Gen system. It also addresses regulatory changes since the original 2000 EIR, including the recent adoption of new CEQA thresholds. The five primary resource areas which are most likely to experience impacts from the Next Gen System include: A) Aesthetic resources, B) Cultural and tribal cultural resources, C) Biological resources, D) Land use consistency and, E) Potential hazards. This Chapter introduces each of these topics in separate subsections (A-E) with discussions of the broad regional setting, applicable federal and state regulatory requirements, and the methodology used.

The CEQA Appendix G “thresholds of impact significance”, as updated in early 2019, are the criteria used to evaluate potential environmental impacts from the Next Gen System. Each CEQA threshold asks a specific question about how the project could affect a specific resource. All CEQA thresholds of impact significance are introduced by topic in each of the following subsections. Thresholds that apply to the overall MERA Next Gen system are evaluated as they are introduced in each of the following subsections (A-E). All other CEQA thresholds related to impacts only at individual sites are addressed in the site-by-site evaluations in Chapter V, Existing Conditions and Impacts at Each Site.

Aesthetic resources are often referred to as visual resources, because these resources are often plainly visible to the general public. Certain high-quality visual resources are protected such as those in parklands, public shorelines, scenic vistas and scenic highways. Marin County has many protected aesthetic resources, including shorelines, mountains, beaches, and extensive federal, state, and local parklands. Forests and grasslands, grazed lands and row crops also contribute to the character of the landscape, and are sometimes protected with conservation easements. It is in this rich aesthetic setting that the existing MERA system operates. The existing MERA system is the baseline for this SEIR analysis, including this analysis of aesthetic impacts that would result from the MERA Next Gen System.

Definitions

Scenic Vista – A scenic vista is a broad panoramic overview of a landscape often from an elevated perspective that can be viewed by the public. Designated roadside scenic vistas and scenic vistas from protected parklands are addressed in this analysis.

Visual Character – Visual character is the arrangement of all visual features (i.e., anything visible, such as trees, hills, houses, sky, water, towers, roads, power lines, etc.) in a view or set of views, much like features are combined to compose a painting or series of paintings. The arrangement of visible features on the ground produce the visual character of a site and its surroundings. Visual character is an objective depiction about what is visible, not an interpretation of beauty.

Scenic Quality – Scenic Quality allows for more interpretation, but still adheres to commonly held understandings regarding visual elements. Scenic quality is simply rated as high, medium or low, to minimize subjectivity. Explanations for ratings may address common perceptions regarding composition, color, contrast and a variety of other visual descriptors. Most of the scenic quality in the natural settings of Marin County is high.

B. REGIONAL SETTING

The regional setting for the MERA Next Gen project includes Marin and southern Sonoma Counties, which are part of the North Bay region in the greater San Francisco Bay Area. The North Bay is generally characterized by vegetated hills and valleys draining both westward to the coast and inland towards San Francisco Bay. The Pacific coastline is dramatic and largely undeveloped with a few small coastal towns. Inland areas are comprised of coastal mountains, agricultural land in the valleys, oak woodlands, and deep redwood forests.

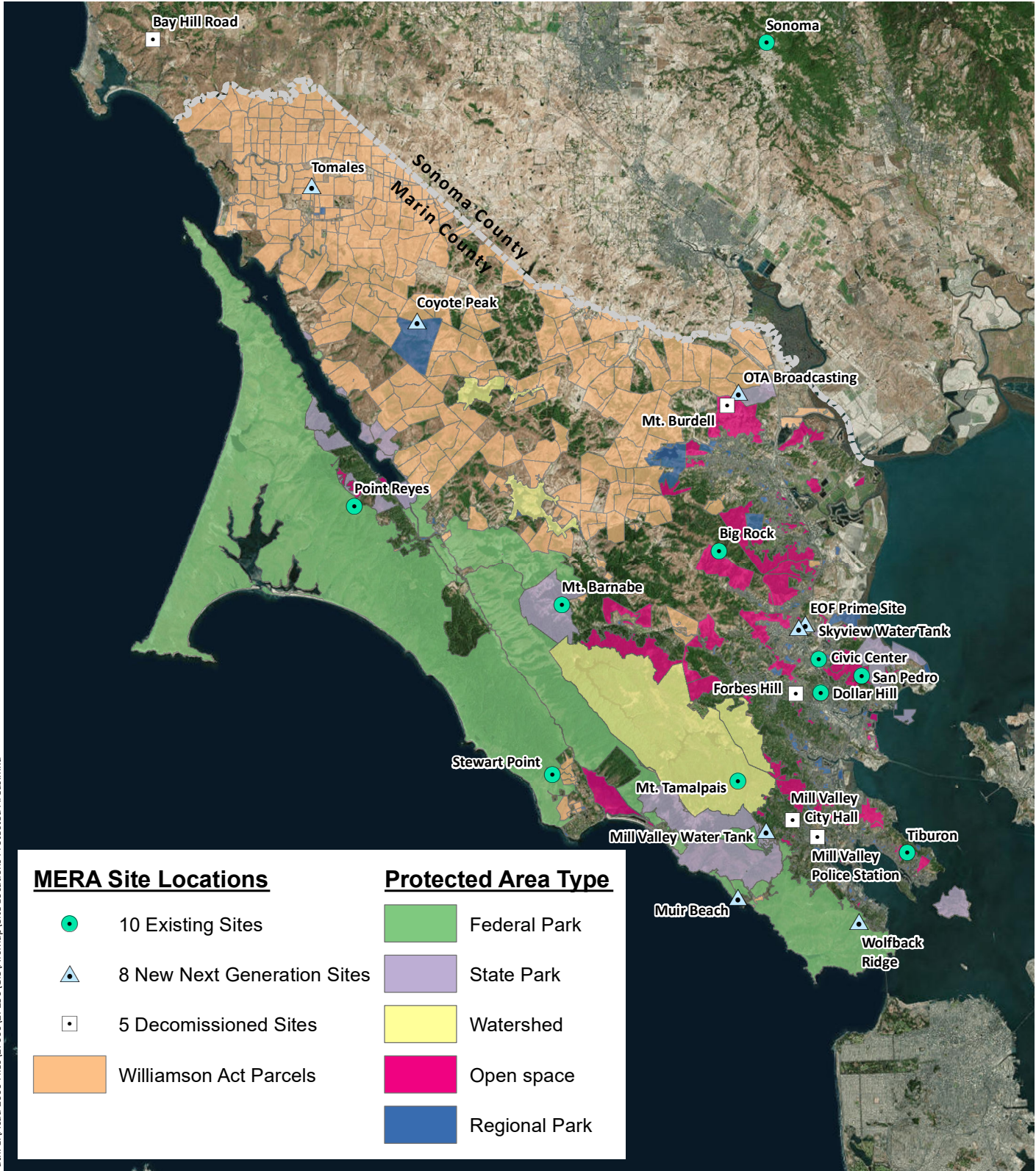
Urban areas straddle State Highway 101, and some elevated urban areas have views of San Francisco Bay. Other important aesthetic resources include numerous ridgelines and peaks, including Mt. Tamalpais, the highest peak visible throughout most of the area. To the north is the Petaluma River Valley--its eastern edge defined by Sonoma Peak which is home to several dairy ranches.

Protected Parklands

Extensive lands in Marin County are protected, often for their scenic quality. A map of the protected parklands and aesthetic resources in Marin County is provided as Figure IV.A-1.

The National Park Service (NPS) manages a large coastal area in the Golden Gate National Recreation Area (GGNRA), the Point Reyes National Seashore, and, further inland, the Muir Woods National Monument. The 2014 GGNRA General Management Plan identifies the area's scenic beauty as an important resource, and it sets forth policies to maintain public access via trails and scenic roads to undeveloped landscapes. It protects scenic quality by ensuring that new development is designed, sited, and constructed to minimize visual intrusion into the natural environment.

The California Department of Parks and Recreation (CDPR) manages the Mount Tamalpais State Park (on the south side of the mountain, away from the Mt. Tamalpais Site), the Samuel P. Taylor State Park (adjacent to the Mount Barnabe site), Olompali State Historic Park (adjacent to the Mt. Burdell OTA Site), and China Camp State Park (near the San Pedro Ridge Site). Protection of scenery and biological resources in park areas is a primary objective of State Park regulations (CDPR, 2019).



Sources: 2016 DigitalGlobe Aerial, Marin County, WRA | Prepared By: NJander, 8/22/2018

Figure IV.A – 1 Aesthetic Resources in Marin County

Marin County Parks owns and operates a 16,000-acre network of protected regional parks and open space preserves mostly in central and eastern Marin County (MCP, 2019). MERA communications sites in or adjacent to Marin County Open Space Lands include SkyView Terrace, Big Bock Ridge, and Mt Tiburon.

The MERA site on Sonoma Mountain is within the existing Sonoma County communications complex which is located slightly west of Jack London State Park. To the north is the North Sonoma Mountain Open Space Preserve, which is managed by Sonoma County, and may be expanded with a potential future acquisition of land at the top of Sonoma Mountain (SCRIP, 2019) that includes the Sonoma County communications site.

The Marin Municipal Water District (MMWD) owns and manages 21,000 acres of watershed lands on Mt. Tamalpais that include the existing MERA site. MMWD's Mt. Tamalpais Watershed Management Policy states that "The [lands are] held in trust as a natural wildland of great biological diversity, as scenic open space and as an area for passive outdoor recreation for Marin and much of the Bay Area..." (MMWD, 2019) -

Protected Agricultural Lands

The Williamson Act, officially known as the California Land Conservation Act of 1965, protects agricultural lands by enabling local governments to enter into contracts with private landowners. These agreements restrict land use on specific parcels to only agricultural use or related open space uses such as open grazing lands, row crops, orchards, and rural farmlands, all of which contribute greatly to the aesthetic quality and character of an area. Some limited small scale non-agricultural activities may be authorized provided the activity does not directly conflict with the agricultural use or limit its economic viability

The Marin Agricultural Land Trust (MALT) administers many of the Williamson Act parcels and has protected over 50,000 acres on 85 farms and ranches, investing over \$85 million to protect agricultural lands in western Marin County (MALT, 2019).

C. FEDERAL AND STATE REGULATORY SETTING

Federal Scenic Protections

Golden Gate National Recreation Area and Point Reyes National Seashore General Plans

Adopted in 2014, the GGNRA General Management Plan (GMP) is a land use management document covering National Park Service (NPS) lands in the GGNRA and the Muir Woods National Monument. The GMP provides guidance on land use decisions within the GGNRA but stipulates that future decisions will be made using a number of criteria for maximizing the life and value of public resources. The GMP addresses planning issues such as conflicts with recreational opportunities, sustainable resource management, and scenic beauty and natural character, among others. The Plan divides GGNRA into regions and discusses resources, opportunities, and other key planning considerations for each section of the park. The Wolfback Ridge Site is privately owned and surrounded by GGNRA lands, and the Muir Beach Site is directly adjacent to the GGNRA Muir Beach Scenic Overlook.

The Point Reyes National Seashore GMP was adopted by the NPS in 1980. The GMP guides land use decisions for NPS lands in the Point Reyes National Seashore and the northern sections of the GGNRA. The Plan outlines management objectives pertaining to park access, natural and ecological resource conservation, and the monitoring of non-recreational land use to ensure compatibility with nearby recreational and conservation activity. The NPS began the process of amending the GMP in 2017, but until the amendment is adopted, which is anticipated in early 2020, the 1980 GMP remains the governing GMP for Point Reyes National Seashore. The MERA Point Reyes Hill Site is within Point Reyes National Seashore.

Coastal Zone Management Act (CZMA)

The U.S. Congress passed the Coastal Zone Management Act (CZMA) in 1972. The CZMA is administered by the National Oceanic and Atmospheric Administration (NOAA) with a goal to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.” The Act authorized the federal government to make grants to any coastal state for the purpose of administering that state’s management program at a state level for federally approved state programs. California’s management program under the CZMA is overseen by the California Coastal Commission, which has delegated its authority to coastal counties under the California Coastal Act of 1976. This program is described in more detail below.

State Scenic Protections

California Coastal Act

The California Legislature enacted the California Coastal Act in 1976, mandating that coastal counties manage the conservation and development of their coastal resources through comprehensive planning and regulatory documents under the Local Coastal Program (LCP). Each county’s LCP, which identifies the location, type, densities, and other rules for future development in the coastal zone, must gain approval from the California Coastal Commission. Each LCP includes a land use plan and its associated implementing measures. These programs govern decisions that determine the short- and long-term conservation and use of coastal land, water, and other resources. Although administered at the county level, the LCP is a state program pursuant to the Coastal Act (Public Resources Code (PRC) Section 3000-30900). MERA is subject to the requirements of Marin County LCP Units I and II at those sites that are within the LCP’s jurisdiction.

State Scenic Highway Program

The California Department of Transportation (Caltrans) administers the State Scenic Highway Program, established through the State Legislature in 1963, to preserve and protect scenic highway corridors from projects that would diminish the aesthetic value of lands adjacent to highways (Sections 260 et seq. of the California Streets and Highways Code). Scenic highway corridors are defined as the land adjacent to and visible by motorists from a scenic highway that are comprised of scenic and natural features. Scenic corridor boundaries are defined by topography, vegetation, and/or jurisdictional lines (Caltrans, [no date]). The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated and are identified in Section 263 of the Streets and Highways Code.

According to the Departmental Transportation Advisory Committee, the characteristics of scenic highways include: 1) landforms (the dominant physical characteristics of the natural corridor, such as gently rolling hills or rugged cliffs, streams, geologic formations, and distant ridges), 2) vegetation (distinctive vegetation within view, such as row crops, orchards, chaparral, or woodlands), 3) structures (buildings may be included in scenic corridors and may add to scenic quality), and 4) panoramas (scenic overlooks with panoramic views of urban, rural, or natural areas).

In Marin County there are no officially designated state scenic highways. However, State Route 1 along the coast, State Route 37 across the northern edge of San Pablo Bay, and the northern end of U.S. Route 101 north of Novato (Shultis and Cass, 2018) are considered eligible for designation. To provide a conservative analysis, this document treats eligible highways as if they were officially designated scenic highways.

In Sonoma County, portions of Highway 12 and 116 are designated state scenic highways and the existing communications site on Mount Sonoma is visible along portions of these roadways. The Sonoma Mountain Site is also slightly west of a portion of Highway 12 that is considered eligible for designation (Shultis and Cadd, 2018).

Locally, Sonoma County designates Sonoma Mountain Road as a scenic corridor (Sonoma County, 2016). In addition to scenic corridors, the Sonoma County General Plan designates scenic landscape units and Sonoma Mountain, including the MERA project site, is designated as a scenic landscape unit (Sonoma County 2016).

Williamson Act Parcels

The Williamson Act, as introduced above, protects agricultural lands from future development, preserves our agricultural heritage, and retains the aesthetic character of agricultural lands in the rural landscape.

Locally Designated Scenic Resources

With the exception of the local coastal plan requirements, MERA is not subject to the codes and ordinances of the cities, counties, and special districts in which Next Gen facilities will be constructed, including zoning and building codes. See more in Chapter IV.D - Land Use Consistency. This means that MERA is not legally subject to the Marin County policies described below, although the intent of these visual policies is considered in this analysis.

The Marin Countywide Plan calls for protection of visual quality in designated Ridge and Upland Greenbelt Areas (RUGAs). The County designated RUGAs are along visually prominent ridgetops, hillsides, and other important scenic resources that the County targets for conservation. Development is limited in these areas, and the County has formulated various policies to protect views of RUGAs. The Next Gen Sites located in or immediately adjacent to RUGAs include Big Rock Ridge, San Pedro Ridge, Wolfback Ridge, Mt. Tiburon, and Mt. Burdell OTA.

Other important scenic areas, although are not formally designated, are valuable due to their visual quality and popularity. Popular scenic areas potentially affected by the project could include

Mt. Tamalpais, Panoramic Highway and Ridgecrest Road, the Muir Beach Scenic Overlook, the Marin Headlands Coastal Trail, Big Rock Ridge, and the Bay Area Ridge Trail crossing.

D. APPROACH TO EVALUATING AESTHETICS AT MERA FACILITIES

This analysis of aesthetic resources begins by examining the existing regional setting of Marin and southern Sonoma Counties described above. The regulatory setting outlines the legal protections afforded to certain specific aesthetic resources, such as parklands and scenic highways. Chapter V analyzes the visual setting at each site individually and considers the unique visual character and setting of each site, taking into account the surrounding landscape, all equipment visible on the towers, and other visible infrastructure, such as roads and power lines, that all contribute to the visual setting.

CEQA Guidelines establish four thresholds that are the criteria by which the project's effects on aesthetic resources are evaluated. These aesthetic thresholds assess potential impacts to: 1) scenic vistas, 2) scenic highways, 3) visual character, and 4) increased light or glare. If the analysis identifies impacts that are "significant", then mitigation measures are defined to limit the visual impacts identified. In some cases, impacts may exceed the effectiveness of mitigation, and those impacts are described as "significant and unavoidable".

Key Observation Points (KOPs) in the vicinity of project sites are selected, and before and after photos are used to evaluate project impacts. KOPs are selected by the lead agency from a broader set of photographs to be representative of available and potentially sensitive, publicly accessible views. On June 20, 2018, MERA officials, environmental, and visual consultants selected 59 KOP photos from a set of nearly 200 photos to portray the project from both distant and close up perspectives. In this analysis, three to four KOPs are selected per site to represent the full range of publicly accessible views. In all cases, a near view was selected to provide a detailed perspective of the project site, and a distant view of the site was chosen to show the site in a wider visual context. If needed, additional KOPs were selected to show views from a nearby designated scenic resource or other important point. For each KOP there are two images: the existing condition (the baseline for the analysis), and the proposed condition (computer generated photo-realistic simulation) of the site after the project is completed. Information about quality control and accuracy in the production of photo simulations is provided in Appendix A.

The potential number of observers with access to that view and the typical duration of the view are also considered in KOP evaluations. Durations are highly variable, ranging from seconds in a passing car to hours on a trail to years from within an office or residence. All photo simulations are included in the site-by-site evaluations found in Chapter V.

Some noticeable visible changes made by the project, however may not be significant, and, in some cases, a trained eye may be required to discern the differences. In other cases, visible changes could be adverse and still not be significant because of the existing visual character of the setting.

Impact determinations consider the effect of the project on the visual character of an area. A negative change in the visual character of an area, or the obstruction of an existing scenic vista

which has been available to the general public would be considered an impact. Visual impacts at night are also evaluated by considering any sources of additional light or nighttime glare from the project.

E. THRESHOLDS OF SIGNIFICANCE

To determine whether a proposed project will result in a significant adverse effect to aesthetics, Appendix G of the CEQA Guidelines suggests an analysis that considers whether the project would:

- a) *Have a substantial adverse effect on a scenic vista?*
- b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*
- c) *In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? Or in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*
- d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

F. REGIONAL IMPACTS ANALYSIS AND MITIGATION MEASURES

All existing sites were evaluated in the original EIR (MERA, 2000). Thresholds b) and d) above were found to be less-than-significant in the Initial Study (1999) and were not discussed in the EIR. Impacts related to thresholds a) and c) were found to be less than significant at the sites that were eventually developed, except at Forbes Hill and Dollar Hill, where impacts were found to be significant and unavoidable despite mitigation. Due to the localized nature of the Next Gen System's potential effects on aesthetic resources, many impacts are discussed site-by-site in Chapter V, Existing Conditions and Impacts. There are, however, several common impacts or lack of impacts addressed below for the majority of sites.

The CEQA Guidelines require that an analysis of aesthetics impacts consider whether the project would:

- a) *Have a substantial adverse effect on a scenic vista?*

Most MERA sites are elevated and have a potential to provide an overview of the surrounding landscape. However, most of the Next Gen Sites are already developed; and are not readily accessible to the general public, meaning that they do not provide publicly accessible scenic vistas. Previously developed and restricted-access sites that could otherwise offer a scenic vista include: Big Rock, Ridge Mt. Tamalpais, San Pedro Ridge, Sonoma Mountain, and Wolfback Ridge. These sites already have existing towers and communications equipment, and the degree of change from the existing baseline condition is very low. The Tomales and Coyote Peak Sites also have existing infrastructure. Although the project would have a higher degree of change at these sites, public access is restricted. Consequently, there is little potential for a substantial

adverse effect on a scenic vista, and the project would have a **less-than-significant** impact at these sites.

Some sites are highly vegetated and do not offer scenic vistas: Point Reyes Hill, Stewart Point, and Mill Valley Water Tank. At these three sites, there is little potential for a substantial adverse effect on a scenic vista, and the project's impact would be **less than significant**. No further consideration of these sites relative to this criterion is required.

Five sites have the potential to provide a publicly accessible scenic vista: Mt. Barnabe, Dollar Hill, Mt. Tiburon, Skyview Terrace Water Tank, and Muir Beach. The aesthetic impacts to these sites and the recommended mitigation measures are summarized below and fully addressed in Chapter V.

At the Mt. Barnabe, Dollar Hill, and Mt. Tiburon Sites, MERA Next Gen proposals focus on replacing antennas and microwave dishes on existing towers and monopoles. Existing facilities already adversely affect available scenic vistas, and the minor changes required by the project do not affect the availability of scenic vistas at these sites. Therefore, the impact is **less than significant**.

At Skyview Terrace Water Tank, new impacts were identified to an existing scenic vista of surrounding ridgelines and other landmarks from within the designated open space that surrounds the project. Thus, the project impacts at this location were found to be **significant and unavoidable**. Proposed mitigation includes the reconstruction of a trail that would provide visitors access to other observation points along the ridge where views would not be obstructed.

At the Muir Beach Site, the proposed Next Gen improvements were found to create **less-than-significant** impacts on scenic vistas toward the ocean and coastal bluffs. Views of the Pacific Ocean to the west and existing vistas of the ocean and coastal bluffs to the north and south would not be affected, since the proposed equipment will be installed east of the scenic overlook parking lot. Furthermore, existing tree cover conceals the proposed site when viewed from nearby ridgelines, State Route 1 and the Marin Headlands Coastal Trail to the north. Views of Mt. Tamalpais from the overlook and parking lot are, however, affected.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

While the Tomales Site is not visible from a designated state scenic highway, it is visible from State Route 1, which is eligible for designation as a state scenic highway. As a conservative approach, this analysis treats eligibility for state scenic highway designation the same as a designated scenic highway and this criterion is thoroughly addressed in Chapter V. At Tomales the impact is found to be **significant and unavoidable**, and mitigation measures are provided. However, even with mitigation measures implemented the impact of the project at the Tomales Site is still significant and unavoidable.

All remaining Next Gen Sites are located away from a designated state scenic highway or an eligible scenic highway, and there is no potential to substantially damage scenic resources located at those sites. Therefore, at those 17 sites there is **no impact**.

- c) *In non-urbanized areas, substantially degrade the existing visual character or quality of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The potential for the Next Gen System to degrade the existing visual character or quality of each site and its surroundings is addressed on a site-by-site basis in Chapter V (Existing Conditions and Impacts at Each Site).

At the Tomales, Coyote Peak, Skyview Terrace Water Tank, Muir Beach, and Mill Valley Water Tank Sites, the introduction of additional infrastructure does substantially degrade the existing visual character or quality of the site and surroundings and, therefore, at these five sites there are **significant and unavoidable** impacts. Mitigation Measures for each of the five impacted sites is described in Chapter V, though even with mitigation, the impacts remain **significant and unavoidable**.

- d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Each of the project sites either has or will have a manually operated 'porch light' at the front door of the equipment structure to aid workers in accessing the site at night. This light is to be turned off at departure and will remain off until needed again. No other external lighting either on the structure or on the towers will be installed; therefore, visual impacts at night due to artificial light or nighttime glare would be minimal, but implementation Mitigation Measure AES-1 would reduce ensure the impact is **less than significant with mitigation incorporated**. Since this impact is the same for all sites, threshold d) is not discussed further in Chapter V.

Mitigation Measure AES-1

The outdoor 'porch light' at each of the Next Gen Sites will include a shield around the top of the light source to stop upward glare and to protect dark nighttime skies. A timer will also prevent the light from being left on.

Summary of Site-Specific Environmental Impacts and Mitigation Measures

Site-by-site evaluations of criteria a) through c) are found in Chapter V (Existing Conditions and Impacts at Each Site). The following is a summary of those impacts, which are also shown in Table IV.A-1.

Potentially significant impacts related to criterion a) were found at the Skyview Terrace Water Tank Site, as mentioned previously. Mitigation Measure AES-5, which would provide trail access to another location along the ridge that is less impacted by the project, would reduce impacts to the scenic vista, but they would still remain **significant and unavoidable** even after mitigation.

Potentially significant impacts related to criterion c) were found at the Tomales Site. Despite implementation of Mitigation Measure AES-2, which would help shield MERA structures from State Route 1, analysis showed that impacts to scenic resources would remain **significant and unavoidable**.

Potentially significant impacts related to criterion c) were found at the Tomales, Coyote Peak, Skyview Terrace Water Tank, Muir Beach, Mill Valley Water Tank, and Forbes Hill Sites. Mitigation Measures AES-3, AES-4, AES-6, AES-7, AES-8, and AES-9 require a variety of screening, color blending activities, and other site design features. However, despite implementation of these measures, analysis showed that impacts to visual character or quality would remain **significant and unavoidable**.

Table IV.A-1 Summary of Aesthetics Impacts by Site

Site	Site Name	2000 EIR	MERA Proposals	MERA (% of total)	a) Scenic Vistas	b) Scenic Highways	c) Visual Character	Impact *of Next Gen Facilities
A	Prime Site EOF [^]	No	New MW/ antennas at EOF	~10%				Limited
B	Civic Center	Yes	Microwave on Historic Rooftop	<5%				Low
C	Big Rock Ridge	Yes	Upgrades	< 5%				Low
D	Mt. Tamalpais	Yes	Upgrades	< 5%				Low
E	Mt. Barnabe	Yes	Upgrades	~35%				Low
F	Point Reyes Hill	Yes	Upgrades	~60%				Limited
N/A	Forbes Hill	Yes	Decommission	N/A				Beneficial
G	Dollar Hill	Yes	Upgrades	~70%				Limited
H	San Pedro Ridge	Yes	Upgrades	~15%				Low
N/A	Mt. Burdell	Yes	Decommission	N/A				None
I	Mt. Tiburon	Yes	Upgrades	100%				Low
N/A	Mill Valley City Hall	Yes	Decommission	N/A				None
N/A	Mill Valley Public Safety Building	Yes	Decommission	N/A				None
N/A	Bay Hill Road	Yes	Decommission	N/A				None
J	Sonoma Mountain	Yes	Upgrades	<5%				Low
K	Stewart Point**	Yes	Upgrades	100%				Low
L	Tomales***	No	New site with existing cell tower equipment	<70%		♦		Significant

Site	Site Name	2000 EIR	MERA Proposals	MERA (% of total)	a) Scenic Vistas	b) Scenic Highways	c) Visual Character	Impact *of Next Gen Facilities
M	Coyote Peak	No	New site with existing facilities	<98%			♦	Significant
N	Skyview Terrace Water Tank	No	New site, existing MMWD water tank	<80%	♦		♦	Significant
O	Muir Beach	No	New site, existing water tank	<40%			♦	Significant
P	Wolfback Ridge	No	New site with existing 100' towers	<5%				Low
Q	Mt. Burdell OTA^	No	New site with existing structure and tower	<10%				Low
R	Mill Valley Water Tank	No	New site with existing MMWD water tank	<20%			♦	Significant

Blue = New Sites. Green = Existing Sites (little change from baseline). White = Decommission.

Aesthetics Impacts: ♦ Significant Impact = Obvious change affecting protected resources or highly accessible public views and mitigation is required. Beneficial = aesthetics improved, fewer antennas or MW dishes. Low = noticeable upgrades detected by detailed comparison. Limited = noticeable to the casual observer. Moderate = obvious change.

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IV. ENVIRONMENTAL IMPACT ANALYSIS

B. CULTURAL AND TRIBAL CULTURAL RESOURCES

A. INTRODUCTION

This section of the SEIR evaluates potential impacts to cultural and tribal cultural resources that may result from implementation of MERA's proposed Next Generation Radio Communication System (the proposed project, the "Next Gen System"). The information and analysis in this section is the result of the cultural resources report prepared for the proposed project by Garcia and Associates (GANDA), as well as formal consultation between MERA and the Federated Indians of Graton Rancheria (FIGR). The consultation steps are summarized below. Supporting documentation in the form of a confidential report may be provided to qualified individuals upon request.

- June 5, 2018 - FIGR Request for Consultation
- July 31, 2018 - MERA Consultation with FIGR at FIGR offices
- Aug. 6, 2018 - MERA sent kmz computer file to FIGR showing three-dimensional mapping for all sites
- November 8, 2018 – MERA forwarded *Draft Cultural Resources Inventory Report for the Marin Emergency Radio Authority Next Generation Radio Communication System, Sonoma and Marin Counties, California*. (GANDA, October 2018)
- February 1, 2019 - FIGR email to MERA describing a potential for impacts to Tribal Cultural Resources at 13 sites
- February 7, 2019 - FIGR email confirmation that consultation is complete conditioned upon a commitment from MERA to provide for tribal cultural monitoring when excavation is necessary at any of the thirteen sites identified

Summary

Based on the results of GANDA's background research and survey, no archaeological resources were identified within the Area of Direct Impacts (ADI). There are historic resources within close proximity to the ADI at three MERA sites: 1) a historic-era road that passes near the existing Mt. Barnabe site (P-21-000482/CA-MRN-551H), 2) the Burdell rock wall (associated with Rancho Olompali) adjacent to the proposed Mount Burdell OTA Site, and 3) the Marin County Civic Center (listed on the National Register of Historic Places), all of which have been previously documented.

In the Tribal consultation meeting in July 2018, FIGR requested the opportunity to review the Cultural Resources Inventory Report prepared by GANDA in order to provide input on the project. During this review, FIGR identified the potential for tribal cultural resources to be unearthed during excavation at 13 sites. As a result, FIGR requested that a tribal monitor be present during any subsurface excavations. That mitigation is incorporated into the impact discussions that follow.

The results of the tribal consultation and the findings of the cultural and tribal cultural resources report are combined and presented together in this chapter. Chapter V includes a site-by-site discussion of the findings and monitoring obligations resulting from tribal consultation and the cultural resources report. Details are provided insofar as MERA's confidentiality obligations under Public Resources Code 21082.3 (requiring any information submitted by the tribe to be kept confidential) allows.

B. REGIONAL SETTING

Regional Prehistoric Setting

Evidence of early human occupation of Northern California has been identified from more than 5,500 years ago, but evidence of human activity in Marin County during this period has not been found. Still, it is unlikely that early Holocene-age people would be present throughout other regions in California but be absent from Marin County. There is historic evidence of significant sea level rise inundating portions of the coastline and it is quite likely that the rising waters buried numerous sites from this period under alluvial fans and floodplain deposits.

The earliest evidence of human occupation found in Marin County is from the Early Period (cal. 5450 to 2450 years before present or BP). Radiocarbon dating of artifacts confirms native occupation from 3,000 to 5,000 years ago. A recently excavated prehistoric site in Marin County contains a well-defined early component dating back 5,000 years. The unearthing of this site resulted in the recovery of artifacts which indicate that social complexity and well-established trade networks were present in the area during this period.

During the Middle Period (cal. 2450 BP to 900 BP), economic strategies developed around the extensive and rich resources of the Bay Area. There were numerous marshes, tidal wetlands, and inland areas that offered an abundant resource base due to the slightly wetter environmental pattern during the late Holocene. Additionally, artifacts excavated from this period indicate that hunting was important, but native people were beginning to rely on acorn foraging as an important food source. Recent excavation sites in Marin County indicate the presence of a socially stratified system during this period.

The transition to the Late Period (cal. 900 BP to 400 BP) in the North Bay Area is characterized by evidence of an increase in ceremonialism, social organization, and stratification. Many small groups maintained an economic relationship, and trade was frequent between the coastal groups and the valley and bayshore groups. A widespread series of droughts from AD 800 to 1300, known as the Medieval Climatic Anomaly, likely had significant effects on the environment and, subsequently, the resources that the native populations relied upon.

Regional Tribal Resources Setting

The Coast Miwok historically inhabited lands that are today Marin and southern Sonoma counties. Coast Miwok territory in this region encompassed the areas along the coast and inland between Duncan's Point southward to San Pablo Bay. Coast Miwok villages were mainly situated near watercourses and not necessarily near the Pacific coast. Villages were composed of various structures, including residential dwellings, sweathouses, and secret society dance houses. Coast

Miwok political organization revolved around village life. The Coast Miwok village of Olompali (CA-MRN-193) is the largest known Coast Miwok village found to date and was occupied from the Late Period through European contact. A broad range of prehistoric and protohistoric cultural material has been recovered from this site.

Although European colonists first visited the Bay Area centuries prior, it was not until the Spanish established missions in the late 1700s and early 1800s that Coast Miwok people and their lifestyle changed significantly. By 1817, Mission San Rafael was established, and many Native American people were moved to this mission until it was subsequently closed and abandoned by 1844. . During this period, much of Coast Miwok territory was left depopulated, except for a few groups of unbaptized Coast Miwok people who were able to travel northeast to Tomales or Bodega Bay or those who decided to join other communities outside of Coast Miwok territory. Many Coast Miwok people in the missions created new relationships with one another and with people from Ohlone, Pomo, Patwin, and Wappo tribes.

Today, the Coast Miwok and Southern Pomo communities make up the federally recognized Federated Indians of the Graton Rancheria. Members of FIGR are active in preserving native plant landscapes, important viewsheds, plant and animal resources, archaeological resources, and places of important tribal cultural significance associated with their heritage throughout Marin County and southern Sonoma County.

Regional Historic Setting

In 1776, Spanish missionaries established Mission San Francisco de Asís (now known as Mission Dolores) on the San Francisco Peninsula, and the Marin peninsula came under its jurisdiction. In the early 1800s the Mission began drawing its population from the surrounding area, including the Marin Peninsula, which was inhabited by Coast Miwok at the time. Spanish missionaries subsequently established Mission San Rafael in Marin in 1817.

The secularization of the missions following 1821 allowed the Mexican government to award land to various individuals as ranchos. Native Americans continued to provide labor as they manufactured goods in adobe workshops alongside immigrant laborers. Another consequence of secularization was the spread of ranching throughout the area and the division of the region into land grants.

In 1848, California was ceded to the United States as part of the treaty ending the Mexican-American War. Around the same time, gold was discovered in the American River, and the Gold Rush followed shortly thereafter. The state's population grew rapidly from 15,000 people in 1848 to 93,000 people in 1850, such that it could apply for statehood that year. After California joined the United States in 1850, rancho owners continued to work their land and raise cattle to feed the hordes of gold miners, often making large profits, until the severe droughts in the 1860s depleted the cattle supply. These circumstances forced many rancho owners to sell their lands, which led to more diversified land ownership of smaller tracts and ranches throughout Marin and Sonoma counties.

C. FEDERAL AND STATE REGULATORY SETTING

Definitions

Historical Architectural Resources

Pursuant to Section 15064.5 of the CEQA Guidelines, a historical resource (including both built environment and prehistoric archaeological resources) is presumed significant if the structure is listed on the CRHR or has been determined to be eligible for listing by the State Historical Resources Commission. An historical resource may also be considered significant if the lead agency determines, based on substantial evidence, that the resource meets the criteria for inclusion in the CRHR. The criteria are as follows:

Archaeological Resources

Pursuant to Section 15064.5 of the CEQA Guidelines, archaeological resources, not otherwise determined to be historical resources, may be significant if they are unique. Pursuant to Public Resources Code Section 21083.2, a unique archaeological resource is defined as an archaeological artifact, object, or site about which it can be clearly demonstrated, that without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

1. The resource contains information needed to answer important scientific questions and there is a demonstrable public interest in that information;
2. The resource as a special and particular quality, such as being the oldest of its type or the best available example of its type; or
3. The resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource means an archaeological artifact, object, or site that does not meet the above criteria. Non-unique archaeological resources receive no further consideration under CEQA.

Human Remains

According to Section 15064.5 of the CEQA Guidelines, all human remains are a significant resource. This section also assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are stipulated in Public Resources Code Section 5097.98, described further below.

Tribal Cultural Resources

Tribal cultural resources are defined in Public Resources Code Section 21074 as either of the following:

1. A site, feature, place, cultural landscape that is geographically defined in terms of the size and scope, sacred place, or object with cultural value to a California Native American tribe, and also is listed or eligible for listing in the California Register of Historical Resources, or is included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or

2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c). In applying the criteria set forth in Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.

Federal Laws

National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA), as amended, established the National Register of Historic Places (NRHP), which contains an inventory of prehistoric and historic properties that are significant at the national, state, and local levels. As stated by 36 CFR 60.4, a district, site, building, structure, or object is potentially significant and may be eligible for inclusion on the NRHP if it is at least 50 years old and meets at least one of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of our history.
- Is associated with the lives of persons significant in our past.
- Embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- Has yielded, or may be likely to yield, information important in history or prehistory.

In addition, a property must have integrity of location, design, setting, materials, workmanship, feeling, or association. Integrity is considered to be “the ability of a property to convey its significance¹.”

Cemeteries, birthplaces, graves of historic figures, religious sites, structures that have been reconstructed or moved from their original location, properties that are primarily commemorative in nature, and properties that have achieved significance within the past 50 years are typically excluded from consideration for listing in the NRHP; however, they can be considered if they meet special requirements.

State Laws

California Register of Historic Resources

As defined by Section 15064.5(a)(3)(A-D) of the CEQA Guidelines, a resource shall be considered historically significant if the resource meets the criteria for listing on the California Register of Historical Resources (CRHR). The State Historic Preservation Office (SHPO) maintains the CRHR. Properties that are listed on the NRHP are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties

¹ U.S. Department of the Interior, National Park Service, *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (Washington, DC: National Park Service, 1995), https://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm

designated under local ordinances or identified through local historical resource surveys. To be eligible for listing on the CRHR, a resource must meet one or more of the following criteria.

- The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- The resource is associated with lives of persons important in our past;
- The resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- The resource has yielded, or may be likely to yield, information important in prehistory or history.

SB-18 Tribal Consultation

Government Code Section 65352.3, enacted by Senate Bill (SB) 18, requires local governments to consult with California Native American Tribes identified by the California Native American Heritage Commission (NAHC) prior to the adoption or amendment of a general plan or specific plan. The purpose of this consultation is to preserve, or mitigate impacts to, cultural places, features, and objects.

AB-52 Tribal Cultural Resources

In September of 2014, the California Legislature passed Assembly Bill (AB) 52, which requires lead agencies to evaluate the impacts of projects on tribal cultural resources during CEQA review, and to consult with California Native American tribes early in the review process. AB 52 is applicable to projects for which a Notice of Preparation is filed after July 1, 2015.

AB 52 requires lead agencies to provide notice to California Native American tribes who are traditionally and culturally affiliated with the geographic area of the project, and who have requested such consultation in writing. If the tribe requests consultation within 30 days of receipt of the notice, the lead agency must consult with the tribe. Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, and the significance of the project's impacts on tribal cultural resources, as well as alternatives and mitigation measures (PRC Sections 21080.3.1, 21080.3.2, 21082.3).

If a project may have a significant impact on tribal cultural resources, the lead agency's environmental document must discuss (1) whether the proposed project has a significant impact on an identified tribal cultural resource and (2) whether feasible alternatives or mitigation measures avoid or substantially lessen the impact on the identified tribal cultural resource (PRC Section 21082.3(b)). As a result of AB 52, Appendix G of the CEQA Guidelines was updated with sample questions regarding impacts to tribal cultural resources (PRC Section 21083.09).

State Laws Pertaining to Human Remains

Section 7050.5 of the California Health and Safety Code states that if human remains are encountered in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area until the county coroner has been notified and has determined whether or not the remains are subject to the coroner's authority. If human remains

are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification. Pursuant to Public Resources Code Section 5097.98, the NAHC must contact those persons it believes are most likely descendants to inspect the remains and recommend means for proper treatment of the remains. These procedures are also described in CEQA Guidelines Section 15064.5(e).

D. APPROACH TO EVALUATING CULTURAL AND TRIBAL CULTURAL RESOURCES AT MERA FACILITIES

In accordance with Section 15064.5 of the CEQA Guidelines, GANDA conducted a cultural and tribal cultural resources investigation to identify historical resources that included prehistoric and historic-era archaeological resources and architectural resources more than 45 years of age. The resulting Cultural Resources Inventory Report identifies all cultural resources located within the MERA Next Gen System's Area of Direct Impacts (ADI). The ADI includes all construction staging, equipment laydown, vegetation clearance, and ground disturbance areas at the sites. Findings of the report may be viewed upon request by qualified individuals and are based on the following research:

- A records search at the Northwest Information Center (NWIC) of the California Historic Resource Inventory System at California State University, Sonoma;
- Archival research and historic map review conducted at local, regional, and online repositories;
- Consultation with Native American groups and individuals identified by the Native American Heritage Commission;
- A field survey of the Area of Direct Impacts;
- Recommendations for compliance with the California Environmental Quality Act;
- Tribal consultation and incorporation of impacts defined by FIGR;
- The FIGR-requested mitigation measures to limit potential impacts to Tribal Cultural Resources at 13 sites.

E. THRESHOLDS OF SIGNIFICANCE

Cultural Resources Thresholds

Appendix G of the CEQA Guidelines suggests the following questions be considered in determining whether a proposed project will result in a significant adverse effect to cultural resources. The same thresholds were used in the 2000 Final EIR analysis, which examine whether the project would:

- a) *Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?*
- b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*
- c) *Disturb any human remains, including those interred outside of dedicated cemeteries?*

Tribal Cultural Resources Thresholds

Appendix G of the CEQA Guidelines suggests an analysis of impacts to tribal cultural resources that involves the following question:

- a) *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe whether a project would cause a substantial adverse change in the significance of such a resource, and that is either:*
 - i) *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*
 - ii) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

F. REGIONAL IMPACTS ANALYSIS AND MITIGATION MEASURES

Cultural Resources Impacts and Mitigation Measures

This section describes the cultural resources impacts and the associated mitigation measures for each of the three threshold scenarios outlined previously. The 2000 Final EIR found impacts related to cultural resources to be less than significant for the existing MERA sites; however, further site-by-site analysis for threshold a) is provided in Chapter V (Existing Conditions and Impacts at Each Site) for both existing and new MERA Next Gen sites. Analysis for thresholds b) and c) is consistent across the MERA sites and is therefore discussed only here on a project-wide level.

- a) *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?*

A “substantial adverse change” to the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be “materially impaired.”

The proposed Next Gen communication sites were evaluated for the presence of historical resources by conducting records searches for all sites. Field surveys were also conducted for all sites except Big Rock Ridge, Mt. Barnabe, and Wolfback Ridge, which were subject to property access restrictions. Based on the findings of the records search and site surveys, there are three historic resources within close proximity to the proposed project: 1) a historic-era road atop Mt. Barnabe (P-21-000482/CA-MRN-551H), 2) the Burdell Rock Wall associated with Rancho Olompali, and 3) the Marin County Civic Center (which is listed on the National Register of Historic Places). Each of these historic sites has been previously documented.

The effects of the proposed project would be minimal. At the Mt. Burdell OTA Site a chain link fence separates the Burdell Rock Wall from the ADI by ten feet and the work area has been

established to stay within the fence and to avoid the wall. The historic road atop Mt. Barnabe passes by the proposed project area and is the primary access to the site, but no grading or other significant changes are proposed for the actively used access road. At the Marin Civic Center, the project would add one new three-foot diameter microwave dish to the roof of the historic building, but it would be generally out of sight, not within any designated view corridors described in the design guidelines, and installed among other rooftop communications and ventilation equipment. Further analysis and protective measures at these sites are discussed at greater length in Chapter V. As the project would not cause a substantial adverse change in the significance of historical resources, the impacts would be **less than significant**.

b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

GANDA conducted a records search at the NWIC and examined cultural resources site records, previously-conducted cultural resources investigations, and historic information. Upon review of this information, GANDA determined that no documented archaeological resources exist within the project's ADI or a 0.25-mile buffer around the ADI. In addition, the ADI's soils and geology indicate that there is an overall low sensitivity for sub-surface prehistoric archaeological deposits.

As there are no known archaeological resources within the project's disturbance area, and soil types indicate that accidental discovery of archaeological resources is unlikely, the overall likelihood of the project causing a substantial adverse change in the significance of an archaeological resource is low. In the unlikely event of an accidental discovery, California law and Mitigation Measure CULT-1 outline the requisite procedures to stop work in the vicinity of the discovered item until a qualified archaeologist may assess the quality of the find.

By implementing the stop work procedures defined in Mitigation Measure CULT-1, the already minimal possibility of adversely affecting the significance of archaeological resources becomes negligible; thus, the project would not cause a substantial adverse change in the significance of archaeological resources, and impacts would be **less than significant with mitigation incorporated**. This finding applies uniformly across sites, and this issue is not discussed further.

Impact CULT-1

The project has the potential to cause a substantial adverse change in the significance of archaeological resources pursuant to Section 15064.5 in the event of an accidental find during the course of ground-disturbing activity. Implementation of Mitigation Measure CULT-1 will ensure that impacts are **less than significant with mitigation incorporated**.

Mitigation Measure CULT-1

During construction, if buried archaeological or tribal resources are discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find until the designated tribal monitor or a Registered Professional Archaeologist (RPA) can assess the significance of the find, and, if necessary, develop appropriate treatment measures in consultation with FIGR and/or the State Office of Historic Preservation (SHPO).

These archaeological resources could include buried prehistoric or historic features such as artifact-filled privies, wells, and refuse pits, and artifact deposits, along with concentrations of adobe, stone, or concrete walls or foundations, and concentrations of ceramic, glass, or metal materials. Native American archaeological materials could include obsidian and chert flaked stone tools (such as projectile points and knives), midden (darkened soil created culturally from use and containing heat-affected rock, artifacts, animal bones, or shellfish remains), and/or groundstone implements (such as mortars and pestles).

c) *Would the project disturb any human remains, including those interred outside of dedicated cemeteries?*

According to FIGR there are no known Native American burial sites within or near the ADI. Given the soil types underlying the ADI, the steep topography surrounding most sites, and the low degree of ground disturbance that would occur, the likelihood of discovering human remains is low. Additionally, the project would comply with California law, which outlines procedures for the accidental discovery of human remains during ground-disturbing activities.

Given the lack of known human remains within or near the ADI, the low likelihood of accidental discovery, and implementation of appropriate procedures upon accidental discovery (see Mitigation Measure CULT-2), it is improbable that the project would disturb any human remains, including those interred outside of formal cemeteries. Impacts would be ***less than significant with mitigation incorporated***. This finding applies uniformly across sites, and this issue is not discussed further.

Impact CULT-2

The proposed project has the potential to disturb human remains outside of dedicated cemeteries. In the event of accidental discovery, implementation of Mitigation Measure CULT-2 below would ensure impacts are ***less than significant with mitigation incorporated***.

Mitigation Measure CULT-2

Upon accidental discovery of human remains, any disturbance shall stop within the site and within other areas reasonably suspected to contain additional human remains. The Sonoma or Marin County coroner shall be contacted immediately, depending on the location of the site. If the coroner determines the remains to be Native American, the coroner shall contact the NAHC within 24 hours. The NAHC shall subsequently identify the most likely living descendent, who may make recommendations to the landowner or the person responsible for excavation regarding acceptable means of treating or disposing of the remains and any associated grave items.

If the NAHC is unable to identify the most likely descendent, the descendent fails to make a recommendation within 24 hours of notification, the landowner rejects the recommendation, or mediation by NAHC fails to yield a mutually agreeable recommendation, the landowner or representative shall rebury the remains and associated items with appropriate dignity on the same property in a location not subject to further subsurface disturbance.

Tribal Cultural Resources Impacts and Mitigation Measures

Impacts to tribal cultural resources were not separately analyzed in the 2000 Final EIR. This SEIR addresses the Project's potential impacts to tribal cultural resources, as defined in Public Resources Code Section 21074, and the associated mitigation measures for any impacts, based on the following:

a-i) Would the project cause an adverse change in the significance of a tribal cultural resource, defined as a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

As discussed in greater detail above, three Next Gen Sites were identified as having historic resources listed or eligible for listing in the California Register of Historical Resources or a local register within or near their ADI. These sites include Mt. Burdell OTA, Mt. Barnabe, and the Marin County Civic Center. A copy of the Cultural Resources Report documenting the historical significance of these and other sites was provided to the Federated Indians of Graton Rancheria during the tribal consultation process. FIGR did not identify any of the eligible or listed resources discussed above as being potentially impacted by the project.

During the formal consultation process with FIGR, no tribal cultural resources were identified that were listed or eligible for listing in the California Register of Historical Resources or a local register. However, the proposed project will still comply with California laws governing stop work procedures in the event of any accidental finds. Such laws apply uniformly across Next Gen Sites.

By implementing Mitigation Measure CULT-1, the project would not cause a substantial adverse change in the significance of tribal cultural resources listed or eligible for listing as a historical resource pursuant to Public Resources Code Section 5020.1(k). Potential project impacts would be ***less than significant with mitigation incorporated***. Because this is true across all Next Gen Sites, and the consultation process did not identify any sites with eligible or listed tribal cultural historical resources, this issue is not discussed further in Chapter V (Existing Conditions and Impacts at Each Site).

Impact TRIBE-1

The proposed project has the potential to impact tribal cultural resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k). Implementation of Mitigation Measure CULT-1 above would ensure potential impacts are ***less than significant with mitigation incorporated***.

Mitigation Measure CULT-1

See full text of Mitigation Measure CULT-1 above on page IV.B-10.

- a-ii) *Would the project cause an adverse change in the significance of a tribal cultural resource, defined as a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?*

Based on the formal consultation process with FIGR, the project has the potential to unearth tribal cultural resources at 13 Next Gen Sites. FIGR requested that tribal cultural monitors be present at these sites during construction. FIGR also requested ongoing consultation with MERA in the event of substantial changes to the project's design in order to better understand project specifics that may result in modification to the list of sites which may need cultural monitors. FIGR indicated to MERA that consultation could be considered complete upon MERA's commitment to these measures and contingent upon any modifications to the project's design.

By implementing Mitigation Measures TRIBE-1, TRIBE-2, TRIBE-3, and CULT-1, the project would not adversely impact the significance of tribal cultural resources determined by MERA to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. Consequently, impacts would be ***less than significant with mitigation incorporated***. Additional details regarding individual sites identified as potentially containing tribal cultural resources can be found in Chapter V (Existing Conditions and Impacts at Each Site).

Impact TRIBE-2

The proposed project has the potential to impact tribal cultural resources determined by the lead agency to be significant pursuant to Section 5024.1. Implementation of Mitigation Measures CULT-1 and TRIBE-1, TRIBE-2, and TRIBE-3 below would ensure potential impacts are ***less than significant with mitigation incorporated***.

Mitigation Measure TRIBE-1

If the design of the proposed project is substantially altered after the conclusion of formal consultation with FIGR, final plans and specifications shall be submitted to FIGR's Tribal Heritage Preservation Officer, or designated representative, prior to construction. FIGR shall be provided reasonable opportunity to review the plans and specifications for potential tribal cultural impacts resulting from project excavation, grading, or mobilization. Based on the outcome of this review, FIGR may amend the list of sites requiring a tribal cultural monitor.

Mitigation Measure TRIBE-2

A tribal monitor with stop work authority shall be present during project excavation and grading to watch for the appearance of tribal cultural resources at the sites designated by FIGR. Unless modified by an updated list from FIGR, monitors will be present at the following 13 sites, which were preliminarily identified as having potential for disturbance of tribal cultural resources: Big Rock Ridge, Mt. Tamalpais, Mt. Barnabe, Point Reyes Hill, Dollar Hill, San Pedro Ridge, Mt. Tiburon, Sonoma Mountain, Stewart Point, Tomales, Coyote Peak, Skyview Terrace Water Tank, and Muir Beach.

Mitigation Measure TRIBE-3

Contractors and construction personnel involved with any form of ground disturbance at the sites designated as culturally sensitive by FIGR shall be advised of the possibility of encountering subsurface tribal cultural resources. If any such resources are encountered or suspected to have been encountered, work shall be halted within 100 feet of the find until FIGR has been notified and given the opportunity to assess the significance of the find. If FIGR determines that the find is a significant tribal cultural resource, MERA shall consult with FIGR to develop a plan to preserve the resource's significance to the extent feasible.

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IV. ENVIRONMENTAL IMPACT ANALYSIS

C. BIOLOGICAL RESOURCES

A. INTRODUCTION

This section of the Draft SEIR introduces the methods used to evaluate impacts associated with biological resources as they relate to the implementation of the proposed MERA Next Generation Communications System (“proposed project” or “Next Gen”). The information in this section presents the methodology and incorporates the countywide regional results of the biological resources assessment (BRA) prepared by WRA, Inc. (WRA).

The BRA is based on database searches and site visits conducted during 2018. Early database searches were performed to identify the potential for species to be present at each site, with the results provided in the species lists in Appendix B. Site-by-site reporting on potentially significant environmental resource impacts, including biological impacts, is provided in Chapter V (Existing Conditions and Impacts at Each Site).

The purpose of the BRA was to determine three things: whether any newly recognized sensitive habitats or special-status species have potential to occur in the project’s vicinity; to identify any new or significant impacts to biological resources; and to implement mitigation measures from the original project EIR (MERA 2000) calling for pre-construction surveys for sensitive resources. Two considerations affected the analysis of whether new impacts might occur: have there been any subsequent changes to the regulatory environment regarding biological resources; and are there new species given special consideration under CEQA that could be present. These changes include a broadened definition of what constitutes a special-status plant species since certification of the original project EIR.

Each of the 10 existing and eight proposed Next Gen Sites were first assessed separately for their potential to support special-status plant and wildlife species and sensitive biological communities—and they were then evaluated for the potential for project impacts. Where potentially significant impacts to biological resources were identified, mitigation measures were provided to reduce impacts to less-than-significant levels. Where relevant, mitigation measures from the original project EIR were implemented.

The following sections describe the methodology used to evaluate biological resources, the regional and regulatory context, and the relevant CEQA thresholds of significance, and they provide a discussion of biological resources topics requiring a general regional impact analysis. A description of local setting, as well as a discussion of specific impacts and mitigation measures on a site-by-site basis, is provided in Chapter V (Existing Conditions and Impacts at Each Site).

B. REGIONAL SETTING

Climate and Weather

The MERA sites are located atop various mountain peaks and ridgelines along the coast of the Pacific Ocean in the outer Coast Ranges in western Marin County, and along the margin of the San Francisco Bay in the Marin Hills in eastern Marin County. The local climate features mild, wet, nearly frostless winters and cool summers with frequent fog and wind. During the summer, fog rolls into this climactic zone high and fast, creating a cooling and humidifying layer that regulates the intensity of light and heat.

The average daily maximum temperature at the National Climate Data Center's (NCDC) weather station in Kentfield, southcentral Marin County (NCDC Station 44500), is 69.8 degrees Fahrenheit; and the average daily minimum temperature is 47.6 degrees Fahrenheit. The warmest months are May through October, with daily maximum temperatures during these months averaging between 73.5 and 82.7 degrees Fahrenheit. The coolest months are November through March, with daily minimum temperatures averaging between 41.3 and 45.3 degrees Fahrenheit. Precipitation occurs exclusively as rainfall and fog drip, with long-term average annual precipitation of approximately 50 inches with higher amounts at higher elevations, particularly near Mount Tamalpais. Rain-bearing weather systems come predominantly from the west.

Topography and Soils

The Next Gen System relies on selected high-elevation sites, mostly on mountaintops or ridgelines, to provide communications among Marin County's coastal mountains and bayside communities. The MERA sites are typically on convex slopes along ridgelines at elevations ranging from approximately 25 feet above mean sea level (AMSL) at the EOF to approximately 2,520 feet AMSL at Mt. Tamalpais.

The Soil Survey of Marin County and SoilWeb indicate that the project sites contain 13 soil map units. These include: Olompali loam, 9 to 15 percent slopes; Saurin-Bonnydoon complex, 30 to 50 percent slopes; Saurin-Bonnydoon complex, 50 to 75 percent slopes; Kehoe variant coarse sandy loam, 9 to 15 percent slopes; Goulding cobbly clay loam, 5 to 15 percent slopes; Tocaloma-McMullin complex, 30 to 50 percent slopes; Los Osos-Bonnydoon complex, 30 to 50 percent slopes; Maymen-Maymen variant gravelly loams, 30 to 75 percent slopes; Tocaloma-McMullin-Urban land complex, 15 to 30 percent slopes; Tamalpais-Barnabe variant very gravelly loams, 30 to 50 percent slopes; Cronkhite-Barnabe complex, 15 to 30 percent slopes; and Xerorthents-Urban land complex, 0 to 9 percent slopes. These soil-mapping units are typically loamy soils derived from a variety of parent materials, most often sandstone or shale. The soil-mapping units within the project sites are not considered hydric soils, which are associated with wetland areas and therefore would potentially be State or federally protected. Unique, ultramafic soil types, such as serpentine or volcanic-derived substrates, which support many special status species, are also not present.

C. FEDERAL AND STATE REGULATORY SETTING

Federal Endangered Species Act of 1973

The Federal Endangered Species Act (ESA) and implementing regulations are codified in the United States Code (16 USC §§ 1531 et. seq.) and the Code of Federal Regulations (CFR) (50 CFR Section 17.1 et. seq.), respectively. These regulations include provisions for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the ESA. The ESA has the following four major components: (1) provisions for listing species, (2) requirements for consultation with USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), (3) prohibitions against "taking" (meaning harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species, and (4) provisions for permits that allow incidental "take".

Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act

The federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et. seq.), and implementing regulations, title 50 CFR Parts 20 and 21, prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." With a few exceptions, most birds are considered migratory under the MBTA. In the absence of a permit, disturbances that causes nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend may violate the MBTA.

Clean Water Act Section 404 and 401

The Army Corps of Engineers (Corps) and the US Environmental Protection Agency (US EPA) regulate the discharge of dredged or fill material into waters of the U.S., including wetlands, under Section 404 of the Clean Water Act (CWA) (33 USC 1344). Waters of the U.S. are defined in Title 33 CFR Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. Section 404 of the CWA requires a federal permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the CWA (33 USC 1341) requires an applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a water quality certification from the state in which the discharge originates and the discharge is required to comply with the applicable water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The responsibility for the protection of water quality in California rests with the State Water Quality Control Board (SWQCB) and its nine Regional Water Quality Control Boards (RWQCBs).

California Endangered Species Act

California enacted the California Native Plant Protection Act (NPPA) in 1977 and the California Endangered Species Act (CESA) in 1984. To align with the ESA, CESA created the categories of “threatened” and “endangered” species. It converted the classification of all “rare” animals into the CESA as threatened species but did not do so for rare plants. These laws provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. The California Department of Fish and Wildlife (CDFW) implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the California Natural Diversity Database (CNDDDB), a computerized inventory of information on the general location and status of California’s rarest plants, animals, and natural communities.

California Fish and Game Code Sections 3503 and 3513

According to Section 3503 of the California Fish and Game Code (CFGC) it is generally unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MBTA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFW.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act (also known as the California Water Code, Section 7) was created in 1969 and governs water quality regulation in California. Waters of the State are defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The SWQCB and the nine RWQCBs protect all state and federal waters. For projects that require a Corps (§ 404) permit for a proposed discharge of dredged or fill material, the applicable RWQCB is required to issue a certification under the Section 401 of the CWA stating that the discharge will not violate state water quality standards.

Marin County Local Coastal Program

The California Legislature enacted the California Coastal Act in 1976, mandating that coastal counties manage the conservation and development of their coastal resources through comprehensive planning and regulatory documents under the Local Coastal Program (LCP). Each county’s LCP, which identifies the location, type, densities, and other rules for future development in the coastal zone, must gain approval from the California Coastal Commission. Each LCP includes a land use plan and its implementing measures. These programs govern decisions that determine the short and long-term conservation and use of coastal land, water, and other resources. The Act’s goals are to protect and conserve the state’s coastal resources and to maximize public use and enjoyment of them. While administered at the county level, the LCP is a state program pursuant to the California Coastal Act (Public Resources Code Section 3000-30900).

The Marin County LCP is broken up into two units (Unit I covers the southern portion of the County and Unit II covers the northern portion). MERA is subject to the requirements of the Marin County

LCP Units I and II for those sites within LCP jurisdiction. The Muir Beach and Stewart Point Sites are located within the jurisdiction of LCP Unit I and the Tomales and Point Reyes Hill Sites are within the LCP Unit II. Relevant provisions in Unit I are related to habitat protection, shoreline protection and hazards, and new development and land use. Relevant provisions in Unit II are related to the protection of agriculture and appropriate siting for new development. Further information regarding the policies contained in the Marin County LCP can be found in Chapter IV.D, Land Use Consistency.

Point Reyes National Seashore General Management Plan

The Point Reyes National Seashore General Management Plan (GMP) was adopted by the US National Park Service (NPS) in 1980. The GMP describes the “Radio Range Station” as one of four Special Use Zones over which the park service does not have complete jurisdiction. Otherwise, the GMP provides general guidance for land use decisions on NPS land in Point Reyes National Seashore and the northern reaches of Golden Gate National Recreation Area (GGNRA). The 27-page GMP provides general goals for Park Service management, and asserts that the variety of biotic communities within Point Reyes National Seashore will be aggressively maintained, stating that the Seashore contains important habitat for several threatened or endangered species—including salmon spawning streams, tide pools, and bird habitat. Additional management strategies for perpetuating the biotic diversity and scenic quality of the Seashore are contained in a separate, but not available natural resource management plan, that was approved in 1976. The NPS is now in the process of amending the GMP. The project’s conformity with the Point Reyes National Seashore GMP is located in Chapter IV.D, Land Use Consistency.

Olompali State Historic Park General Plan

The Olompali State Historic Park (OSHP) General Plan was adopted by the California State Park and Recreation Commission in 1989. The plan outlines management policies for the preservation of aesthetic, natural, cultural, and recreational resources as well as delineating land use goals and policies. The biologically relevant policies address the protection and perpetuation of native oaks, improvement of native grassland diversity, removal of invasive species, protection of rare and endangered plants, restoration of altered natural habitats, and protection and monitoring of a 1984 golden eagle nesting site. The projects conformity with the OSHP General Plan is located in Chapter IV.D, Land Use Consistency.

D. APPROACH TO EVALUATING BIOLOGICAL RESOURCES AT MERA FACILITIES

The 18 sites analyzed in the BRA include: nine existing sites analyzed as part of the original EIR (Civic Center, Big Rock Ridge, Mt. Tamalpais, Mt. Barnabe, Point Reyes Hill, Dollar Hill, San Pedro Ridge, Mt. Tiburon, Sonoma Mountain), one site which was analyzed in the 2004 addendum to the EIR (Stewart Point), one site which was approved per a Categorical Exemption in 2012 (Tomales), and seven sites which were not evaluated in the previous reports EOF, Coyote Peak, Skyview Terrace Water Tank, Muir Beach, Wolfback Ridge, Mt. Burdell OTA, Mill Valley Water Tank).

Biologists completed surveys at all locations where temporary and permanent construction-related activities are proposed. Areas surveyed at specific locations are referred to herein as the project site or sites. The study area referred to in this report includes each project site (with all temporary and permanent impacts) and an approximate 100-foot radius surrounding the project site which was analyzed for the potential to support special-status species, sensitive biological communities, and wildlife movement corridors. In some cases, this 100-foot radius was modified to exclude private properties not under the control of MERA. In other cases the study area was expanded to consider additional areas of proposed temporary disturbance and/or nearby areas where sensitive species or special-status species were observed or a potential habitat was detected. Maps of the study area are provided in Chapter V (Existing Conditions and Impacts at Each Site).

Literature Review

WRA conducted reviews of previous CEQA documents including: the Original EIR certified in 2000, the EIR addendum for the Stewart Point Site and the Categorical Exemption for the Tomales Site. The literature review was also expanded to include the USDA *Soil Survey of Marin County*; online soil data; U.S. Geological Survey (USGS) 7.5-minute quadrangle maps for the Valley Ford, Glen Ellen, Petaluma River, Novato, San Rafael, San Quentin, San Francisco North, Point Bonita, Bolinas, San Geronimo, and Inverness quadrangles; and current and historic aerial photographs of the study area.

A review of the following sources determined which special-status plant and wildlife species and sensitive habitats have been documented near the study area:

- California Natural Diversity Database (CNDDDB) records (California Department of Fish and Wildlife [CDFW] 2018);
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2018a);
- USFWS National Wetlands Inventory (NWI) Database (USFWS 2018a);
- USFWS Information for Planning and Conservation (IPaC) species lists (2018b);
- *A Manual of California Vegetation, Online Edition* (CNPS 2018a);
- CDFW Natural Communities List (California Department of Fish and Game [CDFG] 2010)
- *Marin Flora* (Howell et. al., 2007)
- Jepson eFlora (2018)
- CDFW publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)
- CDFW and Western Field Ornithologists publication “California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California”
- (Shuford and Gardali 2008)
- CDFW publication “Amphibians and Reptile Species of Special Concern in California” (Jennings and Hayes 1994)
- “A Field Guide to Western Reptiles and Amphibians” (Stebbins 2003)

These materials provided information used to determine whether any unique soil types or other features capable of supporting special-status plant species, sensitive plant communities, and/or aquatic features were present within the study area. Database searches conducted for known occurrences of special-status plant and wildlife species focused on the Valley Ford, Glen Ellen, Petaluma River, Novato, San Rafael, San Quentin, San Francisco North, Point Bonita, Bolinas, San Geronimo, and Inverness USGS 7.5-minute quadrangles. Other literature sources (including internet websites) containing biological and distributional information for individual special-status species are cited in subsequent sections.

Fieldwork

Prior to all field studies, WRA performed a desktop review of each of the 18 Next Gen Sites to determine the necessity of field visits according to the following criteria:

- (1) If the site had not undergone CEQA review and if project improvements would have the potential to impact sensitive biological resources, then a site visit would be needed;
- (2) If the site had not undergone CEQA review, but the proposed project improvements would occur in previously developed areas that would not impact sensitive biological resources, then a site visit was not needed;
- (3) If the existing CEQA document (e.g. EIR, EIR Addendum, or Categorical Exemption) was sufficient in its analysis, and proposed project improvements would occur in previously developed areas that would have no impact on sensitive biological resources, then a site visit was not needed;
- (4) If the site conditions, project footprint, or pertinent regulatory statutes had changed since the initial CEQA review (e.g. EIR, EIR Addendum, or Categorical Exemption) which could potentially result in impacts to sensitive biological resources not accounted for in the initial CEQA review, then a site visit and update would be needed; or
- (5) If the initial CEQA review called for a preconstruction survey as a mitigation measure, in which case a follow-up site visit would be needed.

Table IV.C-1 below summarizes the criteria that were used to determine what level of biological resources review was needed at each of the MERA sites. Sensitive biological resources identified as potentially occurring are described on a site-by-site basis in Chapter V.

Table IV.C-1. Summary of Sites, Project Actions, and Biological Review Conducted

Site Name and Number	Was a previous CEQA Review Performed?	Project Actions	Potential to Impact Sensitive Biological Resources	Type of Review Conducted
A. Prime Site EOF (Site 1)	No	New at Existing EOF Building	No	Desktop Review
B. Civic Center (Site 2)	Yes	Upgrades	No	Desktop Review

Site Name and Number	Was a previous CEQA Review Performed?	Project Actions	Potential to Impact Sensitive Biological Resources	Type of Review Conducted
C. Big Rock Ridge (Site 3)	Yes	Upgrades	No	Desktop Review
D. Mt. Tamalpais (Site 4)	Yes	Upgrades	Yes	Site Visit(s)
E. Mt. Barnabe (Site 5)	Yes	Upgrades	No	Desktop Review
F. Point Reyes Hill (Site 6)	Yes	Upgrades	Yes	Site Visit(s)
G. Dollar Hill (Site 10)	Yes	Upgrades	No	Desktop Review
H. San Pedro Ridge (Site 11)	Yes	Upgrades	No	Desktop Review
I. Mt. Tiburon (Site 14)	Yes	Upgrades	Yes	Site Visit(s)
J. Sonoma Mountain (Site 18)	Yes	Upgrades	No	Desktop Review
K. Stewart Point (Site 19)	Yes (Addendum)	Upgrades	Yes	Site Visit(s)
L. Tomales (Site 20)	Yes (CE)	New site with cell tower equipment	Yes	Site Visit(s)
M. Coyote Peak (Site 21)	No	New site with existing water wellheads	Yes	Site Visit(s)
N. Skyview Terrace Water Tank (Site 22)	No	New site with MMWD water tank	Yes	Site Visit(s)
O. Muir Beach (Site 23)	No	New site with local water tank	Yes	Site Visit(s)
P. Wolfback Ridge (Site 24)	No	New site with existing 100' tower	No	Desktop Review
Q. Mt. Burdell OTA (Site 25)	No	New site with existing structure and tower	No	Desktop Review
R. Mill Valley Water Tank (Site 26)	No	New site with existing MMWD water tank	Yes	Site Visit(s)

Surveying for Biological Communities

WRA biologists surveyed the study area on foot during 2018, including on March 30, April 4, April 30, May 8, May 9, June 12, and June 19 to document biological communities found in the study area. These biological communities were assessed in the field for their conditions and their suitability for hosting special-status species.

Biological communities were divided into sensitive and non-sensitive communities. Sensitive biological communities were those communities with 1) special consideration under CEQA, 2) all vegetation alliances with a State (“S”) ranking of S1 through S3, 3) communities designated with an asterisk (*) by Holland (1986) or 4) on the CDFW natural communities list. Sensitive biological communities are also those communities considered jurisdictional under Sections 404 or 401 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and/or Section 1600 of the California Fish and Game Code. Non-sensitive biological communities were those not afforded special consideration under CEQA or other federal, state, or local laws, regulations, or ordinances.

Surveying for Wetlands and Waters

The study area was surveyed to determine if any wetlands and waters potentially subject to jurisdiction by the Army Corps of Engineers, the Regional Water Quality Control Board (RWQCB), or the CDFW were present. The preliminary assessment of wetlands was based on the presence of wetland plant indicators, wetland hydrology, and/or wetland soils. Any potential wetland areas were then identified as areas dominated by plant species with a wetland indicator status of OBL (Obligate), FACW (Facultative Wetland), or FAC (Facultative) as given on the current National Wetlands Plant List. Evidence of wetland hydrology may include direct evidence (i.e., primary indicators) such as visible inundation or saturation, algal mats, or oxidized root channels, or it may include indirect evidence (i.e., secondary indicators) such as saturation visible on aerial imagery. Indicators of wetland soils may include dark colored soils, soils with a sulfidic odor, or soils that contain redoximorphic features, as defined by the Natural Resources Conservation Service (NRCS) publication *Field Indicators of Hydric Soils in the United States*.

Surveying for Special-Status Species

Biologists surveyed all MERA sites that were determined to have potential impacts on biological resources. The purpose of these surveys was to search for suitable habitats for special-status species.

After observing habitat conditions at the MERA sites, the biologists then evaluated the potential for presence of special-status species based on the conditions found and the professional expertise of the investigating biologists. The potential for each special-status species to be present in the study area was then assessed according to the following criteria:

- **No Potential:** Habitat within the study area was clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime)

- **Unlikely:** Few of the habitat components meeting the species requirements were observed within the study area, and/or the majority of habitat within the study area was unsuitable or of very poor quality. The species was not likely to be found on the site.
- **Moderate Potential:** Some of the habitat components meeting the species requirements were observed, and/or only some of the habitat within the study area was unsuitable. The species had a moderate probability of being found on the site.
- **High Potential:** All of the habitat components meeting the species requirements were observed and/or most of the habitat within the study area was highly suitable. The species had a high probability of being found on the site.
- **Present:** A special species was observed within the study area or had been recorded (i.e., CNDDDB, other reports) on the site recently.
- **Not Observed:** No special species were observed during a protocol-level special-status plant survey conducted during the species' documented bloom period or at an appropriate time when the species would have been identifiable. The species was not observed in the study area and was presumed absent.

The site visits included protocol-level surveys for special-status plant species but not for special-status wildlife species; therefore, they were not intended to determine the actual presence or absence of special-status wildlife species. However, if a special-status species was observed during a site visit, its presence was recorded.

Where little information was known about species occurrences and habitat requirements, the species evaluation was based on best professional judgment of WRA biologists drawing upon their experience working with the species and habitats. If necessary, recognized experts on individual species were contacted to obtain the most up to date information on species biology and ecology.

Plant Species

CEQA requires an assessment of the potential for special-status plant species to occur within a project site. A full plant species list is included in Appendix B. The original project EIR defined special-status plants as those species that are designated as Endangered, Threatened, or Rare under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA), in addition to plant species included within the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (Inventory) with California Rare Plant Rank (Rank) 1 only. However, the currently accepted standard practice is that CNPS Ranks 1 and 2 are considered special-status plant species and must be considered under CEQA. Table IV.C-2 below summarized these ranks and threat codes.

Very few Rank 3 or Rank 4 plant species meet the definitions of Section 1901 Chapter 10 of the Native Plant Protection Act or Sections 2062 and 2067 of the CDFW Code that outlines CESA. However, CNPS and CDFW strongly recommend that these species be fully considered during the preparation of environmental documentation relating to CEQA. This may be particularly

appropriate for the type locality of a Rank 4 plant, for populations at the periphery of a species range or in areas where the taxon is especially uncommon or has sustained heavy losses, or from populations exhibiting unusual morphology or occurring on unusual substrates. For this reason, all CNPS-ranked plant species were taken into consideration during this assessment.

Table IV.C-2. Description of CNPS Ranks and Threat Codes

California Rare Plant Ranks (formerly known as CNPS Lists)	
Rank 1A	Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	Rare, threatened, or endangered in California and elsewhere
Rank 2A	Presumed extirpated in California, but more common elsewhere
Rank 2B	Rare, threatened, or endangered in California, but more common elsewhere
Rank 3	Plants about which more information is needed - A review list
Rank 4	Plants of limited distribution - A watch list
Threat Ranks	
0.1	Seriously threatened in California
0.2	Moderately threatened in California
0.3	Not very threatened in California

Wildlife Species

CEQA requires an assessment of the potential for special-status wildlife species to occur within a project site. A full wildlife species list is included in Appendix B. Special-status wildlife species include species that have been formally listed, are proposed as endangered or threatened, or are candidates for listing under the federal and/or California Endangered Species Acts. Additionally, CDFW Species of Special Concern, and US Fish and Wildlife Service (USFWS) Birds of Conservation Concern, are considered special-status species. Although the latter two categories generally have no special legal status, they are given special consideration under CEQA. Bat species are evaluated for conservation status by the Western Bat Working Group (WBWG), a non-governmental entity. Bats named as a “High Priority” or “Medium Priority” species for conservation by the WBWG are typically considered special-status.

In addition to regulations for special-status species, most birds in the United States, including non-special-status native species, are protected by the Migratory Bird Treaty Act of 1918 (MBTA) and the California Fish and Game Code (CFGF). Under these laws/codes, the intentional killing, collecting, or trapping of covered species, including their active nests (those with eggs or young),

is prohibited. Although ambiguity remains on what constitutes a violation under these regulations, it is typically best practice to implement measures to reduce potential impacts to native nesting birds.

In assessing the potential for special-status wildlife species to occur, CEQA asks whether the species will be adversely effected, either directly or through habitat modification. In addition to classifying species for listing as endangered or threatened, the ESA identifies critical habitat as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The ESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. Federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in species recovery. In many cases, this level of protection is similar to that already provided to species by the ESA jeopardy standard. However, areas that are currently unoccupied by the species, but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

E. THRESHOLDS OF SIGNIFICANCE

This section introduces the criteria, or CEQA Thresholds of Significance, for the biological impact evaluation. This evaluation identifies impacts to biological resources that would result from the construction and/or operation of the proposed project. CEQA and the CEQA Guidelines provide guidance in evaluating project impacts and determining which impacts will be significant. CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project."

Six of the seven criteria below require a site-by-site evaluation, which is found in Chapter V (Existing Conditions and Impacts at Each Site). The last criterion, threshold f), implicitly requires a regional approach and therefore that analysis is contained below.

Under CEQA Guidelines section 15065, a project's effects on biotic resources are deemed significant where the project would:

- "substantially reduce the habitat of a fish or wildlife species"
- "cause a fish or wildlife population to drop below self-sustaining levels"
- "threaten to eliminate a plant or animal community"
- "reduce the number or restrict the range of a rare or endangered plant or animal"

In addition to the section 15065 criteria that trigger mandatory findings of significance, Appendix G of the CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. For biological resources, these impacts include whether the project would:

- a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?*
- b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?*
- c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*
- d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*
- e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? or*
- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Two primary assumptions affect the evaluation of the project's impacts on biological resources relative to the above-stated thresholds of significance:

1. Direct impacts to plant and wildlife species are assumed to be correlated with the loss of habitats with which these species are associated. Habitat loss could result from site excavation, grading, filling, infrastructure construction, or other damage to habitats. These activities can damage habitat such that it can no longer sustain a species, or so that the number of individuals that it sustains is reduced, or so that direct loss due to death or injury or disturbance by construction activities and human uses means the species cannot continue its lifecycle activities. Removal of a sensitive habitat that is replaced by development would be a permanent, direct impact. Direct impacts may also be temporary if they disturb a habitat that is subsequently restored or displace a species that later returns.
2. Indirect impacts could also occur. If remaining fragments of undeveloped habitat are isolated from larger areas of contiguous habitat, the remaining habitats are expected to have lower biological values than those prevailing before development. Some species can no longer subsist in these smaller fragments, the fragments may be heavily influenced by surrounding stressors, or species may not reproduce successfully without exchange with other populations. Indirect impacts can occur in portions of the site not directly impacted or to off-site habitats and species due to degraded water quality, changes in hydrology, etc.

F. REGIONAL IMPACTS ANALYSIS AND MITIGATION MEASURES

Due to the localized nature of the project's potential effects on biological resources, most impacts are discussed on a site-by-site basis in Chapter V (Existing Conditions and Impacts at Each Site). However, the project as a whole was determined to have a less-than-significant impact with regard to a conservation plan. It is therefore discussed here in general terms and will not be discussed further in Chapter V:

- f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan?*

According to the most recently available CDFW map of California HCPs and NCCPs (CDFW 2017), no Marin County or North San Francisco Bay Area-specific HCP or NCCP currently exists. However, Pacific Gas and Electric (PG&E), adopted a Bay Area HCP in November 2017. The project is situated within the Bay Area and two project sites (Tomales and Coyote Peak) would require the construction of new electrical distribution lines, making the PG&E HCP applicable.

Covered activities in the PG&E HCP relevant to the project include installation of above and belowground electrical distribution lines, which are classified by the plan as minor new construction. In suitable habitat for covered species, construction of new electric line is limited to 2.0 miles or less to make the connection to existing electrical infrastructure. PG&E will be required to pursue the objectives of the HCP or obtain appropriate biological resources support and permits, based on their project design for these features.

PG&E will be a subcontractor to MERA for project sites requiring utility work, and installation of the power lines proposed for the Tomales, Coyote Peak, Muir Beach, Skyview Terrace Water Tank, and Mill Valley Water Tank sites is a part of the project. The analysis conducted for these sites found no conflict with the policies and objectives of the PG&E HCP. Impacts related to conflict with any applicable HCP are therefore ***less than significant*** and are not be discussed further.

Site-by-site evaluations of criteria a) through e) are located in Chapter V (Existing Conditions and Impacts at Each Site).

IV. ENVIRONMENTAL IMPACT ANALYSIS

D. LAND USE CONSISTENCY

A. INTRODUCTION

MERA is a countywide joint powers authority (JPA) made up of 25 public safety and public service member agencies based in Marin County, California. MERA was formed to construct and operate a public safety radio system. Since 1999, MERA has investigated 26 separate communications sites within seven different local jurisdictions. Nineteen of the 26 sites were analyzed in the previously adopted CEQA documents; namely, the 1999 Draft EIR, the Final EIR (certified in 2000), the 2006 Addendum (for the Stewart Point Site), and the 2012 Categorical Exemption (for the Tomales Site). Three of those 19 previously analyzed sites were dropped from the original system and never developed and five additional sites would be decommissioned as a result of the proposed Next Gen System.

Since the 2000 Final EIR, land use regulations applicable to MERA have been clarified.² Under Government Code Section 6509, a joint exercise of powers agreement must designate a member agency to which the JPA will look for authorities upon its exercise of power. The designated agency in MERA's joint exercise of powers agreement is the County of Marin. Under state law, MERA enjoys the same intergovernmental immunity applicable to the County. MERA is therefore not subject to the local codes and ordinances of cities, towns, counties, and special districts in which its facilities are located, except where its immunity has been waived by the State Legislature. An example of a waiver of immunity is included in the California Coastal Act, which delegates authority to cities and counties to adopt a Local Coastal Program and requires all developers, including cities and counties, to obtain a Coastal Development Permit from that local agency.³ MERA is required to comply with all state and federal land use regulations.

Therefore, the following state and federal land use plans are evaluated in this chapter:

- Marin County Local Coastal Program (LCP) - Units 1 and 2
- California Streets and Highways Code Section 660 *et seq.*
- Federal Aviation Administration (FAA) Height Requirements
- Golden Gate National Recreation Area (GGNRA) General Management Plan (GMP)
- Point Reyes National Seashore GMP
- Olompali State Historic Park (OSHP) General Plan

Table IV.D-1 below provides an overview of the applicable land use documents for each of the 26 previous, current, and proposed MERA sites.

² Zack v. Marin Emergency Radio Authority (2004) 118 Cal. App. 4th 617.

³ 5 Ops. Cal. Atty. Gen. 88 (1992).

Table IV.D-1. Site Jurisdiction and Applicable Land Use Documents

Note: Sites new to MERA for the Next Gen System are displayed in blue, current MERA sites proposed for the Next Gen System are shown in green, and sites with no color are not part of the proposed Next Gen project.

Site	Site Name	Jurisdiction(s)	Applicable Land Use Document(s)
A	1. Prime Site EOF	City of San Rafael	Not applicable to MERA
B	2. Civic Center	City of San Rafael	Not applicable to MERA
C	3. Big Rock Ridge	County of Marin	Not applicable to MERA
D	4. Mt. Tamalpais	County of Marin	Not applicable to MERA
E	5. Mt. Barnabe	County of Marin	Not applicable to MERA
	6. Bolinas Fire Station	County of Marin	N/A (dropped from original system)
	7. Bolinas Ridge	County of Marin	N/A (dropped from original system)
F	8. Pt. Reyes Hill	County of Marin	Not applicable to MERA
		Coastal Zone	Marin LCP Unit II
		Point Reyes National Seashore (NPS)	Point Reyes National Seashore GMP
		FAA	FAA Height Requirements
	9. Forbes Hill	City of San Rafael	N/A (decommissioned)
G	10. Dollar Hill	City of San Rafael	Not applicable to MERA
H	11. San Pedro Ridge	City of San Rafael	Not applicable to MERA
	12. Mt. Burdell	City of Novato	N/A (decommissioned)
	13. Novato PD	City of Novato	N/A (dropped from original system)
I	14. Mt. Tiburon	Town of Tiburon	Not applicable to MERA
	15. Mill Valley City Hall	City of Mill Valley	N/A (decommissioned)
	16. Mill Valley PD	City of Mill Valley	N/A (decommissioned)
	17. Bay Hill Road	County of Sonoma	N/A (decommissioned)
J	18. Sonoma Mountain	County of Sonoma	Not applicable to MERA
K	19. Stewart Point	County of Marin	Not applicable to MERA
		Coastal Zone	Marin LCP Unit I

Site	Site Name	Jurisdiction(s)	Applicable Land Use Document(s)
		Community of Bolinas	Not applicable to MERA
L	20. Tomales	County of Marin	Not applicable to MERA
		Coastal Zone	Marin LCP Unit II
		Caltrans	California Streets and Highways Code
M	21. Coyote Peak	County of Marin	Not applicable to MERA
N	22. Skyview Terrace Water Tank	City of San Rafael	Not applicable to MERA
O	23. Muir Beach	County of Marin	Not applicable to MERA
		Coastal Zone	Marin LCP Unit I
		GGNRA (NPS)	GGNRA GMP
P	24. Wolfback Ridge	County of Marin	Not applicable to MERA
		GGNRA (NPS)	GGNRA GMP
Q	25. Mt. Burdell OTA	County of Marin	Not applicable to MERA
		OSHP	OSHP General Plan
R	26. Mill Valley Water Tank	City of Mill Valley	Not applicable to MERA

The following consistency analysis of the applicable planning documents is provided for environmental review purposes only. MERA, as the lead agency, will ultimately determine the proposed project's consistency under CEQA with the applicable state and federal policies. Certain sites in the coastal zone, for example would still require Coastal Development Permits. The applicable plans and policies and the site locations they regulate are described below.

B. FEDERAL AND STATE REGULATORY SETTING

Marin County Local Coastal Program

The California Legislature enacted the California Coastal Act in 1976, mandating that coastal counties manage the conservation and development of their coastal resources through comprehensive planning and regulatory documents under the Local Coastal Program (LCP). Each county's LCP, which identifies the location, type, densities, and other rules for future development in the coastal zone, must gain approval from the California Coastal Commission. Each LCP includes a land use plan and its implementing measures. These programs govern decisions that determine the short and long-term conservation and use of coastal land, water, and other resources. While administered at the county level, the LCP is a state program pursuant to the Coastal Act (Public Resources Code (PRC) Section 3000-30900). MERA is therefore subject to the requirements of the Marin County LCP at sites within the LCP's jurisdiction.

Marin County's LCP is divided into two units: Units I and II. The LCP is intended to ensure that the local government's development plans, policies, and ordinances conform to the California Coastal Act of 1976. The Act's policies are to protect and conserve the state's coastal resources and to maximize public use and their enjoyment. The California Coastal Commission certified Unit I in 1981, and Unit II in 1982. Several amendments were adopted between 1982 and 2010. Marin County has also been working since 2008 on comprehensive amendments to the LCP, but those are not yet in effect, and the County continues to review projects for consistency with the policies and regulations set forth in Units I and II. Relevant provisions of each unit are discussed below.

Local Coastal Program - Unit I

The boundaries of the LCP Unit 1 Coastal Zone generally consist of the southern portion of Marin County's coastline including the communities of Bolinas, Stinson Beach, and Muir Beach.

The Stewart Point and Muir Beach Sites are located within Unit I. The policies and objectives of the LCP sections relevant to the proposed project are summarized below, while the full policy language can be found in Appendix C.

Habitat Protection

The Habitat Protection section of the LCP sets forth requirements relating to development and wildlife habitat, requiring that nesting and roosting areas and upland grassland feeding areas be protected and that structures must avoid inhibiting wildlife movement.

Shoreline Protection and Hazard Areas

Safety standards relating to seismic activity and shoreline retreat are addressed in this section of the LCP. Relevant policies require the use of scientifically-determined setback distance formulas for development near the Bolinas and Muir Beach bluffs and require all development to meet the seismic safety standards including those set forth in the Alquist-Priolo Act.

New Development and Land Use

The New Development and Land Use section addresses new development design and siting. Policies include "historic area" boundaries, within which new construction must conform to certain design standards, and a requirement for archaeological surveys prior to approval of proposed development. This section also provides maximum height requirements in specified areas, grading guidelines, and a requirement for development plans to include control measures for runoff, sedimentation, and erosion, and to provide revegetation.

Local Coastal Program - Unit II

The boundaries of the LCP Unit II Coastal Zone cover the coastal area from Olema north to the Sonoma/Marin County border, including the communities of Olema, Point Reyes Station, Inverness, Marshall, Tomales, and Dillon Beach.

The Point Reyes Hill and Tomales Sites are located within Unit II. A Coastal Development Permit was approved for the proposed Tomales Site based on a CEQA exemption in 2012, but the permit was allowed to expire in anticipation of the site being included in the Next Gen Project and this Draft SEIR.

The policies and objectives of the LCP sections relevant to the proposed project are summarized below, while the full policy language can be found in Appendix C.

Agriculture

This section of the LCP Unit II discusses the importance of protecting the existing and future viability of agricultural lands in the Coastal Zone. The policies contained under this topic area are intended to permanently preserve productive agriculture and lands with the potential for agricultural use, to ensure that non-agricultural development does not conflict with agricultural uses, and to protect coastal wildlife and scenic resources. This LCP section defines the Agricultural Production Zone, and it outlines the Zone's intent, the permitted and conditional uses, and the required development standards and review process.

Natural Resources

Policy 5.b of this section of the LCP discusses habitats of rare or endangered species and unique plant communities. The policy requires that development in such areas depend upon the resources of the habitat area and that adjacent development be set back to minimize impacts on the habitat area. The policy also states that structures involved in such development should be avoided if they inhibit wildlife movement.

New Development and Land Use

Policies in this section of the LCP focus on appropriate siting and design for new development projects, so as to protect views and avoid potentially hazardous conditions due to earthquakes and fire. Policies include requirements related to height, scale, design, bluff setbacks and landscaping, as well as the need to demonstrate appropriate geologic conditions for development stability.

California Streets and Highways Code

The California Department of Transportation (Caltrans) is granted authority by Division 1, Chapter 3, Articles 1 and 2 (Sections 660-695) of the California Streets and Highways Code (SHC) to require and administer encroachment permits in the State Highway right-of-way (ROW). The SHC defines an encroachment as "any tower, pole, pole line, pipe, pipeline, fence, billboard, stand or building, or any structure, object of any kind or character not particularly mentioned in the section, or special event, which is in, under, or over any portion of the [State] highway right-of-way". By issuing an encroachment permit, Caltrans grants the permittee non-transferrable permission to enter the State Highway ROW to construct, alter, repair, or improve facilities. All entities not working directly under Caltrans, including JPAs such as MERA, are required to obtain encroachment permits to enter and work within the State Highway ROW. The Tomales Site is the only site with utility improvements (underground power and phone lines) that could occur within the Caltrans ROW.

Federal Aviation Administration (FAA)

In administering Title 14 of the Code of Federal Regulations (14 CFR) Part 77, the prime objectives of the FAA are to promote air safety and the efficient use of the navigable airspace. In

Advisory Circular 70/7460-1L Change 2, the FAA describes the standards for marking and lighting structures such as buildings, chimneys, antenna towers, cooling towers, storage tanks, supporting structures of overhead wires, etc. that could affect the safety of the navigable airspace. To accomplish their mission of maintaining safe airspace, the FAA conducts aeronautical studies on certain new construction and alterations to existing structures, based on information provided by proponents on an FAA Form 7460-1 (Notice of Proposed Construction or Alteration). A variety of factors influence whether a proposed structure must be filed with the FAA for study, including height, proximity to an airport, and location. Federal law requires that the FAA determine whether any structure that is proposed to be built or altered 200 feet above ground level or higher, within three miles of an airport, poses a hazard to the airspace. Further, according to 14 CFR Part 77.17, any structure exceeding a height of 499 feet is considered an obstruction, along with other height criteria. Based upon the proposed MERA structures' limited heights of 75-feet or less, and their locations and distances from an airport, no FAA determination is required.

Golden Gate National Recreation Area (GGNRA) General Management Plan

Adopted in 2014, the GGNRA General Management Plan (GMP) is a land use management document covering National Park Service (NPS) lands in GGNRA and Muir Woods National Monument. The GMP provides guidance on land use decisions within GGNRA but stipulates that future decisions will be made using a number of criteria for maximizing the life and value of public resources. The GMP addresses planning issues such as conflicts with recreational opportunities, sustainable resource management, and scenic beauty and natural character, among others. The Plan divides GGNRA into regions and discusses resources, opportunities, and other key planning considerations for each section of the park. No MERA facilities are directly within GGNRA, but the Muir Beach Site is adjacent to the National Monument boundary.

Point Reyes National Seashore General Management Plan

The Point Reyes National Seashore GMP was adopted by the NPS in 1980. The GMP guides land use decisions for NPS lands in Point Reyes National Seashore and the northern reaches of GGNRA. The Plan outlines management objectives pertaining to park access, natural and ecological resource conservation, and non-recreational land uses monitoring to ensure compatibility with nearby recreational and conservation activity. The NPS began the process of amending the GMP in 2017. Until the amendment is adopted, which is anticipated in early 2020, the 1980 GMP remains the governing GMP for Point Reyes National Seashore. The Point Reyes Hill Site is within Point Reyes National Seashore.

Olompali State Historic Park General Plan

The Olompali State Historic Park (OSHP) General Plan was adopted by the California State Park and Recreation Commission in 1989. The plan outlines management policies for the preservation of aesthetic, natural, cultural, and recreational resources as well as delineating land use goals and policies. The Mt. Burdell OTA Site is surrounded on three sides by the Olompali State Historic Park.

C. APPROACH TO EVALUATING LAND USE CONSISTENCY AT MERA FACILITIES

CEQA requires that an EIR consider whether a proposed project may conflict with “*any applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact*”. This environmental determination differs from the broader policy determination of whether a proposed project is consistent with a jurisdiction’s planning documents. The environmental determination (that is intended for consideration under CEQA thresholds of significance) is based on, and limited to, a review and analysis of environmental effects. The latter determination, by comparison, is made by the decision-making body of the jurisdiction and is based on the jurisdiction’s broad discretion to assess whether a proposed project would conform to the policies and objectives of applicable land use plans as a whole.

This Draft SEIR analyzes the environmental impacts of land use consistency for the proposed project qualitatively, focusing on consistency between proposed and permitted uses under applicable state and federal land use regulations. For each site, a determination was made as to whether any state or federal jurisdiction’s land use policies and plans apply to MERA facilities. As the CEQA guidelines only require analysis of applicable plans, policies, and regulations, there are sites where no plans or policies apply, and in those cases no further discussion is included. Where applicable, land use designations and rules from the relevant planning document are presented, along with relevant maximum height regulations. This information is then used to make a statement on whether a conflict may exist between the proposed MERA facility and the applicable jurisdiction’s land use policies. MERA, as the lead agency, will be responsible for using the information provided here to determine project consistency, although other agencies (Marin County and the California Coastal Commission) will make a final determination with respect to the issuance of Coastal Development Permits for sites within the Coastal Zone.

D. THRESHOLDS OF SIGNIFICANCE

The potential for the project to result in significant environmental effects was analyzed using standards provided in the State CEQA Guidelines. Appendix G of the Guidelines also suggests the following questions be considered in determining whether a proposed project will result in a significant adverse effect to land use and planning. These thresholds of significance ask whether the project would:

- (a) *Physically divide an established community?*
- (b) *Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

E. REGIONAL IMPACTS ANALYSIS AND MITIGATION MEASURES

The original 2000 Final EIR determined that the project would result in less-than-significant impacts related to items (a) and (c) for the original MERA sites. These items are discussed in general terms below for the proposed project as a whole and will not be discussed further in this

SEIR. For item (b), more detailed site-by-site evaluations for the Next Gen sites are located in Chapter V (Existing Conditions and Impacts at Each Site).

a) *Physically divide an established community?*

This threshold was developed to assess impacts of large public works projects like highways, roads, and very large development projects. The proposed project includes improvements to ten existing MERA telecommunications facilities; the introduction of eight new facilities to the system, and the decommissioning of five facilities, which will either: remain operational for some other entity, continue to be maintained as a non-operational facility by MERA, or be completely removed with all equipment being disposed of in an appropriate manner in accordance with state law. In all cases (existing or new), MERA facilities occupy a very small footprint and are not large enough to affect an established community. The original EIR determined that the project would result in less-than-significant impacts related to item (a) for the original MERA sites, and that determination remains valid for the existing sites in this SEIR.

The newly proposed Next Gen sites occupy a very small footprint and are mainly located on remote ridge tops and/or in open space settings, away from existing communities. All of the proposed sites, including those that are located within established communities, are within or adjacent to the footprint of existing facilities such as water tanks, communication complexes, dispatch centers, and/or community centers. The facilities themselves are small and do not create significant barriers to travel or movement within the community.

The proposed project sites would not physically divide an established community and therefore the project as a whole would have **no impact** in this topic area. Consequently, this threshold is not discussed further in this SEIR.

b) *Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

As discussed previously, MERA is not subject to the local codes and ordinances of cities, towns, counties, and special districts in which its facilities are located, except where its immunity has been waived by the State Legislature. One pertinent waiver of MERA's immunity is under the California Coastal Act, which applies to four MERA sites located in the Coastal Zone (Point Reyes Hill, Stewart Point, Tomales, and Muir Beach). MERA is also required to comply with all State and federal land use plans and regulations, which pertain to all four sites in the Coastal Zone as well as two additional sites (Wolfback Ridge and Mt. Burdell OTA). As consistency with applicable land use plans, policies, and regulations applies differently across MERA Next Gen sites, it is discussed in more detail in the site-by-site analysis of Chapter V (Existing Conditions and Impacts at Each Site). This analysis determined that no conflict would occur with land use consistency across the MERA Next Gen Sites and that impacts would be **less than significant**.

IV. ENVIRONMENTAL IMPACT ANALYSIS

E. HAZARDS AND HAZARDOUS MATERIALS

A. INTRODUCTION

An important consideration in the analysis of the impacts of the MERA Next Gen Project is the risk that the project might pose to people and property. This section of the SEIR examines potential hazards that could be introduced or exacerbated as a result of project implementation. The potential impacts of certain hazards relating to the transport and use of hazardous materials (i.e. propane and diesel), the placement of project improvements on hazardous waste sites, and airport-related hazards, were found to be less than significant in this analysis as well as in the original 2000 Final EIR. As such, these items are discussed briefly in this section and in more detail in Chapter VI.E (Impacts Found to be Less Than Significant).

Wildfire is an existing potential hazard in California, and with higher recorded temperatures in the last two decades that hazard is increasing. The MERA Next Gen Project offers considerable benefit to the public in aiding emergency responses to wildfire and other regional hazards. Because risk of wildfire is a baseline condition and benefits of the project as a whole related to agency response to wildfire are consistent across the Next Gen system, these impacts and benefits are discussed in this chapter for the project as a whole, rather than in Chapter V (Existing Conditions and Impacts at Each Site).

The existing MERA system and the Next Gen Project, as a radio communications system, also generates concentrated emissions of electromagnetic radio frequency (RF) waves. RF emissions dissipate rapidly with distance and vary greatly at each site depending, in part, on the equipment required by MERA as compared to the total amount of equipment in use at a site. MERA often leases shared communications sites with other radio operators. Still the potential human exposure to RF emissions is a primary concern for MERA and the public. RF emissions are analyzed here for the project as a whole, and further considered in a site-by-site analysis in Chapter V (Existing Conditions and Impacts at Each Site).

B. REGIONAL ENVIRONMENTAL SETTING

Wildfire

While wildfires are an annual threat in California, in recent years climate change and drought have brought a continuous procession of fires of greater frequency, scale and destructive intensity. The level of wildfire activity in 2017 and 2018 underscores the importance of planning for and addressing the evolving risks to land and property. The severity of a given wildfire season in California is typically dependent on a number of factors, including weather, temperature, wind speed and direction, topography and the presence of combustible material. The highest risk typically occurs during off-shore wind events known as “Diablo Winds.” High heat and strong winds particularly create a high potential for these wind-driven fires should there be an ignition.

In the years 2017 and 2018 a number of very destructive California wildfires occurred in communities where urban and residential development abut undeveloped wildland such as forest and vegetated hillsides, including in the City of Santa Rosa and the Town of Paradise. Approximately 80% of Marin County is designated by the California Department of Forestry and Fire Protection (CAL FIRE) as having a moderate to highly severe fire hazard.

MERA sites designated by CAL FIRE as being in a moderate to very high Fire Hazard Severity Zones (FHSZ) were therefore evaluated on a site-by-site basis in Chapter V for whether the project would expose people or structures to a significant risk of loss, injury, or death from wildland fires as compared to baseline conditions.

Radio Frequency Exposure

Considerable public concern and discussion has occurred over the years about the potential health hazards resulting from exposure to radio frequency (RF) emissions. Most notably, there is concern about a possible causal linkage between RF emissions and effects on human health. The Telecommunications Act of 1996 addressed this concern at the federal level by adopting exposure limits and methods for evaluating RF emissions from Federal Communications Commission (FCC)-regulated transmitters.

MERA recognizes that the public may have concerns regarding RF emissions, and an objective of the proposed project design is to ensure compliance with adopted standards for public exposure levels. The design of the proposed project must comply with the FCC requirements for assessing exposure levels and, where exposure levels do not meet adopted standards for public exposure, reasonable mitigation must be provided to achieve compliance.

MERA has applied the FCC's adopted regulation for RF emissions, discussed in more detail below, because the MERA transmitters are regulated by the FCC.

The FCC regulations include Maximum Permissible Exposure (MPE) limits for uncontrolled and controlled environments. The uncontrolled or "general population" exposure limits apply to situations wherein the general public may be exposed, or situations in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for such exposure, or who cannot exercise control over such exposure. Under FCC guidelines, no special precautions or mitigation measures are necessary if RF emissions are within exposure limits for uncontrolled environments.

Controlled or "occupational" exposure limits apply in situations where individuals are exposed to RF emissions as a consequence of their employment, provided those individuals are fully aware of the potential for exposure and can exercise control over such exposure. Limits for controlled exposure also apply in situations wherein an individual is transient through a location where controlled limits apply, provided that person has been made aware of the potential exposure. The general public's exposure to controlled environments can effectively be mitigated to less-than-significant levels by barriers that prohibit access to the controlled environments and signs that warn the general public of the possible exposure beyond the barrier.

Exposure to RF emissions is measured by the power density (stated in milliwatts [mW] per square centimeter) for the frequency of radio waves. That exposure is compared to the limits that have been adopted by the FCC to ensure protection of humans. The limits are based on the studies of the relationship between RF emissions and observed and projected health effects. To ensure that the limits are met, the existing RF emissions were measured and projected in this document by SiteSafe, an independent engineering firm.

C. FEDERAL AND STATE REGULATORY SETTING

Wildfire

California Department of Forestry and Fire Protection (CAL FIRE)

In November 2007, CAL FIRE adopted Fire Hazard Severity Zone maps for all areas within California for which they have responsibility. The severity zones on these maps depict the fire hazard (the likelihood of an area burning and how it would burn) based on fuels, terrain, weather, and other relevant factors. These zones were classified by the CAL FIRE Director in accordance with Government Code Sections 51175 through 51189 to assist responsible local agencies identify measures to reduce the potential for losses of life, property, and resources from wildland fire. Government Code Section 51182 further specifies standards for brush clearance around buildings and structures located in, upon, or adjoining any mountainous, forest, brush, or grassland areas that are designated as very high fire hazard severity zones.

California Building Code

The California Building Code (CBC), codified in the California Code of Regulations Title 24 Part 2, applies to all buildings throughout the State of California; however, cities and/or counties may establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographic conditions. New building development located within an area designated by the authority having jurisdiction to be at significant risk from wildfires must meet the intent of CBC Chapter 7A, Materials and Construction Methods for Exterior Wildfire Exposure, for a building permit to be approved. Regulations require that building products and construction methods comply with applicable codes and ordinances of the local authority having jurisdiction. MERA is a joint powers authority that is immune from city building codes but is subject to the legal limitations placed on Marin County. Marin County follows the Marin County Building and Fire Codes in developing County facilities.

Radio Frequency Exposure

Federal Communications Commission (FCC)

The FCC adopted Docket 79-144, codifying the radio frequency protection guide of the American National Standards Institute (ANSI) C95.1-1982, "*Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz*" and the 1992 ANSI-published revised standard, C95.1-1992. The revised standard defined "controlled" and "uncontrolled" environments. Uncontrolled standards (general public exposure) apply to accessible areas where workers or the general public may be exposed to low level RF emissions. Controlled standards (occupational exposure) are valid for situations where people are exposed to stronger RF

emissions as a consequence of their employment, and where they have been made aware of their potential for exposure and can exercise control over their exposure. Uncontrolled standards are generally five times more restrictive than standards for controlled environments. The C95.1-1992 controlled (i.e., occupational) limits are approximately the same as in C95.1-1982, prepared a decade earlier.

In Docket 93-62, the FCC adopted the exposure limits for field strength and power density recommended in Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields", published by the National Council on Radiation Protection and Measurements in 1986.

In 1996, the Federal Communications Commission (FCC) adopted regulations in 47 CFR § 1.1307 and 1.1310 that define Maximum Permissible Exposure (MPE) limits for radiofrequency radiation. Subsequently, in August 1997 the FCC Office of Engineering and Technology (OET) published Bulletin 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields, Edition 97-01. These Guidelines were prepared "to provide assistance in determining whether proposed or existing transmitting facilities, operations or devices comply with limits for human exposure to RF emissions adopted by the Federal Communications Commission (FCC)." Since issuing these guidelines, the FCC periodically reviews rules and regulations related to RF emissions per their congressional mandate. Most recently, FCC issued Addendum C to Bulletin 65 in 2011 (FCC 2011).

Guidelines for human exposure to RF emissions are derived from the Specific Absorption Rate (SAR), a measure of the rate of energy absorbed by (and dissipated in) biological tissue, which is usually expressed in watts per kilogram (W/kg). The FCC adopted a SAR threshold level of "4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur" (OET Bulletin 65).

In order to maintain human exposure within a safe SAR threshold, the FCC Rules and Regulations impose MPE limits. These MPE limits are defined in terms of power density (expressed in milliwatts per centimeter squared, [mW/cm²]) that is radiated from transmitting antennas. The limits vary depending on frequency, since the human body can react differently to RF emissions at different frequencies. The FCC's two RF exposure environments described previously, "controlled/occupational" and "uncontrolled/general public", each have their own exposure limit:

- Controlled/occupational situations - the exposure limit is one-tenth of the SAR threshold described above, or 0.4 W/kg.
- Uncontrolled/general public situations - the limit is one-fiftieth of the SAR threshold described above, or 0.08 W/kg.

D. APPROACH TO EVALUATING RF EXPOSURE AT MERA FACILITIES

Analysis of exposure to RF emissions at Next Gen facilities was based on a technical study for each site conducted by SiteSafe, an independent engineering firm. Their complete report, including methodology and detailed results, is provided in Appendix D of this document. SiteSafe

performed field assessments at 12 proposed project sites between August 21 and 24, 2018; these sites included active communication sites at: Prime Site EOF, Civic Center, Big Rock Ridge, Mt. Tamalpais, Mt. Barnabe, Point Reyes Hill, Dollar Hill, San Pedro Ridge, Sonoma Mountain, Stewart Point, Wolfback Ridge, and Mt. Burdell OTA. For the remaining proposed sites, existing data and modeling were used to estimate RF emissions exposure. SiteSafe's report provided the following information pertinent to exposure to RF emissions at each site:

- on-site emissions measurements, where applicable, relative to MPE limits;
- an inventory of the transmitting antennas used in the computer model;
- the theoretical maximum exposures relative to MPE limits based on computer modeling;
- site diagrams showing estimated exposure under different operating scenarios; and
- a determination of compliance with FCC regulations.

RF emission measurements were taken on-site using two methods, spatial average and peak. The spatial average measurement consists of a collection of ten measurements within a ten second time interval taken from zero to six feet in height. Spatial average measurements are intended to identify the average power density over the dimensions of a typical human body. Peak measurements consist of the maximum at any one location. Meters and probes used for measurement were calibrated and used according to manufacturer's specifications.

Compliance determinations for each site were based on the theoretical modeling and/or physical measurements of on-site RF emissions relative to MPEs limits, the placement of existing, RF warning or alerting signs, proposed antenna inventory, and the extent to which access to antennas was restricted. SiteSafe validated theoretical models with physical measurements where possible.

Site-specific RF emission models were developed using procedures outlined in the FCC OET Bulletin 65 and a series of conservative assumptions about duty cycle, system implementation, and existing emissions from other nearby RF sources at the same location. In some cases, MERA currently leases space at commercial communications sites where other operators also emit RF emissions. These other operators were accounted for in the study's models.

The maximum theoretical spatially averaged emissions were modeled for three project scenarios: "Existing Antennas Only on Air", "All Antennas on Air", and "Final Configuration". "Existing Antennas Only on Air" represents the baseline theoretical maximum, where all currently installed MERA antennas are operating simultaneously, as well as the antennas of other operators (if any).⁴ "All Antennas on Air" is a theoretical worst-case scenario where all existing and all proposed MERA antennas operate simultaneously, as well as the antennas of other operators (if any). This circumstance would only arise during the transition period, where the existing MERA infrastructure is left intact during testing and implementation of the new system. This configuration is anticipated to last for one to two years, after which antennas that are no longer needed will subsequently be removed. Elevation figures with the "All Antennas on Air," worst case scenario are included at the

⁴ Simultaneous operation is not common in voice activated systems, but is used to generate a conservative worst-case scenario.

end of Chapter V. Existing Conditions and Impacts at Each Site. The “Final Configuration” model shows theoretical maximum emissions for the final configuration of the proposed system.

For each scenario, SiteSafe modeled emissions as though all on-site antennas were operating simultaneously at full power. This circumstance is very rare, but was modeled so that exposure to RF emissions could be evaluated conservatively. By conservatively modeling conditions with the most powerful RF emissions possible, SiteSafe has defined exclusion areas at each site where required. These relatively small areas are only in access-controlled spaces and are only near the transmitting antennas, where emissions are most concentrated. It is recommended that workers in these areas wear a personal monitor, work only when transmit power is reduced, or perform real-time measurements to indicate real-time exposure levels.

E. THRESHOLDS OF SIGNIFICANCE

Hazards and Hazardous Materials

The project would have a significant impact on the environment related to hazards and hazardous materials if it would result in any of the conditions below:

- a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*
- b) *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*
- c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*
- d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?*
- e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?*
- f) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*
- g) *Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Wildfire

If located in or near state responsibility areas or lands classified by Cal FIRE as very high fire hazard severity zones, the project would have a significant impact on the environment if it would result in any of the conditions below:

- a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

- b) *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*
- c) *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*
- d) *Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

Radio Frequency Exposure

For the purposes of this SEIR, MERA has adopted the federal Maximum Permissible Exposure limits as the threshold to evaluate the significance of the project's impacts relative to potential human RF emissions exposure:

- a) *Would Radio Frequency exposure exceed established FCC exposure limits for workers or the general public?*

As explained in the SiteSafe report (Appendix D to this SEIR), exposure limits for RF emissions are established by the FCC's Rules and Regulations for RF emissions found in 47 CFR § 1.1310, which were adopted in 1996. The Rules and Regulations were created after considering various industry standards that had been previously developed by medical researchers, engineers, and industry representatives.

Site evaluations of the project relative to safety thresholds are provided in Chapter V (Existing Conditions and Impacts at Each Site), including diagrams that depict worst-case scenarios at each site for RF emissions.

F. REGIONAL IMPACTS ANALYSIS AND MITIGATION MEASURES

Hazards and Hazardous Materials

The 2000 Final EIR found that there would be No Impact or Less Than Significant Impacts for all thresholds related to the existing CEQA Guidelines for Hazards and Hazardous Materials, with the exception of threshold b), which was found to be less than significant with mitigation (containment of hazardous and/or flammable fluids). Additional analysis of current conditions at existing sites and sites new to the system determined that all impacts excepting those related to thresholds b) and g) would continue to be **less than significant**. Thresholds a) and c) through f) are therefore not discussed in any further detail, except to confirm their impacts were indeed found to be less than significant as required by CEQA and contained in Chapter VI (CEQA Required Analysis) Section E.

Threshold b) is discussed for the project as a whole below, and threshold g) is revisited here based on recent wildfire events and associated concerns.

- b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

As mentioned previously, the 2000 Final EIR found impacts related to threshold b) to be less than significant with mitigation. Specifically, the EIR stated: “the proposed telecommunication project will contain elements having a potential risk of hazard associated with accidental explosives or release of hazardous substances such as the diesel and propane fuels necessary for emergency generator power”. Diesel and propane fuels are both commonly used for the purpose of providing emergency generator power, and the potential for significant impacts is low when the two fuels are used properly and for their intended applications.

Workers who handle hazardous materials are required to adhere to health and safety requirements enforced by the federal Occupational Safety and Health Administration (OSHA) and California Division of Occupational Safety and Health (Cal/OSHA). State and local regulations together with industry standards and Best Management Practices (BMPs) have proven to be adequate for protection from risk of spills, and potential fire and explosion. The proposed project will provide equipment and fuel storage designed to meet and comply with all applicable requirements (applicable BMPs are set forth in Chapter III). Based on the applicable regulatory requirements, the potential for the project to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment is ***less than significant***.

- g) *Would the project expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?*

The recent frequency and intensity of wildfires in California’s urban-wildland interface, especially in proximity to Marin County, calls for revisiting this topic. Given the Next Gen System’s critical importance for emergency communications during future wildfires in Marin County this topic is especially important.

The primary goal of the MERA Next Gen Project is to improve emergency communications and response in Marin County. A robust, reliable, and far-reaching communication system is integral to emergency response should a wildfire occur. This benefit, however, does not negate the possibility that MERA equipment and infrastructure could ignite, exacerbate, or expose people or structures to a wildfire.

People and structures associated with the project would be exposed to increased risk of fire hazards under severe dry weather and wind conditions. In addition, construction operations could also increase the risk of igniting a wildland fire at project sites.

The potential for the project to expose people or structures to a significant risk of loss, injury, or death involving wildland fires is relatively low, due to the project’s use of fully grounded electronic equipment, fire proof buildings and other construction techniques, steel towers, and underground utilities, and due to the absence of other development near the project sites. Further, the project utilizes sites that are in previously disturbed, well-cleared areas. With the use of standard safety BMPs (outlined in Chapter III) during construction and operations at all project sites, and with

compliance to state law requirements in very high fire hazard severity zones, the potential to expose people or structures either directly or indirectly to a significant risk of loss, injury or death involving wildland fires is **less than significant**.

Wildfire

As described on a site by site basis in Chapter V, portions of the project are located in or near state responsibility areas or lands classified by CAL FIRE as very high fire hazard severity zones. Therefore, this SEIR addresses whether the project would have significant impacts based on the following thresholds:

- a) *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

The design and operation of the Next Gen System will benefit residents, businesses and industry in Marin County by improving the ability of law enforcement, fire protection and public works personnel to communicate with each other and coordinate with other agencies during an emergency. The proposed project will result in better emergency radio coverage, thereby facilitating coordinated dispatch and response of emergency responders throughout Marin County. To maintain consistent reliability during broad emergency conditions, Next Gen structures currently are, or would be, constructed with fire-resistant materials, and electric service to new proposed sites would be installed underground. Emergency backup power at all unoccupied sites would be included as part of the project design to further insure uninterrupted operations, particularly during emergency situations, including wildfire. Therefore, as the improvement in radio communications resulting from the proposed project would benefit the implementation of emergency response plans and emergency evacuation plans, the impacts of the project would be **beneficial**.

- b) *Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

During certain parts of the year, the MERA sites are likely to experience severe dry weather and wind conditions that could result in increased risk of higher pollutant concentrations or the uncontrolled spread of wildfire. However, the MERA sites are unoccupied and, for the most part, are located in remote areas that are rarely visited by the general public. Technicians monitor the sites from afar, visiting monthly for safety inspections. As mentioned in the previous Wildfire threshold a), the structures at each site are or would be constructed with fire-resistant materials, the towers are made of metal, and electric service to new proposed sites would be installed underground. Therefore, due to the site locations, design, and ability to conduct remote monitoring, the proposed project will not exacerbate wildfire risks or expose project occupants to exacerbated wildfire risks, and the impact is **less than significant**.

- c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

New power lines required by the proposed project at the Tomales and Coyote Peak Sites would be installed underground, resulting in no increase in the potential for wildfire. The Coyote Peak Site also requires improvements to an existing road for purposes of construction, but these improvements will also improve access for fire protection.

Emergency generators are required at all existing and proposed MERA sites and, like the existing MERA system, the project will utilize propane and diesel fuels to power those emergency generators. Routine delivery of fuels to on-site tanks occurs quarterly in order to maintain supplies adequate for emergency generator testing, although if generators are used then fuel requirements would increase. There is a potential risk associated with this use of diesel and propane fuels. However, both of these fuels are common for use with generators, and MERA has a record of safely handling, storing, and using propane and diesel fuels for their intended purpose without incident.

MERA will require that workers who handle these materials in project construction and operations adhere to federal and State safety regulations (in accordance with OSHA and Cal/OSHA), along with the BMPs set forth in Chapter III. Based on the safety history of MERA with the use of fuels, plus the applicable regulatory requirements, adherence to BMPs, and the ongoing monthly maintenance and monitoring site visits, the proposed project's potential to exacerbate fire risk or cause temporary or ongoing impacts to the environment due to the installation or maintenance of project infrastructure would be **less than significant**.

- d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The proposed Next Gen Project will utilize previously developed sites with existing access roads and drainage improvements already in place. Coyote Peak is the one site where the existing access road will undergo limited grading and drainage improvements. At the Coyote Peak Site, grading has been designed in a way that will avoid causing drainage changes or placing fill on steep slopes, and that utilizes only hard rock cut-slopes. The project will not cause or expose people or structures to significant risks of downslope or downstream landslides or flooding as a result of runoff or post-fire slope instability. Therefore, the impact is **less than significant**.

Radio Frequency Exposure

In the 2000 Final EIR, project impacts related to RF emissions exposure were found to be less than significant. Although RF levels would potentially exceed the FCC's occupational exposure limits at certain sites, the EIR explained that MERA planned to (1) install fencing to control public access to the Pt. Reyes Hill Site; and (2) post the exposure hazard at all entry points to controlled areas and train workers at the Big Rock Ridge, Mt. Tamalpais, Mt. Barnabe, Bolinas Fire Station, Pt. Reyes Hill, Forbes Hill, Dollar Hill, San Pedro Ridge, Mt. Burdell, Mt. Tiburon, Bay Hill Road, and Sonoma Mountain Sites. Therefore, the EIR concluded that the impact of RF occupational exposure would be less than significant.

This SEIR specifically addresses potential RF emissions exposure based on the MERA-adopted threshold, which considers whether the project would:

- a) *Cause RF exposure to exceed established FCC exposure limits for workers or the general public?*

SiteSafe, an independent engineering firm, evaluated RF emissions at each potential Next Gen site. The SiteSafe evaluations, contained in Appendix D to this SEIR, calculate estimated power densities for various locations at each site while accounting for the multiple transmitting frequencies that may operate at each site. SiteSafe made reasonable and conservative assumptions where information was not readily available, and those assumptions are outlined in Appendix B of their report. Under these assumptions, each site has been modeled to show the maximum RF density, as shown in the figures in their report. Consequently, SiteSafe has modeled a worst-case analysis based on best available data.

The potential RF emissions and exposure levels for each site are discussed in detail in Chapter V (Existing Conditions and Impacts at Each Site). At the end of Chapter V are selected RF emission figures depicting the worst case condition with “all antennas on” as shown in an elevation view. In all cases, ***RF emissions impacts to the public would be less than significant.***

The project does have the potential to exceed the FCC’s occupational exposure limits, based on SiteSafe modeling, at very specific and limited locations, all of which are inside controlled access areas that are only available to informed workers. MERA employs BMPs that include worker safety training for all employees, including use of monitoring equipment, personal protective equipment (PPE), signage, and knowledge of and avoidance of RF emissions. These BMPs are set forth in Chapter III. In addition to these BMPs, the implementation of Mitigation Measures RF-1 and RF-2 at individual sites will ensure that ***RF emissions impacts to workers would be less than significant with mitigation incorporated.***

Chapter V (Existing Conditions and Impacts at Each Site) includes Mitigation Measures RF-1 and RF-2 in the site discussions where potentially significant impacts to workers are identified.

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