

Town of Tiburon

Draft Environmental Impact Report for the General Plan 2040



MARCH 2023

Prepared for:

*Town of Tiburon
1505 Tiburon Boulevard
Tiburon, CA 94920*

Prepared by:

*De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762*



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DRAFT EIR

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius (Centigrade)
°F	degrees Fahrenheit
µg/m ³	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACM	asbestos-containing material
ACP	Alternative Compliance Plan
AD	<i>anno domini</i>
ADA	Americans with Disabilities Act
ADT	average daily traffic
ADU	Accessory Dwelling Unit
ADWF	Average Daily Dry Weather Flow
afy	acre-feet per year
AIA	Airport Influence Area
AIC	Archaeological Information Center
AIRFA	American Indian Religious Freedom Act
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMI	Area Median Income
APCD	Air Pollution Control District
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
ARPA	Archaeological Resources Protection Act
AST	aboveground storage tank
ASTM	American Society of Testing and Materials
ATC	ATC Group Services, LLC
ATCM	Airborne Toxic Control Measures

BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BAU	Business as Usual
BCDC	San Francisco Bay Conservation and Development Commission
BCF	billion cubic feet
BCF/year	billion cubic feet per year
BMP	Best Management Practice
BMR	below-market rate
BVOC	biogenic volatile organic compound
C ² ES	Center for Climate and Energy Solution
CA FID	California Facility Inventory Database
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Health and Safety Administration
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARE	Community Air Risk Evaluation
CARSS	Call a Ride for Sausalito Seniors
CASGEM	California Statewide Groundwater Elevation Monitoring
CASQA	California Stormwater Quality Association
CBC	California Building Standards Code
CC	Central Commercial
CCAA	California Clean Air Act
CCCC	California Climate Change Center
CCR	California Code of Regulations
CCTS	Central California Taxonomic System
CDCP	California Drought Contingency Plan
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission

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CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERT	Community Emergency Response Teams
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CH ₄	methane
CHBC	California Historic Building Code
CHL	California Historical Landmark
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CMP	Congestion Management Plan
CN	Neighborhood Commercial
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNPSEI	California Native Plant Society Electronic Inventory
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO ₂ e	carbon dioxide equivalent
CPUC	California Public Utilities Code
CRA	Cultural Resources Assessment
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CW	Commercial Waterfront
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
CWPP	Marin County Community Wildfire Protection Plan
dB	decibel
dBA	A-weighted decibel
DBH	diameter at breast height
DHS	Department of Homeland Security

DMP	Drought Management Program
DPM	diesel particulate matter
DPR	Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
du	dwelling unit
du/acre	dwelling unit per acre
DWR	Department of Water Resources
EAP	Emergency Action Plan
EDU	Equivalent Dwelling Units
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EMF	electromagnetic field
EMS	Emergency Medical Services
EOP	Emergency Operations Plan
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning Community Right-to-Know Act
ESL	Environmental Screening Level
FAA	Federal Aviation Administration
FAR	floor area ratio
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FESA	Federal Endangered Species Act
FHSZ	Very High Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIGR	Federated Indians of Graton Rancheria
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Railroad Administration
FRAP	Fire and Resource Assessment Program
FTA	Federal Transit Administration
GGNA	Golden Gate Recreation Area
GGNRA	Golden Gate National Recreation Area

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GHAD	Geologic Hazard Abatement District
GHG	greenhouse gas
GIS	Geographic Information System
gpm	gallons per minute
GPS	Global Positioning System
GSA	Government Services Administration
GWh	gigawatt-hours
GWh/y	gigawatt-hours per year
GWP	global warming potential
HAP	Hazardous Air Pollutants
HazMat	Hazardous Materials
HAZNET	Hazardous Waste Information System
HCD	Housing and Community Development
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HCP/NCCP	Habitat Conservation Plan/Natural Community Conservation Plan
HEU	Housing Element Update
HFC	hydrofluorocarbon
HOV/HOT	High Occupancy Vehicle/High Occupancy Toll
HPC	Historic Preservation Commission
HPD	Historic Properties Directory
HRA	Health Risk Assessment
HUD	United States Department of Housing and Urban Development
HVAC	heating, ventilation, and air conditioning
IPCC	United Nations Intergovernmental Panel on Climate Change
IRF	Intermediate Regional Flood
ISO	Insurance Services Office
ISTEA	Intermodal Surface Transportation Efficiency Act
IWMPs	Integrated Waste Management Plans
JADU	Junior Accessory Dwelling Unit
JPA	Joint Powers Authority
kBTU	kilo-British Thermal Units
kV	kilovolt

kW	kilowatt
kWh	kilowatt-hour
LAFCo	Local Agency Formation Commission
LCFS	Low Carbon Fuel Standard
L _{dn}	day/night average sound level
LED	light emitting diode
L _{eq}	equivalent sound level
LEV	low-emission vehicle
LGVSD	Las Gallinas Valley Sanitary District
LID	Low Impact Development
LOS	Level of Service
LRA	Local Responsibility Area
LSE	load-serving entities
LUST	Leaking Underground Storage Tank
LZ	Lighting Zones
LZ0	Very Low Lighting Zones
LZ1	Low Lighting Zones
LZ2	Moderate Lighting Zones
LZ3	Moderately High Lighting Zones
LZ4	High Lighting Zone
MBTA	Migratory Bird Treaty Act
MCE	Marin Clean Energy
MCEP	Marin Climate & Energy Partnership
MCM LHMP	Marin County Multi-jurisdiction Local Hazard Mitigation Plan
MCSTOPPP	Marin County Stormwater Pollution Prevention Program
MERV	Minimum Efficiency Reporting Value
mgd	million gallons per day
MLD	Most Likely Descendant
MM	Mitigation Measure
MMI	Modified Mercalli Intensity
MMRP	Mitigation Monitoring and Reporting Program
MMWD	Marin Municipal Water District
mph	miles per hour

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MPO	Metropolitan Planning Organization
MRP	Municipal Regional Permit
MS4	Municipal Separate Storm Sewer System
MSDS	material safety data sheets
msl	mean sea level
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
M _w	Maximum Moment Magnitude
MW	megawatt
MWD	Metropolitan Water District of Southern California
MWELD	Model Water Efficient Landscape Ordinance
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NHM	Natural History Museum of Los Angeles County
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO ₂	nitrogen dioxide
NOAA Fisheries	National Marine Fisheries Service
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

NWIC	Northwest Information Center
O ₃	ozone
ODDS	Objective Design and Development Standards
OEHHA	California Office of Environmental Health Hazard Assessment
OHP	California Office of Historic Preservation
OHWM	ordinary high water mark
ONAC	Federal Office of Noise Abatement and Control
OPR	Governor’s Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead
PCB	polychlorinated biphenyl
pCi/L	picocuries per liter
PDA	Priority Development Area
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
Phase I ESA	Phase I Environmental Site Assessment
PM ₁₀	particulate matter, including dust, 10 micrometers or less in diameter
PM _{2.5}	particulate matter, including dust, 2.5 micrometers or less in diameter
PM _x	particulate matter
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PR	Planned Development-High Density Residential
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PVC	polyvinyl chloride
RBRA	Richardson Bay Regional Agency
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
Recology	Integrated Resource Recovery Company
RecycleSmart	Central Contra Costa County Solid Waste Authority
REL	Reference Exposure Level
RHNA	Regional Housing Needs Assessment

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RMP	Risk Management Plan
rms	root mean square
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RS-10	Single-Family Residential
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAFE	Safer Affordable Fuel-Efficient
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCA	Stream Conservation Area
SCH	State Clearing House
SCS	Sustainable Communities Strategy
SCWA	Sonoma County Water Agency
SF ₆	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SFHA	Special Flood Hazard Area
SHC	California Street and Highways Code
SMARA	California Surface Mining and Reclamation Act
SMCSD	Sausalito–Marin City Sanitation District
SMFD	Southern Marin Fire Protection District
SO ₂	sulfur dioxide
SOI	Sphere of Influence
SR	State Route
SRA	State Responsibility Area
S RTP	Short-Range Transit Plan
SSMP	Sewer System Management Plan
STP	Sewage Treatment Plant
State Water Board	California State Water Resources Control Board
SUSMP	Standard Urban Storm Water Mitigation Plan
SVP 2010	Society of Vertebrate Paleontology guidelines
SWEEP	State Water Efficiency and Enhancement Program
SWIS	Solid Waste Information System

SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Storm Water Quality Management Plan
T-BACT	Best Available Control Technology for Toxins
TAC	toxic air contaminants
TAM	Transportation Authority of Marin
TAMDM	Transportation Authority of Marin Demand Model
TCM	transportation control measures
TDM	Transportation Demand Management
TDS	total dissolved solids
TDV	Time Dependent Valuation
TEA-21	Transportation Equity Act for the 21 st Century
Tg	teragram
therms/y	therms per year
TIA	Traffic Impact Analysis
TIS	Traffic Impact Study
TMA	Transportation Management Association
TMDL	Total Maximum Daily Load
TOD	Transit Oriented Development
TRA	Temporary Refuge Areas
TSCA	Toxic Substances Control Act
TUHSD	Tamalpais Union High School District
UBC	Uniform Building Code
UCMP	University of California Museum of Paleontology
URM	Unreinforced Masonry
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
V/C	volume to capacity ratio
VdB	Vibration Velocity Level

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VDECS	Verified Diesel Emission Control Strategies
VHFHSZ	Very High Fire Hazard Severity Zone
VIP	Volunteers In Public Safety
VLR	Very Low Density Residential
VMT	Vehicle Miles Traveled
VOC	volatile organic compounds
WDR	Waste Discharge Requirements
WQMP	Water Quality Management Plan
WSA	Water Supply Assessment
WUI	Wildland-Urban Interface
WWTP	Wastewater Treatment Plant
ZEV	Zero Emission Vehicle

EXECUTIVE SUMMARY

PURPOSE

This Draft Environmental Impact Report (Draft EIR) was prepared in accordance with and in fulfillment of the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses the potentially significant environmental impacts of a project. CEQA requires that an EIR be prepared by the agency with primary responsibility over the approval of a project (the lead agency). The Town of Tiburon is the lead agency for the proposed Tiburon General Plan Update. Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development where feasible and have the obligation to balance economic, environmental, and social factors.

This Draft EIR has been prepared according to CEQA requirements to evaluate the potential environmental impacts associated with the implementation of the General Plan Update. This Draft EIR also discusses alternatives to the General Plan Update and proposes mitigation measures that would offset, minimize, or otherwise avoid potentially significant environmental impacts. This Draft EIR is intended to provide decision-makers and the public with information that enables consideration of the environmental consequences of the General Plan Update, and has been prepared in accordance with CEQA (California Public Resources Code [PRC] § 21000 *et seq.*) and the CEQA Guidelines (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3).

PROJECT SUMMARY

PROJECT LOCATION

The Town is located on a peninsula which extends from southeastern Marin County into San Francisco Bay, approximately seven miles north of the City of San Francisco. Tiburon is located among the cities which line San Francisco Bay and make up the greater Bay Area. Primary access to Tiburon is by U.S. Highway 101, which connects to San Francisco to the south and San Rafael and Sonoma County to the north. Tiburon is also served by private ferry service to and from San Francisco, Sausalito, and Angel Island.

There are three key boundary lines addressed by the Project, which make up the study area for the General Plan 2040 EIR. These include the Town Limits, the Sphere of Influence (SOI), and the Planning Area.

Town Limits: Includes the area within the Town's corporate boundary, over which the Town exercises land use authority and provides public services.

Sphere of Influence (SOI): The probable physical boundary and service area of the Town, as adopted by the Local Agency Formation Commission (LAFCO). An SOI may include both incorporated and unincorporated areas within which a city, town, or special district will have primary responsibility for the provision of public facilities and services.

Planning Area: For the purposes of the General Plan 2040, the Planning Area is the geographic area for which the General Plan 2040 provides a framework for long-term plans for growth, resource conservation, and service provision. State law requires the General Plan 2040 to include all territory within Tiburon's incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning Area for the General Plan 2040 is made up of the incorporated Town of Tiburon, the unincorporated properties which are located along Paradise Drive, and the unincorporated properties located north of Tiburon Boulevard between the Town's western corporate limits and U.S. Highway 101.

PROJECT DESCRIPTION

The Town of Tiburon's General Plan was last prepared in 2005. The project analyzed in the EIR would update the General Plan, including goals, objectives, policies, and implementation programs that address the maintenance, preservation, improvement, and development in Tiburon. The Project would also include amendments to other elements of the City General Plan in order to maintain internal consistency, to provide consistency with recent changes in State law.

Refer to Section 2, Project Description, for a complete description of the General Plan Update.

SUMMARY OF ALTERNATIVES TO THE GENERAL PLAN

Below is a summary of the alternatives to the General Plan considered in Section 5.0, Alternatives to the Project.

NO PROJECT ALTERNATIVE

Under this alternative, Tiburon continues to operate and develop under the 2020 General Plan and Land Use Map. Under this alternative, the Town would not adopt General Plan 2040. The 2020 General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, Circulation Diagram, goals, policies, or programs would occur. The 2020 General Plan was last comprehensively updated in 2006, and an update to the Housing Element was completed in 2016.

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VILLAGE CENTERS ALTERNATIVE

Under this alternative, the General Plan and Land Use Map would focus more new development of multifamily housing near shopping areas within the Town. Specifically, development potential at Cove Shopping Center is increased to accommodate 49 units, while development potential of 4576 Paradise Dr. site is reduced to focus development on only 3 acres of site (maximum 49 units). This alternative would include the updated policy document (consistent with General Plan 2040), and would be required to adhere to the same policy guidance.

DOWNTOWN DENSITY ALTERNATIVE

Under this alternative, development potential in the Downtown is increased to allow 40-45 units per acre on all MU sites. Development potential of 4576 Paradise Dr. site is reduced to the units allowed under the 2020 General Plan (7 units). This alternative would include the updated policy document (consistent with General Plan 2040), and would be required to adhere to the same policy guidance.

AREAS OF CONTROVERSY

Pursuant to CEQA Guidelines Section 15123(b), a summary section must address areas of controversy known to the lead agency, including issues raised by agencies and the public, and it must also address issues to be resolved, including the choice among alternatives and whether or how to mitigate significant effects.

In accordance with CEQA Guidelines Section 15082, the Town of Tiburon circulated a Notice of Preparation (NOP) of an EIR for the General Plan on October 21, 2022, to trustee and responsible agencies, the State Clearinghouse (SCH), and the public. The 30-day public review period for the NOP then ended on November 28, 2022. A scoping meeting was held on October 27, 2022. The NOP and all comment letters received on the NOP are presented in Appendix A.

The NOP identified potential for significant impacts on the environment related to the following topical areas:

- Aesthetics, Light, and Glare
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Energy
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

The NOP also identified certain topical areas where impacts were found to be less than significant because the General Plan's characteristics would not create such impacts. These topical areas include agriculture and forestry resources and mineral resources, and are evaluated in Section 6, Effects Found not to be Significant in this Draft EIR.

DISAGREEMENT AMONG EXPERTS

This Draft EIR contains substantial evidence to support all conclusions presented herein. It is possible that there will be disagreement among various parties regarding these conclusions, although the Town of Tiburon is not aware of any disputed conclusions at the time of this writing. Both the CEQA Guidelines and case law clearly provide standards for treating disagreement among experts. Where evidence and opinions conflict on an issue concerning the environment, and the lead agency knows of these controversies in advance, the EIR must acknowledge the controversies, summarize conflicting opinions of the experts, and include sufficient information to allow the public and decision makers to make an informed judgment about environmental consequences of the General Plan Update.

POTENTIALLY CONTROVERSIAL ISSUES

It is also possible that evidence will be presented during the 45-day statutory Draft EIR public review period that may create disagreement. Decision makers would consider this evidence during the public hearing process.

In rendering a decision on a project where there is disagreement among experts, decision makers are not obligated to select the most environmentally preferable viewpoint. Decision makers are vested with the ability to choose whatever viewpoint is preferable and need not resolve a dispute among experts. In their proceedings, decision makers must consider comments received concerning adequacy of the Draft EIR and address any objections raised in these comments. However, decision makers are not obligated to follow any directives, recommendations, or suggestions presented in comments on the Draft EIR, and can certify the Final EIR without needing to resolve disagreements among experts.

PUBLIC REVIEW OF THE REVISED DRAFT EIR

Upon completion of the Draft EIR, the Town of Tiburon filed a Notice of Completion (NOC) with the State Office of Planning and Research to begin the public review period (PRC § 21161). Concurrent with the NOC, this Draft EIR has been distributed to responsible and trustee agencies, other affected agencies, surrounding cities, and interested parties, as well as all parties requesting a copy of the Draft EIR in accordance with Public Resources Code 21092(b)(3). During the public review period, the Draft EIR, including the technical appendices, is available for review on the city's website (<https://createtiburon2040.org/>). A

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hard copy of the Draft EIR can be viewed at the following location (please check with the facility for hours of operation):

Town of Tiburon
Community Development Department
1505 Tiburon Boulevard
Tiburon, CA 94920

Agencies, organizations, and interested parties have the opportunity to comment on the Draft EIR during the 45-day public review period. Written comments on this Draft EIR should be addressed to:

Town of Tiburon
Dina Tasini, Director of Community Development
1505 Tiburon Boulevard
Tiburon, CA 94920
dtasini@townoftiburon.org

Submittal of electronic comments in Microsoft Word or Adobe PDF format is encouraged. Upon completion of the public review period, written responses to all significant environmental issues raised will be prepared and made available for review by the commenting agencies at least 10 days prior to the public hearing before the Tiburon Planning Commission on the General Plan, at which the certification of the Final EIR will be considered. Comments received and the responses to comments will be included as part of the record for consideration by decision makers for the General Plan Update.

EXECUTIVE SUMMARY MATRIX

Table ES-1 below summarizes impacts, mitigation measures, and resulting level of significance after mitigation for the relevant environmental issue areas evaluated for the General Plan. The table is intended to provide an overview; narrative discussions for issue areas are included in the corresponding section of this Draft EIR. Table ES-1 is included in the Draft EIR as required by CEQA Guidelines Section 15123(b)(1).

TABLE ES-1: EXECUTIVE SUMMARY MATRIX

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
SECTION 3.1—AESTHETICS, LIGHT, AND GLARE			
Impact 3.1-1: Development facilitated by the General Plan would not have a substantial adverse effect on a scenic vista.	None Required	Less than Significant	Less than Significant
Impact 3.1-2: Implementation of the General Plan would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a State scenic highway.	None Required	No Impact	No Impact
Impact 3.1-3: Development facilitated by the General Plan would not substantially degrade the existing visual character or quality of public views in non-urbanized areas.	None Required	Less than Significant	Less than Significant
Impact 3.1-4: Implementation of the General Plan would not substantially conflict with applicable zoning and other regulations governing scenic quality in urbanized areas.	None Required	Less than Significant	Less than Significant
Impact 3.1-5: Development facilitated by the General Plan would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	None Required	Less than Significant	Less than Significant
Impact 3.1-6: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to aesthetics.	None Required	Less than Significant	Less than Significant
SECTION 3.2—AIR QUALITY			
Impact 3.2-1: Implementation of the General Plan could conflict with or obstruct implementation of the applicable air quality plan.	None Required	Potentially Significant	Significant and Unavoidable
Impact 3.2-2: General Plan implementation would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under applicable federal or State ambient air quality standard.	None Required	Less than Significant	Less than Significant
Impact 3.2-3: General Plan implementation could expose sensitive receptors to substantial pollutant concentrations.	MM 3.2-1: Health Risk Assessments: Developers of individual development projects within the Planning Area that could result in	Potentially Significant	Less than Significant

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IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>significant toxic air contaminants during operation and/or construction that are located within 1,000 feet of a sensitive receptors(s), shall implement BAAQMD Guidelines and State Office of Environmental Health Hazard Assessment policies and procedures requiring Health Risk Assessments (HRAs) for residential development and other sensitive receptors. Screening area distances may be increased on a case-by-case basis if an unusually large source or sources of hazardous emissions are proposed or currently exist. Based on the results of the HRA, individual project applicants shall identify and implement measures (such as air filtration systems) to reduce potential exposure to particulate matter, carbon monoxide, diesel fumes, and other potential health hazards. Measures identified in HRAs shall be included into the site development plan as a component of each applicable individual development project.</p>		
<p>Impact 3.2-4: General Plan implementation would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.</p>	<p>None Required</p>	<p>Less than Significant</p>	<p>Less than Significant</p>

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.2-5: General Plan implementation, in combination with other cumulative development, would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants.	None Required	Potentially Significant	Significant and Unavoidable
Impact 3.2-6: General Plan implementation, in combination with other cumulative development, would not expose sensitive receptors to substantial pollutant concentrations.	Implement MM 3.2-1	Potentially Significant	Less than Significant
Impact 3.2-7: General Plan implementation, in combination with other cumulative development, would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	None Required	Less than Significant	Less than Significant
SECTION 3.3—BIOLOGICAL RESOURCES			
Impact 3.3-1: Development facilitated by the General Plan would not have a substantial adverse effect, either directly or through habitat modifications, on candidate, sensitive, or on special-status species.	None Required	Less than Significant	Less than Significant
Impact 3.3-2: Development facilitated by the General Plan would not have a substantial adverse effect on riparian habitats, other sensitive natural communities, federally protected wetlands, or waters of the United States and/or State, through direct removal, filling, or hydrological interruption.	None Required	Less than Significant	Less than Significant
Impact 3.3-3: Development facilitated by the General Plan would not 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.	None Required	Less than Significant	Less than Significant
Impact 3.3-4: Development facilitated by the General Plan would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	None Required	Less than Significant	Less than Significant
Impact 3.3-5: Development facilitated by the General Plan would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.	None Required	Less than Significant	Less than Significant

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IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<p>Impact 3.3-6: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to biological resources.</p>	None Required	Less than Significant	Less than Significant
<p>SECTION 3.4—CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES</p>			
<p>Impact 3.4-1: Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.</p>	None Required	Less than Significant	Less than Significant
<p>Impact 3.4-2: Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.</p>	None Required	Less than Significant	Less than Significant
<p>Impact 3.4-3: Development facilitated by the Project has the potential to disturb human remains, including those interred outside of formal cemeteries.</p>	None Required	Less than Significant	Less than Significant
<p>Impact 3.4-4: Development facilitated by the Project has the potential to 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, and that is: 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); and/or 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.</p>	None Required	Less than Significant	Less than Significant
<p>Impact 3.4-5: Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to cultural resources.</p>	None Required	Less than Significant	Less than Significant
<p>SECTION 3.5—ENERGY</p>			

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.5-1: Development facilitated by the General Plan would not result in the wasteful, inefficient, or unnecessary consumption of energy during project construction or operation, including transportation energy.	None Required	Less than Significant	Less than Significant
Impact 3.5-2: Implementation of the General Plan would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.	None Required	Less than Significant	Less than Significant
Impact 3.5-3: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to energy resources.	None Required	Less than Significant	Less than Significant
SECTION 3.6—GEOLOGY, SOILS, AND SEISMICITY			
Impact 3.6-1: Development facilitated by the General Plan would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death from rupture of an earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.	None Required	Less than Significant	Less than Significant
Impact 3.6-2: Development facilitated by the General Plan would not result in substantial soil erosion or the loss of topsoil.	None Required	Less than Significant	Less than Significant
Impact 3.6-3: Development facilitated by the General Plan would not result in a significant impact related to development on unstable geologic units or soil, or geologic units or that would become unstable, or result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.	None Required	Less than Significant	Less than Significant
Impact 3.6-4: Development facilitated by the General Plan would not result in the construction of structures on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	None Required	Less than Significant	Less than Significant
Impact 3.6-5: Development facilitated by the General Plan would not place septic tanks or alternative wastewater disposal systems in areas where soils are not capable of supporting such uses.	None Required	Less than Significant	Less than Significant
Impact 3.6-6: Development facilitated by the General Plan could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	MM 3.6-6: If any paleontological resources (fossils) or unique geologic features are discovered	Potentially Significant	Less than Significant

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IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p>during grading or construction activities within the project area, work shall be halted immediately within 50 feet of the discovery, and the Town Planning Division shall be immediately notified. The project applicant will retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with Society of Vertebrate Paleontology guidelines (SVP 2010). The recovery plan may include but is not limited to a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the Town to be necessary and feasible will be implemented by the applicant before construction activities resume in the area where the paleontological resources were discovered.</p>		
<p>Impact 3.6-7: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to geology, soils, seismicity, or paleontological resources.</p>	<p>Implement Mitigation Measure 3.6-1</p>	<p>Potentially Significant</p>	<p>Less than Significant</p>

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
SECTION 3.7—GREENHOUSE GAS EMISSIONS			
Impact 3.7-1: Development facilitated by the General Plan could directly or indirectly generate GHG emissions that may have a significant impact on the environment.	None Required	Potentially Significant	Significant and Unavoidable
Impact 3.7-2: Development facilitated by the General Plan would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.	None Required	Less than Significant	Less than Significant
Impact 3.7-3: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, could result in significant cumulative impacts with respect to GHG emissions.	None Required	Potentially Significant	Significant and Unavoidable
SECTION 3.8—HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.8-1: Development facilitated by the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	None Required	Less than Significant	Less than Significant
Impact 3.8-2: Development facilitated by the Project has the potential 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.	None Required	Less than Significant	Less than Significant
Impact 3.8-3: Development facilitated by the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	None Required	Less than Significant	Less than Significant
Impact 3.8-4: Development facilitated by the Project has the potential to 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, create a significant hazard to the public or the environment.	None Required	Less than Significant	Less than Significant
Impact 3.8-5: Development facilitated by the Project would not be 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, and would not result in a safety hazard or excessive noise for people residing or working in the project area.	None Required	Less than Significant	Less than Significant

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IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.8-6: Development facilitated by the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	None Required	Less than Significant	Less than Significant
Impact 3.8-7: Development facilitated by the Project has the potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	None Required	Less than Significant	Less than Significant
Impact 3.8-7: Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to hazards and hazardous materials.	None Required	Less than Significant	Less than Significant
SECTION 3.9—HYDROLOGY AND WATER QUALITY			
Impact 3.9-1: Development facilitated by the Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.	None Required	Less than Significant	Less than Significant
Impact 3.9-2: Development facilitated by the Project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	None Required	Less than Significant	Less than Significant
Impact 3.9-3: Development facilitated by the Project has the potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.	None Required	Less than Significant	Less than Significant
Impact 3.9-4: Development facilitated by the Project has the potential to risk release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zone.	None Required	Less than Significant	Less than Significant
Impact 3.9-5: Development facilitated by the Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	None Required	Less than Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.9-6: Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to hydrology and water quality.	None Required	Less than Significant	Less than Significant
SECTION 3.10—LAND USE			
Impact 3.10-1: Development facilitated by the General Plan would not physically divide an established community.	None Required	Less than Significant	Less than Significant
Impact 3.10-2: Implementation of the General Plan would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	None Required	Less than Significant	Less than Significant
Impact 3.10-3: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to the potential to physically divide an established community.	None Required	Less than Significant, less than cumulatively considerable	Less than Significant, less than cumulatively considerable
Impact 3.10-4: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	None Required	Less than Significant, less than cumulatively considerable	Less than Significant, less than cumulatively considerable
SECTION 3.11—NOISE			
Impact 3.11-1: General Plan 2040 implementation may result in exposure to significant traffic noise sources.	None Required	Less than Significant	Less than Significant
Impact 3.11-2: Development facilitated by the General Plan 2040 would not generate excessive groundborne vibration or groundborne noise levels.	MM 3.11-2: Construction Vibration: . <i>Prior to issuance of grading permits for any project that is located within 150 feet of a historic structure that is depicted in Figure DT-3 of the General Plan and, if construction activities will require either: (1) pile driving within 150 feet; or (2) utilization of mobile construction</i>	Potentially Significant	Less than Significant

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IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p><i>equipment within 50 feet of the historic structure, the property owner/developer shall retain an acoustical engineer to prepare a vibration plan for Town review and approval. The vibration plan shall determine the vibration levels created by construction activities at the historic structure. If necessary, the vibration plan shall require the developer to implement specific measures to reduce the vibration levels to meet Caltrans thresholds.</i></p>		
<p>Impact 3.11-3: Implementation of the General Plan 2040 would not result in cumulatively substantial increases in ambient noise levels and vibration in excess of standards established by the local general plan, noise ordinance, or applicable standards of other agencies.</p>	None Required	Less than Significant	Less than Significant
<p>SECTION 3.12—POPULATION AND HOUSING</p>			
<p>Impact 3.12-1: Development facilitated by the General Plan would not induce substantial unplanned population growth either directly or indirectly (for example, through extension of roads or other infrastructure) and would not displace a substantial number of people requiring the construction of new housing.</p>	None Required	No Impact	No Impact
<p>Impact 3.12-2: Development facilitated by the General Plan would not cumulatively induce substantial unplanned population growth either directly or indirectly and would not cumulatively displace a substantial number of people requiring the construction of new housing.</p>	None Required	No Impact	No Impact

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
SECTION 3.13—PUBLIC SERVICES AND RECREATION			
Impact 3.13-1: Development facilitated by the General Plan would not result in the provision of or need for new or physically altered fire protection facilities, police protection facilities, school facilities, and library facilities, the construction or operation of which could cause significant environmental impacts.	None Required	Less than Significant	Less than Significant
Impact 3.13-2: Implementation of the General Plan would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur, or be accelerated.	None Required	Less than Significant	Less than Significant
Impact 3.13-3: Implementation of the General Plan would include or require the construction or expansion of parks and other recreational facilities, which might have an adverse physical effect on the environment.	None Required	Less than Significant	Less than Significant
Impact 3.13-4: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to fire protection facilities, police protection facilities, school facilities, library facilities, parks, and recreational facilities.	None Required	Less than Significant	Less than Significant
SECTION 3.14—TRANSPORTATION			
Impact 3.14-1: Implementation of General Plan would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	None Required	No Impact	No Impact
Impact 3.14-2: Development facilitated by the General Plan would not conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b).	MM 3.14-2: <i>When the Town receives an application for a project subject to CEQA, it shall apply the "Screening Thresholds for Land Use Projects" set forth in OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA. If the project would exceed the screening thresholds, or other evidence demonstrates a potentially</i>	Potentially Significant	Significant and Unavoidable

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IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
	<p><i>significant VMT impact, the Town shall require the applicant to prepare a quantitative, project-level VMT analysis. If the analysis shows that the project would exceed the applicable numeric threshold of significance, the Town shall require the applicant to prepare and submit a VMT Reduction Plan for Town review and approval. The VMT Reduction Plan shall incorporate mandatory measures sufficient to reduce project VMT below the applicable numeric threshold of significance. The VMT Reduction Plan may include, without limitation, a TDM program; pedestrian, bicycle, or transit network improvements; car sharing or ride sharing programs; transit subsidies; telecommuting or alternative work schedules; and/or any other measures sufficient to reduce VMT below the applicable threshold.</i></p>		
<p>Impact 3.14-3: Development facilitated by the General Plan would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</p>	<p>None Required</p>	<p>Less than Significant</p>	<p>Less than Significant</p>
<p>Impact 3.14-4: Implementation of the General Plan would not result in inadequate emergency access.</p>	<p>None Required</p>	<p>Less than Significant</p>	<p>Less than Significant</p>

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 3.14-5: Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to transportation.	None Required	Significant and Unavoidable	Significant and unavoidable and cumulatively considerable.
SECTION 3.15—UTILITIES AND SERVICE SYSTEMS			
Impact 13.15-1: General Plan 2040 implementation may result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.	None Required	Potentially Significant	Significant and Unavoidable
Impact 13.15-2: General Plan 2040 implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	None Required	Potentially Significant	Significant and Unavoidable
Impact 13.15-3: Project and Cumulative Need for System Infrastructure.	None Required	Potentially Significant	Significant and unavoidable and cumulatively considerable
Impact 13.15-4: General Plan 2040 implementation along with cumulative development could result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.	None Required	Potentially Significant	Significant and unavoidable and cumulatively considerable
Impact 13.15-5: General Plan 2040 implementation would not have the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments.	None Required	Potentially Significant	Significant and Unavoidable
Impact 13.15-6: General Plan 2040 implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects.	None Required	Potentially Significant	Significant and Unavoidable
Impact 13.15-7: Project and Cumulative Need for System Infrastructure and Facilities.	None Required	Potentially Significant	Significant and unavoidable and cumulatively considerable
Impact 13.15-8: General Plan 2040 implementation along with cumulative development could result in insufficient wastewater treatment capacities available to serve the Town and reasonably foreseeable future development.	None Required	Potentially Significant	Significant and unavoidable and cumulatively considerable

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IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
Impact 13.15-9: General Plan 2040 implementation would not require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.	None Required	Less than Significant	Less than Significant
Impact 13.15-10: Project and Cumulative Need for System Infrastructure and facilities including relocation or construction of new or expanded storm water drainage facilities.	None Required	Less than Significant	Less than significant and less than cumulatively considerable.
Impact 13.15-11: General Plan 2040 implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, would not generate solid waste in excess of State or local standards or otherwise impair the attainment of solid waste reduction goals, and would not exceed of the capacity of local infrastructure.	None Required	Less than Significant	Less than Significant
Impact 13.15-12: Under cumulative conditions the Project would not generate solid waste in excess of State or local standards or otherwise impair the attainment of solid waste reduction goals, and would not exceed of the capacity of local infrastructure.	None Required	Less than Significant	Less than significant and less than cumulatively considerable.
SECTION 3.16—WILDFIRE			
Impact 3.16-1: Development allowed under the General Plan 2040 in or near State responsibility areas or lands classified as very high fire hazard severity zones would not substantially impair an adopted emergency response plan or emergency evacuation plan.	None Required	Less than Significant	Less than Significant
Impact 3.16-2: Development under the General Plan 2040 in areas located in or near State responsibility areas or lands classified as very high fire hazard severity zones would not, 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 wildfire.	None Required	Less than Significant	Less than Significant
Impact 3.16-3: Implementation of the General Plan 2040 in areas located in or near State responsibility areas or lands classified as very high fire hazard severity zones may require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities); however, the installation and maintenance of such infrastructure would not substantially exacerbate fire risk or result in significant temporary or ongoing impacts to the environment.	None Required	Less than Significant	Less than Significant
Impact 3.16-4: Development facilitated by the General Plan 2040 in areas located in or near State responsibility areas or lands classified as very high fire hazard severity zones	None Required	Less than Significant	Less than Significant

IMPACTS	MITIGATION MEASURES	LEVEL OF SIGNIFICANCE BEFORE MITIGATION	LEVEL OF SIGNIFICANCE AFTER MITIGATION
could substantially 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.			
Impact 3.16-5: Development facilitated by the General Plan 2040, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to wildfire.	None Required	Less than Significant	Less than Significant



1.0 INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) was prepared in accordance with and in fulfillment of the California Environmental Quality Act (CEQA) and the CEQA Guidelines. As described in CEQA Guidelines Section 15121(a), an EIR is a public information document that assesses the potentially significant environmental impacts of a project. CEQA requires that an EIR be prepared by the agency with primary responsibility over the approval of a project (the lead agency). The Town of Tiburon (Town) is the lead agency for the proposed Tiburon General Plan 2040 (General Plan 2040 or Project). Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development where feasible and have the obligation to balance economic, environmental, and social factors.

The General Plan 2040 will be Tiburon's roadmap for the future. It describes the community's long-term vision and sets forth goals, policies, and programs to manage growth, direct land use decision making, and preserve the environment and character of the community. The State of California requires every town, city, and county to have a general plan to guide future development, preserve open space, conserve resources, and provide for public health, safety, and welfare. Local ordinances and other plans must be generally consistent with the general plan and applicable policies and programs.

Through an extensive public outreach effort, the Town engaged the public in gathering input that would ensure that Tiburon retains its unique character well into the future. Community members provided their input and feedback through a series of public workshops, meetings, and surveys. Throughout the General Plan update process, the Town's boards and commissions reviewed existing General Plan policies and programs related to their area of expertise, considered public input, and provided recommendations.

The General Plan 2040 has been developed to be largely self-mitigating in that the goals, policies, and programs in the General Plan 2040 recognize the importance of natural environment and are designed to protect the environment and environmental resources. In certain instances, mitigation is included to reinforce and enhance the protections identified in the policies and programs. Even with the implementation of General Plan 2040 policies and identified EIR mitigation measures, there would still be significant and unavoidable impacts for Air Quality, Greenhouse Gas Emissions, Transportation, and Utilities and Service Systems.

1.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The Town, as lead agency, determined that the General Plan 2040 is a "project" under CEQA. CEQA requires the preparation of an EIR prior to approving any project that may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action which has the potential for resulting in a direct physical change or

a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378(a)).

This Draft EIR has been prepared according to CEQA requirements to evaluate the potential environmental impacts associated with the implementation of the General Plan 2040. The purpose of this Draft EIR is to inform public agency decision-makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental effects that may result from continued implementation of the Town's policies and the General Plan 2040.

This Draft EIR also discusses alternatives to the General Plan 2040 and, when appropriate, proposes mitigation measures that would offset, minimize, or otherwise avoid potentially significant environmental impacts. This Draft EIR is intended to provide decision-makers and the public with information that enables consideration of the environmental consequences of the General Plan 2040, and has been prepared in accordance with CEQA (California Public Resources Code [PRC] Section 21000 *et seq.*) and the CEQA Guidelines (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3).

1.2 TYPE OF ENVIRONMENTAL IMPACT REPORT

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This Draft EIR has been prepared as a Program EIR pursuant to CEQA Guidelines Section 15168. Section 15168 states:

A Program EIR is an EIR that may be prepared on a series of actions that can be characterized as one large project and are related either:

1. Geographically,
2. As logical parts in the chain of contemplated actions,
3. In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

A program-level analysis considers the broad environmental effects of the Project. This Draft EIR will be used to evaluate subsequent projects and activities under the General Plan 2040.

This Draft EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering approval of the Project, but not to the level of detail to consider approval of subsequent development projects that may occur after adoption of the General Plan 2040.

Additional environmental review under CEQA may be required for subsequent projects and would be generally based on the subsequent project's consistency with the General Plan and

the analysis in this Draft EIR, as required under CEQA. It may also be determined that some future projects or infrastructure improvements may be exempt from environmental review. When individual subsequent projects or activities are proposed under the General Plan, the lead agency that would approve and/or implement the individual project would examine the projects or activities to determine whether their effects were adequately analyzed in this Draft EIR (CEQA Guidelines Section 15168). If the projects or activities would have no effects beyond those disclosed in this Draft EIR, no further CEQA compliance would be required.

1.3 INTENDED USES OF THE ENVIRONMENTAL IMPACT REPORT

This Draft EIR is intended to evaluate the environmental impacts of the adoption and implementation of the General Plan. The document will serve as a source of information in the review of subsequent planning and development proposals, including subsequent environmental review of development projects, for infrastructure provision and individual development proposals, and for public facilities to serve new development.

1.4 AGENCIES AND APPROVALS

The term “Responsible Agency” includes all public agencies other than the lead agency that have discretionary approval power over the Project or an aspect of the Project (CEQA Guidelines Section 15381). For the purpose of CEQA, a “Trustee” agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386). While no Responsible Agencies or Trustee Agencies are responsible for approvals associated with adoption of the General Plan 2040, implementation of future projects may require permits or approvals from Trustee and Responsible Agencies, which may include, but are not limited to, the following:

- California Department of Fish and Wildlife (CDFW)
- California Department of Transportation (Caltrans) District 4
- Golden Gate Bridge, Highway, and Transportation District
- San Francisco Bay Conservation and Development Commission (BCDC)
- San Francisco Bay Regional Water Quality Control Board (RWQCB)
- Marin Local Agency Formation Commission (LAFCo)
- United States Army Corps of Engineers (USACE)
- United States Fish and Wildlife Service (USFWS)

1.5 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for this Draft EIR has involved, or will involve, the general procedural steps described below.

1.5.1 NOTICE OF PREPARATION

In accordance with CEQA Guidelines Section 15082, the Town circulated a Notice of Preparation (NOP) of an EIR for the General Plan on October 21, 2022, to Trustee and Responsible Agencies, the State Clearinghouse (SCH), and the public. The 30-day public review period for the NOP ended on November 28, 2022. A scoping meeting was held on October 27, 2022. The NOP and all comment letters received on the NOP are presented in Appendix A.

The Town received seven comment letters on the NOP. Comments on the NOP included the following topics and issue areas:

- Biological resources concerns, including potential temporary or permanent impacts to sensitive habitats, sensitive species, and aquatic/riparian resources;
- Loss or modification of breeding, nesting, dispersal and foraging habitat, including vegetation removal, alternation of soils and hydrology, and removal of habitat structural features;
- Land use changes that would reduce open space or agricultural land uses and increase residential or other land use involving increased development;
- Concern that the Planning Area is within a tsunami hazard area, and potential effects to development should a tsunami occur;
- Potential release of hazardous waste/substances or toxic air emissions during construction or as a permanent condition, and identification of remediation steps to be taken, if any;
- The proper handling and storage of hazardous materials including contaminated soils, lead-based paint, mercury, asbestos containing materials, and polychlorinated biphenyl caulk;
- The number and capacity of identified emergency evacuation routes, possible traffic chokepoints, and potential exacerbation of hazards during a natural disaster;
- Traffic congestion on main arterials and evacuation routes such that it could impede emergency vehicle access within the Town;
- Sea level rise as a result of climate change, and the potential for downtown properties to be affected;
- Increased traffic issues including congestion and parking;
- Concerns about the provision of parking for both residences, businesses, and tourists;
- Concerns about secondary effects of reducing or eliminating retail square footage downtown in favor of high-density residential uses;
- Ability for service providers to continue providing adequate services and infrastructure to the growing Town;
- Availability of adequate affordable transportation options particularly as it relates to employment commute patterns;
- Risk of wildfire, particularly in urban-wildland interface zones;

- Whether possible increased building heights, especially in Downtown, could affect aesthetic resources;
- Concerns about proposed locations of high-density residential uses in the Town;
- Comments regarding population increases anticipated in the Town;
- Questions about whether the proposed Housing Element, a part of the proposed General Plan, is also being evaluated in the EIR;
- Potential short-term and long-term impacts to businesses including economic losses, business relocations, business closures, and inconvenience; and
- Requests to conduct California Historical Research Information System (CHRIS) Center record search for archaeological resources, contact the Native American Heritage Commission (NAHC) for a Sacred Lands File search, engage in appropriate Native American Tribal consultation in accordance with Assembly Bill 52 (AB 52) and Senate Bill 18 (SB 18), and appropriately mitigate potential impacts to archaeological or Tribal Cultural Resources.

All of the issues raised in the comment letters on the NOP are addressed in the Draft EIR, with one exception. CEQA Guidelines Section 15131(a) states, "Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes." Concerns such as a business's potential loss of clients during construction on a nearby parcel, for example, would not be analyzed unless there is a direct physical change to the environment. Issues such as general inconvenience of construction activities are not addressed. However, direct physical effects of construction activities such as the creation of noise, air emissions, and temporary road detours are discussed in the Draft EIR. Potential effects to individual parcels or businesses are not discussed as it would be speculative to identify exactly which, and to what level, physical effects would occur.

1.5.2 PUBLIC NOTICE/PUBLIC REVIEW

Upon publication of the Draft EIR for the General Plan 2040, the Town will file a Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research to begin the public review period (PRC Section 21161).

Concurrent with the NOC, the Town will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA requirements, the review period for this Draft EIR will be no less than 45 days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Dina Tasini, Director of Community Development
Town of Tiburon
1505 Tiburon Boulevard
Tiburon, CA 94920
dtasini@townoftiburon.org

The Town will host a public Open House to inform the public about the General Plan 2040 and the Draft EIR. The Open House will be held on April 29, 2023 from 10:00 am to 12:00pm at the Town Hall, Council Chambers, 1505 Tiburon Boulevard, Tiburon. Further, the public may provide comments on the EIR at one or more public hearings before the Planning Commission and/or Town Council. Notice of public hearings will be posted on the Town's website, in the local newspaper, and through direct mailing to interested parties that have requested notification.

1.5.3 RESPONSE TO COMMENTS ON THE DRAFT EIR/FINAL EIR

Following the public review period on the Draft EIR, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period. The Final EIR may also include corrections, clarification, and additional explanatory information that is being added to the Draft EIR.

1.5.4 CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The Town Council is the decision-making body on the Project and Draft EIR. If the Town Council finds that the Final EIR is "adequate and complete," they may certify the Final EIR in accordance with CEQA Guidelines. As set forth by CEQA Guidelines Section 15151, the standards of adequacy require an EIR to provide a sufficient degree of analysis to allow decisions to be made regarding the Project that take account of environmental consequences.

Upon review and consideration of the Final EIR, the Town Council may take action to approve, revise, or reject the General Plan 2040. A decision to approve the Project, for which this Draft EIR identifies significant environmental effects, must be accompanied by written findings in accordance with CEQA Guidelines Sections 15091 and 15093. A Mitigation Monitoring and Reporting Program (MMRP) would also need to be adopted in accordance with CEQA Guidelines Section 15097. The MMRP will list all mitigation measures that have been incorporated into or imposed upon the Project to reduce or avoid significant effects on the environment. The MMRP will be designed to ensure that these measures are carried out during Project implementation, in a manner that is consistent with the Final EIR.

1.6 ORGANIZATION AND SCOPE

CEQA Guidelines Sections 15122 through 15132 identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, cumulative impacts, and alternatives to the Project. The environmental issues addressed in the Draft EIR were established through review of environmental and planning documentation developed for the General Plan 2040, environmental and planning documentation prepared for recent projects located within the Town, and responses to the NOP and public scoping meeting comments.

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the General Plan 2040, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the General Plan 2040's environmental impacts and mitigation measures consistent with CEQA Guidelines Section 15123.

CHAPTER 1.0—INTRODUCTION

This chapter briefly describes the General Plan 2040, the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, identifies the scope and organization of the Draft EIR, and summarizes comments received on the NOP.

CHAPTER 2.0—PROJECT DESCRIPTION

This chapter provides a detailed description of the General Plan 2040, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA Guidelines, subsequent projects and activities, and a list of related agency action requirements.

CHAPTER 3.0—ENVIRONMENTAL IMPACT ANALYSIS

This chapter contains the analysis of environmental topic areas as identified below. Each section contains a description of the existing environment as it pertains to the topical area as well as a description of the regulatory environment that may be applicable to the General Plan. Each section also identifies thresholds of significance by which impacts are determined, a description of Project-related impacts and cumulative impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this chapter:

- 3.1 Aesthetics
- 3.2 Air Quality
- 3.3 Biological Resources
- 3.4 Cultural and Tribal Cultural Resources
- 3.5 Energy
- 3.6 Geology, Soils, and Seismicity
- 3.7 Greenhouse Gas Emissions
- 3.8 Hazards and Hazardous Materials
- 3.9 Hydrology and Water Quality
- 3.10 Land Use and Planning
- 3.11 Noise
- 3.12 Population, Housing, and Employment
- 3.13 Public Services and Recreation
- 3.14 Transportation
- 3.15 Utilities and Service Systems
- 3.16 Wildfire

CHAPTER 4.0—ALTERNATIVES TO THE PROJECT

This chapter provides a comparative analysis of the General Plan 2040 and the selected alternatives, including the mandatory “No Project” alternative. CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the General Plan 2040, which could feasibly attain the basic objectives of the Project and avoid and/or lessen any significant environmental effects of the Project.

CHAPTER 5.0—OTHER CEQA CONSIDERATIONS

This chapter evaluates and describes the following CEQA required topics: impacts considered less than significant, significant and irreversible impacts, growth-inducing effects, cumulative impacts, and significant and unavoidable environmental effects.

CHAPTER 6.0—EFFECTS FOUND NOT TO BE SIGNIFICANT

This chapter would analyze potential impacts resulting from conversion of agriculture and forest lands to non-agriculture and non-forest uses, and loss of any known significant mineral occurrences. Given the location of the Town in the urbanized context of the San Francisco Bay Area and the lack of mineral resources in the area, these resources are anticipated to not be major considerations for the General Plan. 2040 Existing conditions and regulations will be summarized.

CHAPTER 7.0—PERSONS AND ORGANIZATIONS CONSULTED—LIST OF PREPARERS

This chapter lists all authors and agencies that assisted in the preparation of the Draft EIR, by name, title, and company or agency affiliation.

APPENDICES

This chapter includes the NOP and other procedural documents pertinent to the Draft EIR, as well as technical material prepared to support the analysis.



2.0 PROJECT DESCRIPTION

2.1 BACKGROUND AND OVERVIEW

2.1.1 STATE GENERAL PLAN LAW

California Government Code Section 65300 *et seq.* requires all counties and cities to prepare and maintain a general plan for the long-term growth, development, and management of the land within the jurisdiction's planning boundaries. The general plan acts as a "constitution" for development and is the jurisdiction's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards) are required by law to be consistent with the general plan.

General plans must address a broad range of topics, including, at a minimum, the following mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. General plans must also address the topics of environmental justice and climate change and resiliency planning, either as separate elements or as part of other required elements. At the discretion of each jurisdiction, the general plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction.

The California Government Code also requires that a general plan be comprehensive, internally consistent, and plan for the long term. The general plan should be clearly written, easy to administer, and available to all those concerned with the community's development.

State planning and zoning law (California Government Code Section 65000 *et seq.*) establishes that zoning ordinances are required to be consistent with the general plan and any applicable specific plans, area plans, master plans, and other related planning documents. When amendments to the general plan are made, corresponding changes in the zoning ordinance may be required within a reasonable time to ensure consistency between the revised land use designations in the general plan (if any) and the permitted uses or development standards of the zoning ordinance (Gov. Code Section 65860(c)).

2.1.2 GENERAL PLAN 2040 PROCESS

The Town's current General Plan (2020 General Plan) was last comprehensively updated in 2005 with adoption of the 2020 General Plan. This document sought to further guide the Town's physical development while recognizing the Town's scenic location, small town character, and vast network of open space. Since that time, the 2020 General Plan has been periodically amended, including updates to the Circulation Element in 2016 and adoption of the updated Housing Element in 2014. Land uses in the Town of Tiburon have been developed based on the Land Use Map, goals, and policies established by the 2020 General Plan.

The proposed project (2040 General Plan or Project) is the update of the 2020 General Plan.

Stakeholder Interviews

From November 2020 to January 2021, the 2040 General Plan team conducted 12 stakeholder interviews and 3 focus groups with community organizations, homeowners' associations, nonprofits and public agencies to understand key issues and opportunities to be explored further in the 2040 General Plan. The following groups contributed their feedback in on-line discussions:

- Major Downtown property owners
- Tiburon Peninsula Chamber of Commerce
- Downtown merchants
- Homeowners associations
- Sierra Club
- Marin Conservation League
- Marin Audubon
- Belvedere/Tiburon Recreation District
- Belvedere Tiburon Library/Library Foundation
- Reed Union School District
- Golden Gate Bridge and Transportation District
- City of Belvedere (Planning and Public Works)
- Tiburon Fire Protection Agency
- Marin Transit District
- Marin County Public Works Department

Website Survey

In January 2021 the Create Tiburon 2040 website was launched, providing a platform for a series of community surveys on specific topics. The first survey, "Setting Priorities," was advertised through a variety of means: a mailer introducing the General Plan 2040 process sent to all households and businesses; an article in Tiburon Talk; Next Door; and a banner at the Blackie's Pasture sign. As of the close of the survey on February 22, 2021, 448 participants had taken the Setting Priorities survey.

Workshops, Presentations, and Surveys

In an effort to collect input from the community regarding a number of targeted topics, the Town conducted workshops, made presentations, and launched polls.

Workshops and Presentations

- Adapting to Sea Level Rise Workshop and Presentation, March 2, 2021
- Safety, Parks, and Open Space Workshop and Presentation, March 30, 2021
- Downtown Workshop and Presentation, April 27, 2021
- Housing I Workshop and Presentation, November 9, 2021
- Housing II Workshop and Presentation, February 22, 2022
- Mobility & Noise Workshop and Presentation, March 22, 2022

Web Surveys

- Adapting to Sea Level Rise web survey, survey closed on March 29, 2021
- Safety, Parks, and Open Space web survey, survey closed on April 26, 2021
- Downtown web survey, survey closed on June 7, 2021
- Housing I web survey, survey closed on January 10, 2022
- Sustainability web survey, survey closed on February 24, 2022
- Housing II web survey, survey closed April 20, 2022
- Mobility & Noise web survey, survey closed on May 6, 2022

Town Council and Planning Commission Briefings

Town staff and consultants briefed the Town Council and Planning Commission throughout the planning process.

- Community Engagement and Guiding Principles Presentation, Town Council, March 3, 2021
- Presentation to the Parks, Open Space, and Trails Commission, March 16, 2021
- Safety and Resilience Presentation, Planning Commission, April 28, 2021
- Open Space, Conservation, Parks and Recreation Presentation, Planning Commission, June 9, 2021
- Downtown Presentation, Planning Commission, June 23, 2021
- Downtown Presentation (second one), Planning Commission, August 26, 2021
- Mid-Course Review Presentation, Town Council, January 19, 2022
- Housing Opportunity Sites and Rezoning Proposal Presentation, Planning Commission, March 23, 2022

- Housing Opportunity Sites and Rezoning Proposal Presentation, Town Council, April 20, 2022
- Housing Opportunity Site (Mar West) Presentation, Town Council, June 15, 2022
- Draft Housing Element Presentations, Town Council, August 3 and 31, 2022
- Response to California Department of Community Development's Comments on the Draft Housing Element Presentations, January 18 and 25, 2023

Scoping Meeting

The Town circulated a NOP of an EIR for the General Plan 2040 on October 21, 2022 to Trustee and Responsible Agencies, the State Clearinghouse, and the public. A scoping meeting was held over Zoom on October 27, 2022 to provide an opportunity for agency representatives and the public to assist the Town in determining the scope and content of the EIR. The NOP comment period closed on November 28, 2022.

2.2 PROJECT LOCATION

The Town is located on a peninsula which extends from southeastern Marin County into San Francisco Bay, approximately seven miles north of the City of San Francisco. Tiburon is located among the cities which line San Francisco Bay and make up the greater Bay Area. Primary access to Tiburon is by U.S. Highway 101, which connects to San Francisco to the south and San Rafael and Sonoma County to the north (see Figure 2.0-1 and Figure 2.0-2). Tiburon is also served by private ferry service to and from San Francisco, Sausalito, and Angel Island.

There are three key boundary lines addressed by the Project, which make up the study area for the General Plan 2040 EIR. These include the Town Limits, the Sphere of Influence (SOI), and the Planning Area.

Town Limits: Includes the area within the Town's corporate boundary, over which the Town exercises land use authority and provides public services.

Sphere of Influence (SOI): The probable physical boundary and service area of the Town, as adopted by the Local Agency Formation Commission (LAFCO). An SOI may include both incorporated and unincorporated areas within which a city, town, or special district will have primary responsibility for the provision of public facilities and services.

Planning Area: For the purposes of the General Plan 2040, the Planning Area is the geographic area for which the General Plan 2040 provides a framework for long-term plans for growth, resource conservation, and service provision. State law requires the General Plan 2040 to include all territory within Tiburon's incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (California Government Code Section 65300). The Planning

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Area for the General Plan 2040 is made up of the incorporated Town of Tiburon, the unincorporated properties which are located along Paradise Drive, and the unincorporated properties located north of Tiburon Boulevard between the Town's western corporate limits and U.S. Highway 101.

2.3 PROJECT OBJECTIVES

The Tiburon General Plan 2040 Update is intended to reflect the desires and vision of Tiburon's residents, businesses, Planning Commission, Town Council, and other decision-makers for the future development and operation of Tiburon.

The following objectives are identified for the General Plan 2040:

Sense of Place. Preserve and enhance Tiburon's quality of life and small-town feel by enhancing access to scenic public open spaces and protecting important historic, cultural, and artistic resources that highlight the Town's social and architectural history.

Economic Vitality. Support a local economy, including a vibrant Downtown, that provides a wide range of services and amenities to serve the local population, while accommodating tourism.

Balanced Growth. Focus new development in Downtown and in areas adjacent to Tiburon Boulevard while preserving existing neighborhoods and open space.

Mobility. Provide a balanced transportation system that accommodates automobiles while enhancing transportation connections for pedestrians, bicycles, transit services, and new technology.

Healthy Lifestyles and Community Connections. Promote physical health and wellness by improving outdoor recreational facilities and public gathering places, trail connections and signage, and by providing quality recreation programs to residents of all ages, abilities, and economic means.

Equity. Promote social equity and inclusiveness in the creation of public policies, and ensure the just and equitable provision of public facilities and services.

Housing. Protect and enhance residential neighborhoods' quality of life, and support the development of more diverse and affordable housing opportunities.

Safety. Provide a safe community through public safety services, resilient infrastructure, and public preparedness.

Environmental Resources. Protect and enhance open spaces and natural resources that contribute to Tiburon's unique identity and scenic beauty.

Climate Change and Resilience. Reduce greenhouse gas emissions and increase community resilience by preparing for the effects of climate change, including increased wildfires and sea level rise.

2.4 DESCRIPTION OF GENERAL PLAN 2040 PROJECT

The Town is preparing a comprehensive update to its existing General Plan, which was prepared in 2005 (with updates to the Circulation Element in 2016 and adoption of the updated Housing Element in 2014). The General Plan 2040 will guide the Town's development and conservation of its resources. The Plan is intended to be an expression of the community's vision for the Town and Planning Area and constitutes the policy and regulatory framework by which future development projects will be reviewed and public improvements will be implemented. The Town will implement the Plan by requiring development, infrastructure improvements, and other projects to be consistent with its policies and by implementing the actions included in the Plan. The key components of the General Plan 2040 will include broad goals for the future of Tiburon, and specific policies and actions that will help implement the stated goals.

State law requires the Town to adopt a comprehensive, long-term general plan for the physical development of its planning area. The Plan must include land use, circulation, housing, conservation, open space, noise, and safety elements, as specified in Government Code Section 65302, to the extent that the issues identified by State law exist in the Town's planning area. Additional elements that relate to the physical development of the Town may also be addressed in the Plan. The degree of specificity and level of detail of the discussion of each Plan element need only reflect local conditions and circumstances. The Plan has been prepared to address the requirements of State law and the relevant items addressed in Government Code Section 65300 et seq.

This Draft EIR analyzes potential impacts to the environment associated with implementation and buildout of the General Plan 2040, which includes future development projects, infrastructure improvements, and the implementation of policies and actions included in the General Plan 2040. These General Plan 2040 components are described in greater detail below.

2.4.1 GENERAL PLAN 2040 ELEMENTS

The General Plan 2040 will include a comprehensive set of goals, policies, and actions (implementation measures), as well as a revised Land Use Map (see Figure 2.0-3 and Figure 2.0-4). The State requires that a general plan contain seven mandatory elements: Land Use, Circulation, Open Space, Conservation, Safety, Noise, and Housing, as well as address issues related to climate adaptation and resiliency planning and environmental justice, either as separate Elements or as components of the required Element framework. The General Plan 2040 is organized into eleven chapters, and include discussions of the State-mandated elements:

- **Land Use** describes land use in Tiburon and how and where new development will occur.

- **Downtown** describes the Downtown’s geography, history, built character, circulation patterns, and role as a commercial, cultural, and recreational destination.
- **Housing** describes the need for housing, especially housing affordable to lower and moderate-income households, and sites available for housing.
- **Diversity, Equity + Inclusion** addresses environmental justice and how the Town will build a more diverse, equitable and inclusive community.
- **Mobility** provides an overview of the circulation network and traffic operations, and parking, public transportation, bicycle, and pedestrian facilities.
- **Noise** identifies existing and future noise sources and noise levels in Tiburon.
- **Sustainability** describes concepts of sustainability, provides an overview of climate change impacts, and addresses how the Town will reduce greenhouse gas emissions and become a more sustainable community.
- **Conservation** covers natural communities and ecological resources, watersheds and waterways, water resources, water and air quality, and cultural and historical resources.
- **Open Space, Parks + Recreation** addresses the protection, maintenance and enhancement of Tiburon’s open space areas, parks, recreational facilities, and scenic resources.
- **Safety + Resilience** describes environmental and human-caused hazards, including earthquake, flood, sea level rise, and fire, and addresses potential risks to the community.

Table 2-1 shows the relationship of the General Plan 2040 chapters to the State-mandated elements.

2.1 PROJECT DESCRIPTION

The project analyzed in the Draft EIR would update the 2020 General Plan, including goals, objectives, policies, and programs that address the maintenance, preservation, improvement, and development of the Town. Land in Tiburon is classified according to three broad land use categories: residential areas, commercial areas, and community and natural resource areas.

Residential land use designations are applied to areas appropriate for single-family, two-family, multifamily, manufactured home, and accessory dwelling housing options. The Town’s residential neighborhoods support a range of lifestyles and household income levels.

Mixed Use and Commercial land use designations are applied to areas appropriate for retail and commercial services to serve residents and visitors and multifamily residential uses mixed in with commercial uses.

TABLE 2-1 LOCATION OF STATE-MANDATED ELEMENTS

STATE-MANDATED ELEMENT	TIBURON GENERAL PLAN 2040 CHAPTER
Land Use	Land Use; Safety + Resilience
Circulation	Mobility
Open Space	Open Space, Parks + Recreation
Conservation	Conservation
Safety	Safety + Resilience
Noise	Noise
Housing	Housing
Environmental Justice ¹	Diversity, Equity + Inclusion
<p><i>NOTE:</i> 1. An environmental justice element is required if a local jurisdiction has a disadvantaged community as defined by state law. Although Tiburon does not contain any such disadvantaged communities, environmental justice policies and programs are included in the General Plan 2040. SOURCE: Town of Tiburon, 2023.</p>	

Community and Natural Resource land use designations apply to open space, parks, and submerged and partially submerged lands. Natural areas, such as the woodlands, grasslands, and waterways, offer opportunities for preservation and conservation. Public facilities provide opportunities for social and community interaction and the provision of public utilities and services.

Table 2-2 identifies acreages for each land use designation in the Land Use Map. The greatest amount of land within the Tiburon town limits, excluding submerged and partially submerged land, is designated for residential use, encompassing nearly 51 percent of Tiburon’s land area. The second largest amount of land is designated for community and natural resource use, including 743 acres for Angel Island (designated Public/Quasi Public) and 473 acres for additional open space and parks. Commercial and mixed-use areas comprise 1 percent of Tiburon’s land area. Figure LU-1 shows the Town’s Land Use Map.

Table 2-3 details the Town’s land use designations and describes the general land uses intended for the category and applicable building density and/or intensity. For residential uses, residential density is shown in dwelling units per gross acre. Maximum residential density is calculated based on the gross acreage and then rounded down to the nearest whole number.

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TABLE 2-2 GENERAL PLAN 2040 LAND USE ACREAGE

LAND USE DESIGNATION	TOWN	SOI	PLANNING AREA	TOTAL
Residential Designations				
Low Density Residential	3.8	15.1	--	18.9
Planned Development - Residential	139.5	303.8	--	443.3
Medium Low Density Residential	264.5	75.6	--	340.1
Medium Density Residential	545.7	36.7	--	582.3
Medium High Density Residential	247.0	106.4	--	353.4
High Density Residential	51.8	7.9	--	59.7
Very High Density Residential	93.2	9.6	--	102.9
Very High Density-25 Residential	2.7	--	--	2.7
Subtotal Residential	1,348.2	555.10	-	1,903.2
Mixed Use And Commercial Designations				
Mixed Use	13.0	--	--	12.6
Main Street	0.1	--	--	0.1
Neighborhood Commercial	9.7	--	--	10.1
Neighborhood Commercial/Affordable Housing Overlay	1.0	--	--	1.0
Village Commercial	5.4	--	--	5.4
Shopping Commercial	--	3.3	--	3.3
Subtotal Mixed Use and Commercial	29.1	3.3	-	
Community And Natural Resource Designations				
Marine	6,781.0	150.3	--	6,931.3
Public/Quasi-Public	810.7	41.4	--	852.0
Open Space	408.1	84.7	308.6	801.5
Parks and Recreation	64.7	12.1	--	76.9
Not zoned/Right-of-way	0.2	--	--	0.2
Subtotal Other	8,064.7	288.5	308.6	8,661.9
Grand Total	9,442.1	846.9	308.6	10,597.5
SOURCE: Marin County GIS/Assessor Data, Town of Tiburon, De Novo Planning Group, 2022				

TABLE 2-3 LAND USE CATEGORIES

LAND USE DESIGNATION		ASSOCIATED ZONING DISTRICT(S)		RESIDENTIAL DENSITY AND BUILDING INTENSITY	DESCRIPTION
Residential Designations					
L	Low Density Residential	RPD	Residential Planned Development	Up to 0.5 dwelling units per acre	The Low Density Residential land use designation is applied to areas suitable for detached single-family homes and related residential uses in low density settings. Other compatible uses may be permitted.
PD-R	Planned Development – Residential	RPD	Residential Planned Development	Up to 1.0 dwelling units per acre – see Table LU-3 for site-specific density limits	The Planned Development – Residential land use designation is applied to areas that are generally undeveloped or underdeveloped and have natural constraints to development such as steep slopes and environmental resources that warrant site-specific limitations on development intensity.
ML	Medium Low Density Residential	RO-1	Residential Open	Up to 1.1 dwelling units per acre	The Medium Low Density Residential land use designation is applied to areas suitable for detached single-family homes and related residential uses in low density settings. Other compatible uses may be permitted.
M	Medium Density Residential	RO-2	Residential Open	Up to 3.0 dwelling units per acre	The Medium Density Residential land use designation is applied to areas suitable for detached single-family homes and related residential uses in low density settings. Other compatible uses may be permitted.
MH	Medium High Density Residential	R-1	Single Family Residential	Up to 4.4 dwelling units per acre	The Medium High Density Residential land use designation is applied to areas suitable for detached single-family homes and related residential uses in low density settings. Other compatible uses may be permitted.
H	High Density Residential	R-2	Two-Family Residential	Up to 11.6 dwelling units per acre	The High Density Residential land use designation is applied to areas suitable for single-family and two-family homes and related residential uses. Other compatible uses may be permitted.
VH	Very High Density Residential	R-3	Multi-Family Residential	Up to 12.4 dwelling units per acre	The Very High Density Residential land use designation is applied to areas suitable for residential uses including multifamily dwellings. Other compatible uses may be permitted.
		RMP	Residential Multiple Planned		

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LAND USE DESIGNATION		ASSOCIATED ZONING DISTRICT(S)		RESIDENTIAL DENSITY AND BUILDING INTENSITY	DESCRIPTION
VH-25	Very High Density-25 Residential	R-4	Multi-Family Residential High	Up to 25 dwelling units per acre	The Very High Density-25 Residential land use designation is applied to areas suitable for residential uses including multifamily dwellings at higher densities. Other compatible uses may be permitted.
Mixed-Use And Commercial Designations					
MU	Mixed Use	MU	Mixed Use	Minimum – 30 units per acre Maximum – 35 units per acre Maximum FAR is 1.75	The Mixed-Use land use designation is applied to commercial areas and intended to encourage development of multifamily dwellings in a pedestrian-oriented setting. Other compatible uses may be allowed.
NC	Neighborhood Commercial	NC	Neighborhood Commercial	Up to 10 dwelling units per acre Maximum FAR is 0.37	The Neighborhood Commercial land use designation is applied to neighborhood shopping areas providing for a mix of resident-serving commercial and office uses. Mixed commercial and residential uses may be allowed.
		NC (AHO)	Neighborhood Commercial (Affordable Housing Overlay)	Maximum FAR is 0.31 for commercial uses only Up to 20.7 dwelling units per acre	
VC	Village Commercial	VC	Village Commercial	Maximum FAR is 0.28 Up to 15 dwelling units per acre	The Village Commercial land use designation is applied to the Ark Row portion of the downtown area providing for a wide range of resident and tourist-serving commercial uses. Mixed commercial and residential uses may be allowed.
MS	Main Street	MS	Main Street	Maximum FAR is 1.5 Minimum – up to 20 units per acre Maximum – 25 units per acre	The Main Street land use designation is applied to the downtown area providing for a wide range of resident and tourist-serving commercial uses. Mixed commercial and residential uses may be allowed.
SC	Shopping Commercial	None	None	Maximum FAR is 0.5	The Shopping Commercial is applied to areas suitable for general retail and service uses, automobile-related sales and service uses, and office uses.
Community And Natural Resource Designations					
P	Public/Quasi-Public	P	Public/Quasi-Public	Maximum FAR is 1.0	The Public/Quasi-Public land use designation is applied to areas suitable for public land uses including educational

LAND USE DESIGNATION		ASSOCIATED ZONING DISTRICT(S)		RESIDENTIAL DENSITY AND BUILDING INTENSITY	DESCRIPTION
					facilities, governmental and quasi-public buildings and facilities, and utility facilities
Park	Parks and Recreation	P	Public/Quasi-Public	Maximum FAR is 0.1	The Parks and Recreation land use designation is applied to areas suitable for parks, playgrounds, and other recreational uses, as well as areas preserved for natural conservation.
OS	Open Space	OS	Open Space	Maximum FAR is 0.1	The Open Space land use designation is applied to undeveloped areas for the conservation of natural and scenic resources and for limited passive recreation.
Marine	Marine	M	Marine	Maximum FAR is 0.0	The Marine land use designation is applied to all submerged and partially submerged land areas up to the mean high tide line and for water-related recreational activities and facilities including docks and yacht clubs.

NOTE: In addition to the land use districts identified in the table, the following overlay districts may be applied to any General Plan 2040 land use designation: Flood Hazard Overlay (F) and Historic Protection Overlay (HPO).
SOURCE: De Novo Planning Group, 2022

In addition to building density, State law requires the General Plan 2040 to include a statement of population density for the various land use categories. Population density is determined by multiplying the average household size, as reported by the latest California Department of Finance Population and Housing Estimates for Cities, by the number of dwelling units in a land use category. For example, the average household size in Tiburon was 2.4 persons in 2022. The population density in the Medium Density Residential category is therefore up to 7.2 persons per acre.

For non-residential designations, building intensity is defined by Floor Area Ratio (FAR), which is the ratio between the amount of gross floor area and the gross site area. For example, an FAR of 0.5 would allow a one-story building over half of a site, or a two-story building over one quarter of a site. The Zoning Ordinance contains detailed descriptions of land uses permitted in each designation, as well as development standards that implement the General Plan 2040.

2.1.1 UNDERUTILIZED SITES TO ACCOMMODATE RESIDENTIAL USES

An integral part of the General Plan 2040 is updating the Housing Element, which is required to be updated every eight years and is subject to detailed statutory requirements and mandatory review by the California Department of Housing and Community Development (HCD). According to State law, the Housing Element must:

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- Provide goals, policies, quantified objectives, and scheduled programs to preserve, improve and develop housing.
- Identify and analyze existing and projected housing needs for all economic segments of the community.
- Identify “adequate sites” that are zoned and available within the 8-year housing cycle to meet the local government’s fair share of regional housing needs at all income levels.
- Affirmatively further fair housing.
- Be reviewed by the State Department of Housing and Community Development (HCD) to determine whether or not the element complies with state law.
- Be internally consistent with other parts of the General Plan 2040.

For the eight-year time frame covered by the Housing Element in the General Plan 2040, HCD has identified the region’s housing need as 441,176 units. The total number of housing units assigned by HCD is separated into four income categories that cover housing types for all income levels, from very low-income households to market rate housing.¹ This calculation, known as the Regional Housing Needs Determination (RHND), is based on population projections produced by the California Department of Finance as well as adjustments that incorporate the region’s existing housing need. Once the number of needed units were identified for the region, the Association of Bay Area Governments (ABAG) must develop a methodology that calculates the number of housing units assigned to each city and county and distributes each jurisdiction’s housing unit allocation among four affordability levels. In 2020, the Town received a draft Regional Housing Needs Allocation (RHNA) of 639 units, approximately eight times the previous 5th housing cycle allocation of 78 units.

The Town subsequently identified specific parcels within the Town that could accommodate more dense housing, focusing on parcels that are vacant or underutilized. Table 2-4 lists those properties that are identified as having capacity for additional residential units to help meet the Town’s RHNA allocation (see Figure 2.0-5).

TABLE 2-4 PARCELS FOR INCREASED RESIDENTIAL DENSITY

Site Address	Existing Use	Existing GP	Existing Zoning	Proposed GP	Proposed Zoning	Parcel Size (Acres)	Net Units ¹	Net Non-residential SF ¹
1525 Tiburon Blvd	Parking lot	NC	NC/AHO	MU	MU	0.66	29	0
1535 Tiburon Blvd	Chase Bank	NC/AHO	NC/AHO	MU	MU	0.72	32	-7,866
1601 Tiburon Blvd	BofA (vacant)	NC/AHO	NC/AHO	MU	MU	0.57	25	-3,487

¹ HCD divides the RHND into the following four income categories:
 Very Low-income: 0-50% of Area Median Income
 Low-income: 50-80% of Area Median Income
 Moderate-income: 80-120% of Area Median Income
 Above Moderate-income: 120% or more of Area Median Income

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Site Address	Existing Use	Existing GP	Existing Zoning	Proposed GP	Proposed Zoning	Parcel Size (Acres)	Net Units ¹	Net Non-residential SF ¹
4 Beach Rd	Parking lot	NC/AHO	NC/AHO	MU	MU	1.07	37	0
1550 Tiburon Blvd	Boardwalk Shopping Ctr.	NC	NC	MU	MU	2.21	77	-17,418
1620 Tiburon Blvd	Comm. bldg.	NC/AHO	NC/AHO	MU	MU	0.27	30	-5,320
1640/50 Tiburon Blvd	Comm. bldg..	NC/AHO	NC/AHO	MU	MU	0.6		-7,396
6 Beach Rd	Post Office, comm. bldgs. and 3 apts.	VC	VC	MU	MU	0.41	46	-28,634
12 Beach Rd						1		
1199 Tiburon Blvd.	Reed School	VH/AHO	RMP/AHO	VH-25	R-4	2.9-acre vacant portion of 7.5-acre site		0
1100 Mar West St	Office bldg.	O	O	MU	MU	0.47	47	0
1110 Mar West St	Office bldg.	O	O	MU	MU	0.3		
1120 Mar West St	Office bldg.	O	O	MU	MU	0.59		
1555 Tiburon Blvd	Parking lot	NC/AHO	NC/AHO	MU	MU	0.86	38	0
1599 Tiburon Blvd	CVS	NC	NC/AHO	MU	MU	1.66	74	-17,079
1600 Tiburon Blvd	Former Shark's Deli	NC/AHO	NC/AHO	MU	MU	0.39	13	1,202
1610 Tiburon Blvd	Commercial Bldg.	NC/AHO	NC/AHO	MU	MU	0.13	4	-3,782
1660 Tiburon Blvd	Commercial Bldg.	NC/AHO	NC/AHO	MU	MU	0.43	15	-8,440
1680 Tiburon Blvd	Commercial Bldg.	NC	NC	MU	MU	0.29	10	-3,892
26 Main St./ 2 Juanita Ln	Theatre, retail shops	VC	VC	MS	MS	0.43	10	-17,930
4576 Paradise	2 residential units	PDR	RPD	VH	R-3	9.575	118	0
ADUs	-	-	-	-	-	-	72	-
Single Family Homes	-	-	-	-	-	-	167	-
Total		846.9	308.6	10,597.5			916²	-120,042

1. This is the number of units analyzed in the EIR and is based on the maximum permitted density for the General Plan 2040 land use designation.
2. More units are analyzed than the minimum number of units required by the RHNA to allow for a buffer. A buffer is required by HCD.

SOURCE: De Novo Planning Group, 2023

2.1.2 PROJECTED ADUS AND SB 9 UNITS ON UNDERUTILIZED SITES

For sites with existing development, it is anticipated that the demand for a second unit through SB 9, which allows lot splits and up to two dwelling units to be constructed per lot on parcels within a single family residential zone for parcels that meet the requirements of State law, including the criteria identified by Government Code Section 65913.4(a)(6)(B) through (K), is mostly represented in the projected ADUs – this is based on many of the

respondents to the Housing Needs and Priorities Survey and Property Owner Survey indicating interest in either an ADU, ADU/JADU, or SB 9 units on their property. However, there is additional demand for units that can be generated through a lot split. The potential for a lot split under SB 9 creates additional opportunities for parcels zoned for single family use beyond the additional unit(s) that can be accommodated through an ADU, JADU, or second unit under SB 9 on an existing lot. Lot splits provide property owners with the ability to build a second unit on their existing lot as well as the opportunity to split a lot and sell one of the lots. The newly split lot can accommodate up to two units.

2.2 INTENDED USES OF THIS EIR

This Draft EIR is a program-level EIR and does not evaluate individual projects that may be allowed under the General Plan 2040 at a site-specific level. Because the General Plan 2040 establishes policies, goals and guidelines, and describes potential development that may or may not be built on any particular site, environmental review will necessarily be general. The CEQA Guidelines instruct that environmental review of a planning-level document need not contain the level of detail required for review of a specific construction project. (CEQA Guidelines, Section 15146 (“[t]he degree of specificity required ... will correspond to the degree of specificity involved in the underlying activity.”))

The General Plan 2040’s inventory of residential sites fulfills a State-mandated requirement to ensure that the Town’s RHNA can be accommodated. In other words, the General Plan 2040 identifies enough land designated at appropriate densities to accommodate the RHNA allocation and ensures the Town will rezone its housing sites consistent with General Plan 2040. However, this Inventory does not include all potential development sites within Tiburon, and does not mean that sites identified for residential development will be developed at the allowable densities. In addition, information about the design and placement of buildings on the sites will not be available unless/until a specific development is proposed.

Future development proposals will be reviewed to determine whether their impacts fall within the scope of analysis in this Draft EIR or if additional site-specific environmental review will be required because new potentially significant impacts would result. As provided for in CEQA Guidelines Sections 15152 and 15385, any subsequent environmental document that might be required for a development project could “tier” from this Draft EIR and focus its analysis on any new or more severe significant impacts. A future project could be ministerial, requiring no discretionary action or may require review and approval by the Planning Commission and/or the Town Council, and other agencies as needed.

2.3 REQUIRED APPROVALS

Adoption and implementation of the General Plan 2040 would require a series of interrelated planning and regulatory approvals by the Town, as lead agency as described in Chapter 1.0. Specifically, the Town would take the following approval actions:

- Certification of the EIR pursuant to CEQA;
- Adoption of a resolution to update the 2020 General Plan;
- Adoption of an ordinance (two readings) amending the Town’s zoning ordinance and the Town’s zoning map to reflect the location and density of land uses permitted by the General Plan 2040.

All of these proposed actions would require review and recommendation by the Planning Commission, followed by consideration and action by the Town Council.

As the Lead Agency and as appropriate under CEQA, the Town also intends the EIR to serve as the CEQA-required environmental documentation for consideration of the Project by Responsible Agencies, Trustee Agencies, and other agencies as described in Chapter 1.0.

Figure 2.0-1. Regional Location Map

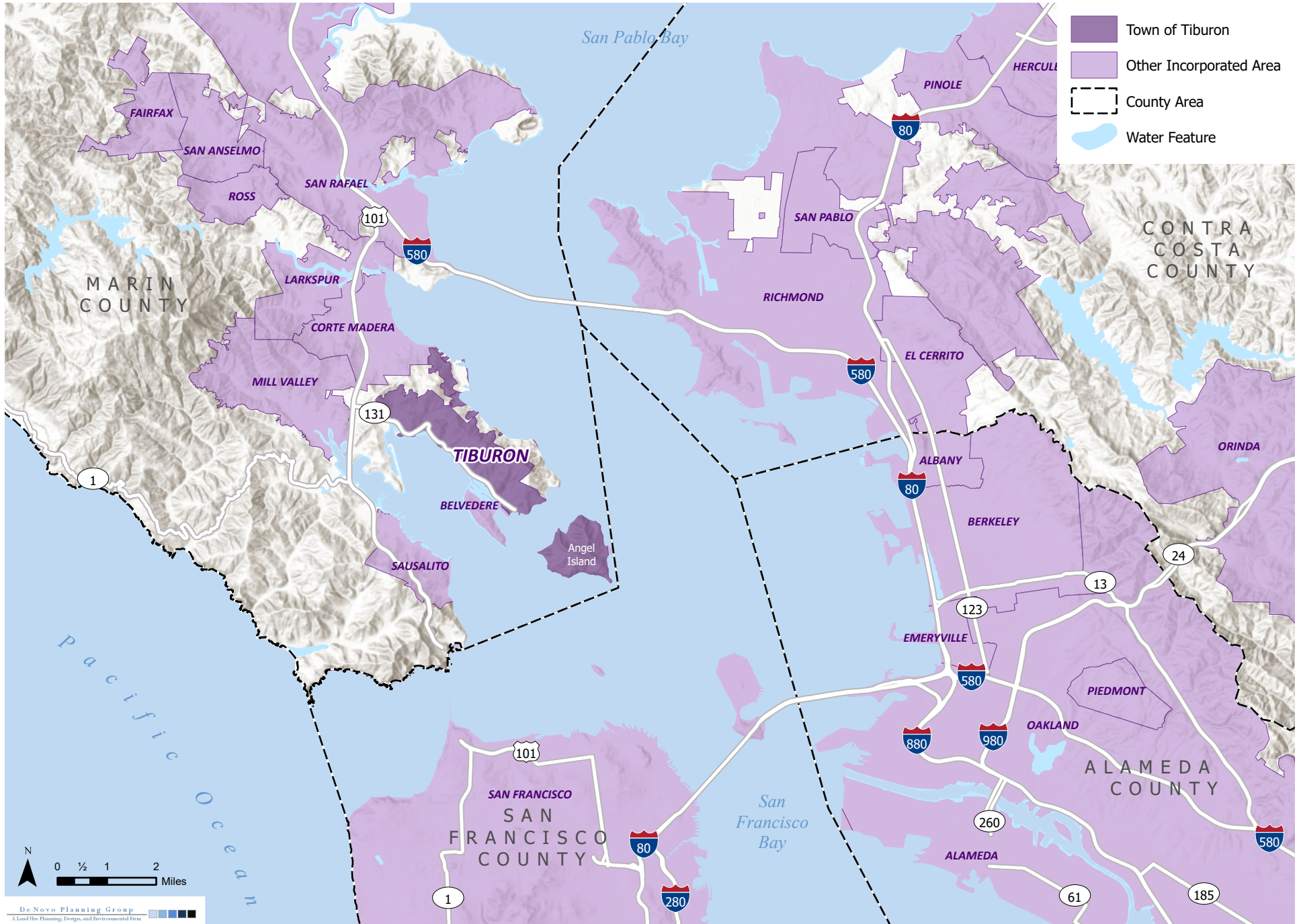


Figure 2.0-2. Planning Areas

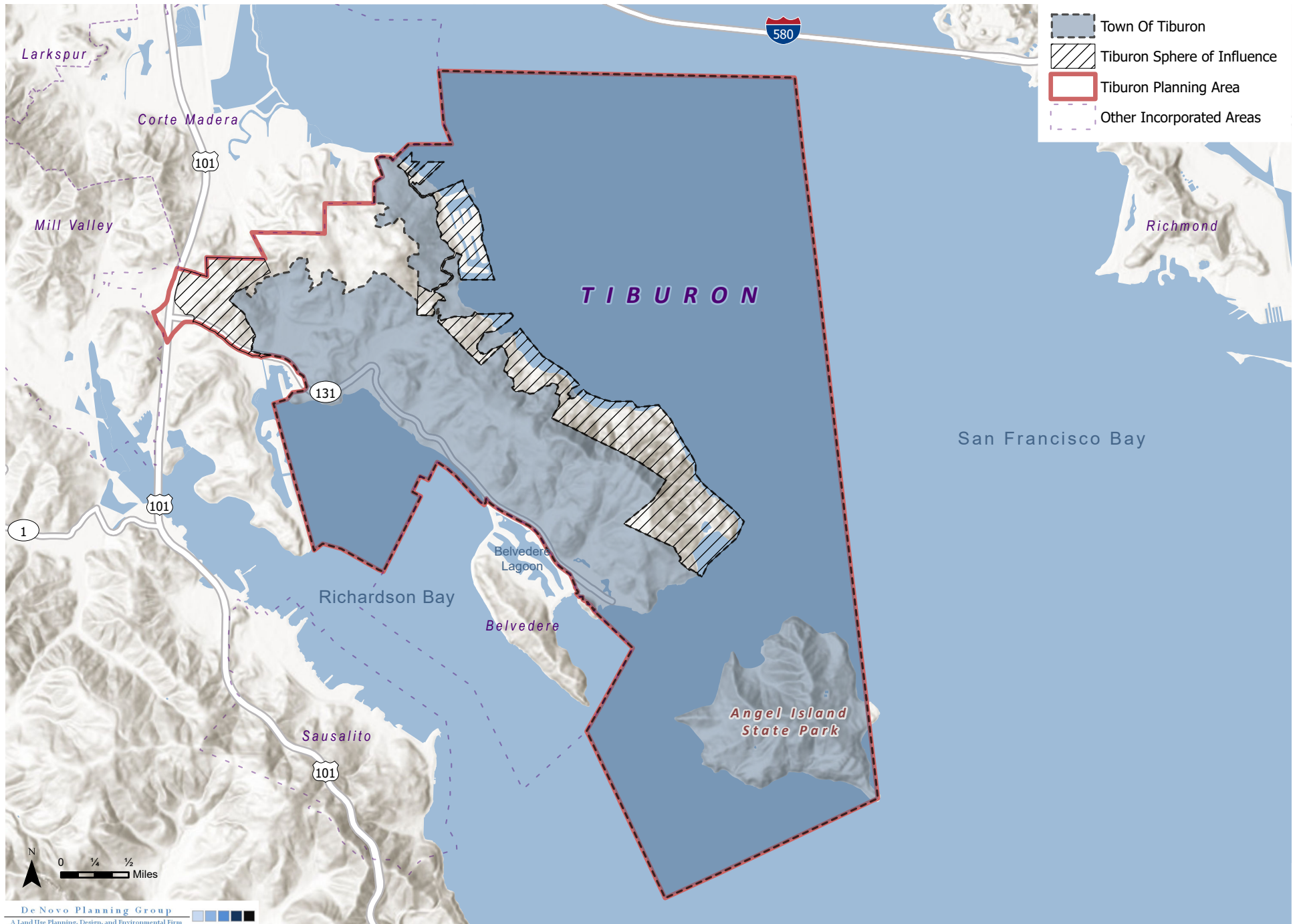


Figure 2.0-3. Existing General Plan Land Use Map

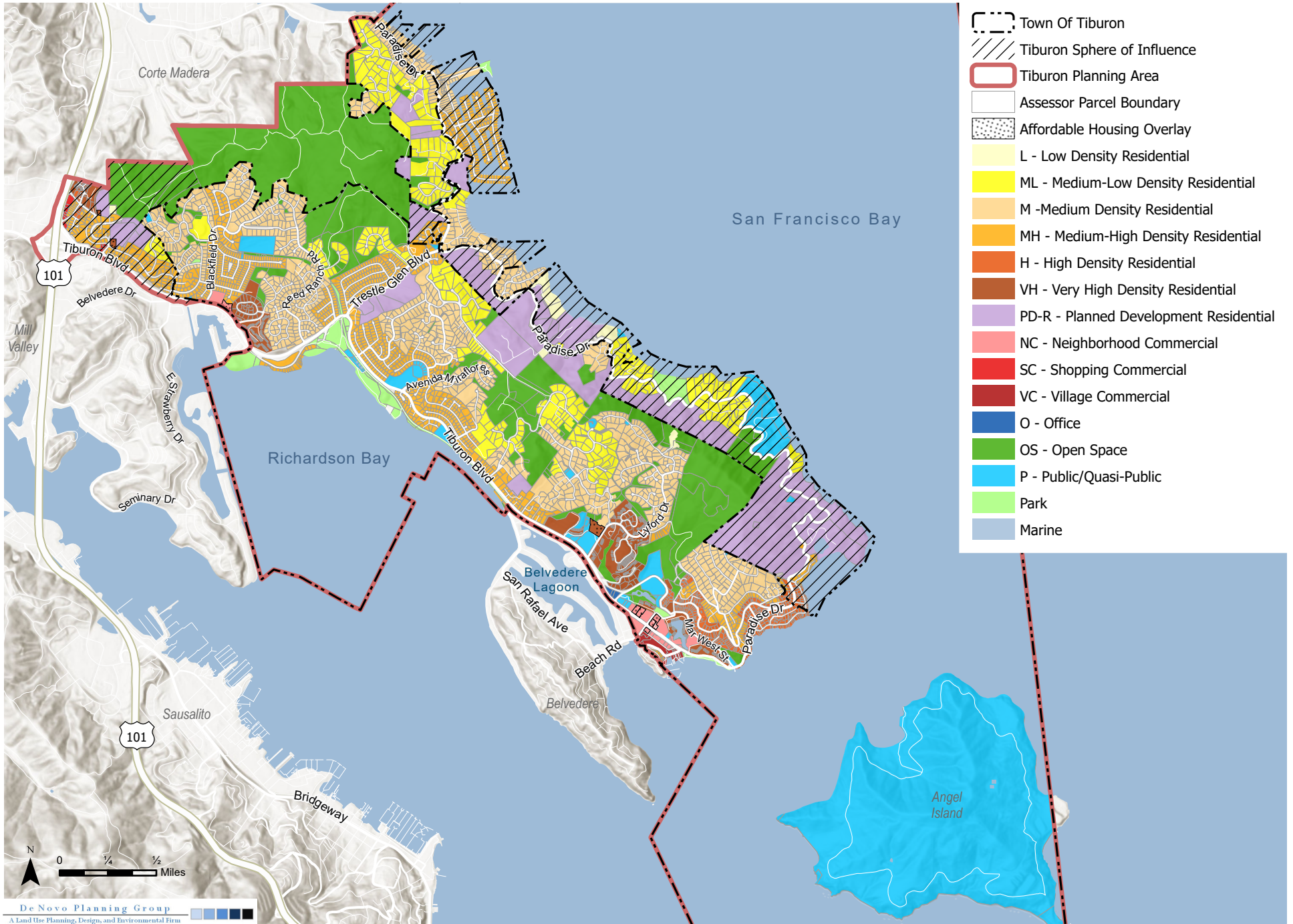
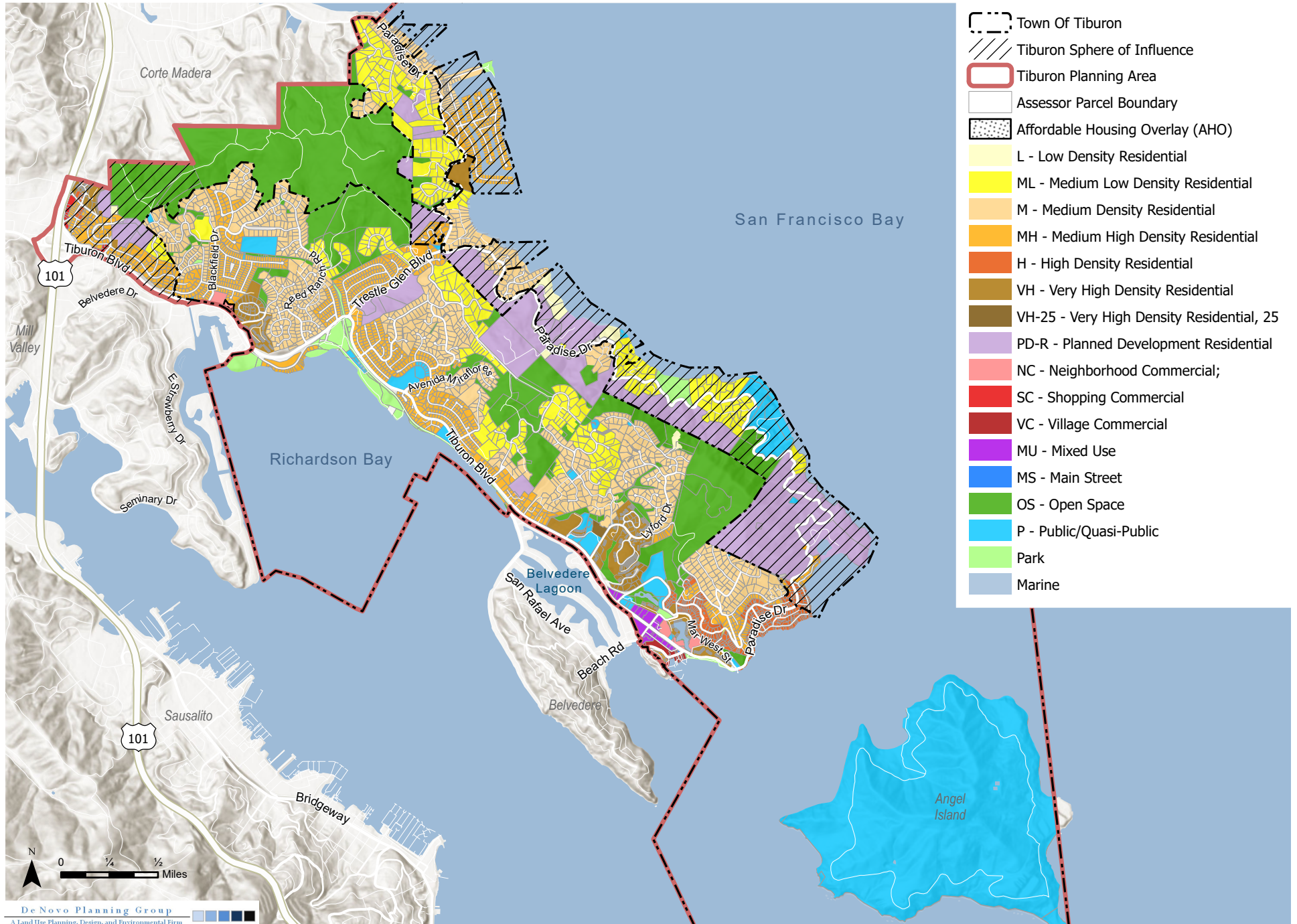
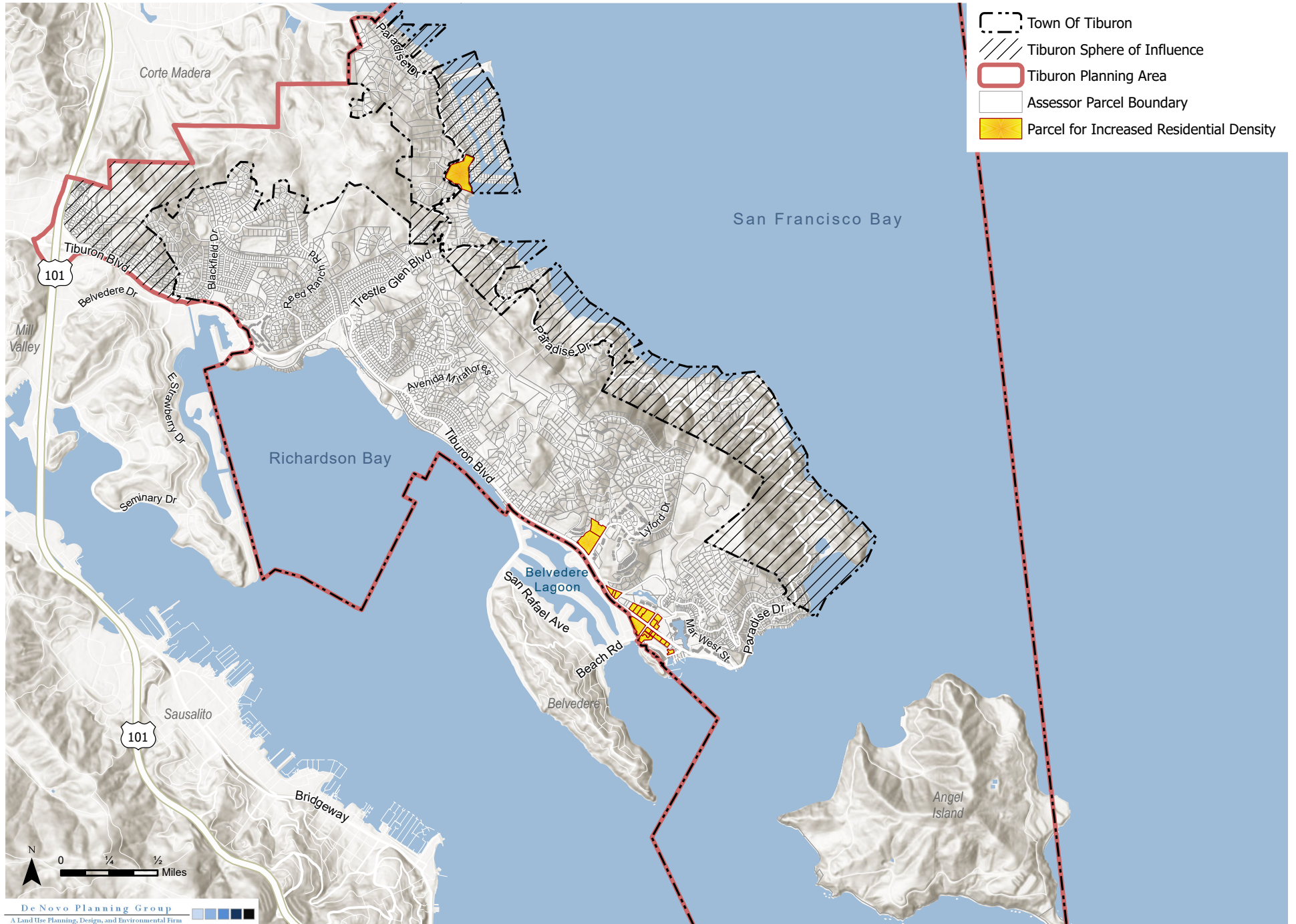


Figure 2.0-4. Proposed General Plan Land Use Map



- Town Of Tiburon
- Tiburon Sphere of Influence
- Tiburon Planning Area
- Assessor Parcel Boundary
- Affordable Housing Overlay (AHO)
- L - Low Density Residential
- ML - Medium Low Density Residential
- M - Medium Density Residential
- MH - Medium High Density Residential
- H - High Density Residential
- VH - Very High Density Residential
- VH-25 - Very High Density Residential, 25
- PD-R - Planned Development Residential
- NC - Neighborhood Commercial;
- SC - Shopping Commercial
- VC - Village Commercial
- MU - Mixed Use
- MS - Main Street
- OS - Open Space
- Park
- Marine

Figure 2.0-5. Parcels for Increased Residential Density





3.0 ENVIRONMENTAL IMPACT ANALYSIS

This Chapter of the Draft Environmental Impact Report (Draft EIR) evaluates the direct, indirect, and cumulative environmental impacts of the General Plan. In accordance with Appendix G, Environmental Checklist, of the California Environmental Quality Act (CEQA) Guidelines, the potential environmental effects of the General Plan 2040 are analyzed for potential significant impacts in the following environmental issue areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Energy
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population, Housing, and Employment
- Public Services and Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

SECTION ORGANIZATION

Each environmental issue section includes the following sections:

- **Existing Setting** provides a description of the existing environmental setting and condition that provides a baseline against which impacts of the General Plan 2040 can be compared.
- **Regulatory Setting** contains an overview of federal, State, regional, and local programs and regulations relevant to each environmental issue.
- **Thresholds of Significance** refer to quantitative or qualitative standards, performance levels, or criteria used to compare the existing setting with and without the General Plan 2040 to determine whether the impact is significant. These thresholds are based primarily on the CEQA Guidelines, but also may reflect established health standards, ecological tolerance standards, public service capacity standards, or guidelines established by agencies or experts.

- **Analysis, Impacts, and Mitigation Measures** describes the methodology used in assessing potential impacts of the General Plan 2040 and contains an analysis of direct and indirect impacts from construction, operation, and maintenance activities related to future development that could occur under the General Plan 2040. For each impact identified, a level of impact will be described using the following categories:
 - **Significant** impacts include a description of the circumstances where an established or defined threshold would be exceeded.
 - **Less than significant** impacts include effects that may be noticeable, but do not exceed established or defined thresholds. Potentially significant impacts that are mitigated to a less-than-significant level by mitigating programs, actions, or other factors are also included in this category.
 - **No impact** describes circumstances where there is no adverse effect on the environment.

CUMULATIVE IMPACT ANALYSIS METHODOLOGY

A cumulative impact is an impact created by the combination of the project evaluated in the EIR and other reasonably foreseeable projects or actions. CEQA Guidelines Section 15130 requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." Used in this context, cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with effects of past projects, other current projects, and probable future projects.

In the case of a General Plan, cumulative effects occur when future development under the General Plan is combined with development in surrounding areas, or in some instances, within the entire region. Where the incremental effect of a project is not "cumulatively considerable," a lead agency need not consider that effect significant but must briefly describe its basis for concluding that the effect is not cumulatively considerable.

The cumulative impact discussions in Sections 3.1 through 3.16 explain the geographic scope of the area affected by each cumulative effect (e.g., immediate project vicinity, city, planning area, county, watershed, or air basin). The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing noise impacts, the geographic study area is more local and includes the immediate vicinity of the areas of new development under the General Plan. In assessing air quality impacts, all development within the air basin contributes to regional emissions of criteria pollutants and basin-wide projections of emissions is the best tool for determining cumulative effect.

Section 15130 of the CEQA Guidelines permits two different methodologies for completion of the cumulative impact analysis.

- The "list" approach permits the use of a list of past, present, and probable future projects producing related or cumulative impacts, including projects both within and outside the city; and

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- The “projections” approach allows the use of a summary of projections contained in an adopted plan or related planning document, such as a regional transportation plan, or in an EIR prepared for such a plan. The projections may be supplemented with additional information such as regional modeling.

This Draft EIR uses the projections approach and takes into account growth from the General Plan 2040 within the Tiburon Planning Area, in combination with impacts from projected growth in the rest of Marin County and the surrounding region, as forecast by the Association of Bay Area of Governments (ABAG).



3.1 AESTHETICS

This section of the Draft EIR (Draft EIR) describes the existing visual character of the Planning Area, including scenic vistas, scenic resources within scenic highways and roadways, public views, and existing sources of light and glare. Scenic vistas are long-range views of prominent scenic or background features such as open space lands or mountain ridges. Public views are short- and medium-range views visible from publicly accessible viewpoints, such as Town of Tiburon (Town) streets or Town parks. This section also evaluates impacts to aesthetics that may be anticipated to occur from implementation of the General Plan 2040 (Project). Future discretionary projects facilitated by the General Plan Update will be evaluated for project-specific impacts to aesthetics at the time they are proposed.

Information in this section is based, in part, on information provided by the following reference materials:

- Town of Tiburon 2020 General Plan;¹
- Town of Tiburon 2020 General Plan EIR;²
- Town of Tiburon Municipal Code;³ and
- Marin Countywide Plan.⁴

3.1.1 EXISTING SETTING

Regional Scenic Resources

Visual resources are generally classified into two categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may

¹ Available at: <http://www.townoftiburon.org/206/General-Plan>

² Town of Tiburon. Tiburon General Plan 2020 General Plan Update Draft Environmental Impact Report. 2005.

³ Available at: <https://library.municode.com/ca/tiburon>

⁴ Available at: <https://www.marincounty.org/depts/cd/divisions/planning/2007-marin-countywide-plan>

include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

Within the greater regional context of Marin County, there are 3 federal parks, 7 state land parks, 459 acres of County-owned parks, and 1,491 acres of local parks owned by municipalities. Approximately 85 percent of the park land is provided by the Point Reyes National Seashore and the Golden Gate National Recreational Area federal lands. There are also a handful of facilities operated by private non-profit organizations. In addition, 464 linear miles of trails are open to the public, including 26 miles of paved pathways. Marin County has many open space and watershed lands that are generally protected for environmental purposes and are not available for active recreation. However, these lands provide valuable open space visual resources of the world-famous Pacific Ocean coastline, redwood forests, and natural landforms. The municipal parks situated within the built environment offer natural areas, trails, water features, and visual breaks within urban environments.

Marin County has 34 open space preserves providing 14,675 acres of ridgeland, baylands, and environmentally sensitive lands with 175 miles of trails and fire roads available for public use. Many of these open space lands are located near residential communities providing not only habitat for wildlife but visual resources for the nearby communities.

Tiburon is located on the Tiburon Peninsula, surrounded on three sides by the San Francisco Bay, Raccoon Straits, and Richardson Bay. From the San Francisco Bay, the Tiburon Peninsula rises steeply to the Tiburon Ridge, which extends from Ring Mountain (elevation 602 feet) at the western edge of the Town through Mount Tiburon (elevation 748 feet) in the eastern part of the Tiburon Peninsula. Angel Island, a State Park located within the Town limits, rises from San Francisco Bay to a height of 788 feet at Mount Livermore. The southwest facing side of the Tiburon Peninsula, overlooking Richardson Bay, consists primarily of open spaces and sloping grasslands. The north-facing side, overlooking San Francisco Bay and San Pablo Bay is sparsely developed and steep with dense tree cover over much of the area. The central spine of the Tiburon Ridge is an important feature that defines the geographic context of the Town.

Scenic Highways and Corridors

Scenic highways and corridors make major contributions to the quality of life enjoyed by the residents of a region. The development of community pride, the enhancement of property values, and the protection of aesthetically pleasing open spaces reflecting a preference for the local lifestyle are all ways in which scenic corridors are valuable to residents.

Scenic highways and corridors can also strengthen the tourist industry. For many visitors, highway corridors will provide their only experience of the region. Enhancement and protection of these corridors ensures that the tourist experience continues to be a positive

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one and, consequently, provides support for the tourist-related activities of the region's economy.

Scenic Highways: A scenic highway is generally defined by Caltrans as a public highway that traverses an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

Scenic Corridors: A scenic corridor is the view from the road that may include a distant panorama and/or the immediate roadside area. A scenic corridor encompasses the outstanding natural features and landscapes that are considered scenic. It is the visual quality of the man-made or natural environments within a scenic corridor that are responsible for its scenic value. Commonly, the physical limits of a scenic corridor are broken down into foreground views (zero to one quarter mile) and distant views (over one quarter mile). In addition to distinct foreground and distant views, the visual quality of a scenic corridor is defined by special features, which include:

- Focal points - prominent natural or man-made features which immediately catch the eye.
- Transition areas - locations where the visual environment changes dramatically.
- Gateways - locations which mark the entrance to a community or geographic area.

Many of the roadways throughout Marin County and within proximity to Tiburon offer views of some of the County's most scenic resources. There are currently no designated State Scenic Highways or National Scenic Byways within the Planning Area. However, the entire stretch of State Route 1 and sections of U.S. 101 running through Marin County, and within a mile of the Planning Area, are eligible to be a State Scenic Highway. The criteria for official designation and eligibility includes the scenic quality of the landscape, how much of the natural landscape can be seen by travelers, and to the extent to which development intrudes upon the traveler's enjoyment of the view. The Planning Area is visible from both roadway segments.

Ridgelines

Ridgelines are defined as a line formed along the highest points of a mountain ridge, or as an area of higher ground separating two adjacent streams or watersheds. Besides water, ridgelines are the most visually defining open space attribute in the Planning Area. Ridgelines also provide the greatest opportunity for community scenic value. Public access to the Tiburon Ridge and Significant Ridgelines in the Planning Area, as designated by Town Council Resolution 2859 and as shown on Figure 3.1-1, allows community members to enjoy unique views within the Town. Significant Ridgelines defined by this Resolution, including these at the end of the Tiburon Peninsula, have been identified by the Town and their protection has

been given the highest priority in the Open Space & Conservation Element of the Town's 2020 General Plan.

Open Space and Other Scenic Resources Areas

Public parklands and open space land uses largely contribute to the visual environment of Tiburon and Marin County. However, the community character of the built environment also plays a crucial role in defining the visual environment. While Mount Tamalpais State Park encompasses the most dominant natural landform in the county, other visually prominent ridgelines are designated within the Ridge and Upland Greenbelt areas. Restrictions are placed on development in these areas to protect the visual quality of the ridgelines, hills, and view corridors. This includes Angel Island and hillside areas within the Planning Area.

Communities within Marin County, including Tiburon, have traditionally strived to design compact villages, towns and cities that blend with the surrounding natural and agricultural landscapes. By encouraging residential development near city or town centers, walkable neighborhoods maintain a pedestrian-scale heritage, such as Tiburon with its urban waterfront areas, designed to promote public use with residential communities nearby. Tiburon has a special visual character that benefits from attractive building design and layouts. County and local ordinances have protected nearby ridgelines and viewsheds. By regulating urban and rural design standards, new structures, additions, lighting, signs, landscaping, infrastructure and other design elements can offer visual resources by complementing existing character and the surrounding natural environment and view corridors. When the scenic qualities of the built environment are protected, residents and visitors can enjoy a distinctive visual environment.

Tiburon has a unique visual environment with an attractiveness and diversity of landscape that includes views of open space, ocean vistas, Richardson Bay shoreline, San Francisco Bay shoreline, hills and ridgelines, agriculture lands, stands of various types of trees and other natural features. The Railroad Marsh area, Old Saint Hilary's Open Space Preserve, Middle Ridge, Ring Mountain Open Space Preserve, and other areas within Tiburon are designated as Public Open Space in the 2020 General Plan. As previously described, ridgelines are also described in the 2020 General Plan as the most visually defining open space attribute and greatest opportunity for community scenic value in the Planning Area. Figure 3.1-2 shows public and private open space and parks and recreation areas within the Planning Area.

Water and shoreline resources are important visual resources that draw tourists to the area for recreational opportunities, provide critical habitat, and provide for scenic areas within and surrounding urban areas. The most visually significant bodies of water in the Planning Area are Richardson Bay and San Francisco Bay which form the southwestern and northern boundaries of the Tiburon Peninsula, respectively. The appearance of the San Francisco Bay, and people's enjoyment of it as a scenic resource, contribute to the enjoyment of daily life in the Bay Area. As a special kind of open space, the Bay acts as both the unifying element of the entire Bay region and as a physical divider of its parts. The wide surface of the Bay, and

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the distant vistas it affords, offer relief from the crowded, often chaotic, urbanized scene and help to create a sense of psychological well-being.

Another one of the visual attractions of San Francisco Bay is its abundance of wildlife, particularly birds and other special status species which are constantly moving around the Bay waters, marshes, and mudflats in search of food and refuge. Wildlife refuges like the Audubon Society Wildlife Refuge, located in the Planning Area, provide scenic areas where wildlife can congregate and move freely.

Trees and woodland areas are important natural resources which provide habitat for birds and shaded, protected areas for other animals; and help to stabilize hillsides. Trees and wooded areas also contribute to the visual character of the community. Trees and woodlands are valued by the Town for their ecological importance, their visual enhancement of the community, and their contribution to residential privacy and quiet.

Wetlands are not only important for habitat; sediment, erosion and pollution control; flood storage; water recharge; recreation and scientific research; and education; but also, for their scenic value. Wetlands are among the most important land-based qualities of open space because they of their abundance of unique ecosystems and wildlife. In addition, views from or across water give the Planning Area a regional open space value.

Furthermore, for the same reasons, streams and riparian habitat are an important scenic resource and are a critical component of high-quality habitat. Woody vegetation provides shade that keeps water temperatures within tolerable ranges for aquatic organisms, stabilizes streambanks and floodplains, and provides protective cover for wildlife. They also offer unique areas to recreate and explore.

Overall, the Town has approximately 1,309 acres of open space within the Planning Area. Figure 3.1-1 provides an overview of visual and scenic characteristics of the Planning Area, including ridge and upland greenbelt areas, areas with significant tree cover, Tiburon Ridge and significant ridgelines, streams, and wetland/riparian features.

Local View Corridors

The Open Space and Conservation Element specifically contains policies that call for the protection and preservation of view corridors and open space views from key roadways, including Tiburon Boulevard, Trestle Glen Boulevard, and Paradise Drive. These roadways are identified on Figure 3.1-1.

Light and Glare

Light pollution refers to the inappropriate or excessive use of artificial light. Components of light pollution include glare (excessive brightness that causes visual discomfort), light trespass (light falling where it is not intended or needed), sky glow (brightening of the night sky over inhabited areas), and clutter (bright, confusing and excessive groupings of light

sources).⁵ Light pollution impairs views of the night sky and can be disruptive to humans and nocturnal animal species.

During the day, sunlight reflecting from structures is a primary source of glare, while nighttime light and glare can be stationary or from mobile sources. Stationary sources of nighttime light include structure illumination, interior lighting, decorative landscape lighting, and streetlights. The principal mobile source of nighttime light and glare is vehicle headlamp illumination.

Urban land uses on the Town's waterfront are the main source of daytime and nighttime light and glare. The hillsides are characterized by less intense development and generally have lower levels of ambient nighttime lighting and daytime glare. The existing light environment found in the Planning Area is considered typical for suburban areas.

3.1.2 REGULATORY SETTING

Federal

There are no federal regulations pertinent to aesthetic resources.

State

State Scenic Highway Program

The California Department of Transportation (Caltrans) administers the State Scenic Highway Program to preserve scenic highway character and protect them from changes that may diminish aesthetic value of adjacent lands. Within Marin County, there are no Officially Designated State Scenic Highways.⁶

Nighttime Sky – Title 24 Outdoor Lighting Standards, 2022

The California Energy Commission (CEC) regulates energy efficiency of outdoor lighting for new development. The standards serve to improve outdoor lighting quality by reducing impacts of light pollution, light trespass, and glare.⁷ The standards regulate characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Exterior lighting allowances vary by Lighting Zones (LZ). The lowest illumination

⁵ International Dark-Sky Association. 2020. Light Pollution. Website: <https://www.darksky.org/light-pollution/>. Accessed February 13, 2023.

⁶ California Department of Transportation (Caltrans). 2019. List of eligible and officially designated State Scenic Highways. Website: https://dot.ca.gov/-/media/dot-media/programs/design/documents/desig-and-eligible-aug2019_a11y.xlsx. Accessed February 13, 2023.

⁷ California Energy Commission (CEC). 2022 2022 Building Energy Efficiency Standards for Residential and Nonresidential Buildings: For the 2022 Building Energy Efficiency Standards Title 24, Part 6, and Associated Administrative Regulations in Part 1. Website: https://www.energy.ca.gov/sites/default/files/2022-12/CEC-400-2022-010_CMF.pdf. Accessed February 13, 2023.

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levels are encouraged in LZ0 (very low) and increasingly more power is allowed in LZ1 (low), LZ2 (moderate), LZ3 (moderately high), and LZ4 (high). The Statewide default location for each LZ is as follows:

- LZ0: Undeveloped areas of government designated parks, recreation areas, and wildlife preserves.
- LZ1: Developed portion of government designated parks, recreation areas, and wildlife preserves.
- LZ2: Rural areas, as defined by the 2010 U.S. Census.
- LZ3: Urban areas, as defined by the 2010 U.S. Census.
- LZ4: No statewide default location. Special district created by local government.

Local

Tiburon 2020 General Plan

The 2020 General Plan contains goals, policies, and implementation actions that promote protection and enhancement of aesthetics in the Town. These regulations can be found in the Open Space and Conservation Element and Downtown Element.

Town of Tiburon Municipal Code

Chapter 15 - View and Sunlight Obstruction from Trees. The purpose of this chapter is to establish standards and regulations in order to preserve views from unreasonable obstruction and establish a process by which impacted persons may seek restoration of obstructed views by growth of trees.

Chapter 15a - Trees. The purpose of this chapter is to establish standards and regulations for the removal, alteration, and planting of certain trees.

Chapter 16a - Signs. The provisions of this chapter establish and regulate the location, size, type and number of signs allowed within the Town, and guide the design, aesthetics, materials, and illumination of signs within the Town.

Section 16-30.070, Lighting, establishes standards and regulations related to exterior lighting. This section is to ensure lighting does not invade the privacy of other properties or produce glare or light pollution.

Section 16-32.080, Parking design and development standards, establishes standards and regulations related to exterior lighting for parking lots.

Section 16-52.020, Site Plan and Architectural Review, provides standards for a Design Review process for development in the Town. The purpose of site plan and architectural review is to ensure that the design of proposed construction and new land uses assists in maintaining and enhancing Tiburon's character. Specifically, the site plan and architectural review process ensures that new uses and structures are compatible with the surrounding neighborhood; retains and strengthens the visual quality and character of the Town; and

ensures that construction complies with all applicable Town standards and guidelines, and does not adversely affect community health, safety, aesthetics, or natural resources.

Section 16-23.060, Historic Protection Overlay Zone Allowable Uses and General Development Standards, provides standards for development within the HPO (Historic Protection Overlay) Zone. The purpose of the HPO Zone is to protect, maintain and enhance historic structures in the downtown area that are included in the Town's local historic inventory of buildings located in downtown Tiburon ("Inventory"), as adopted by resolution of the Town Council and amended from time to time. The HPO zone is intended to safeguard the Town's heritage as embodied and reflected in the buildings listed in the inventory.

Town Council Resolution 2859

In 1992, the Town Council adopted Resolution 2859 which affirmed that "in balancing open space interests with development interests, decision-makers shall consider the protection of ridgelines to the maximum extent feasible to be of the highest priority." The Resolution also designated other Significant Ridgelines to be subject to General Plan and Zoning Ordinance policies and regulations concerning "ridgelines, significant ridgelines, and secondary ridgelines." The Significant Ridgelines designated by Town Council Resolution 2859 are shown on Figure 3.1-1.

Downtown Tiburon Design Handbook

The Downtown Tiburon Design Handbook (Handbook) is intended to serve as a guide for the retention, revitalization, and new construction of buildings, storefronts, and streetscapes in Downtown Tiburon. The Handbook consists of goals, basic design concepts, and design guidelines. While the guidelines address many specific design elements, they differ from absolute standards found in ordinances, and are nonprescriptive in nature. Their major objective is to promote the development of recognizable building designs and site furnishings consistent through the Downtown and responsive to Tiburon's historic legacy.

Downtown Tiburon consists of three areas or districts that possess building types, architectural styles, periods of development and settings of individual distinction. The distinctive, character-defining features of each area are summarized below as orientation to Downtown Tiburon's three commercial districts.

Main Street, in many respects, is a traditional small town, American Main Street commercial district, in terms of its scale, proportions, building types, architectural styles and features, and phases of development. At the same time, it exists as a "shoreline" Main Street, that is, the rear areas of buildings which line one side of Main Street "front" directly onto San Francisco Bay. With two exceptions, there are no front or side yard setbacks to the buildings on Main Street. The front facades of the buildings define the character and function of the street, and the storefronts, as the prominent element, are open and inviting. Business signs are secondary to the storefront and building. Building ornament and trim are authentic, and materials are genuine. The period of historical significance for Main Street has been defined as 1870 to 1921.

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Ark Row, for the most part, exists as an informal, historically-significant collection of several arks and cottages which once served as summer homes on Belvedere Cove. Together with some newer buildings, Ark Row today consists of shops and small offices. Ark Row's buildings are separated from the street and from one another with front and side yard setbacks. Side-yard steps exist in many cases to address grade-separated front and rear areas. Two-story rear facades "front" onto a large, centrally-located parking lot. Terraces, planter boxes and trees augment Ark Row's buildings and storefronts, and the use of building materials, colors and landscaping along Ark Row reflects its residential origins. The period of historical significance for Ark Row also has been defined as 1870 to 1921.

Tiburon Boulevard, as a strip of contemporary commercial development, is, in direct contrast to Main Street and Ark Row, strongly oriented to the motor vehicle. As Downtown Tiburon's "Main Drag," it makes a dramatic transition from its civic and office buildings and resident-serving convenience shopping to a waterfront park that affords magnificent views of Angel Island, Raccoon Straits and the San Francisco skyline. Many of its larger parcels accommodate a single use or tenant housed in a relatively large building. Most of the postwar and newer buildings tend to be decidedly horizontal in shape and proportions, with site development that generally includes generous front and side yard setbacks, some use of plant materials, and highly visible on-site parking. Buildings and uses that line Tiburon Boulevard vary considerably in street orientation, including some whose rear areas "front" onto Juanita Lane.

3.1.3 THRESHOLDS OF SIGNIFICANCE

According to CEQA Guidelines Appendix G, except as provided in Public Resources Code Section 21099, the proposed project will have a significant impact related to aesthetics if it would:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway
- In non-urbanized areas, substantially degrade the existing visual character or quality of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point).
- If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to aesthetics resulting from implementation of the General Plan 2040 are discussed below. The impact analysis is based on the existing visual character of the Planning Area, including scenic vistas, highways, roadways, and existing sources of light and glare.

Changes to aesthetic resources that may occur from future development in accordance with the General Plan 2040 are identified and qualitatively evaluated based on potential modifications to the existing aesthetic setting. Impacts related to aesthetics are assessed using significance criteria established by the CEQA guidelines.

Impact 3.1-1 Development facilitated by the General Plan Update would not have a substantial adverse effect on a scenic vista.

Development accommodated under the General Plan 2040 would result in additional residential and non-residential development throughout the Town. Development would be limited to vacant and/or underutilized existing parcels, or redevelopment of currently developed parcels. The potential infill development would occur within the fabric of developed areas throughout the Town.

The Town defines scenic vistas in Policy OSC-32 of the General Plan 2040, which states: “The Town shall protect visual access to the bayfront and scenic vistas of water and distinct shorelines through its land use and development review procedures, to the greatest extent feasible.” The Tiburon Municipal Code and Downtown Tiburon Design Handbook do not regulate scenic vistas.

Development under the General Plan 2040 could alter existing views that are defined by the Town’s existing General Plan, including views of water and distinct shorelines. For example, development occurring within the vacant sites designated as Medium Density Residential within the Planning Area have the potential to impact scenic vistas of water and distinct shorelines.

As discussed below, mandatory compliance with design review regulations and policies in the Tiburon Municipal Code and General Plan 2040 would ensure that aesthetic impacts from new residential, mixed use, commercial, and community, and natural resource development under the General Plan 2040 would be less than significant. In order to integrate structures with the natural environment and protect natural features, the Town includes policies and programs that require project specific environmental analyses for future residential and non-residential developments during the design review process.

The General Plan 2040 includes the following policies and programs that pertain to scenic vistas:

Policy OS-10 (Setbacks from Tiburon Ridge): Development and the construction of buildings and yard improvements associated with development, including landscaping and trees, shall be set back from either side of Tiburon Ridge as established in Figure OS-2:

- 1) a minimum of 150 horizontal feet, and
- 2) a minimum of 50 vertical feet, measured from the highest point of the roofline of a structure or tree.

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If strict application of these requirements prevents all reasonable use of the property, encroachment into the setbacks may be allowed provided that structures are limited to a maximum 15 feet in height, as defined by the Tiburon Zoning Ordinance (Chapter 16 of the Tiburon Municipal Code), and provided that both horizontal and vertical encroachment are minimized.

Program OS-d (Ridgeline and Hillside Development Regulations): Amend the Zoning Ordinance to incorporate the required setbacks from Significant Ridgelines contained in Policies OS-10 and OS-11, limitations on development of steep slopes in Policy OS-13, and the objective hillside development standards from the Design Guidelines for Hillside Dwellings.

Policy OS-11 (Setbacks from Significant Ridgelines): Development shall be set back from Significant Ridgelines as established in Figure OS-2. Setbacks shall be based on an evaluation of the following characteristics: local and regional visual prominence, ability to connect to existing or potential open space, potential to act as a neighborhood separator, views of and views from, length, height, presence of trees, presence of unusual physical characteristics, highly visible open slopes, significant vegetation, sensitive habitat, special silhouette or back-drop features, difficulty of developing or accessing, and integrity of the ridgeline land form.

In evaluating Significant Ridgelines for protection, all characteristics identified in Policy OS-11 should not be judged equally. Significant Ridgelines that have a high visual prominence, have the potential to connect to the Tiburon Ridge Trail, or have a distinct ridgeline land form, such as those found at the eastern terminus of the Tiburon Ridge, should be afforded greater protection than those that have low visibility, do not connect to the Tiburon Ridge, or do not have distinct ridgeline land forms.

If strict application of these requirements prevents all reasonable use of the property, encroachment into the setbacks may be allowed provided that structures are limited to a maximum 15 feet in height, as defined by the Tiburon Zoning Ordinance, and provided that both horizontal and vertical encroachment are minimized.

Policy LU-6 (Residential Neighborhoods): Maintain and enhance the residential character of neighborhoods. Require that new development, remodels, and additions be of a scale, intensity and design that integrates with the immediate neighborhood and natural surroundings.

Program LU-j (Residential Hillside Design Guidelines): Update the Design Guidelines for Hillside Dwellings to create more objective standards that meet the requirements of State law but achieve the desired scale and design character that is compatible with existing neighborhoods.

Policy LU-7 (View Preservation): Minimize the reduction of views, privacy, and solar access for neighboring properties. Locate and limit the height of new development and associated landscaping to interfere minimally with existing primary views.

Additionally, all development would be required to comply with the policies and programs of the proposed General Plan 2040 designed to protect view corridors, scenic resources, and natural features. For example, Policy OS-10 requires development and the construction of buildings and yard improvements associated with development to be setback from Tiburon Ridge (shown in Figure OS-1 of the General Plan 2040) by 50 to 150 feet, with strict exceptions. Similarly, Policy OS-11 requires development to be set back from Significant Ridgelines as established in Figure OS-2 of the General Plan 2040. Setbacks for this policy shall be based on an evaluation of the following characteristics: local and regional visual prominence, ability to connect to existing or potential open space, potential to act as a neighborhood separator, views of and views from, length, height, presence of trees, presence of unusual physical characteristics, highly visible open slopes, significant vegetation, sensitive habitat, special silhouette or back-drop features, difficulty of developing or accessing, and integrity of the ridgeline land form. Program OS-d requires amendments to the Zoning Ordinance to incorporate the required setbacks from Significant Ridgelines contained in Policies OS-10 and OS-11, limitations on development of steep slopes in Policy OS-13, and the objective hillside development standards from the Design Guidelines for Hillside Dwellings. Codifying these ridge setback requirements would ensure that views of ridges are preserved.

Further, Policy LU-6 requires maintenance and enhancement of the residential character of neighborhoods by requiring that new development, remodels, and additions be of a scale, intensity and design that integrates with the immediate neighborhood and natural surroundings. Program LU-j requires an update of the Design Guidelines for Hillside Dwellings to create more objective standards that meet the requirements of State law but achieve the desired scale and design character that is compatible with existing neighborhoods. Policy LU-7 requires minimization of the reduction of views, privacy, and solar access for neighboring properties. Pursuant to this policy, new development shall be located, the height of new development shall be limited, and associated landscaping shall be provided to interfere minimally with existing primary views. Compliance with these policies would ensure that hillside and other development has limited heights, and is evaluated for view blockage and compatibility with surrounding natural areas.

As the Town receives development applications, it will review those applications under the design review procedures in Section 16-52.020 (Site Plan and Architectural Review) of the Tiburon Municipal Code. All development would be subject to development and design standards specified in the Tiburon Municipal Code.

As part of the development review process, the Tiburon Municipal Code imposes rules and regulations to maintain the natural environment, as well as development and design standards to ensure that new development is consistent and compatible with the Town's

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established character and preserves views. Chapter 15 establishes that trees must not unreasonably obstruct views from or sunlight reaching other property, and outlines criteria for determining unreasonable obstruction and appropriate restorative action. Section 16-30.040 establishes height limits for fences and walls to protect privacy and views, and Section 16-30.050 establishes height limits for buildings and structures to protect privacy and views. For projects that require design review, the Design Review Board will review site design, building placement, and building height to ensure that the development is appropriately designed and located to minimize visual impacts to adjacent properties and the general public. Potential issues related to view obstruction would be addressed, in accordance with Section 16-52.020 (Site Plan and Architectural Review), thereby reducing impacts to scenic vistas. As required by the proposed General Plan 2040, new buildings in the Town's Planning Area would be no taller than three stories.

In addition, the General Plan 2040 includes policies and programs designed to preserve wildlife and aquatic habitat and other sensitive natural communities, which would in turn maintain aesthetic quality of creeks within urbanized areas. Policy C-3 aims to preserve and enhance the diversity of wildlife and aquatic habitats found in the Planning Area bayfront lands, including tidal marshes, seasonal marshes, lagoons, wetlands, and low-lying grasslands over historical marshlands. Policy C-4 prohibits development from encroaching into sensitive wildlife habitats, limiting normal range areas, or creating barriers to wildlife that cut off or substantially impede access to food, water, or shelter, or cause damage to fisheries or fish habitats. As part of this policy, access to environmentally sensitive marshland and adjacent habitat shall be restricted, especially during spawning and nesting seasons. Policy C-6 requires buffer zones of at least 100 feet between development and wetland areas to the maximum extent possible. Program C-a requires amendments to the Zoning Ordinance to incorporate wetland and streamside development setbacks. Policy C-8 requires preservation and/or expansion of freshwater habitats in the bayfront areas associated with freshwater streams and small former marshes so that the circulation, distribution, and flow of the fresh water supply are facilitated. Policy C-9 requires open space buffers of at least 50 feet on each side of the top of the bank of perennial, intermittent, and ephemeral streams on properties less than five acres, and of at least 100 feet on each side of the top of the bank on properties greater than five acres, to minimize disturbance of natural vegetation and maintain the environmental and scenic attributes of the corridor. As part of this policy, where modification of corridors is required for flood control or crossings, such modification shall be made in an environmentally sensitive manner that enhances, replaces, or retains vegetation. Future development in accordance to the General Plan 2040 would be subject to these General Plan policy and program requirements.

In conclusion, development envisioned by the General Plan 2040 could result in an incremental increase in new development that could incrementally alter scenic resources and natural features within the Planning Area or alter views of scenic resources and natural features within the immediate Planning Area, as well as views of the open waters of the San Francisco Bay and land masses beyond the open waters, as seen from streets and paths,

special vantage points, and views from private properties. However, compliance with General Plan 2040 policies and programs, and adherence to development and design standards in the Tiburon Municipal Code would ensure that future development projects are appropriately designed in terms of potential aesthetic impacts. At the programmatic level, aesthetic impacts to views would be less than significant. Consistent with the General Plan 2040 policies, individual development projects would be required to undergo project-specific environmental review, which may require additional site specific or project specific measures to reduce any potential impacts and would ensure that impacts remain ***less than significant***.

Mitigation Measures

None Required

Impact 3.1-2 Implementation of the General Plan Update would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.

There are currently no designated State Scenic Highways or National Scenic Byways within the Planning Area. However, the entire stretch of State Route 1 and sections of U.S. 101 running through Marin County, and within a mile of the Planning Area, are eligible to be a State Scenic Highway. The criteria for official designation and eligibility includes the scenic quality of the landscape, how much of the natural landscape can be seen by travelers, and to the extent to which development intrudes upon the traveler’s enjoyment of the view. The Planning Area is visible from both roadway segments.

There is no proposed development within the eligible section of U.S. 101 nearest to the Town; as such, implementation of the General Plan 2040 would not result in any impact to trees, rock outcroppings, or historic buildings within an eligible State Scenic Highway.

Furthermore, as discussed under Impact 3.1-1, all residential, mixed use, commercial, and community development under the General Plan 2040 would be subject to development and design standards for each zoning district as well as any other sections of the Tiburon Municipal Code that protect scenic resources, thereby minimizing potential impacts to existing views that can be seen from U.S. 101 outside of the Planning Area, an eligible State Highway. For example, as the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town for compliance with the Tiburon Municipal Code Chapter 15A (Trees), which protects certain species and sizes of trees, in addition to dedicated trees of special significance to the Town, on private property, and all trees and shrubs on Town property. The Tiburon Municipal Code safeguards these trees against removal, alteration, and damage, without first having obtained a tree removal or alteration permit from the Town.

In conclusion, development envisioned by the General Plan 2040 does not propose development within a designated State Scenic Highway or eligible State Scenic Highway; as such, implementation of the General Plan 2040 would not result in any impact to trees, rock

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outcroppings, or historic buildings within an eligible State Scenic Highway. Therefore, **no impact** would occur.

Mitigation Measures

None required.

Impact 3.1-3 Development facilitated by the General Plan Update would not substantially degrade the existing visual character or quality of public views in non-urbanized areas. (Public views are those that are experienced from publicly accessible vantage point).

The CEQA definition for an “Urbanized area” means a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. In addition, to be considered an Urbanized area according to CEQA, projects must also be within the boundary of a map prepared by the U.S. Bureau of the Census which designates the area as urbanized area. The Census Bureau identifies two types of urban areas: (1) Urbanized Areas (UAs) of 50,000 or more people; and (2) Urban Clusters (UCs) of at least 2,500 and less than 50,000 people. With an approximate population of 8,956 Tiburon Residents⁸ in 2022, the Town is considered a non-urbanized area.

Publicly accessible vantage points include public parks and public open space shown in Figure 3.1-2. As described under Impacts 3.1-1 and 3.1-2, future development envisioned by the General Plan 2040 could result in an incremental increase in new residential, mixed use, commercial, and community development that could incrementally alter scenic resources and natural features within the urbanized portions of the Planning Area, thereby incrementally altering the quality of public views from publicly accessible vantage points within public parks and public open space. However, development would be limited to vacant and/or underutilized existing parcels, redevelopment of currently developed parcels, and other infill development. These aforementioned areas occur within the fabric of already developed areas throughout the Town. Accordingly, views from within public parks and public open space would not be substantially altered. Additionally, compliance with General Plan 2040 policies and programs described under Impacts 3.1-1 and 3.1-2, and adherence to development and design standards in the Tiburon Municipal Code described under Impacts 3.1-1 and 3.1-2, would ensure that future development projects within the urbanized areas are cohesive, appropriately designed in terms of potential aesthetic impacts, and reflect the character of the Town. At the programmatic level, aesthetic impacts to the quality of public views in non-urbanized areas would be less than significant. Consistent with the General Plan 2040 policies, individual development projects within urbanized areas would be required to

⁸ California Department of Finance. May 2022. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2022. Available: <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2022/>. Accessed: March 13, 2023.

undergo project-specific environmental review, which may require additional site specific or project specific measures to reduce any potential impacts to the quality of public views in non-urbanized areas and would ensure that impacts remain *less than significant*.

Mitigation Measures

None required.

Impact 3.1-4 Implementation of the General Plan Update would not substantially conflict with applicable zoning and other regulations governing scenic quality in urbanized areas.

The Town is located in a non-urbanized area. Future development accommodated under the General Plan 2040 would result in additional development throughout the Town. This development would be located along the Town's waterfront areas and would be limited to vacant and/or underutilized existing parcels, redevelopment of currently developed parcels, and other infill development, and would occur within the urbanized portions of the Town. Any future development that is proposed within the Town will need to demonstrate consistency with the General Plan 2040 during the design review process.

As discussed under Impact 3.1-1, as the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town for compliance with the policies and programs of the General Plan 2040 related to scenic quality in urbanized areas, including view corridors, scenic resources, and natural features. In addition, the Tiburon Municipal Code, which implements the General Plan 2040, would be reviewed at the time that development applications are received. For example, development applications would be subject to the development and design standards for each zoning district as well as any other sections of the Tiburon Municipal Code that govern scenic quality in urbanized areas. For example, Chapter 15 establishes that trees must not unreasonably obstruct views from or sunlight reaching other property, and outlines criteria for determining unreasonable obstruction and appropriate restorative action. Section 16-30.040 establishes height limits for fences and walls to protect privacy and views, and Section 16-30.050 establishes height limits for buildings and structures to protect privacy and views. For projects that require design review, the Design Review Board will review site design, building placement, and building height to ensure that the development is appropriately designed and located to minimize visual impacts to adjacent properties and the general public. Potential issues related to view obstruction would be addressed, in accordance with Section 16-52.020 (Site Plan and Architectural Review), thereby reducing impacts to scenic vistas. It is also noted that new buildings in the Planning Area would be no taller than three stories.

In conclusion, the General Plan 2040 could result in an incremental increase in new residential and non-residential development that could potentially conflict with applicable zoning and other regulations governing scenic quality in urbanized areas. However,

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compliance with General Plan 2040 policies and programs, and adherence to development and design standards in the Tiburon Municipal Code, would ensure that impacts remain ***less than significant***.

Mitigation Measures

None required.

Impact 3.1-5 Development facilitated by the General Plan Update would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Nighttime illumination and glare impacts are effects of a project's exterior lighting upon adjoining uses and areas. Light and glare impacts are determined through a comparison of existing light sources with proposed lighting plans or policies. Urban land uses on the Town's waterfront areas are the main source of daytime and nighttime light and glare. The hillsides are characterized by less intense development and generally have lower levels of ambient nighttime lighting and daytime glare.

Development accommodated under the General Plan 2040 would result in additional development throughout the Town, including along the waterfront areas. The potential growth in residential and non-residential uses would be vacant and/or underutilized existing parcels, redevelopment of currently developed parcels, and other infill development, and would occur within the urbanized portions of the Town; however, the new development would create new sources of light and glare within the Planning Area, contributing to increased ambient nighttime lighting conditions with potential effects to nighttime waterfront views. Specific sources of lighting would include exterior light fixtures, interior lighting, signage, and headlights from motor vehicles. Specific sources of glare would include reflective building materials and motor vehicle surfaces, including windows.

The General Plan 2040 includes the following policies and programs that pertain to light and/or glare:

Policy LU-8 (Outdoor Lighting): Allow outdoor lighting for safety purposes but limit excessive light spillover and glare.

Program LU-k (Outdoor Lighting): Review all development proposals and infrastructure projects in accordance with the Town's Lighting Ordinance to minimize off-site and night sky impacts of outdoor lighting.

Policy M-22 (Streetlights): Install streetlights only at intersections or where required for safety purposes. Light sources shall be of a warm, subdued nature and should be down-lights and/or properly shielded.

Policy M-49 (Seating at Bus Stops): The Town supports the installation and maintenance of attractive, covered, unobtrusively lighted seating areas at all bus stops along Tiburon Boulevard and will work with Golden Gate Transit, Marin Transit,

and the Transportation Authority of Marin (TAM) to provide them. The Town strongly discourages the placement of commercial advertising on public bus shelters.

Compliance with these policies and programs would ensure that light and glare from future development (including development of residential uses, commercial uses, and community uses) is reduced, minimized in certain circumstances, and is consistent with the Town's Lighting Ordinance to minimize off-site and night sky impacts of outdoor lighting.

As the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town for compliance with the Tiburon Municipal Code, which includes standards for exterior lighting, as well as a review of potential glare impacts in the design review process. For projects that require design review, the Design Review Board will review exterior lighting to ensure that the lighting is appropriately designed and located to minimize visual impacts to adjacent properties and the general public. Potential issues related to glare would be addressed, in accordance with Section 16-52.020 (Site Plan and Architectural Review), thereby reducing daytime glare and nighttime lighting impacts. Projects for which signs are proposed would be reviewed for compliance with Chapter 16a (Signs) of the Tiburon Municipal Code, which includes standards for internal illumination, external illumination, and illumination control. Projects requesting parking lot lighting would be reviewed for compliance with Section 16-32.080 of the Tiburon Municipal Code, which requires that glare shall be shielded from other properties.

In conclusion, development envisioned by the General Plan 2040 could result in an incremental increase in new residential development that could potentially increase daytime glare and nighttime lighting within the Planning Area, resulting in increased ambient nighttime lighting conditions with potential effects to nighttime waterfront views. However, compliance with development and design standards in the Tiburon Municipal Code, including Section 16-52.020 (Site Plan and Architectural Review), Chapter 16a (Signs), and Section 16-30.070 (Lighting), would ensure that impacts remain ***less than significant***.

Mitigation Measures

None Required

Impact 3.1-6: Development facilitated by the General Plan Update, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to aesthetics.

The geographic context for analysis of cumulative impacts related to aesthetics includes the unincorporated lands surrounding the Planning Area. In general, potential visual impacts take in the immediate surroundings in an urbanized area; thus, the analysis of cumulative aesthetic impacts focuses on areas that share a viewshed with the Planning Area. This analysis evaluates whether impacts of the General Plan 2040, together with impacts of cumulative development, would result in a cumulatively significant impact with respect to

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aesthetics. This analysis then considers whether incremental contribution of the impacts associated with implementation of the General Plan 2040 would be significant. Both conditions must apply for cumulative effects to rise to the level of significance.

Cumulative development with unincorporated Marin County is identified in the Marin Countywide Plan Update Final EIR.⁹ Cumulative development would be required to comply with the overall land use vision, design review regulations and policies in local and regional plans, including the Marin Countywide Plan and Marin County Development Code to ensure that aesthetic impacts are less than significant. Similarly, potential cumulative aesthetic impacts to eligible scenic highways would be reduced to below a level of significance through participation in the State Scenic Highway program and local ordinances and policies. Cumulative projects within unincorporated Marin County, including the community of Marin City, would be required to comply with applicable Marin Countywide Plan policies and programs and adhere to development and design standards in the Marin County Code that address aesthetics, including lighting and glare, the alteration of scenic resources and natural features, the alteration of views of scenic resources and natural features, and the alteration of views of the open waters of the San Francisco Bay, Richardson Bay, and land masses beyond the open waters, as seen from public or special vantage points. For these reasons, cumulative impacts to aesthetics, State Scenic Highways, or nighttime lighting and daytime glare would be ***less than significant***.

Moreover, the General Plan 2040's incremental contribution to less than significant cumulative impacts would not be significant. Development resulting from buildout of the General Plan 2040 is limited and will be subject to both proven continuing policies and enhanced policies to reduce aesthetic impacts.

As discussed under Impacts 3.1-1 through 3.1-5, development anticipated under the General Plan 2040 would be limited to vacant and/or underutilized existing parcels, redevelopment of currently developed parcels, and other infill development, and would occur within the fabric of developed areas throughout the Town. To ensure a less-than-significant contribution to cumulative impacts, development consistent with the General Plan 2040 will be required to implement all applicable General Plan 2040 policies during the design review process. As the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town of Tiburon for compliance with the policies and programs of the General Plan 2040 related to view corridors, scenic resources, and natural features. Consistency with the Town's Municipal Code, which implements the Town's General Plan 2040, would be required during the design review process to ensure that projects comply with all policies designed to mitigate visual impacts, tree protection standards, and standards to minimize light and glare. Therefore, the

⁹ County of Marin. Community Development Department. 2007. Marin Countywide Plan Update Final Environmental Impact Report. November.

General Plan 2040's contribution to cumulative impacts would be considered ***less than significant***.

Mitigation Measures

None Required

Figure 3.1-1. Visual and Scenic Characteristics

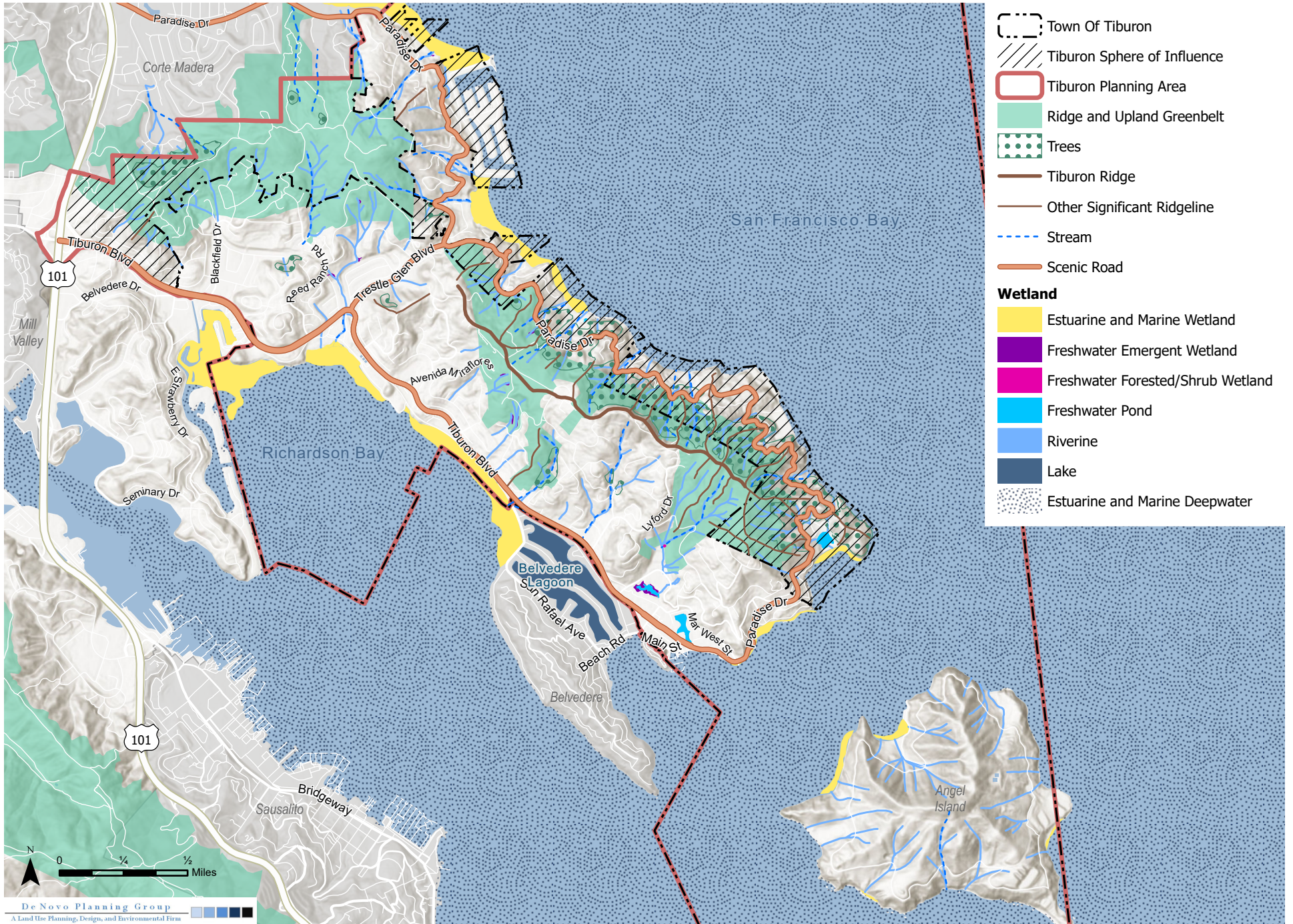
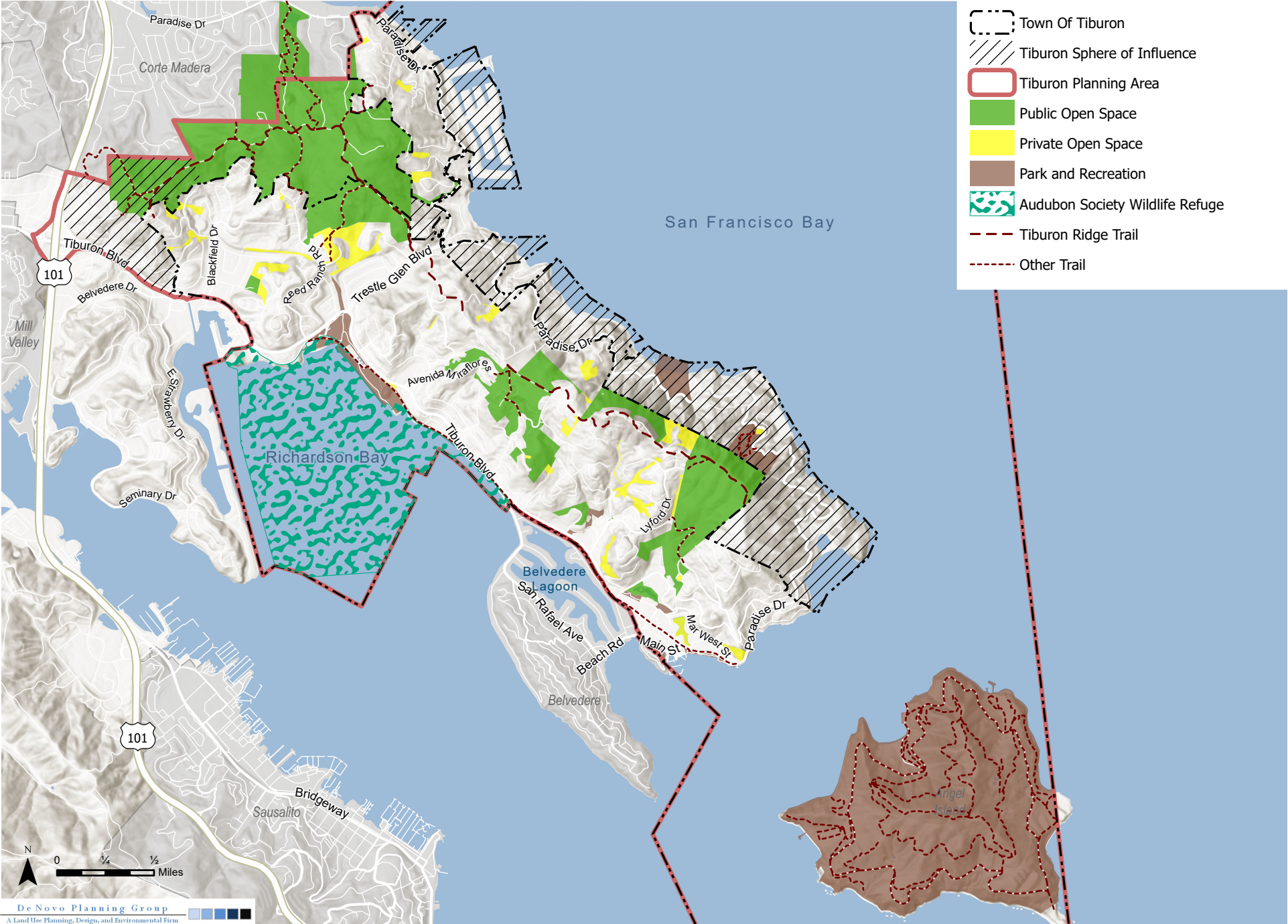


Figure 3.1-2. Open Space Resources





3.2 AIR QUALITY

This section of the Draft EIR (DEIR) describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from Project implementation. There were no comments received during the public review period for the NOP related to air quality.

Greenhouse gas (GHG) emissions are discussed in Section 3.7, Greenhouse Gas Emissions.

The following resources were used to inform and support this section:

- Town of Tiburon General Plan;
- Bay Area Air Quality Management District (BAAQMD) *Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area* document;
- BAAQMD *Final 2017 Clean Air Plan*;
- BAAQMD District's Air Quality Standards and Attainment Status website;
- California Air Resource Board's (CARB) *ARB Air Quality and Land Use Handbook: A Community Health Perspective*;
- CARB California Ambient Air Quality Standards;
- CARB iADAM: Air Quality Statistics database;
- Traffic modeling and analysis prepared by GHD (traffic consultant).

3.2.1 EXISTING SETTING

San Francisco Bay Area Air Basin

The Town is located within the San Francisco Bay Area Air Basin (SFBAAB or Air Basin). The Air Basin encompasses approximately 5,600 square miles and includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa counties, and portions of southwestern Solano and southern Sonoma counties. The Air Basin is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Air Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys, and bays.

Topography

The topography of the SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays. This complex terrain, especially the higher elevations, distorts the normal wind flow patterns in the SFBAAB. The greatest distortion

occurs when low-level inversions are present and the air beneath the inversion flows independently of air above the inversion, a condition that is common in the summertime.

The only major break in California's Coast Range occurs in the SFBAAB. Here the Coast Range splits into western and eastern ranges. Between the two ranges lies San Francisco Bay. The gap in the western coast range is known as the Golden Gate, and the gap in the eastern coast range is the Carquinez Strait. These gaps allow air to pass into and out of the SFBAAB and the Central Valley.

Climate

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. Climate of the SFBAAB is determined largely by a high pressure system, as discussed below. Within the Town, temperatures range from an average low of 47 degrees to an average high of 87 degrees.

High Pressure Cell

During the summer, the large-scale meteorological condition that dominates the West Coast is a semi-permanent high pressure cell centered over the northeastern portion of the Pacific Ocean. This high pressure cell keeps storms from affecting the California coast. Hence, the SFBAAB experiences little precipitation in the summer months. Winds tend to blow on shore out of the north/northwest.

The steady northwesterly flow induces upwelling of cold water from below. This upwelling produces a band of cold water off the California coast. When air approaches the California coast, already cool and moisture-laden from its long journey over the Pacific, it is further cooled as it crosses this bank of cold water. This cooling often produces condensation resulting in a high incidence of fog and stratus clouds along the Northern California coast in the summer.

Generally, in the winter, the Pacific high-pressure cell weakens and shifts southward, winds tend to flow offshore, upwelling ceases, and storms occur. During the winter rainy periods, inversions (layers of warmer air over colder air; see below) are weak or nonexistent, winds are usually moderate, and air pollution potential is low. The Pacific high pressure cell does periodically become dominant, bringing strong inversions, light winds, and high pollution potential.

Wind Patterns

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

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Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3 p.m. to 4 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited, and stagnant conditions are likely to result.

In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

Temperature

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold ocean bottom water along the coast. On summer afternoons the temperatures at the coast can be 35°F cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases to less than 10°.

In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

Precipitation

The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing are usually high, and thus pollution levels tend to be low. However,

frequent dry periods do occur during the winter where mixing and ventilation are low and pollutant levels build up.

Air Pollution Potential

The potential for high pollutant concentrations developing at a given location depends upon the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The topographic and climatological factors discussed above influence the atmospheric pollution potential of an area. Atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors described below.

Wind Circulation

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commute traffic (early morning) and wood burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants upvalley during the day, and cold air drainage flows move the air mass downvalley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

Inversions

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

There are two types of inversions that occur regularly in the SFBAAB. One is more common in the summer and fall, while the other is most common during the winter. The frequent occurrence of elevated temperature inversions in summer and fall months acts to cap the mixing depth, limiting the depth of air available for dilution. Elevated inversions are caused by subsiding air from the subtropical high pressure zone, and from the cool marine air layer that is drawn into the SFBAAB by the heated low pressure region in the Central Valley.

The inversions typical of winter, called radiation inversions, are formed as heat quickly radiates from the earth's surface after sunset, causing the air in contact with it to rapidly cool. Radiation inversions are strongest on clear, low-wind, cold winter nights, allowing the buildup of such pollutants as carbon monoxide and particulate matter. When wind speeds are low, there is little mechanical turbulence to mix the air, resulting in a layer of warm air over a layer of cooler air next to the ground. Mixing depths under these conditions can be as shallow as 50 to 100 meters, particularly in rural areas. Urban areas usually have deeper

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minimum mixing layers because of heat island effects and increased surface roughness. During radiation inversions downwind transport is slow, the mixing depths are shallow, and turbulence is minimal, all factors which contribute to ozone formation.

Although each type of inversion is most common during a specific season, either inversion mechanism can occur at any time of the year. Sometimes both occur simultaneously. Moreover, the characteristics of an inversion often change throughout the course of a day. The terrain of the SFBAAB also induces significant variations among subregions.

Solar Radiation

The frequency of hot, sunny days during the summer months in the SFBAAB is another important factor that affects air pollution potential. It is at the higher temperatures that ozone is formed. In the presence of ultraviolet sunlight and warm temperatures, reactive organic gases and oxides of nitrogen react to form secondary photochemical pollutants, including ozone. Because temperatures in many of the SFBAAB inland valleys are so much higher than near the coast, the inland areas are especially prone to photochemical air pollution.

In late fall and winter, solar angles are low, resulting in insufficient ultraviolet light and warming of the atmosphere to drive the photochemical reactions. Ozone concentrations do not reach significant levels in the SFBAAB during these seasons.

Sheltered Terrain

The hills and mountains in the SFBAAB contribute to the high pollution potential of some areas. During the day, or at night during windy conditions, areas in the lee sides of mountains are sheltered from the prevailing winds, thereby reducing turbulence and downwind transport. At night, when wind speeds are low, the upper atmospheric layers are often decoupled from the surface layers during radiation conditions. If elevated terrain is present, it will tend to block pollutant transport in that direction. Elevated terrain also can create a recirculation pattern by inducing upvalley air flows during the day and reverse downvalley flows during the night, allowing little inflow of fresh air.

The areas having the highest air pollution potential tend to be those that experience the highest temperatures in the summer and the lowest temperatures in the winter. The coastal areas are exposed to the prevailing marine air, creating cooler temperatures in the summer, warmer temperatures in winter, and stratus clouds all year. The inland valleys are sheltered from the marine air and experience hotter summers and colder winters. Thus, the topography of the inland valleys creates conditions conducive to high air pollution potential.

Pollution Potential Related to Emissions

Although air pollution potential is strongly influenced by climate and topography, the air pollution that occurs in a location also depends upon the amount of air pollutant emissions in the surrounding area or transported from more distant places. Air pollutant emissions generally are highest in areas that have high population densities, high motor vehicle use,

and/or industrialization. These contaminants created by photochemical processes in the atmosphere, such as ozone, may result in high concentrations many miles downwind from the sources of their precursor chemicals.

Criteria Air Pollutants

The U.S. Environmental Protection Agency (U.S. EPA) uses six "criteria pollutants" as indicators of air quality and has established for each criteria pollutant a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). The CARB has monitored the gaseous criteria pollutants carbon monoxide, nitrogen dioxide, ozone, and sulfur dioxide since its inception in 1968. Monitoring is performed to demonstrate attainment or non-attainment of national and state ambient air quality standards.

Each criteria pollutant and its associated health effects is described below.

Ozone (O₃) is a photochemical oxidant and the major component of smog. While O₃ in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O₃ at ground level are a major health and environmental concern. O₃ is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O₃ levels occur typically during the warmer times of the year. Both VOCs and NO_x are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops, and other sources using solvents.

The reactivity of O₃ causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O₃ not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O₃ for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease, particularly those with angina or peripheral vascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability, and performance of complex tasks.

Nitrogen dioxide (NO₂) is a brownish, highly reactive gas that is present in all urban atmospheres. NO₂ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to O₃ and acid rain and may affect both terrestrial and aquatic ecosystems. The major mechanism for the formation of NO₂ in the atmosphere is the oxidation of the primary air pollutant NO_x. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O₃. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO₂) affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO₂ is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO₂ results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills, and from nonferrous smelters.

Particulate matter (PM) is not a single pollutant, but rather is a mixture of many chemical species. It is a complex mixture of solids and aerosols composed of small droplets of liquid, dry solid fragments, and solid cores with liquid coatings. Particles vary widely in size, shape and chemical composition, and may contain inorganic ions, metallic compounds, elemental carbon, organic compounds, and compounds from the earth's crust. Particles are defined by their diameter for air quality regulatory purposes. PM includes dust, dirt, soot, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO₂ and VOCs are also considered particulate matter.

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO₂) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death.

Respirable particulate matter (PM₁₀) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural uses (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning, and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM₁₀

causes a greater health risk than larger particles, since these small particles can more easily penetrate the defenses of the human respiratory system.

Fine particulate matter (PM_{2.5}) consists of small particles, which are less than 2.5 microns in size. Similar to PM₁₀, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM₁₀, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children. Particulate matter also soils and damages materials and is a major cause of visibility impairment.

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil, or dust. Excessive Pb exposure can cause seizures, mental retardation, and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Recent studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease.

3.2.2 AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and California state ambient air quality standards are summarized in **Table 3.2-1** for important pollutants. The federal and state ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone, PM_{2.5}, and PM₁₀.

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. The 1-hour ozone standard was phased out and replaced by an 8-hour standard of 0.075 PPM. Implementation of the 8-hour standard was delayed by litigation but was determined to be valid and enforceable by the U.S. Supreme Court in a decision issued in February of 2001. In April 2005, the Air Resources Board approved a new eight-hour standard of 0.070 ppm and retained the one-hour ozone standard of 0.09 after an extensive review of the scientific literature. The U.S. EPA signed a final rule for the Federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015.

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TABLE 3.2-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGING TIME	FEDERAL PRIMARY STANDARD	STATE STANDARD
OZONE	1-Hour	--	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
CARBON MONOXIDE	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
NITROGEN DIOXIDE	Annual	0.053 ppm	0.03 ppm
	1-Hour	0.100 ppm	0.18 ppm
SULFUR DIOXIDE	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM ₁₀	Annual	--	20 ug/m ³
	24-Hour	150 ug/m ³	50 ug/m ³
PM _{2.5}	Annual	12 ug/m ³	12 ug/m ³
	24-Hour	35 ug/m ³	--
LEAD	30-Day Avg.	--	1.5 ug/m ³
	3-Month Avg.	0.15 ug/m ³	--

Notes: ppm = parts per million, ug/m³ = Micrograms per Cubic Meter

Source: California Air Resources Board, 2020.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less (PM_{2.5}) were adopted for 24-hour and annual averaging periods. The current PM₁₀ standards were to be retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within the Planning Area is related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A “nonattainment” designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An “unclassified” designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, CO, and NO₂ as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For SO₂, areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

Table 3.2-2 presents the state and federal standards and attainment status for the BAAQMD.

TABLE 3.2-2: STATE AND NATIONAL ATTAINMENT STATUS

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS ¹		NATIONAL STANDARDS ²	
		CONCENTRATION	ATTAINMENT STATUS	PRIMARY	ATTAINMENT STATUS
OZONE	8 Hour	0.070 ppm (137µg/m ³)	Nonattainment ⁹	0.070 ppm Primary same as secondary	Nonattainment ⁴
	1 Hour	0.09 ppm (180 µg/m ³)	Nonattainment	--	See Footnote #5
CARBON MONOXIDE (CO)	8 Hour	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment ⁶
	1 Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
NITROGEN DIOXIDE (NO ₂)	1 Hour	0.18 ppm (339 µg/m ³)	Attainment	0.100 ppm See Footnote #11	See Footnote #11

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POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS ¹		NATIONAL STANDARDS ²	
		CONCENTRATION	ATTAINMENT STATUS	PRIMARY	ATTAINMENT STATUS
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	--	0.053 ppm (100 µg/m ³)	Attainment
SULFUR DIOXIDE (SO₂)	24 Hour	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (365 µg/m ³)	See Footnote #12
	1 Hour	0.25 ppm (655 µg/m ³)	Attainment	0.075 ppm (196 µg/m ³)	See Footnote #12
	Annual Arithmetic Mean	--	--	0.030 ppm (80 µg/m ³)	See Footnote #12
	Annual Arithmetic Mean	20 µg/m ³	Nonattainment ⁷	--	--
RESPIRABLE PARTICULATE MATTER (PM₁₀)	24 Hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
	Annual Arithmetic Mean	12 µg/m ³	Nonattainment ⁷	12 µg/m ³ See Footnote #15	Unclassified/ Attainment
FINE PARTICULATE MATTER (PM_{2.5})	24 Hour	--	--	35 µg/m ³ See Footnote #10	Nonattainment
	24 Hour	25 µg/m ³	Attainment	--	--
LEAD	30 Day Average	1.5 µg/m ³	--	-	Attainment
	Calendar Quarter	-	--	1.5 µg/m ³	Attainment
SULFATES	Rolling 3 Month Average ¹⁴	-	--	0.15 µg/m ³	See Footnote #14
HYDROGEN SULFIDE	1 Hour	0.03 ppm (42 µg/m ³)	Unclassified	--	--
VINYL CHLORIDE	24 Hour	0.010 ppm (26 µg/m ³)	No information available	--	--
VISIBILITY-REDUCING PARTICLE MATTER	8 Hour (10:00 to 18:00 PST)	See Footnote #8	Unclassified	--	--

Notes:

mg/m³ = milligrams per cubic meter; ppm=parts per million; µg/m³ = micrograms per cubic meter.

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM10, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM10 annual standard), then some measurements may be excluded. In particular, measurements are excluded that ARB determines would occur less than

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POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS ¹		NATIONAL STANDARDS ²		
		CONCENTRATION	ATTAINMENT STATUS	PRIMARY	ATTAINMENT STATUS	
		<p>once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.</p>				
		<p>2. National standards shown are the "primary standards" designed to protect public health. National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.070 ppm (70 ppb) or less. The 24-hour PM10 standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 µg/m³. The 24-hour PM2.5 standard is attained when the 3-year average of 98th percentiles is less than 35 µg/m³. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM10 is met if the 3-year average falls below the standard at every site. The annual PM2.5 standard is met if the 3-year average of annual averages spatially averaged across officially designed clusters of sites falls below the standard.</p>				
		<p>3. National air quality standards are set by US EPA at levels determined to be protective of public health with an adequate margin of safety.</p>				
		<p>4. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. EPA will make recommendations on attainment designations by October 1, 2016, and issue final designations October 1, 2017. Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area.</p>				
		<p>5. The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005.</p>				
		<p>6. In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.</p>				
		<p>7. In June 2002, CARB established new annual standards for PM2.5 and PM10.</p>				
		<p>8. Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.</p>				
		<p>9. The 8-hour CA ozone standard was approved by the Air Resources Board on April 28, 2005, and became effective on May 17, 2006.</p>				
		<p>10. On January 9, 2013, EPA issued a final rule to determine that the Bay Area attains the 24-hour PM2.5 national standard. This EPA rule suspends key SIP requirements as long as monitoring data continues to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as "non-attainment" for the national 24-hour PM2.5 standard until such time as the Air District submits a "redesignation request" and a "maintenance plan" to EPA, and EPA approves the proposed redesignation.</p>				
		<p>11. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010). The US Environmental Protection Agency (EPA) expects to make a designation for the Bay Area by the end of 2017.</p>				
		<p>12. On June 2, 2010, the U.S. EPA established a new 1-hour SO2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO2 NAAQS however must continue to be used until one year following U.S. EPA initial designations of the new 1-hour SO2 NAAQS. EPA expects to make designation for the Bay Area by the end of 2017.</p>				
		<p>13. ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure below which there are no adverse health effects determined.</p>				
		<p>14. National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.</p>				
		<p>15. In December 2012, EPA strengthened the annual PM 2.5 National Ambient Air Quality Standards (NAAQS) from 15.0 to 12.0 micrograms per cubic meter (µg/m³). In December 2014, EPA issued final area designations for the 2012 primary annual PM 2.5 NAAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.</p>				

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Monitoring Data

The SFBAAB is composed of the counties of Santa Clara, San Mateo, San Francisco, Marin, Napa, Contra Costa, and Alameda, along with the southeast section of Sonoma and the southwest section of Solano counties. BAAQMD and CARB maintain numerous air quality monitoring sites throughout each County in the Air Basin to measure ozone, PM_{2.5}, and PM₁₀. It is important to note that the federal ozone 1-hour standard was revoked by the EPA and is no longer applicable for federal standards. Data obtained from the monitoring sites throughout the SFBAAB between 2019 and 2021 is summarized in **Tables 3.2-3 through 3.2-5**.

TABLE 3.2-3: SFBAAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - OZONE

YEAR	MAX. DAYS > STANDARD				1-HOUR OBSERVATIONS			8-HOUR AVERAGES				YEAR COVERAGE	
	STATE		NATIONAL		STATE		NAT'L	STATE		NATIONAL		MIN	MAX
	1-HR	8-HR	1-HR	8-HR	MAX.	D.V. ¹	D.V. ²	MAX.	D.V. ¹	MAX.	D.V. ²		
2021	5	10	0	10	0.113	0.10	0.103	0.086	0.085	0.086	0.071	25	100
2020	6	10	0	9	0.116	0.10	0.099	0.092	0.079	0.092	0.069	97	100
2019	6	9	0	9	0.106	0.10	0.104	0.086	0.080	0.085	0.073	75	100

Notes: All concentrations expressed in parts per million. The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in italics. D.V. ¹ = State Designation Value. D.V. ² = National Design Value.

Source: California Air Resources Board Air Pollution Summaries, Accessed February 2023.

TABLE 3.2-4: SFBAAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM_{2.5}

YEAR	EST. DAYS > NAT'L '06 STD.	ANNUAL AVERAGE		NAT'L ANN. STD. D.V. ¹	STATE ANN. D.V. ²	NAT'L '06 STD. 98 TH PERCENTILE	NAT'L '06 24-HR STD. D.V. ¹	HIGH 24-HR AVERAGE		YEAR COVERAGE	
		NAT'L	STATE					NAT'L	STATE	MIN.	MAX.
2021	2.0	10.9	10.9	10.3	13	24.8	35	45.0	45.0	19	100
2020	17.3	12.5	12.5	11.3	14	66.0	55	167.7	167.7	94	100
2019	1.1	9.4	9.4	11.7	14	20.6	48	35.9	35.9	93	100

Notes: All concentrations expressed in parts per million. State and national statistics may differ for the following reasons: State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria. D.V. ¹ = State Designation Value. D.V. ² = National Design Value

Source: California Air Resources Board Air Pollution Summaries, Accessed February 2023.

TABLE 3.2-5: SFBAAB AMBIENT AIR QUALITY MONITORING DATA SUMMARY - PM₁₀

YEAR	EST. DAYS > STD.		ANNUAL AVERAGE		3-YEAR AVERAGE		HIGH 24-HR AVERAGE		YEAR COVERAGE
	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	
2021	0	0	19.6	20.1	21	23	42.8	45.1	100
2020	2.9	23.0	24.6	23.3	21	23	165.4	167.0	99
2019	0	26.2	18.4	19.1	20	23	75.4	77.1	100

Notes: The national annual average PM₁₀ standard was revoked in December 2006 and is no longer in effect. An exceedance is not necessarily a violation. Statistics may include data that are related to an exceptional event. State and national statistics may differ for the following reasons: State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. National statistics are based on standard conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria. * = there was insufficient (or no) data available to determine the value.

Source: California Air Resources Board Air Pollution Summaries, Accessed February 2023.

Marin County Air Quality Monitoring

BAAQMD and CARB maintain four air quality monitoring sites in Marin County that collect data for ozone, PM₁₀, and PM_{2.5} in recent years. Data was obtained from the nearest monitoring site to the Town, San Rafael (534 4th Street) monitoring site. monitoring station, between 2019 and 2021 is shown in **Table 3.2-6**.

TABLE 3.2-6: AMBIENT AIR QUALITY MONITORING DATA (SAN RAFAEL [534 4TH STREET])

POLLUTANT	CAL.	FED.	YEAR	MAX. CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
	PRIMARY STANDARD				
Ozone (O ₃) (1-hour)	0.09 ppm for 1 hour	N/A	2021	0.082	0 / 0
			2020	0.086	0 / 0
			2019	0.096	1 / 0
Ozone (O ₃) (8-hour)	0.070 ppm for 8-hour	0.075 ppm for 8-hour	2021	0.066	0 / 0
			2020	0.064	0 / 0
			2019	0.080	1 / 1
Particulate Matter (PM ₁₀)	50 ug/m ³ for 24 hours	150 ug/m ³ for 24 hours	2021	30.0	0 / 0
			2020	118.0	6.1 / 0
			2019	33.0	* / 0
Fine Particulate Matter (PM _{2.5})	N/A	35 ug/m ³ for 24 hours	2021	29.1	(N/A) / 0
			2020	155.5	(N/A) / 9.0
			2019	19.5	(N/A) / 0

* There was insufficient (or no) data available to determine the value.

Source: California Air Resources Board Air Pollution Summaries, Accessed February 2023.

Major Emitters in Tiburon

The CARB maps major emitters and facilities throughout the state. No major emitters were identified by the CARB within the Planning Area. However, there are major emitters

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(including refinery, electricity generation, and other combustible sources) that currently exist in the broader Bay Area region outside of the Planning Area.

Air pollutant emissions are generated in Tiburon by stationary and area-wide sources, such as space and water heating, landscape maintenance from leaf blowers and lawn mowers, consumer products, and mobile sources, primarily automobile traffic. None of the existing uses within Tiburon involve heavy industrial or manufacturing processes that would result in the release of toxic air emissions identified by the CARB. Overall, motor vehicles are the primary source of pollutants in the Planning Area.

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Sensitive Receptors

A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human

exposure to pollutants. Examples of sensitive receptors include residences, hospitals and schools. It also includes long-term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

Because the General Plan 2040 is a planning document that does not include exact locations, sizes, or land use type for any individual projects that will occur within the Town under the General Plan 2040, there are no specific sensitive locations identified with respect to the General Plan 2040. As a conservative estimate of impacts, sensitive receptors are anticipated to be located directly adjacent to new development.

Naturally Occurring Asbestos

The term asbestos is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. Ultramafic rocks, such as dunite, periodotite, and pyroxenite are igneous rocks comprised largely of iron-magnesium minerals. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth's surface. The metamorphic rock serpentinite is a common product of the alteration process. Naturally occurring asbestos is mapped in Marin County in six locations: Angel Island, Belvedere Island, Massa Hill, Fort Baker, the west peak of Mt. Tamalpais, and one unnamed occurrence. There are two naturally occurring asbestos site mapped within the Planning Area, Angel Island and Belvedere Island. Neither of these areas are planned for development with implementation of the General Plan 2040 and would not be impacted.

3.2.3 REGULATORY SETTING

Federal and State

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, Congress added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National AAQS for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions. The EPA is responsible for administering the FCAA.

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute,

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the State's air quality goals, planning and regulatory strategies, and performance. The CCAA requires all areas of the State to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS. The ARB is the agency responsible for administering the CCAA.

Federal Hazardous Air Pollutant Program

Title III of the FCAA requires the EPA to promulgate national emissions standards for hazardous air pollutants (NESHAPs). The NESHAP may differ for major sources than for area sources of HAPs (major sources are defined as stationary sources with potential to emit more than 10 tons per year [TPY] of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources). The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), the EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring maximum available control technology (MACT). For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), the EPA is required to promulgate health risk–based emissions standards were deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards. The FCAAA required the EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum to benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 required the use of reformulated gasoline in selected U.S. cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions.

Transportation Conformity

Transportation conformity requirements were added to the FCAA in the 1990 amendments, and the EPA adopted implementing regulations in 1997. See §176 of the FCAA (42 U.S.C. §7506) and 40 CFR Part 93, Subpart A. Transportation conformity serves much the same purpose as general conformity: it ensures that transportation plans, transportation improvement programs, and projects that are developed, funded, or approved by the United States Department of Transportation or that are recipients of funds under the Federal Transit Act or from the Federal Highway Administration (FHWA), conform to the SIP as approved or promulgated by EPA.

Currently, transportation conformity applies in nonattainment areas and maintenance areas (maintenance areas are those areas that were in nonattainment that have been redesignated to attainment, under the FCCA). Under transportation conformity, a determination of conformity with the applicable SIP must be made by the agency responsible for the project, such as the Metropolitan Planning Organization, the Council of Governments, or a federal agency. The agency making the determination is also responsible for all the requirements relating to public participation. Generally, a project will be considered in

conformance if it is in the transportation improvement plan and the transportation improvement plan is incorporated in the SIP. If an action is covered under transportation conformity, it does not need to be separately evaluated under general conformity.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

California Clean Air Act

The CCAA was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. The CARB is the agency responsible for administering the CCAA. The CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards.

California Air Quality Standards

Although NAAQS are determined by the USEPA, states have the ability to set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards. Federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM₁₀) and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.2-1.

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The recommendation can be for no change or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members

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are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM₁₀ standard and established a new PM_{2.5} annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006, and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the state. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB's motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the manner in which they are achieved. Towards this end, the CARB has adopted regulations which required auto manufacturers to phase in less polluting vehicles.

CARB Air Quality and Land Use Handbook

The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* addresses the importance of considering health risk issues when siting sensitive land uses, including residential development, in the vicinity of intensive air pollutant emission sources including freeways or high-traffic roads, distribution centers, ports, petroleum refineries, chrome plating operations, dry cleaners, and gasoline dispensing facilities. The CARB Handbook draws upon studies evaluating the health effects of traffic traveling on major interstate highways in metropolitan California centers within Los Angeles (Interstate I-405 and I-710), the San Francisco Bay, and San Diego areas. The recommendations identified by the CARB, including siting residential uses a minimum distance of 500 feet from freeways or other high-traffic roadways, are consistent with those adopted by the State of California for location of new schools. Specifically, the CARB Handbook recommends, "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day" (CARB, 2005).

Tanner Air Toxics Act

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for the CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before the CARB can designate a

substance as a TAC. To date, the CARB has identified more than 21 TACs and has adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, the CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technology (BACT) to minimize emissions.

The AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. The CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, the CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule. Other recent milestones include the low-sulfur diesel-fuel requirement, and tighter emission standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide.

Transport of Pollutants

The California Clean Air Act, Section 39610 (a), directs the CARB to "identify each district in which transported air pollutants from upwind areas outside the district cause or contribute to a violation of the ozone standard and to identify the district of origin of transported pollutants." The information regarding the transport of air pollutants from one basin to another was to be quantified to assist interrelated basins in the preparation of plans for the attainment of State ambient air quality standards. Numerous studies conducted by the CARB have identified air basins that are impacted by pollutants transported from other air basins (as of 1993). Among the air basins affected by air pollution transport from the San Francisco Bay Area Air Basin (SFBAAB) are the North Central Coast Air Basin, the Mountain Counties Air Basin, the San Joaquin Valley Air Basin, and the Sacramento Valley Air Basin. The SFBAAB was also identified as an area impacted by the transport of air pollutants from the Sacramento region.

Regional

Bay Area Air Quality Management District

The BAAQMD is the agency responsible for assuring that the National and California AAQS are attained and maintained in the SFBAAB. The BAAQMD is responsible for:

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- Adopting and enforcing rules and regulations concerning air pollutant sources.
- Issuing permits for stationary sources of air pollutants.
- Inspecting stationary sources of air pollutants.
- Responding to citizen complaints.
- Monitoring ambient air quality and meteorological conditions.
- Awarding grants to reduce motor vehicle emissions.
- Conducting public education campaigns.
- Air Quality Management Planning.

Air quality conditions in the SFBAAB have improved significantly since the BAAQMD was created in 1955.¹ The BAAQMD prepares Air Quality Management Plans (AQMPs) to attain ambient air quality standards in the Air Basin. The BAAQMD prepares ozone attainment plans for the National O₃ standard and clean air plans for the California O₃ standard. The BAAQMD prepares these AQMPs in coordination with Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC).

BAAQMD Air Quality Plans

The BAAQMD adopted the 2017 Clean Air Plan on April 19, 2017, to comply with State air quality planning requirements set forth in the California Health and Safety Code. The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter (PM), O₃, and TACs; to reduce emissions of methane and other “super-greenhouse gases (GHGs)” that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

The proposed control strategy for the 2017 Clean Air Plan consists of 85 specific control measures targeting a variety of local, regional, and global pollutants. The control measures have been developed for stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Implementation of some of the control measures could involve retrofitting, replacing, or installing new air pollution control equipment, changes in product formulations, or construction of infrastructure that have the potential to create air quality impacts.

The BAAQMD California Environmental Quality Act (CEQA) Guidelines set forth criteria for determining consistency with the 2017 Clean Air Plan. In general, a project is considered consistent if (1) the project supports the primary goals of the Clean Air Plan, (2) includes control measures and (3) does not interfere with implementation of the Clean Air Plan measures.

¹Bay Area Air Quality Management District (BAAQMD). 2017. CEQA Air Quality Guidelines, Appendix C, May.

BAAQMD 2017 CEQA Air Quality Guidelines

The purpose of the CEQA Air Quality Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the SFBAAB. The Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities. The Guidelines focus on criteria air pollutant, GHG, toxic air contaminant, and odor emissions generated from plans or projects and are intended to help lead agencies navigate through the CEQA process. The Guidelines for implementation of the Thresholds are for information purposes only to assist local agencies. Recommendations in the Guidelines are advisory and should be followed by local governments at their own discretion.

The most recent version of the CEQA Air Quality Guidelines were published May 2017, and includes revisions made to address the Supreme Court's opinion (*California Building Industry Association v. Bay Area Air Quality Management District*, December 2015).² The May 2017 Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The BAAQMD is currently working to update any outdated information in the Guidelines.

Community Air Risk Evaluation Program

The BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area. Based on findings of the latest report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics.

Carcinogenic compounds from gasoline-powered cars and light duty trucks were also identified as significant contributors: 1,3-butadiene contributed four percent of the cancer risk-weighted emissions, and benzene contributed three percent. Collectively, five compounds (DPM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde) were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk-weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13 percent). A 75 percent reduction in DPM was predicted between 2005 and 2015 when the inventory accounted for the ARB's diesel regulations.

²In March 2012, the Alameda County Superior Court ordered the BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds in accordance with CEQA. The Court found that the thresholds, themselves, constitute a "project" for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court's decision. The Court held that adoption of the thresholds was not a "project" subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered "reasonably foreseeable" under CEQA. In December 2015, the California Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's opinion.

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Overall, cancer risk from TAC dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for State diesel regulations and other reductions.³

Modeled cancer risks from TAC in 2005 were highest near sources of DPM: near core urban areas, along major roadways and freeways, and near maritime shipping terminals. Peak modeled risks were found to be located east of San Francisco, near West Oakland and the Maritime Port of Oakland. BAAQMD has identified seven impacted communities in the Bay Area:

- Western Contra Costa County and the cities of Richmond and San Pablo
- Western Alameda County along the Interstate 880 (I-880) corridor and the cities of Berkeley, Alameda, Oakland, and Hayward
- San José
- Eastern side of San Francisco
- Concord
- Vallejo
- Pittsburgh and Antioch

The eastern side of San Francisco is the closest CARE program impacted community to Tiburon. The Town is not located within this impacted community.

The major contributor to acute and chronic non-cancer health effects in the Air Basin is acrolein (C₃H₄O). Major sources of acrolein are on-road mobile sources and aircraft near freeways and commercial and military airports.⁴

2020 General Plan The 2020 General Plan includes goals, policies, and implementation measures that assist in reducing or avoiding impacts to air quality. These goals, policies, and implementation measures are found in the Open Space and Conservation Element and Circulation Element.

3.2.4 SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting

³Bay Area Air Quality Management District (BAAQMD). 2014. Improving Air Quality & Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective & Path Forward. April.

⁴Bay Area Air Quality Management District (BAAQMD). 2006. Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations Related to TACs in the San Francisco Bay Area. September.

in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools.

Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, since the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the population.

3.2.5 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the General Plan 2040 will have a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

BAAQMD Significance Criteria

BAAQMD CEQA Air Quality Guidelines

The purpose of the CEQA Air Quality Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin. The Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities. The Guidelines focus on criteria air pollutant, GHG, toxic air contaminant, and odor emissions generated from plans or projects and are intended to help lead agencies navigate through the CEQA process. The Guidelines for implementation of the Thresholds are for information purposes only to assist local agencies. Recommendations in the Guidelines are advisory and should be followed by local governments at their own discretion.

The most recent version of the CEQA Air Quality Guidelines were published May 2017, and includes revisions made to address the Supreme Court's opinion (*California Building Industry Association v. Bay Area Air Quality Management District*, December 2015).⁵ The May 2017

⁵In March 2012, the Alameda County Superior Court ordered BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds in accordance with CEQA. The Court found that the

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Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The BAAQMD is currently working to update any outdated information in the Guidelines.

Criteria Air Pollutants and Precursors

Regional Significance Criteria

The BAAQMD’s criteria for regional significance for projects that exceed the screening thresholds are shown in Table 3.2-8. Criteria for both the construction and operational phases of the Project are shown.

TABLE 3.2-8: BAAQMD REGIONAL (MASS EMISSIONS) CRITERIA AIR POLLUTANT SIGNIFICANCE THRESHOLDS

Pollutant	CONSTRUCTION PHASE	OPERATIONAL PHASE	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NOx	54	54	10
PM10	82 (Exhaust)	82	15
PM2.5	54 (Exhaust)	54	10
PM10 and PM2.5 Fugitive Dust	Best Management Practices	None	None

BAAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SFBAAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the USEPA, BAAQMD prepares the Clean Air Plan that details regional programs to attain the AAQS. Mass emissions in Table 3.2-8 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SFBAAB. The thresholds are based on the trigger levels for the federal New Source Review Program, which was created to ensure projects are consistent with attainment of health based federal AAQS. Regional emissions from a single project do not single-handedly trigger a regional health impact, and it is speculative to identify how many more individuals in the SFBAAB would be affected. Projects that do not exceed the BAAQMD regional significance

thresholds, themselves, constitute a “project” for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court’s decision. The Court held that adoption of the thresholds was not a “project” subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered “reasonably foreseeable” under CEQA. In December 2015, the California Supreme Court reversed the Court of Appeal’s decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court’s opinion.

thresholds in Table 3.2-8 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emissions in Table 3.2-8, emissions would cumulatively contribute to the nonattainment status and would contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 3.2-8, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment—because mass emissions are not correlated with concentrations of emissions—or how many additional individuals in the SFBAAB would experience the health effects cited above.

BAAQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in *Sierra Club v. County of Fresno (Friant Ranch, L.P.)* (2018) 6 Cal.5th 502, Case No. S21978. Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. However, if a project in the Bay Area exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standard are met in the SFBAAB.

Long-Range Plan Consistency Analysis

Under its plan-level review criteria, which apply to long range plans such as this General Plan 2040, the BAAQMD requires a consistency evaluation of a plan with its current air quality plan control measures. The current AQMP is the 2017 Bay Area Clean Air Plan. The BAAQMD considers the project consistent with the air quality management plan in accordance with the following, which are discussed under Impact 3.2-1, below:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measures?
- A comparison that the project vehicle-miles-traveled (VMT) or vehicle trip increase is less than or equal to the projected population increase.

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Local CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which are 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). Under the plan-level review, BAAQMD does not require an evaluation of CO hotspots.⁶ With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SFBAAB is in attainment of the California and National AAQS, and CO concentrations in the Air Basin have steadily declined. Because CO concentrations have improved, the BAAQMD does not require a CO hotspot analysis if the following criteria are met:

- The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

As discussed in Section 3.14, Transportation, all three criteria identified above have been met. Therefore, a CO hotspot analysis is not required for the General Plan 2040.

Community Risk and Hazards: Project

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor.

Local community risk and hazard impacts are associated with TACs and PM_{2.5} because emissions of these pollutants can have significant health impacts at the local level. Significant health impacts may occur when a project generates:

- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0; or
- An incremental increase of greater than 0.3 micrograms per cubic meter (µg/m³) annual average PM_{2.5}.

Community Risk and Hazards: Cumulative

For assessing community risk and hazards, sources within a 1,000-foot radius of a project site are considered. Sources are defined as freeways, high volume roadways (with volume of

⁶Congested intersections have the potential to create CO hotspots.

10,000 vehicles or more per day or 1,000 trucks per day) and permitted sources. For a plan-level analysis, the following would create a significant impact:

- Non-compliance with a qualified risk reduction plan; or
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a cumulatively considerable contribution; or
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) annual average PM_{2.5} would be a cumulatively considerable contribution.

Odors

BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health, or safety of any such persons or the public, or which cause, or has a natural tendency to cause, injury, or damage to business or property. Under BAAQMD's Rule 1-301. BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.⁷ For a plan-level analysis, BAAQMD requires the identification of potential existing and planned location of odor sources and policies to reduce odors.

Methodology

Impacts on the Environment on a Future Project

BAAQMD's CEQA Guidelines include methodology for jurisdictions wanting to evaluate the potential impacts from placing sensitive receptors proximate to major air pollutant sources. For assessing community risk and hazards for siting a new receptor, sources within a 1,000-foot radius of a project site are typically considered. Sources are defined as freeways, high volume roadways (with volume of 10,000 vehicles or more per day or 1,000 trucks per day) and permitted sources.⁸

⁷ Bay Area Air Quality Management District, 2017, May, California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf, accessed on February 16, 2023.

⁸ Bay Area Air Quality Management District, 2010 (Revised 2011). California Environmental Quality Act Air Quality Guidelines.

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Buildout under the General Plan 2040 could result in siting sensitive uses (e.g., residential) near sources of emissions (e.g., freeways such as SR 131, industrial uses, dry cleaners, gasoline stations, etc.). Developing new sensitive land uses near sources of emissions could expose persons that inhabit these sensitive land uses to potential air quality-related impacts. However, the purpose of this environmental evaluation is to identify the significant effects of the General Plan 2040 on the environment, not the significant effects of the environment on the General Plan 2040. *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478). Thus, CEQA does not require analysis of the potential environmental effects from siting sensitive receptors near existing sources, and this type of analysis is not provided in Section 3.2.6, impact discussion.

3.2.6 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to air quality resulting from implementation of the Project are discussed below. The impact analysis is based on air quality modeling of the criteria air pollutant emissions that would result from projected future growth between the existing conditions and year 2040. The California Emissions Estimator Model (CalEEMod Version 2020.4.0) was used to compute emissions of air pollutants (see Appendix B).

Impact 3.2-1 Implementation of the General Plan 2040 could conflict with or obstruct implementation of the applicable air quality plan.

A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the 2017 Clean Air Plan. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals in the Bay Area.

As described in Section 3.2.5, Thresholds of Significance, BAAQMD requires a consistency evaluation of a plan with its current AQMP measures. BAAQMD considers project consistency with the AQMP in accordance with the following:

2017 Bay Area Clean Air Plan

The current AQMP applicable to the Planning Area is the 2017 Bay Area Clean Air Plan.

Under BAAQMD's guidance, a proposed land use plan is consistent with the AQMP if it would (1) support the primary goals of the AQMP, (2) include applicable control measures from the AQMP, and (3) not disrupt or hinder implementation of any AQMP control measures. In addition, (4) the plan's projected VMT increase must be less than or equal to its projected population increase. Based on the analysis below, the General Plan 2040 has been found to be consistent with the AQMP prepared by the BAAQMD.

(1) The General Plan 2040 Supports the Primary Goals of the AQMP

The primary goals of the 2017 Bay Area Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate.

Attain Air Quality Standards

BAAQMD's 2017 Bay Area Clean Air Plan strategy is based on regional population and employment projections within the Bay Area compiled by ABAG.⁹ Demographic trends incorporated into the Plan Bay Area determine vehicle miles traveled (VMT) within the Bay Area, which BAAQMD utilizes to forecast future air quality trends. The SFBAAB is currently designated a nonattainment area for O₃, PM_{2.5}, and PM₁₀ (State AAQS only).

Future growth associated with the General Plan 2040 would occur incrementally throughout the 2040 buildout horizon. As discussed further in Section 3.12, Population, Employment and Housing, of this Draft EIR, the proposed population and employment projections of the General Plan 2040 would result in a less-than-significant impact related to regional growth. As described in Section 3.12, the General Plan 2040 contains goals, policies, and programs that are intended to guide development in Tiburon through the 2040 horizon year in a manner that reduces/minimizes VMT. For example, Policy C-23 requires the Town to encourage reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use, and Policy M-65 requires the Town to support and prioritize land uses and transportation provisions that help reduce VMT.

Potential future development in the Town is projected to occur on a limited number of vacant parcels, as infill/intensification on already developed and/or underutilized sites, and/or in areas with close proximity to public transportation. Additionally, although growth associated with the General Plan 2040 would increase housing by a maximum of approximately 916 residential units, there would also be a reduction of approximately 129,682 square feet of non-residential uses.

However, while the Project is consistent with the control measures contained within the 2017 Bay Area Clean Air Plan (as provided in further detail in Table 3.2-9, below), the growth projected by the Project was not necessarily taken into account within the 2017 Bay Area Clean Air Plan. Thus, emissions resulting from potential future development associated with the General Plan 2040 could hinder BAAQMD's ability to attain the California or National AAQS.

Reduce Population Exposure and Protect Public Health from Toxic Air Contaminants

Development anticipated by the General Plan 2040 could result in an increase in new residential uses and a reduction of non-residential uses. Most development under the

⁹Projections 2040 by Jurisdiction (Curated), prepared by ABAG. Website: <http://projections.planbayarea.org/>. Accessed April 20, 2020.

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General Plan 2040 is expected to be Multifamily and Mixed-Use Residential uses. The development contemplated by the General Plan 2040 would be consistent with the existing development patterns in the Town.

Mandatory compliance with BAAQMD regulations would ensure that new sources of TACs do not expose populations to significant health risk. Further, since the land uses associated with the General Plan 2040 are residential and retail uses, operational-related risks from toxic air contaminants due to development of the General Plan 2040 would be minimal. Moreover, individual development projects would be required to achieve the incremental risk thresholds established by BAAQMD. In addition, Policy C-22 (Air Quality Impacts to Sensitive Receptors) requires the Town to minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors, which would further ensure that populations are not exposed to significant health risk. Overall, implementation of General Plan 2040 policies and programs would reduce community risk and hazards.

Reduce Greenhouse Gas Emissions

Consistency of the General Plan 2040 with State, regional, and local plans adopted for the purpose of reducing GHG emissions are discussed under Impact 3.7-2 in Chapter 3.7, Greenhouse Gas Emissions, of this Draft EIR. Future development allowed by the General Plan 2040 would be required to adhere to statewide measures that have been adopted to achieve the GHG reduction targets of AB 32 and SB 32. The General Plan 2040 is consistent with regional strategies for infill development identified in Plan Bay Area 2050 ("Plan Bay Area"). Furthermore, the General Plan 2040 would also be consistent with the Town's recently adopted Climate Action Plan (CAP). While Impact 3.7-1 identifies that the General Plan 2040 would generate a substantial increase in emissions, Impact 3.7-2 identifies that the General Plan 2040 is consistent with state, regional, and local plans to reduce GHG emissions. Therefore, the General Plan 2040 is consistent with the goal of the 2017 Clean Air Plan to reduce GHG emissions and protect the climate.

(2) The General Plan 2040 Includes Applicable Control Measures From the AQMP

The 2017 Bay Area Clean Air Plan contains 55 control measures aimed at reducing air pollution in the Bay Area. These include control measures addressing stationary, area, mobile source, and transportation emissions. They also include control measures designed to protect the climate and promote mixed use, compact development to reduce vehicle emissions and exposure to pollutants from stationary and mobile sources. BAAQMD encourages lead agencies to incorporate these measures into plan elements. As explained below, the General Plan 2040 includes the applicable control measures from the AQMP.

Table 3.2-9 identifies the applicable control measures included in the 2017 Bay Area Clean Air Plan and the General Plan 2040 polices and regulations in the Tiburon Municipal Code related to the control measures. As shown in Table 3.2-9, the General Plan 2040 and Municipal Code include policies and requirements that incorporate and implement the

control measures included in the 2017 Bay Area Clean Air Plan. As such, the General Plan 2040 would be consistent with the 2017 Bay Area Clean Air Plan under this criterion.

Table 3.2-9: General Plan 2040 Consistency with 2017 Clean Air Plan

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
<p>TR2 (TRIP REDUCTION PROGRAMS): ENCOURAGE TRIP REDUCTION POLICIES AND PROGRAMS IN LOCAL PLANS. ENCOURAGE LOCAL GOVERNMENTS TO REQUIRE MITIGATION OF VEHICLE TRAVEL AS PART OF NEW DEVELOPMENT APPROVAL, TO ADOPT TRANSIT BENEFITS ORDINANCES IN ORDER TO REDUCE TRANSIT COSTS TO EMPLOYEES, AND TO DEVELOP INNOVATIVE WAYS TO ENCOURAGE RIDESHARE, TRANSIT, CYCLING, AND WALKING FOR WORK TRIPS.</p>	<p>Yes</p>	<p>The General Plan 2040 includes the following policies to reduce vehicle miles traveled:</p> <ul style="list-style-type: none"> • Policy C-23. Vehicle Emissions Reduction. Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies. • Policy S-1. Greenhouse Gas Emission Reductions. Mitigate the impacts of climate change by reducing community greenhouse gas emissions. • Policy M-65. Land Use and Transportation Priorities to Reduce VMT. Support and prioritize land use and transportation provisions that help reduce VMT. • Policy M-67. Car Sharing and Bicycle Sharing. Support car sharing and bicycle sharing opportunities in Downtown Tiburon. <p>Programs:</p> <ul style="list-style-type: none"> • Program C-h. Participate in Emission Reduction Efforts. Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities. • Program C-i. Reduce Particulate Emissions. • Promote the reduction of particulate matter from construction sites, roads, parking lots, and other sources through requiring development projects to implement best management practices (BMPs). • Program C-k. Emission Reductions. Require the use of feasible control measures to reduce PM10, NOx, and diesel particulate matter related to development, including construction and operational phases. • Program C-l. Zero Emission Landscape and Small Off-Road Equipment. Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas. • Program S-a Emissions Reduction Targets. Implement strategies to achieve reductions in greenhouse gas emissions at least 50 percent below 1990 levels by 2030, and to support the State’s goal to achieve zero net emissions statewide by 2045.
<p>TR9 (BICYCLE AND PEDESTRIAN ACCESS FACILITIES): ENCOURAGE PLANNING FOR BICYCLE AND</p>	<p>Yes</p>	<p>The General Plan 2040 includes the following policies related to bicycle and pedestrian facilities:</p> <ul style="list-style-type: none"> • Policy M-36. Bicycle Safety for Children. To reduce single-child automobile trips to schools, the Town shall support infrastructure improvements and programs that encourage children to bike

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<p>PEDESTRIAN FACILITIES IN LOCAL PLANS.</p>		<p>and/or walk safely to school or ride a bus. This includes installation of sidewalks in critical areas where feasible.</p> <ul style="list-style-type: none"> • Policy M-37. Countdown Pedestrian Signals. The Town supports, where warranted, the replacement by Caltrans of pedestrian traffic signals with "countdown-style" pedestrian signals, which inform pedestrians of the number of seconds remaining to cross safely. • Policy M-39. Bike Facilities. Bicycle facilities, including bike racks, shall be included as part of new public and commercial projects, particularly in Downtown Tiburon. • Policy M-40. Pedestrian Streets. Establish pedestrian routes, particularly for school children, for all neighborhoods where feasible and appropriate. Require that pedestrian-oriented streets be designed to provide a pleasant environment for walking and other desirable uses of public space, including such elements as shade trees, plantings, and wayfinding signage where appropriate. Pedestrian routes shall include safe crossings at major intersections. • Policy M-42. Bicycle and Pedestrian Master Plan. In developing capital improvement budgets, the Town shall use the Bicycle and Pedestrian Master Plan as a guide for prioritizing bicycle and pedestrian improvements. New development shall be consistent with applicable provisions of the Bicycle and Pedestrian Master Plan. <p>Programs:</p> <ul style="list-style-type: none"> • Program M-i. Bicycle and Pedestrian Master Plan. Review and update the Bicycle and Pedestrian Master Plan periodically and revise the list of improvements and actions called for in the Master Plan when implementation has occurred, and/or when conditions warrant.
<p>EN2 (DECREASE ELECTRICITY DEMAND): WORK WITH LOCAL GOVERNMENTS TO ADOPT ADDITIONAL ENERGY-EFFICIENCY POLICIES AND PROGRAMS.</p>	<p>Yes</p>	<p>The General Plan 2040 includes the following policies to decrease electricity demand:</p> <ul style="list-style-type: none"> • Policy S-2. Renewable Energy. Accelerate the conversion to renewable energy sources. • Policy S-3. Building Energy Efficiency. Encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. • Program S-j. Energy Efficiency Programs. Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel. <p>Programs:</p> <ul style="list-style-type: none"> • Program S-f. Building and Appliance Electrification. Consider building regulations which preclude gas appliances and infrastructure in new buildings and regulations and require gas appliances to be replaced with high-efficiency electric at burnout. • Program S-i. Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
<p>BL4 (URBAN HEAT ISLAND MITIGATION): PERFORM OUTREACH TO CITIES AND COUNTIES TO MAKE THEM AWARE OF COOL ROOFING AND PAVING TECHNIQUES.</p>	<p style="text-align: center;">Yes</p>	<p>The General Plan 2040 includes the following policies and programs to encourage local governments to develop green buildings (which could include cool roofing techniques)</p> <ul style="list-style-type: none"> • Policy S-8. Green Building in Town Facilities. Apply green building principles to the design, construction, and operation of new Town and Town-sponsored facilities to provide long-term cost savings and to serve as an example for the community. • Policy S-3. Building Energy Efficiency. Encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. <p>Programs:</p> <ul style="list-style-type: none"> • Program S-l. Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements. • Program S-j. Energy Efficiency Programs. Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel.
<p>NW2 (URBAN TREE PLANTING): ENCOURAGE LOCAL GOVERNMENTS TO ADOPT A MUNICIPAL TREE PLANTING ORDINANCE.</p>	<p style="text-align: center;">Yes</p>	<p>The General Plan 2040 includes the following policies to encourage local governments to adopt a municipal tree planning ordinance:</p> <ul style="list-style-type: none"> • Policy C-14. Tree Protection. Preserve protected trees, as defined in the Municipal Code, tree stands, and tree clusters to the maximum extent feasible. <p>Programs:</p> <ul style="list-style-type: none"> • Program C-b. Tree Preservation. Consider revising and expanding the Tiburon Tree Ordinance to provide protection of both individual trees and native woodlands. Factors to consider in expanding the current ordinance include the importance of protecting smaller sapling trees and balancing their protection against those of designated “protected trees”, defining critical management guidelines necessary to maintain healthy woodlands, and methods to encourage natural regeneration in woodland habitats.
<p>WA3 (GREEN WASTE DIVERSION): FACILITATE ADOPTION OF LOCAL ORDINANCES AND PROGRAMS TO REDUCE THE AMOUNT OF GREEN WASTE GOING TO LANDFILLS.</p>	<p style="text-align: center;">Yes</p>	<p>The General Plan 2040 includes the following policies to reduce the amount of green waste going to landfills:</p> <ul style="list-style-type: none"> • Policy S-5. Waste Diversion Targets. Strive to meet or exceed waste diversion and food recovery targets set by the state. <p>Programs:</p> <ul style="list-style-type: none"> • Program S-m. Business Waste Management Plans. Require that businesses prepare and implement waste management plans to maximize recycling and food recovery and minimize disposal of organic waste where appropriate as a condition of approval of use permits. • Program S-n. Organic Waste Reduction. Work with the Town’s waste hauler and Zero Waste Marin to develop and implement programs

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		to educate and motivate residents and business owners to increase recycling of materials and food recovery and reduce disposal of organic waste.
WA4 (RECYCLING AND WASTE REDUCTION): PROMOTE COMMUNITY-WIDE ZERO WASTE GOALS AND RECYCLING OF CONSTRUCTION AND DEMOLITION MATERIALS.	Yes	<p>The General Plan 2040 includes the following policies to promote community-wide zero waste goals and recycling of construction and demolition materials:</p> <ul style="list-style-type: none"> • Policy S. Municipal Waste Reduction. Maximize recycling, composting, reuse, waste reduction, and food recovery within municipal operations and at public parks and facilities. <p>Programs:</p> <ul style="list-style-type: none"> • Program S-o. Construction and Demolition Debris. Modify the solid waste disposal ordinance to maximize the recovery and recycling of construction debris consistent with the Marin Zero Waste model ordinance. • Program S-p. Recycling Facilities. Provide sufficient recycling and composting bins for public and staff use.
WR2 (SUPPORT WATER CONSERVATION): INCORPORATE WATER CONSERVATION BEST PRACTICES INTO LOCAL PLANNING GUIDANCE.	Yes	<p>The General Plan 2040 includes the following policy related to water conservation:</p> <ul style="list-style-type: none"> • Policy C-18. Water Conservation. Support the efforts of the Marin Municipal Water District (Marin Water) to conserve the use of water through enforcement of the Town's water conservation ordinance requiring implementation of water conservation measures. <p>Programs:</p> <ul style="list-style-type: none"> • Program C-e. Development Impacts on Water Retention. Where impervious surface construction and storm drain system installation and/or hillside stabilization (e.g., landslide repair) are proposed as part of development proposals, or wherever such stabilization is required by the Town to protect public safety, require project applicants to analyze the impacts of these drainage pattern modifications on groundwater recharge and on downslope water wells and their yields. In the event impacts are likely, modifications to the proposed project, including possible downsizing, should be implemented to the extent feasible. • Program C-f. Water Conservation Ordinance. Continue to implement the Town's water conservation ordinance through the review of new development proposals involving new landscaping.

Source: Bay Area Air Quality Management District (BAAQMD). 2017 Clean Air Plan. Adopted April 19, 2017.

(3) The General Plan 2040 Would Not Disrupt or Hinder Implementation of any AQMP Control Measures

As described above and shown in Table 3.2-9, the General Plan 2040 and Tiburon Municipal Code incorporate and are consistent with the control measures included in the 2017 Bay Area Clean Air Plan. The General Plan 2040 does not include any components that would disrupt or hinder implementation of any control measures, such as precluding an extension

of a planned transit line or bike bath or proposing excessive parking. As such, the General Plan 2040 would not hinder BAAQMD from implementing the control measures in the 2017 Bay Area Clean Air Plan.

(4) The General Plan 2040 Would Reduce VMT Per Capita

The following describes VMT, and population increases associated with implementation of the General Plan 2040.

The General Plan 2040 is intended to support and enhance residential uses within Tiburon, and to assist the Town in maintaining balanced housing units within the Town. Given the residential focus of the General Plan 2040, the majority of the VMT generated by future development within the Planning Area would be attributed to home-based trips and VMT associated with new population growth. As such, in order to analyze the General Plan 2040’s consistency with the BAAQMD thresholds listed above, this analysis looks at population growth when analyzing relative increases in local VMT.

According to GHD (the traffic consultant), existing home-based VMT¹⁰ in Tiburon is approximately 146,199 miles daily. Tiburon has an existing population of approximately 9,180. Full buildout of the General Plan 2040 could generate up to 2,199 new residents. Table 3.2-10 shows the population, home-based VMT, and VMT per resident generated by the General Plan 2040, compared to existing levels within the Town.¹¹

TABLE 3.2-10: DAILY VMT PER RESIDENT

	POPULATION	HOME-BASED VMT	VMT PER RESIDENT
TIBURON (2015 BASELINE)	9,180	146,199	15.9
MARIN COUNTY (2015 BASELINE)	259,376	4,091,987	15.8
IMPACT THRESHOLD (85% OF MARIN COUNTY BASELINE)			13.4
PROJECT GROWTH (923 DWELLING UNITS)	2,199 ¹	31,005	14.1

1. 2.38 persons per dwelling unit x 923 dwelling units

SOURCE: GHD, 2023; De Novo Planning Group, 2023

As shown in Table 3.2-10, implementation of the General Plan 2040 would result in an approximately 21.2% increase in townwide VMT, compared to a 23.9% increase in combined

¹⁰ Home-based VMT is vehicle-miles driven to and from homes.

¹¹ It should be noted that this analysis is based on a total residential unit amount of 923 units, which is greater than the estimated maximum of 916 units associated with the General Plan Update. This provides a conservative estimate of General Plan Update population and Home-Based VMT.

population. Therefore, the growth rate associated with the General Plan 2040 is higher than the VMT increase associated with it. Coupled with the fact that the addition of Project-generated VMT would result in an approximately 15.7% decrease in total VMT per resident by 2040 compared with the General Plan 2040 year 2040 VMT projections under the 2020 General Plan, the General Plan 2040 would not result in VMT increases that would exceed the adopted thresholds.

The General Plan 2040 would further the fundamental goals of the BAAQMD in reducing emissions of criteria pollutants associated with vehicle miles traveled, would assist the Town in achieving a more balanced jobs to housing ratio, and would increase opportunities for transit ridership in Tiburon and the surrounding areas. The list below provides those General Plan 2040 policies and programs that would minimize criteria pollutant emissions. However, since there is no guarantee that the Project would be consistent with the growth projections contained within the 2017 Bay Area Clean Air Plan, impacts would be **significant and unavoidable** and there are no feasible mitigation measures to mitigate this impact.

Applicable Proposed General Plan 2040 Policies and Implementation Actions Conservation Element

Policy C-21 Implement the Clean Air Plan

Implement the Bay Area Air Quality Management District's Clean Air Plan by applying BAAQMD's rules, best control measures, and best management practices to construction, property maintenance, commercial operations, and other applicable activities.

Policy C-22 Air Quality Impacts to Sensitive Receptors

Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

Policy C-23 Vehicle Emissions Reduction

Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies.

Program C-h Participate in Emission Reduction Efforts

Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities.

Program C-j Reduce Air Quality Impacts of New Development

Review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors. Ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.

Program C-l Zero Emission Landscape and Small Off-Road Equipment

Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.

Program S-a Emissions Reduction Targets

Implement strategies to achieve reductions in greenhouse gas emissions at least 50 percent below 1990 levels by 2030, and to support the State's goal to achieve zero net emissions statewide by 2045.

Program S-c Monitoring Emissions

Periodically update the greenhouse gas emissions inventory for community and government operations emissions to track progress in reducing emissions and implementing the Climate Action Plan.

Program S-e Public Education

Educate the community on the impacts of climate change and actions individuals and businesses can take to reduce greenhouse gas emissions, shift to renewable energy and zero emission vehicles, reduce waste and water use, and adapt to climate change.

Program S-f Building and Appliance Electrification

Consider building regulations which preclude gas appliances and infrastructure in new buildings and regulations and require gas appliances to be replaced with high-efficiency electric at burnout.

Program S-g Municipal Energy Use

Evaluate solar energy production and storage systems at all municipal buildings and facilities and plan for replacement of natural gas appliances and equipment. Continue to purchase 100% renewable energy for Town buildings and facilities.

Program S-h Community Energy Use

Encourage residents and businesses to install solar energy production and storage systems by streamlining regulations and permit processes, or to purchase 100% renewable energy through energy providers.

Program S-i Green Building Regulations

Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.

Program S-j Energy Efficiency Programs

Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel.

Program S-k Zero Emission Vehicles

Implement a comprehensive program to significantly increase the use of zero emission vehicles through public education and promotion, adoption of building code requirements for electric vehicle charging facilities in new construction, and installation of Level 2 and 3 public charging facilities.

Program S-l Fleet Vehicle Replacements

Give priority to electric and zero emissions vehicles, as feasible, when replacing vehicles in the Town's fleet with the goal of achieving a zero-emissions fleet by 2030.

Program S-m Business Waste Management Plans

Require that businesses prepare and implement waste management plans to maximize recycling and food recovery and minimize disposal of organic waste where appropriate as a condition of approval of use permits.

Program S-n Organic Waste Reduction

Work with the Town's waste hauler and Zero Waste Marin to develop and implement programs to educate and motivate residents and business owners to increase recycling of materials and food recovery and reduce disposal of organic waste.

Program S-o Construction and Demolition Debris

Modify the solid waste disposal ordinance to maximize the recovery and recycling of construction debris consistent with the Marin Zero Waste model ordinance.

Program S-p Recycling Facilities

Provide sufficient recycling and composting bins for public and staff use.

Program S-q Environmentally Preferable Purchasing

Adopt municipal purchasing procedures to give preference to purchasing products that are recyclable, made from recycled materials, and minimize packaging.

Level of Significance before Mitigation

Potentially Significant

Mitigation Measures

None Feasible

Level of Significance after Mitigation

Significant and Unavoidable

Impact 3.2-2 General Plan 2040 implementation would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under applicable federal or State ambient air quality standard.

This section analyzes potential impacts related to air quality that could occur from the buildout associated with the proposed General Plan 2040 in combination with the regional growth in the SFBAAB from construction and operational activities. The SFBAAB is currently designated a nonattainment area for California and National O₃, California and National PM_{2.5}, and California PM₁₀ AAQS. At a plan level, air quality impacts are measured by the potential for a project to exceed BAAQMD's significance criteria and contribute to the State and federal nonattainment designations in the SFBAAB. Any project that produces a significant regional air quality impact in an area that is in nonattainment adds to the cumulative impact. As described in Impact AIR-1, the General Plan 2040 would be consistent with the 2017 Clean Air Plan. However, construction and operational activities associated with potential future development under the General Plan 2040 could generate a substantial increase in criteria air pollutant emissions that could exceed the BAAQMD regional significance thresholds.

Construction

Construction activities would temporarily increase criteria air pollutant emissions within the SFBAAB. The primary source of NO_x emissions is the operation of construction equipment. The primary sources of particulate matter (PM₁₀ and PM_{2.5}) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. BAAQMD considers all impacts related to fugitive dust emissions (PM₁₀ and PM_{2.5}) from construction to be less than significant with implementation of BAAQMD's best management practices (see Table 3.2-8). The primary sources of VOC emissions are the application of architectural coating and off-gas emissions associated with asphalt paving.

Construction activities associated with the potential future development from implementation of the General Plan 2040 would occur over the buildout horizon, causing short-term emissions of criteria air pollutants. Although BAAQMD's CEQA Air Quality Guidelines only require an emissions inventory of criteria air pollutants for project-level analyses, enough information regarding the buildout of the proposed General Plan 2040 is available to generate an inventory of criteria air pollutants to identify the magnitude of emissions.

Development of future projects within the Planning Area would be subject to the Town's standard CEQA review process and would be required to assess project-specific emissions in relation to the BAAQMD significance thresholds. The total net increase of residential land uses that could be developed with implementation of the General Plan 2040 was entered into the CalEEMod model and the calculated criteria air pollutants are shown in Table 3.2-11, below.

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TABLE 3.2-11: PROJECT REGIONAL CONSTRUCTION CRITERIA POLLUTANT EMISSIONS (TONS/YEAR)

EMISSIONS TYPE	GENERAL PLAN 2040 AVERAGE DAILY EMISSIONS (LBS/DAY)	BAAQMD OPERATIONAL SIGNIFICANCE THRESHOLDS – AVERAGE DAILY EMISSIONS (LBS/DAY)	GENERAL PLAN 2040 ABOVE THRESHOLD?
ROG	5.1	54	No
NO _x	14.0	54	No
PM ₁₀	0.5	82 (Exhaust)	No
PM _{2.5}	0.4	54 (Exhaust)	No

Notes: ADUs were modeled as Condos/Townhouses for the purposes of a conservative analysis. The decrease of non-residential land uses associated with the proposed General Plan 2040 was not modeled, for the sake of a conservative analysis.

Source: CalEEMod, v.2020.4.0

As shown in Table 3.2-11, emissions for construction activities associated with the General Plan 2040 would not exceed the applicable BAAQMD thresholds. Due to the scale of development activity associated with buildout of proposed General Plan 2040, cumulative emissions would also not exceed the BAAQMD regional significance thresholds. In accordance with the BAAQMD methodology, emissions that do not exceed the regional significance thresholds would not cumulatively contribute to the nonattainment designations of the SFBAAB. Emissions of VOC and NO_x are precursors to the formation of O₃. In addition, NO_x is a precursor to the formation of particulate matter (PM₁₀ and PM_{2.5}). Therefore, the General Plan 2040 would not cumulatively contribute to the nonattainment designations of the SFBAAB for O₃ and particulate matter (PM₁₀ and PM_{2.5}) during construction.

Separately, when applicable, potential future development under the General Plan 2040 would be subject to separate environmental review pursuant to CEQA. Any such subsequent environmental review of development projects would be required to assess potential impacts under BAAQMD's project-level thresholds based on site-specific construction phasing and buildout characteristics. Existing federal, State, and local regulations and goals, policies, and programs of the General Plan 2040 described throughout this chapter protect local and regional air quality. Continued compliance with these regulations would reduce construction-related impacts.

Furthermore, the General Plan 2040 includes policies and programs that reduce construction-related emissions. For instance, Conservation Policy C-22 requires the Town to minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors. Additionally, Program C-k requires the use of feasible control measures to reduce PM₁₀, NO_x, and diesel particulate matter related to development, including during the construction and operational phases.

Operation

BAAQMD has identified thresholds of significance for criteria pollutant emissions and criteria air pollutant precursors, including VOC, NO_x, PM₁₀, and PM_{2.5}. Development projects below

the significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation. According to BAAQMD’s CEQA Guidelines, long-range plans, such as the proposed General Plan 2040, present unique challenges for assessing impacts. Due to the SFBAAB’s nonattainment status for ozone and PM and the cumulative impacts of growth on air quality, these plans almost always have significant, unavoidable, adverse air quality impacts.

Implementation of the General Plan 2040 would result in an increase in development intensity in the Planning Area. Buildout of the General Plan 2040 would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment). Although BAAQMD’s CEQA Air Quality Guidelines only require an emissions inventory of criteria air pollutants for project-level analyses, enough information regarding the buildout of the proposed General Plan 2040 is available to generate an inventory of criteria air pollutants to identify the magnitude of emissions. Table 3.2-12 identifies these emissions. Furthermore, subsequent environmental review of applicable development projects could be required to assess potential impacts under BAAQMD’s project-level thresholds.

TABLE 3.2-12: PROJECT REGIONAL OPERATIONAL CRITERIA POLLUTANT EMISSIONS (TONS/YEAR)

EMISSIONS TYPE	GENERAL PLAN 2040 MAXIMUM ANNUAL EMISSIONS (TONS/YEAR)	BAAQMD OPERATIONAL SIGNIFICANCE THRESHOLDS - MAXIMUM ANNUAL EMISSIONS (TONS/YEAR)	GENERAL PLAN 2040 ABOVE THRESHOLD?
ROG	9.5	10	No
NO_x	2.5	10	No
PM₁₀	5.1	15	No
PM_{2.5}	1.9	10	No

Notes: ADUs were modeled as Condos/Townhouses in CalEEMod for the purposes of a conservative analysis. Additionally, the decrease of non-residential land uses associated with the proposed General Plan Update was not modeled, for the sake of a conservative analysis.

Source: CalEEMod, v.2020.4.0

The proposed Conservation chapter and Mobility chapter contain policies and programs that require local planning and development decisions to consider impacts to air quality. The following General Plan 2040 goal, policies, and programs would serve to minimize potential adverse impacts to air quality:

- Policy C-21 Implement the Clean Air Plan: Implement the Bay Area Air Quality Management District’s Clean Air Plan by applying BAAQMD’s rules, best control measures, and best management practices to construction, property maintenance, commercial operations, and other applicable activities.

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- Program C-h Participate in Emission Reduction Efforts: Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities.
- Program C-i Reduce Particulate Emissions: Promote the reduction of particulate matter from construction sites, roads, parking lots, and other sources through requiring development projects to implement best management practices (BMPs).
- Program C-j Reduce Air Quality Impacts of New Development: Review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors. Ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.
- Policy C-22 Air Quality Impacts to Sensitive Receptors: Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.
- Program C-k Emission Reductions: Require the use of feasible control measures to reduce PM₁₀, NO_x, and diesel particulate matter related to development, including construction and operational phases.
- Program C-l Zero Emission Landscape and Small Off-Road Equipment: Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.
- Policy C-23 Vehicle Emissions Reduction: Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies.
- Policy M-65 Land Use and Transportation Priorities to Reduce VMT: Support and prioritize land uses and transportation provisions that help reduce VMT.
- Policy M-66 Circulation Improvements and VMT: Consider the effect of planned circulation improvements on VMT when updating the Town's capital improvement program.
- Policy M-67 Car Sharing and Bicycle Sharing: Support car sharing and bicycle sharing opportunities in Downtown Tiburon.

As shown in Table 3.2-12, buildout of the proposed General Plan 2040 would not generate a substantial increase in criteria air pollutant emissions that exceeds the BAAQMD regional significance thresholds for VOC, NO_x, PM₁₀, and PM_{2.5}. In addition, it should be noted that the BAAQMD identifies screening sizes of development projects in the BAAQMD CEQA Guidelines. Development projects that are below the screening size are assumed to have less-than-significant impacts. Development projects that are larger than the screening size are required to demonstrate that the operational phase of the project would not exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines.

Therefore, compliance with applicable policies and programs within the General Plan 2040 would contribute to minimizing long-term emissions. Overall, implementation of the proposed Tiburon General Plan 2040 would not exceed the BAAQMD significance thresholds for operation as shown in Table 3.2-12. Accordingly, implementation of the General Plan 2040 would not result in significant long-term regional air quality impacts. Therefore, this impact is considered *less than significant*.

*Applicable Proposed General Plan 2040 Policies and Implementation Actions
Conservation Element*

Policy C-21 Implement the Clean Air Plan

Implement the Bay Area Air Quality Management District's Clean Air Plan by applying BAAQMD's rules, best control measures, and best management practices to construction, property maintenance, commercial operations, and other applicable activities.

Policy C-22 Air Quality Impacts to Sensitive Receptors

Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

Policy C-23 Vehicle Emissions Reduction

Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies.

Program C-h Participate in Emission Reduction Efforts

Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities.

Program C-j Reduce Air Quality Impacts of New Development

Review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors. Ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.

Program C-l Zero Emission Landscape and Small Off-Road Equipment

Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.

Program S-a Emissions Reduction Targets

Implement strategies to achieve reductions in greenhouse gas emissions at least 50 percent below 1990 levels by 2030, and to support the State's goal to achieve zero net emissions statewide by 2045.

Program S-c Monitoring Emissions

Periodically update the greenhouse gas emissions inventory for community and government operations emissions to track progress in reducing emissions and implementing the Climate Action Plan.

Program S-e Public Education

Educate the community on the impacts of climate change and actions individuals and businesses can take to reduce greenhouse gas emissions, shift to renewable energy and zero emission vehicles, reduce waste and water use, and adapt to climate change.

Program S-f Building and Appliance Electrification

Consider building regulations which preclude gas appliances and infrastructure in new buildings and regulations and require gas appliances to be replaced with high-efficiency electric at burnout.

Program S-g Municipal Energy Use

Evaluate solar energy production and storage systems at all municipal buildings and facilities and plan for replacement of natural gas appliances and equipment. Continue to purchase 100% renewable energy for Town buildings and facilities.

Program S-h Community Energy Use

Encourage residents and businesses to install solar energy production and storage systems by streamlining regulations and permit processes, or to purchase 100% renewable energy through energy providers.

Program S-i Green Building Regulations

Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.

Program S-j Energy Efficiency Programs

Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel.

Program S-k Zero Emission Vehicles

Implement a comprehensive program to significantly increase the use of zero emission vehicles through public education and promotion, adoption of building code requirements for electric vehicle charging facilities in new construction, and installation of Level 2 and 3 public charging facilities.

Program S-l Fleet Vehicle Replacements

Give priority to electric and zero emissions vehicles, as feasible, when replacing vehicles in the Town's fleet with the goal of achieving a zero-emissions fleet by 2030.

Program S-m Business Waste Management Plans

Require that businesses prepare and implement waste management plans to maximize recycling and food recovery and minimize disposal of organic waste where appropriate as a condition of approval of use permits.

Program S-n Organic Waste Reduction

Work with the Town’s waste hauler and Zero Waste Marin to develop and implement programs to educate and motivate residents and business owners to increase recycling of materials and food recovery and reduce disposal of organic waste.

Program S-o Construction and Demolition Debris

Modify the solid waste disposal ordinance to maximize the recovery and recycling of construction debris consistent with the Marin Zero Waste model ordinance.

Program S-p Recycling Facilities

Provide sufficient recycling and composting bins for public and staff use.

Program S-q Environmentally Preferable Purchasing

Adopt municipal purchasing procedures to give preference to purchasing products that are recyclable, made from recycled materials, and minimize packaging.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.2-3 General Plan 2040 implementation could expose sensitive receptors to substantial pollutant concentrations.

The BAAQMD has identified local community risks from air pollutants to include exposure to TACs and PM_{2.5} concentrations. TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health and PM_{2.5} can cause a wide range of health effects (e.g., aggravating asthma and bronchitis, causing visits to the hospital for respiratory and cardiovascular systems, and contributing to heart attacks and deaths). Common stationary source types of TAC and PM_{2.5} emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to BAAQMD permit requirements. The other, often more significant, common source type is on-road motor vehicles on freeways and roads such as trucks and cars, and off-road sources such as construction equipment, ships, and trains. Stationary sources in the Town were identified using BAAQMD's Stationary Source Screening Analysis Tool. BAAQMD's Stationary Source Screening Analysis Tool identifies approximately 23 stationary sources within or near the Town.

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Implementation of the General Plan 2040 would have the potential of introducing new sources of TAC and PM_{2.5} emissions within the Town as well as siting new sensitive receptors, such as new homes in close proximity to existing sources of TAC and PM_{2.5} emissions. The *Air Quality and Land Use Handbook: A Community Health Perspective*, adopted by the CARB, May 2005 was prepared to address the siting of sensitive land uses in close proximity to sources of TAC emissions that include the following sources within the Town:

- Within 500 feet of State Highway 131 (i.e. Tiburon Boulevard);
- Within 300 feet of dry cleaning operations that use perchloroethylene; and
- Within 50 feet of a typical gas station.

The General Plan 2040 includes policies and programs that would minimize exposure to TAC and PM_{2.5} concentrations within the Town. These policies and programs are included within various elements of the General Plan 2040. For example, Policy C-22 requires the Town to minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors. Program C-j requires the Town to review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors and ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible. Program C-k require the use of feasible control measures to reduce PM₁₀, NO_x, and diesel particulate matter related to development, including construction and operational phases. In addition, all new sources of TAC emissions within the Town would be required to obtain an Air Permit from BAAQMD that includes analysis of any TAC or PM_{2.5} emissions created from the new source and the potential health impacts to the nearest sensitive receptor. The BAAQMD evaluates new sources of TAC emissions based on the following conditions:

- The extent to which the new source would increase risk levels, hazard index, and/or PM_{2.5} concentrations at nearby receptors,
- Whether the source would be permitted or non-permitted by the BAAQMD, and
- Whether the project would implement Best Available Control Technology for Toxics (T-BACT), as determined by BAAQMD.

Individual development projects would be required to provide their own environmental assessments to determine health impacts from the construction and operation of their projects. Although there are no uses proposed within the General Plan 2040 that are anticipated to generate TACs during operation, there exists the possibility that construction-related TACs could temporarily elevate concentrations of TACs and diesel-PM_{2.5} in the vicinity of sensitive land uses during construction activities. Therefore, the impact is **potentially significant**.

*Applicable General Plan 2040 Policies and Implementation Actions
Conservation Element*

Policy C-22 Air Quality Impacts to Sensitive Receptors

Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

Program C-h Participate in Emission Reduction Efforts

Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities.

Program C-i Reduce Particulate Emissions

Promote the reduction of particulate matter from construction sites, roads, parking lots, and other sources through requiring development projects to implement best management practices (BMPs).

Program C-j Reduce Air Quality Impacts of New Development

Review all development and infrastructure projects for potential air quality impacts to residences, congregate housing, schools, and other sensitive receptors. Ensure that mitigation measures and best management practices are implemented to reduce significant emissions of criteria pollutants to the greatest extent feasible.

Program C-k Emission Reductions

Require the use of feasible control measures to reduce PM₁₀, NO_x, and diesel particulate matter related to development, including construction and operational phases.

Program C-l Zero Emission Landscape and Small Off-Road Equipment

Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.

Level of Significance before Mitigation

Potentially Significant

Mitigation Measures

MM 3.2-3 *Developers of individual development projects within the Planning Area that could result in significant toxic air contaminants during operation and/or construction that are located within 1,000 feet of a sensitive receptors(s), shall implement BAAQMD Guidelines and State Office of Environmental Health Hazard Assessment policies and procedures requiring Health Risk Assessments (HRAs) for residential development and other sensitive receptors. Screening area distances may be increased on a case-by-case basis if an unusually large source or sources of hazardous emissions are proposed or currently exist. Based on the results of the*

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HRA, individual project applicants shall identify and implement measures (such as air filtration systems) to reduce potential exposure to particulate matter, carbon monoxide, diesel fumes, and other potential health hazards. Measures identified in HRAs shall be included into the site development plan as a component of each applicable individual development project.

Mitigation Measure 3.2-3 would require an HRA assessment for those individual projects that may result in additional toxic air contaminants and that are also located within 1,000 feet of a sensitive receptors(s).

In the event that future individual projects may expose sensitive receptors to TACs, these future projects would be required to implement mitigation to reduce the impact to a less than significant level, consistent with BAAQMD requirements. Therefore, with implementation of Mitigation Measure 3.2-3, impacts would be ***less than significant***.

Level of Significance after Mitigation

Less than Significant

Impact 3.2-4: General Plan 2040 implementation would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Under the BAAQMD CEQA Guidelines, a plan-level environmental analysis must identify locations of odor sources in the plan and identify goals, policies, and objectives to minimize potentially adverse impacts.

The proposed General Plan 2040 does not include any sources of objectionable odors or other emissions adversely affecting a substantial number of people. As stated in the BAAQMD CEQA Guidelines, land uses that typically produce objectionable odors include agricultural uses, wastewater treatment plants, food manufacturing plants, chemical plants, composting, refineries, landfills, and confined animal facilities. The General Plan 2040 does not include any such land uses. Rather, projected development in the General Plan 2040 would include typical residential, commercial, and industrial development, and would include uses that are not anticipated to produce objectionable odors.

Nevertheless, the General Plan 2040 includes Policy C-22 that minimizes exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors. In addition, BAAQMD Regulation 7 limits emissions of odorous substances within the Air Basin, and would apply to any future odor source within the Planning Area. Therefore, compliance with the applicable policies and programs in the General Plan 2040 as well applicable BAAQMD rules and regulations, would minimize odor emissions from adversely affecting a substantial number of people within the Town and impacts would be ***less than significant***.

*Applicable Proposed General Plan 2040 Policies and Implementation Actions
Conservation Element*

Policy C-22 Air Quality Impacts to Sensitive Receptors

Minimize exposure of sensitive receptors to concentrations of air pollutant emissions, toxic air contaminants, and odors.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.2-5: General Plan 2040 implementation, in combination with other cumulative development, would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants.

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, would result in a cumulatively significant impact with respect to the potential for the project to conflict with or obstruct implementation of applicable air quality plans, or result in a cumulatively considerable net increase of criteria air pollutants.

The geographic context for changes in the air quality environment due to development under the General Plan 2040 would be both regional and local. Ozone and PM would be the primary pollutants of regional concern, meaning that the cumulative context would include entirety of the SFBAAB. Particulates (fugitive dust and fine particulate matter, including DPM) could result in localized impacts in close proximity to pollutant sources. In addition to the General Plan 2040, other nearby cities in the region such as Sausalito, San Francisco, and Oakland would develop through the General Plan 2040 buildout year of 2040.

All jurisdictions are required to comply with applicable air quality plans (including the current AQMP, the 2017 Bay Area Clean Air Plan), which are prepared for the region as a whole. As such, cumulative development would comply with applicable air quality plans, and would not result in cumulatively considerable net increases of criteria pollutants. However, as described under Impact 3.2-1, there is no guarantee that the Project would be consistent with the growth projections contained within the 2017 Bay Area Clean Air Plan. Therefore, the cumulative impact would be **significant and unavoidable** and there are no feasible mitigation measures.

Level of Significance before Mitigation

Potentially Significant

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Mitigation Measures

None Feasible

Level of Significance after Mitigation

Significant and Unavoidable

Impact 3.2-6: General Plan 2040 implementation, in combination with other cumulative development, would not expose sensitive receptors to substantial pollutant concentrations.

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, would result in a cumulatively significant impact with respect to the potential for the Project to expose sensitive receptors to substantial pollutant concentrations.

The geographic context for changes in the air quality environment due to development under the General Plan 2040 would be both regional and local. Ozone and PM would be the primary pollutants of regional concern, meaning that the cumulative context would include entirety of the SFBAAB. Particulates (fugitive dust and fine particulate matter, including DPM) could result in localized impacts in close proximity to pollutant sources. In addition to the General Plan 2040, other nearby cities in the region such as Sausalito, San Francisco, and Oakland would develop through the General Plan 2040 buildout year of 2040.

Cumulative development could expose sensitive receptors to pollutant concentrations. Both construction-related and operational emissions could occur near sensitive receptors as buildout of the region occurs. For example, increased vehicular traffic could expose sensitive receptors to TAC. This would be a potentially significant cumulative impact.

Development anticipated under the General Plan 2040 could expose sensitive receptors to substantial pollutant concentrations. Development activity adjacent to sensitive receptors is possible, especially as residential uses are spread throughout the Town. The General Plan 2040 could have a cumulatively considerable contribution, and the cumulative impact would be **potentially significant**.

Level of Significance before Mitigation

Potentially Significant

Mitigation Measures

MM 3.2-6 *Implement Mitigation Measure 3.2-3.*

Mitigation Measure 3.2-3 requires developers of individual projects within the Planning Area that could result in significant toxic air contaminants during operation and/or construction that are located within 1,000 feet of a sensitive receptors(s), to implement BAAQMD Guidelines and State Office of Environmental Health Hazard Assessment policies and

procedures requiring Health Risk Assessments (HRAs) for residential development and other sensitive receptors. Therefore, the potential for sensitive receptors within the region to be exposed to substantial pollutant concentrations would be reduced to a ***less-than-significant*** cumulative impact.

Level of Significance after Mitigation

Less than Significant

Impact 3.2--7: General Plan 2040 implementation, in combination with other cumulative development, would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, would result in a cumulatively significant impact with respect to the potential for the Project to result in other emissions (such as odors) to adversely affect a substantial number of people.

The geographic context for changes in the air quality environment due to development under the General Plan 2040 would be both regional and local. The cumulative context would include entirety of the SFBAAB, although other emissions (such as odors) tend to be local in their effects. As odors are typically site specific and localized, the exposure of objectionable odors and other emissions to a substantial number of people would be cumulatively ***less than significant***.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required



3.3 BIOLOGICAL RESOURCES

3.3.1 PURPOSE

This section describes biological resources within the Town Planning Area and provides an analysis of potential impacts associated with implementation of the General Plan 2040 (Project). Potential impacts are identified and, mitigation measures to address potentially significant impacts are recommended, as necessary.

The Town's Planning Area is defined as all lands within the Town limits and Tiburon SOI, as well as the Highway 101 Tiburon Boulevard/East Blithedale Avenue interchange west of the northwestern SOI boundary and the open space land to the north of the northern SOI boundary on Ring Mountain.

Biological resources associated with the Planning Area were identified through a review of available background information, which included the following:

- Create Tiburon 2040: Existing Conditions Report;
- Tiburon Municipal Code; and
- California Department of Fish and Wildlife's (CDFW) Natural Diversity Data Base (CNDDDB) for reported occurrences of special-status vegetation communities, plants, and animals.

One comment was received, by the CDFW, during the NOP comment period concerned about potential adverse impacts to biological resources. The CDFW indicates that this EIR should provide sufficient information regarding the environmental setting (habitat assessments for special-status plant, fish, and wildlife species) to understand the Project's, and its alternative's, potentially significant impacts on the environment (CEQA Guidelines, §§ 15125 & 15360).

Key Terms

The following key terms are used throughout this section to describe biological resources and the framework that regulates them:

Hydric Soils. One of the three wetland identification parameters, according to the Federal definition of a wetland, hydric soils have characteristics that indicate they were developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season. There are approximately 2,000 named soils in the United States that may occur in wetlands.

Hydrophytic Vegetation. Plant types that typically occur in wetland areas. Nearly 5,000 plant types in the United States may occur in wetlands. Plants are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS) and include such species as cattails,

bulrushes, cordgrass, sphagnum moss, bald cypress, willows, mangroves, sedges, rushes, arrowheads, and water plantains.

Sensitive Natural Community. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, State, or federal agencies. CEQA identifies the elimination or substantial degradation of such communities as a significant impact. The CDFW tracks sensitive natural communities in the CNDDDB.

Special-Status Species. Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, State, or other agencies. Some of these species receive specific protection that is defined by federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term "special status" includes those species that are:

- Federally listed or proposed for listing under the Federal Endangered Species Act (50 CFR 17.11-17.12);
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613);
- State listed or proposed for listing under the California Endangered Species Act (CESA) (14 CCR 670.5);
- Species listed by the USFWS as a species of concern or by the CDFW as a rare species or species of special concern;
- Fully protected animals, as defined by the State (California Fish and Game Code Section 3511, 4700, and 5050);
- Species that meet the definition of threatened, endangered, or rare under CEQA (CEQA Guidelines Section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (NPPA) (California Fish and Game Code Section 1900 et seq.); and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered.¹

Waters of the U.S. The Federal government defines waters of the U.S. as "lakes, rivers, streams, intermittent drainages, mudflats, sandflats, wetlands, sloughs, and wet meadows" [33 C.F.R. §328.3(a)]. Waters of the U.S. exhibit a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established

¹ De Novo Planning Group, 2022. Existing Conditions Report.

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by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

Wetlands. Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The Federal government defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Wetlands require wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to waters of the U.S.

3.3.2 ENVIRONMENTAL SETTING

The following information is primarily sourced from the Existing Conditions Report Conservation Chapter. Supplemental information is provided with a citation.

Bioregions

As discussed in the Existing Conditions Report Conservation Chapter, Tiburon is located within the Bay Area/Delta Bioregion. The Bay Area/Delta Bioregion is one of the most populous areas of the State, encompassing the San Francisco Bay Area and the Sacramento-San Joaquin River Delta. The Bay Area/Delta Bioregion extends from the Pacific Ocean to the Sacramento Valley and San Joaquin Valley bioregions to the northeast and southeast, and a short stretch of the eastern boundary joins the Sierra Bioregion at Amador and Calaveras counties. The bioregion is bounded by the Klamath/North Coast on the north and the Central Coast Bioregion to the south. The water that flows through the Delta supplies two-thirds of California's drinking water, irrigating farmland, and sustaining fish and wildlife and their habitat. The bioregion fans out from San Francisco Bay in a jagged semi-circle that takes in all or part of 12 counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Joaquin, San Mateo, Santa Clara, Solano, Sonoma, and parts of Sacramento and Yolo. The habitats and vegetation of the Bay Area/Delta Bioregion are as varied as the geography.

Vegetation

The Conservation Chapter of the Existing Conditions Report also discusses vegetation occurring within the Planning Area. Vegetation primarily consists of agricultural, ruderal, riparian, and landscaping vegetation. Because of the urban nature of the developed areas within Tiburon, there is limited undisturbed natural vegetation. Common plant species observed in the region include: wild oat (*Avena barbata*), rip-gut brome (*Bromus diandrus*), softchess (*Bromus hordeaceus*) alfalfa (*Medicago sativa*), Russian thistle (*Salsola tragus*), Italian thistle (*Carduus pycnocephalus*), rough pigweed (*Amaranthus retroflexus*), sunflower

(*Helianthus annuus*), tarragon (*Artemisia dracunculus*), coyote brush (*Baccharis pilularis*), prickly lettuce (*Lactuca serriola*), milk thistle (*Silybum marianum*), sow thistle (*Sonchus asper*), telegraph weed (*Heterotheca grandiflora*), barley (*Hordeum sp.*), mustard (*Brassica niger*), and heliotrope (*Heliotropium curassavicum*).

Wildlife

Agricultural and ruderal vegetation in the Tiburon Planning Area provides habitat for both common and special-status wildlife populations. For example, some commonly observed wildlife species in the region include: California ground squirrel (*Spermophilus beecheyi*), California vole (*Microtus californicus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus leucurus*), American killdeer (*Charadrius vociferus*), gopher snake (*Pituophis melanoleucus*), garter snake (*Thamnophis species*), and western fence lizard (*Sceloporus occidentalis*), as well as many native insect species, as identified in the Existing Conditions Report. There are also several bat species in the region. Bats often feed on insects as they fly over agricultural and natural areas.

Locally common and abundant wildlife species are important components of the ecosystem. Due to habitat loss, many of these species must continually adapt to using agricultural, ruderal, and ornamental vegetation for cover, foraging, dispersal, and nesting.

Plant Communities

As noted in the Existing Conditions Report, agricultural and natural plant communities provide habitat for a variety of biological resources in the region. Sensitive habitats include those that are of special concern to resource agencies or those that are protected under a Habitat Conservation Plan, Natural Community Conservation Plan, CEQA, the Fish and Game Code, or the Clean Water Act (CWA). Additionally, sensitive habitats are usually protected under specific policies from local agencies. Figure 3.3-1, Land Cover Types, illustrates the plant communities (land cover types) in the vicinity of the Planning Area.

CA Wildlife Habitat Relationship System

The California Wildlife Habitat Relationships (CWHR) habitat classification scheme has been developed to support the CWHR System, a wildlife information system and predictive model for California's regularly occurring birds, mammals, reptiles, and amphibians. When first published in 1988, the classification scheme had 53 habitats. At present, there are 59 wildlife

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habitats in the CWHR System: 27 tree, 12 shrub, 6 herbaceous, 4 aquatic, 8 agricultural, 1 developed, and 1 non-vegetated.²

As established in the Existing Conditions Report, the CWHR System identified 16 cover types (wildlife habitat classifications) in the Planning Area out of the 59 types in the State. These include: Annual Grassland, Barren, Closed-Cone Pine-Cypress, Coastal Oak Woodland, Coastal Scrub, Eucalyptus, Fresh Emergent Wetland, Lacustrine, Montane Hardwood-Conifer, Perennial Grassland, Saline Emergent Wetland, Urban, Valley Foothill Riparian, Valley Oak Woodland, Water, and Wet Meadow.

Table 3.3-1 identifies the total area by acreage for each cover type (classification) found in in the Planning Area. Figure 3.3-1 illustrates the location of each cover type (classification). A brief description of each cover type follows.

TABLE 3.3-1: COVER TYPES: CALIFORNIA WILDLIFE HABITAT RELATIONSHIP SYSTEM

Cover Type	Town of Tiburon	SOI (Acres)	Planning Area	Grand Total
Annual Grassland	407.93	76.82	139.59	624.34
Barren	45.58	0.67	1.11	47.36
Closed-Cone Pine-Cypress	74.05	0.00	0	74.05
Coastal Oak Woodland	552.06	294.36	34.72	881.14
Coastal Scrub	192.15	73.56	47.61	313.32
Eucalyptus	167.51	20.52	1.68	189.72
Fresh Emergent Wetland	1.56	5.78	0.22	7.56
Lacustrine	143.32	30.91	0.00	174.24
Montane Hardwood-Conifer	0.00	35.80	0.00	35.80
Perennial Grassland	58.96	8.52	87.49	154.96
Saline Emergent Wetland	5.74	0.00	0.00	5.74
Urban	1,366.48	281.65	36.31	1,684.44
Valley Foothill Riparian	1.33	0.00	0.00	1.33
Valley Oak Woodland	3.78	0.00	0.00	3.78
Water	6,745.48	118.31	0.00	6,863.80
Wet Meadow	<0.01	<0.01	0.22	0.22

SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.

Developed Cover Types

Urban habitats are not limited to any particular physical setting. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and

² California Wildlife Habitat Relationships (CWHR), 2023b. Wildlife Habitats- California Wildlife Habitat Relationships System. Available: <https://wildlife.ca.gov/Data/CWHR/Wildlife-Habitats>. Accessed January 31, 2023.

increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. Within the Planning Area, there are 1,650.34 acres of urban habitat.

Herbaceous Dominated Cover Types

Annual Grassland habitat occurs mostly on flat plains to gently rolling foothills. Climatic conditions are typically Mediterranean, with cool, wet winters and dry, hot summers. The length of the frost-free season averages 250 to 300 days. Within the Planning Area, there are 484.74 acres of annual grassland habitat.

Fresh Emergent Wetland habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. They are most common on level to gently rolling topography. They are found in various depressions or at the edge of rivers or lakes. Soils are predominantly silt and clay, although coarser sediments and organic material may be intermixed. In some areas organic soils (peat) may constitute the primary growth medium. Climatic conditions are highly variable and range from the extreme summer heat to winter temperatures well below freezing. Within the Planning Area, there are 7.33 acres of fresh emergent wetland habitat.

Saline Emergent Wetland habitat occur along the margins of bays, lagoons, and estuaries sheltered from excessive wave action. At their lower margin they are exposed once every 24 hours; whereas, at their upper margin, submergence is short and infrequent, followed by weeks or months of continuous exposure. Characteristic or distinctive vascular plant species ranging from lower saline sites to higher or brackish sites are cordgrass, pickleweed, Humboldt cordgrass, glasswort, saltwort, jaumea, California seablite, seaside arrowgrass, alkali heath, seashore saltgrass, spearleaf saltweed, shoregrass, the endangered birdsbeak, common glasswort, sea-lavender, brass-buttons, saltmarsh dodder, gumweed, salt rush, tufted hairgrass, Pacific alkali bulrush, Olney bulrush, tule bulrush, California bulrush, common cattail, tropical cattail, cinquefoil, and coast carex. Frost-free days range from 330 to 365. Within the Planning Area, there are 5.74 acres of saline emergent wetland habitat.

Perennial Grassland habitat typically occurs on ridges and south-facing slopes, alternating with forest and scrub in the valleys and on north-facing slopes. Climatic conditions are under strong maritime influence. Perennial Grassland habitat of the coastal prairie form occurs along the California coast from Monterey County northward. It is found below 3,280 feet in elevation and seldom more than 62 miles from the coast. Relic perennial grasses within annual grassland habitat occur in patches throughout the State. Within the Planning Area, there are 67.48 acres of perennial grassland habitat.

Wet Meadow habitat occurs where water is at or near the surface most of the growing season, following spring runoff. Hydrologically, they occupy lotic, sunken concave, and hanging sites. Lotic sites frequently occur on rather steep slopes, and downstream runoff is the main output flow. Wet Meadows occur throughout virtually every forest type of the Sierra

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and Pacific Northwest floristic provinces and as inclusions in the northern coastal prairie and sagebrush steppe. Swales in the valley and foothill grasslands occasionally provide conditions suitable for Wet Meadow species. Within the Planning Area, there are less than .01 acres of wet meadow habitat.

Tree-Dominated Cover Types

Coastal Oak Woodland habitats are common to mesic coastal foothills of California where moisture conditions are more favorable, such as north facing slopes and canyons, or higher elevations. Precipitation occurs in the milder winter months, almost entirely as rainfall, followed by warm to hot, dry summers. Near the coast, the summers are tempered by fogs and cool, humid sea breezes. Mean annual precipitation varies from about 40 inches in the north to about 15 inches in southern and interior regions. Mean minimum winter temperatures are 29 to 44 degrees Fahrenheit (F), and the mean maximum summer temperatures are 75 to 96 F. The growing season ranges from six months (180 frost-free days) in the north to the entire year in mild coastal regions to the south. The soils and parent material on which coastal oak woodlands occur are extremely variable. Within the Planning Area, there are 846.41 acres of Coastal Oak Woodland habitat.

Closed-Cone Pine-Cypress habitats are typically found on sites that are rockier and more infertile than the surrounding soils. Many stands are found on serpentine soils. Although, typically found at low elevations, due to the coastal distribution of much of this habitat type, interior stands may be found at elevations up to 6550 feet. Closed-cone pine-cypress occurs in patches as an interrupted forest along coastal California from southern San Diego county north to Oregon. Landforms are gentle to steep slopes where stands occur in interior California and coastal terraces or bluffs where distributed along coastal California. Within the Planning Area, there are 74.04 acres of Closed-Cone Pine-Cypress habitat.

Eucalyptus habitats generally adjoin a number of other wildlife habitats and are found at low elevations, where freezing is not a problem. Most eucalyptus have been artificially established, usually in and around urban/rural areas. Other habitats found in proximity to eucalyptus include cropland, valley foothill riparian, Orchard-vineyard, Coastal Scrub, Chamise Redshank Chaparral, Annual Grass, Pasture and Residential Park. Eucalyptus occurs in California from San Diego and Imperial counties in the south, usually at elevations below 1500 feet, but it has been found up 2100 feet; and to Shasta in the north. Eucalyptus habitats are found in locations with highly variable site characteristics. Generally, they are found on relatively flat or gently rolling terrain, occasionally in the foothills. Climatic conditions are typically referred to as Mediterranean, characterized by hot, dry summers and cool, mild winters. Precipitation ranges from approximately 12 inches to 24 inches. Temperature regimes in areas of eucalyptus groves range from a mean monthly low of 43 F in January to 73 F in August, with low temperatures occasionally reaching 32 to 25 F and high temperatures typically exceeding 100 F. Eucalyptus demonstrates the ability to withstand many temperature conditions, with the exception of prolonged cold or freezing weather. Within the Planning Area, there are 74.04 acres of Eucalyptus habitat.

Valley Foothill Riparian habitats are found in valleys bordered by sloping alluvial fans, slightly dissected terraces, lower foothills, and coastal plains. They are generally associated with low velocity flows, flood plains, and gentle topography. Valleys provide deep alluvial soils and a high water table. The substrate is coarse, gravelly, or rocky soils more or less permanently moist, but probably well aerated. Frost and short periods of freezing occur in winter (200 to 350 frost-free days). This habitat is characterized by hot, dry summers and mild and wet winters. Temperatures range from 75 to 102 F in the summer to 29 to 44 F in the winter. Average precipitation ranges from 6 to 30 inches, with little or no snow. The growing season is 7 to 11 months. Within the Planning Area, there are 1.33 acres of valley foothill riparian habitat.

Valley Oak Woodland habitat occurs in a wide range of physiographic settings but is best developed on deep, well-drained alluvial soils, usually in valley bottoms. Most large, healthy valley oaks are probably rooted down to permanent water supplies. Stands of valley oaks are found in deep sills on broad ridge-tops in the southern Coast Range. Where this type occurs near the coast, it is usually found away from the main fog zone. The climate is Mediterranean, with mild, wet winters and hot, dry summers. Remnant patches of this habitat are found in the Sacramento Valley from Redding south, in the San Joaquin Valley to the Sierra Nevada foothills, in the Tehachapi Mountains, and in valleys of the Coast Range from Lake County to western Los Angeles County. Usually, it occurs below 2000 feet. Within the Planning Area, there are 3.78 acres of valley oak woodland habitat.

Montane Hardwood-Conifer habitats range throughout California mostly west of the Cascade-Sierra Nevada crest. A typical montane hardwood habitat is composed of a pronounced hardwood tree layer, with an infrequent and poorly developed shrub stratum, and a sparse herbaceous layer. Elevations range from 300 feet near the Pacific Ocean. Annual precipitation varies from 110 inches in the northern Coast Range to 36 inches. Within the Planning Area, there are 35.01 acres of montane hardwood habitat.

Shrub-Dominated Cover Types

Coastal Scrub habitats occur discontinuously in a narrow strip throughout the length of California. Two types of northern Coastal Scrub are usually recognized. The first type (limited in range) occurs as low-growing patches of bush lupine and many-colored lupine at exposed, oceanside sites. The second and more common type of northern Coastal Scrub usually occurs at less exposed sites. Here, coyote bush dominates the overstory. Within the Planning Area, there are 265.71 acres of coastal scrub habitat.

Aquatic Cover Types

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water. These habitats may occur in association with any terrestrial habitats, Riverine, or Fresh Emergent Wetlands. They may vary from small ponds less than one acre to large areas covering several square miles. Depth can vary from a few inches to hundreds of feet. Typical lacustrine habitats include permanently flooded lakes and reservoirs, and intermittent lakes and ponds (including vernal pools) so shallow that rooted plants can grow

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over the bottom. Most permanent lacustrine systems support fish life; intermittent types usually do not. Within the Planning Area there are 174.60 acres of lacustrine habitat.

Water habitat is similar to the marsh habitat. Water habitats are home to a variety of plants, fish, and wildlife. Within the Planning Area there are 6,867.15 acres of water habitat.

Other Cover Types

Barren habitat is defined by the absence of vegetation. Any habitat with less than 2 percent total vegetation cover by herbaceous, desert, or non-wildland species and less than 10 percent cover by tree or shrub species is defined this way. The physical settings for permanently barren habitat represent extreme environments for vegetation. An extremely hot or cold climate, a near-vertical slope, an impermeable substrate, constant disturbance by either human or natural forces, or a soil either lacking in organic matter or excessively saline can each contribute to a habitat being inhospitable to plants. Within the Planning Area, there are 46.25 acres of barren habitat.

Special-Status Species

The following discussion is based on the background search of special-status species that are documented in the CDFW CNDDDB. The background search, conducted on January 30, 2023, was regional in scope and focused on the documented occurrences within 15 miles (9 U.S. Geological Survey [USGS] Quadrangles) of Tiburon.

Special-Status Plants

The search revealed documented occurrences of 93 special status plant species within approximately 15 miles of the Planning Area.

Table 3.3-2 provides a list of special-status plant species that are documented within 15 miles of the Planning Area, and the current status. Figure 3.3-2, California Natural Diversity Database 9-Quad* Search, illustrates the special status species located within approximately 15 miles of the Planning Area.

TABLE 3.3-2: SPECIAL STATUS PLANTS PRESENT OR POTENTIALLY PRESENT (15 MILE)

PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	STATE STATUS
<i>Sanicula maritima</i>	Adobe sanicle	None	Rare
<i>Astragalus tener var. tener</i>	Alkali milk-vetch	None	None
<i>Malacothamnus arcuatus</i>	Arcuate bush-mallow	None	None
<i>Layia carnosa</i>	Beach layia	Endangered	Endangered
<i>Amsinckia lunaris</i>	Bent-flowered fiddleneck	None	None
<i>Gilia capitata ssp. Chamissonis</i>	Blue coast gilia	None	None
<i>Suaeda californica</i>	California seablite	Endangered	None
<i>Isocoma arguta</i>	Carquinez goldenbush	None	None
<i>Senecio aphanactis</i>	Chaparral ragwort	None	None

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PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	STATE STATUS
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Choris' popcornflower	None	None
<i>Calystegia pyrapurata</i> ssp. <i>Saxicola</i>	Coastal bluff morning-glory	None	None
<i>Coastal brackish marsh</i>	Coastal brackist marsh	None	None
<i>Coastal terrace prairie</i>	Coastal terrace prairie	None	None
<i>Cirsium occidentale</i> var. <i>compactum</i>	Compact cobwebby thistle	None	None
<i>Hemizonia congesta</i> ssp. <i>Congesta</i>	Congested-headed hayfield tarplant	None	None
<i>Gilia millefoliata</i>	Dark-eyed gilia	None	None
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	None	None
<i>Helianthella castanea</i>	Diablo helianthella	None	None
<i>Fritillaria liliacea</i>	Fragrant fritiliry	None	None
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	None	None
<i>Arctostaphylos franciscana</i>	Franciscan manzanita	Endangered	N
<i>Cirsium andrewsii</i>	Franciscan thistle	None	None
<i>Plagiobothrys glaber</i>	hairless popcornflower	None	None
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	None	None
<i>Hoita strobilina</i>	Loma Prieta hoita	None	None
<i>Spergularia macrotheca</i> var. <i>longistyla</i>	long-styled sand-spurrey	None	None
<i>Northern Coastal Salt Marsh</i>	Northern Coastal Salt Marsh	None	None
<i>Carex praticola</i>	northern meadow sedge	None	None
<i>Northern Maritime Chaparral</i>	Northern Maritime Chaparral	None	None
<i>Pleuropogon hooverianus</i>	North Coast semaphore grass	None	Threatened
<i>Navarretia rosulata</i>	Marin County navarretia	None	None
<i>Polygonum marinense</i>	Marin knotweed	None	None
<i>Hesperolinon congestum</i>	Marin western flax	Threatened	Threatened
<i>Microseris paludosa</i>	marsh microseris	None	None
<i>Arenaria paludicola</i>	marsh sandwort	Endangered	Endangered
<i>Fritillaria lanceolata</i> var. <i>tristulis</i>	Marin checker lily	None	None
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	None	None
<i>Arctostaphylos montaraensis</i>	Montara manzanita	None	None
<i>Streptanthus glandulosus</i> ssp. <i>pulchellus</i>	Mt. Tamalpais bristly jewelflower	None	None
<i>Arctostaphylos montana</i> ssp. <i>montana</i>	Mt. Tamalpais manzanita	None	None
<i>Cirsium hydrophilum</i> var. <i>vaseyi</i>	Mt. Tamalpais thistle	None	None
<i>Amorpha californica</i> var. <i>napensis</i>	Napa false indigo	None	None
<i>Monardella sinuata</i> ssp. <i>nigrescens</i>	northern curly-leaved monardella	None	None
<i>Polemonium carneum</i>	Oregon polemonium	None	None
<i>Viburnum ellipticum</i>	oval-leaved viburnum	None	None
<i>Arctostaphylos pacifica</i>	Pacific manzanita	None	Endangered

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PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	STATE STATUS
<i>Arctostaphylos pallida</i>	pallid manzanita	Threatened	Endangered
<i>Centromadia parryi ssp. parryi</i>	pappose tarplant	None	None
<i>Sidalcea calycosa ssp. rhizomata</i>	Point Reyes checkerbloom	None	None
<i>Horkelia marinensis</i>	Point Reyes horkelia	None	None
<i>Chloropyron maritimum ssp. palustre</i>	Point Reyes salty bird's-beak	None	None
<i>Clarkia franciscana</i>	Presidio clarkia	Endangered	Endangered
<i>Arctostaphylos montana ssp. ravenii</i>	Presidio manzanita	Endangered	Endangered
<i>Chorizanthe robusta var. robusta</i>	robust spineflower	Endangered	None
<i>Leptosiphon rosaceus</i>	rose leptosiphon	None	None
<i>Collinsia corymbosa</i>	round-headed collinsia	None	None
<i>Trifolium hydrophilum</i> None None	saline clover	None	None
<i>Arctostaphylos imbricata</i>	San Bruno Mountain manzanita	None	Endangered
<i>Chorizanthe cuspidata var. cuspidata</i>	San Francisco Bay spineflower	None	None
<i>Silene verecunda ssp. verecunda</i>	San Francisco champion	None	None
<i>Collinsia multicolor</i>	San Francisco collinsia	None	None
<i>Grindelia hirsutula var. maritima</i>	San Francisco gumplant	None	None
<i>Lessingia germanorum</i>	San Francisco lessingia	Endangered	Endangered
<i>Triphysaria floribunda</i>	San Francisco owl's-clover	None	None
<i>Plagiobothrys diffusus</i>	San Francisco popcornflower	None	Endangered
<i>Extriplex joaquinana</i>	San Joaquin spearscale	None	None
<i>Stebbinsoseris decipiens</i>	Santa Cruz microseris	None	None
<i>Holocarpha macradenia</i>	Santa Cruz tarplant	Threatened	Endangered
<i>Silene scouleri ssp. scouleri</i>	Scouler's catchfly	None	None
<i>Serpentine Bunchgrass</i>	Serpentine Bunchgrass	None	None
<i>Hesperevax sparsiflora var. brevifolia</i>	short-leaved evax	None	None
<i>Kopsiopsis hookeri</i>	small groundcone	None	None
<i>Chloropyron molle ssp. molle</i>	soft salty bird's-bseeak	None	None
<i>Symphotrichum lentum</i>	Suisun Marsh aster	None	None
<i>Streptanthus batrachopus</i>	Tamalpais jewelflower	None	None
<i>Lessingia micradenia var. micradenia</i>	Tamalpais lessingia	None	None
<i>Quercus parvula var. tamalpaisensis</i>	Tamalpais oak	None	None
<i>Horkelia tenuiloba</i>	thin-lobed horkelia	None	None
<i>Eriogonum luteolum var. caninum</i>	Tiburon buckwheat	None	None
<i>Streptanthus glandulosus ssp. niger</i>	Tiburon jewelflower	Endangered	Endangered
<i>Calochortus tiburonensis</i>	Tiburon mariposa-lily	Threatened	Threatened
<i>Castilleja affinis var. neglecta</i>	Tiburon paintbrush	Endangered	Threatened
<i>Calamagrostis crassiglumis</i>	Thurber's reed grass	None	None
<i>Trifolium amoenum</i>	two-fork clover	Endangered	None

PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	PLANTS SPECIES COMMON NAME FEDERAL STATUS	STATE STATUS
<i>Valley Needlegrass Grassland</i>	Valley Needlegrass Grassland	None	None
<i>Heteranthera dubia</i>	water star-grass	None	None
<i>Dirca occidentalis</i>	western leatherwood	None	None
<i>Pentachaeta bellidiflora</i>	white-rayed pentachaeta	Endangered	Endangered
<i>Triquetrella californica</i>	Coastal triquetrella	None	None
<i>Hypogymnia schizidiata</i>	Island tube lichen	None	None
<i>Arctostaphylos virgata</i>	Marin manzanita	None	None
<i>Fissidens pauperculus</i>	Minute pocket moss	None	None
<i>Dermatocarpon meiohyllizum</i>	Silverskin lichen	None	None

SOURCE: California Dept. of Fish and Wildlife (CDFW), 2023a. California Natural Diversity Database (CNDDDB), Species in 9 Quad Records Search. Available: <https://wildlife.ca.gov/Data/CNDDDB>. Accessed January 30, 2023.

Special-Status Animals

The search revealed documented occurrences of 84 special status animal species within approximately 15 miles of the Planning Area. While the CNDDDB does not contain any official documented occurrences of bald eagles (*Haliaeetus leucocephalus*) within 15 miles of the Planning Area, it has been noted in the Existing Conditions Report that there have been recent sightings within Marin County, including the Tiburon Peninsula.

Table 3.3-3 provides a list of the special-status animal species that are documented within 15 miles of the Planning Area, and current status. Again, Figure 3.3-2, California Natural Diversity Database 9-Quad* Search, can be used to demonstrate the special status species located within 9 quadrangles, approximately 15 miles, of the Planning Area.

TABLE 3.3-3: SPECIAL STATUS ANIMALS PRESENT OR POTENTIALLY PRESENT (15 MILE)

ANIMAL SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS
Amphibians			
<i>Dicamptodon ensatus</i>	California giant salamander	None	None
<i>Rana draytonii</i>	California red-legged frog	Threatened	None
<i>Rana boylei</i>	foothill yellow-legged frog	None	Endangered
Reptiles			
<i>Masticophis lateralis euryxanthus</i>	Alameda whipsnake	Threatened	Threatened
<i>Thamnophis sirtalis tetrataenia</i>	San Francisco gartersnake	Endangered	Endangered
<i>Emys marmorata</i>	western pond turtle	None	None
Fish			
<i>Oncorhynchus kisutch pop. 4</i>	coho salmon - central California coast ESU	Endangered	Endangered
<i>Hypomesus transpacificus</i>	Delta smelt	Threatened	Endangered
<i>Thaleichthys pacificus</i>	eulachon	None	None
<i>Mylopharodon conocephalus</i>	hardhead	None	None
<i>Spirinchus thaleichthys</i>	longfin smelt	Candidate	Threatened

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ANIMAL SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS
<i>Archoplites interruptus</i>	Sacramento perch	None	None
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	None	None
<i>Eucyclogobius newberryi</i>	tidewater goby	None	None
<i>Acipenser medirostris pop.1</i>	Green sturgeon- southern DPS	Threatened	None
Crustaceans and Mollusks			
<i>Caecidotea tomalensis</i>	Tomales isopod	None	None
<i>Helminthoglypta nickliniana bridgesi</i>	Bridges' coast range shoulderband	None	None
<i>Vespericola marinensis</i>	Marin hesperian	None	None
<i>Tryonia imitator</i>	mimic tryonia (California brackishwater snail)	None	None
<i>Pomatiopsis binneyi</i>	robust walker	None	None
<i>Gonidea angulata</i>	western ridged mussel	None	None
Insects			
<i>Banksula incredula</i>	incredible harvestman	None	None
<i>Microcina leei</i>	Lee's micro-blind harvestman	None	None
<i>Calicina diminua</i>	Marin blind harvestman	None	None
<i>Microcina tiburona</i>	Tiburon micro-blind harvestman	None	None
<i>Talanites ubicki</i>	Ubick's gnaphosid spider	None	None
<i>Plebejus icarioides missionensis</i>	Mission blue butterfly	None	None
<i>Danaus plexippus pop. 1</i>	monarch - California overwintering population	None	None
<i>Bombus caliginosus</i>	obscure bumble bee	None	None
<i>Adela oplerella</i>	Opler's longhorn moth	None	None
<i>Cicindela hirticollis gravida</i>	sandy beach tiger beetle	None	None
<i>Microcina tiburona</i>	Tiburon micro-blind harvestman	None	None
<i>Bombus occidentalis</i>	western bumble bee	None	None
<i>Euphydryas editha bayensis</i>	Bay checkerspot butterfly	Threatened	None
<i>Lichnanthe ursina</i>	bumblebee scarab beetle	None	None
<i>Speyeria callippe</i>	callippe silverspot butterfly	Endangered	None
<i>Bombus crotchii</i>	Crotch bumble bee	None	Candidate Endangered
<i>Hydroporus leechi</i>	Leech's skyline diving beetle	None	None
<i>Callophrys mossii marinensis</i>	Marin elfin butterfly	None	None
<i>Callophrys mossii bayensis</i>	San Bruno elfin butterfly	Endangered	None
<i>Trachusa gummifera</i>	San Francisco Bay Area leaf-cutter bee	None	None
<i>Ischnura gemina</i>	San Francisco forktail damselfly	None	None
<i>Dufourea stagei</i>	Stage's dufourine bee	None	None
Birds			
<i>Melospiza melodia pusillula</i>	Alameda song sparrow	None	None
<i>Falco peregrinus anatum</i>	American peregrine falcon	None	None

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ANIMAL SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS
<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None
<i>Laterallus jamaicensis coturniculus</i>	California black rail	None	Threatened
<i>Rallus obsoletus</i>	California Ridgway's rail	Endangered	Endangered
<i>Hydroprogne caspia</i>	Caspian tern	None	None
<i>Accipiter cooperii</i>	Cooper's hawk	None	None
<i>Phalacrocorax auritus</i>	double-crested cormorant	None	None
<i>Ardea herodias</i>	great blue heron	None	None
<i>Ardea alba</i>	great egret	None	None
<i>Circus hudsonius</i>	northern harrier	None	None
<i>Geothlypis trichas sinuosa</i>	saltmarsh common yellowthroat	None	None
<i>Melospiza melodia samuelis</i>	San Pablo song sparrow	None	None
<i>Asio flammeus</i>	short-eared owl	None	None
<i>Egretta thula</i>	snowy egret	None	None
<i>Elanus leucurus</i>	white-tailed kite	None	None
<i>Riparia riparia</i>	bank swallow	None	Threatened
<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None
<i>Athene cunicularia</i>	burrowing owl	None	None
<i>Pandion haliaetus</i>	osprey	None	None
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	Threatened	None
<i>Coturnicops noveboracensis</i>	yellow rail	None	None
<i>Xanthocephalus xanthocephalus</i>	yellow-headed blackbird	None	None
<i>Sternula antillarum browni</i>	California least tern	Endangered	Endangered
Mammals			
<i>Taxidea taxus</i>	American badger	None	None
<i>Scapanus latimanus insularis</i>	Angel Island mole	None	None
<i>Lasiurus cinereus</i>	hoary bat	None	None
<i>Erethizon dorsatum</i>	North American porcupine	None	None
<i>Antrozous pallidus</i>	pallid bat	None	None
<i>Zapus trinotatus orarius</i>	Point Reyes jumping mouse	None	None
<i>Reithrodontomys raviventris</i>	salt-marsh harvest mouse	Endangered	Endangered
<i>Sorex vagrans halicoetes</i>	salt-marsh wandering shrew	None	None
<i>Microtus californicus sanpabloensis</i>	San Pablo vole	None	None
<i>Enhydra lutris nereis</i>	southern sea otter	Threatened	None
<i>Scapanus latimanus parvus</i>	Alameda Island mole	None	None
<i>Nyctinomops macrotis</i>	big free-tailed bat	None	None
<i>Eumetopias jubatus</i>	Steller (=northern) sea-lion	None	None
<i>Sorex ornatus sinuosus</i>	Suisun shrew	None	None
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	None

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ANIMAL SPECIES	COMMON NAME	FEDERAL STATUS	STATE STATUS
<i>Lasiurus blossevillii</i>	western red bat	None	None
<i>Lasionycteris noctivagans</i>	Silver-haired bat	None	None
SOURCE: California Dept. of Fish and Wildlife (CDFW), 2023a. California Natural Diversity Database (CNDDB), Species in 9 Quad Records Search. Available: https://wildlife.ca.gov/Data/CNDDB . Accessed January 30, 2023.			

Sensitive Natural Communities

The California Department of Fish and Wildlife (CDFW) considers sensitive natural communities to have significant biotic value, with species of plants and animals unique to each community. As shown on Figure 3.3-3, Sensitive Natural Communities and Wetlands, the Planning Area contains several sensitive plant and animal communities. This includes coastal brackish marsh, salt marshes where a significant freshwater influx dilutes the seawater to brackish levels of salinity; coastal terrace prairie, a grassland plant community found along the Pacific Coast; and northern coastal salt marsh, a non-tidal, non-forested wetland that is continuously or frequently flooded and contains saltwater; and serpentine bunchgrass.³

All of these community types were once more widely distributed throughout California, but have been modified or destroyed by grazing, cultivation, and urban development. Since the remaining examples of these sensitive natural communities are under continuing threat from future development, CDFW considers them “highest inventory priorities” for future conservation.

Wildlife Movement Corridors

Wildlife movement corridors are a strip of natural habitat connecting populations of wildlife otherwise separated by cultivated land, roads, etc. As established in the Existing Conditions Report, a variety of wildlife corridors are identified in the Planning Area including but not limited to:

Riparian habitat. Riparian habitat often serves as essential wildlife corridors between habitat patches in an otherwise fragmented, urbanized landscape. For many animals, it is not only the quality of one patch of habitat, but also the ability to move among multiple habitat patches for example from uplands through the valley floor, that makes survival possible.

Foothill access. Foothill access to adjacent upland habitat or corridors for movement up and downstream is essential for many wildlife species, including amphibians that live in upland habitats but must move to aquatic habitats to breed.

³ De Novo Planning Group, 2022. Existing Conditions Report.

Streams. Streams convey, filter, and store sediments and nutrients. Their floodplains recharge groundwater aquifers and control flooding. They also provide critical wildlife-movement corridors between important habitats for both water and land animals.

Wildlife Refuges

The purpose of wildlife refuges is to preserve lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations.

The Existing Conditions Report claims that the Richardson Bay Audubon Center & Sanctuary is a wildlife refuge located in the Planning Area along Richardson Bay. Comprised of 10.5 acres of uplands and 900 acres of subtidal bay, the center supports a variety of ecosystems. The sanctuary provides vital habitat for migratory waterbirds and other wildlife. The sanctuary is also part of many National Audubon Society nature centers, chapters, and programs focused on bird conservation and public engagement.

3.3.3 REGULATORY SETTING

Federal

Federal Endangered Species Act

The Federal Endangered Species Act, passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Once a species is listed, it is fully protected from a “take” unless a take permit is issued by the United States Fish and Wildlife Service (USFWS). A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat (16 USC 1532, 50 CFR 17.3). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

Migratory Bird Treaty Act

To kill, possess, or trade a migratory bird, bird part, nest, or egg is a violation of the Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., §703, Supp. I, 1989), unless it is in accordance with the regulations that have been set forth by the Secretary of the Interior.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) protects these birds from direct take and prohibits the take or commerce of any part of these species. The USFWS administers the act, and reviews Federal agency actions that may affect these species.

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Clean Water Act – Section 404

Section 404 of the Clean Water Act (CWA) regulates all discharges of dredged or fill material into Waters of the United States (WOTUS). Discharges of fill material includes the placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §323.2(f)]. The US Army Corps of Engineers (USACE) is the agency responsible for administering the permit process for activities that affect WOTUS. Executive Order 11990 is a Federal implementation policy, which is intended to result in no net loss of wetlands.

Clean Water Act – Section 401

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board (RWQCB). To obtain the water quality certification, the RWQCB must indicate that the proposed fill would be consistent with the standards set forth by the State.

Department of Transportation Act - Section 4(f)

Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303. This law established policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites as follows:

It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of a historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if: a) There is no prudent and feasible alternative to using that land; and b) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Rivers and Harbors Act of 1899

The Rivers and Harbors Act prohibits the obstruction or alteration of any navigable water of the United States. The Act requires authorization from the USACE for any excavation or deposition of materials into these waters or for any work that could affect the course, location, condition, or capacity of rivers or harbors.

State

Fish and Game Code Sections 2050-2097 - California Endangered Species Act (CESA)

The CESA protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats.

CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with Federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated through official listing by the California Fish and Game Commission.

Fish and Game Code Sections 1900-1913 - California Native Plant Protection Act (NPPA)

In 1977, the State Legislature passed the NPPA in recognition of rare and endangered plants of the State. The intent of the law was to preserve, protect, and enhance endangered plants. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants. The NPPA includes provisions that prohibit the taking of plants designated as "rare" from the wild, and a salvage mandate for landowners, which requires notification of the CDFW 10 days in advance of approving a building site.

Fish and Game Code Sections 3503, 3503.5, 3800 - Predatory Birds

Under the California Fish and Game Code, all predatory birds in the order Falconiformes or Strigiformes in California, generally called "raptors," are protected. The law indicates that it is unlawful to take, possess, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

Fish and Game Code Sections 1601-1603 - Streambed Alteration

Under the California Fish and Game Code, CDFW has jurisdiction over any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream. Private landowners or project proponents must obtain a "Streambed Alteration Agreement" from CDFW prior to any alteration of a lake bed, stream channel, or

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their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources. These agreements are usually initiated through the local CDFW warden and will specify timing and construction conditions, including any mitigation necessary to protect fish and wildlife from impacts of the work.

Public Resources Code Section 21000 - California Environmental Quality Act (CEQA)

Public Resources Code Section 21000 of the California Environmental Quality Act (CEQA) establishes standards and regulations necessary for the maintenance and protection of the natural environment. It also identifies that a species that is not listed on the federal or State endangered species list may be considered rare or endangered if the species meets certain criteria. Under CEQA public agencies must determine if a project would adversely affect a species that is not protected by FESA or CESA. Species that are not listed under FESA or CESA, but are otherwise eligible for listing (i.e., candidate or proposed) may be protected by the local government until the opportunity to list the species arises for the responsible agency.

Species that may be considered for review are included on a list of "Species of Special Concern," developed by the CDFW. Additionally, the California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. List 1A contains plants that are believed to be extinct. List 1B contains plants that are rare, threatened, or endangered in California and elsewhere. List 2 contains plants that are rare, threatened, or endangered in California, but more numerous elsewhere. List 3 contains plants where additional information is needed. List 4 contains plants with a limited distribution.

California Oak Woodland Conservation Act

The California Legislature passed Assembly Bill 1334, known as the California Oak Woodland Conservation Act, in 2001 as a result of widespread changes in land use patterns across the landscape that were fragmenting oak woodlands character over extensive areas. The Act created the California Oak Woodland Conservation Program within the Wildlife Conservation Board. The legislation provides funding and incentives to ensure the future viability of California's oak woodlands resources by maintaining large scale land holdings or smaller multiple holdings that are not divided into fragmented, nonfunctioning biological units. The Act acknowledged that the conservation of oak woodlands enhances the natural scenic beauty for residents and visitors, increases real property values, promotes ecological balance, provides habitat for over 300 wildlife species, moderates temperature extremes, reduces soil erosion, sustains water quality, and aids with nutrient cycling, all of which affect and improve the health, safety, and general welfare of the residents of the State.

California Wetlands Conservation Policy

In August 1993, the Governor announced the "California Wetlands Conservation Policy." The goals of the policy are to establish a framework and strategy that will:

- Ensure no overall net loss and to achieve a long-term net gain in the quantity, quality, and permanence of wetland acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
- Reduce procedural complexity in the administration of State and federal wetland conservation programs.
- Encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetland conservation and restoration.

The Governor also signed Executive Order W-59-93, which incorporates the goals and objectives contained in the new policy and directs the Resources Agency to establish an Interagency Task Force to direct and coordinate administration and implementation of the policy.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act provides long-term protection of species and habitats through regional, multi-species planning before the special measures of the CESA become necessary.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the State Water Resource Control Board (SWRCB) to regulate state water quality and protect beneficial uses.

Local & Regional

Town of Tiburon General Plan 2020

The General Plan 2020 addresses the Town's existing biological resources and institutes resource protection measures in several chapters. The Open Space, Parks, and Recreation Chapter preserves existing resources by requiring development proposals include environmental assessment on sites that may contain sensitive biological resources, including wetlands, occurrences of special-status species and sensitive natural communities, native wildlife nurseries and nesting locations, and native wildlife movement corridors.

The Conservation Chapter aims to preserve and improve the quality of the environment through resource restoration and conservation, management, and pollution control.

Town of Tiburon Municipal Code

The Tiburon Municipal code establish standards and regulations related to the protection of "protected trees" (heritage trees, oak trees, and dedicated trees), and the removal of potentially hazardous trees through Chapter 15a, *Trees*, under Title IV, *Land Improvement and Use*. Chapter 15a regulates the removal, alteration, and planting of certain trees. Regulation of trees is based upon three general policies:

1. ecological importance, visual enhancement of the community, and their contribution to residential privacy and quietness: scenic importance, shade-creating, and privacy-

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creating benefits; provide soil stability, noise buffering, and wind protection benefits, and can help prevent erosion and debris flow landslides on the hilly terrain.

2. protected trees" (heritage trees, oak trees, and dedicated trees
3. undesirable trees; potential breakage and fire hazards, or their potential for creating view blockage due to rapid growth and tall height at maturity
4. undeveloped properties and properties capable of further subdivision should be protected from unregulated removal of trees prior to the approval of development plans. Trees on such properties should be preserved so that they may be considered for incorporation into development plans.
5. private landscape; residents in single-family and two-family zones. In such zones, only the removal or alteration of "protected trees" and the planting of "undesirable trees" shall require permits.
6. special landscaping circumstances

Town of Tiburon Open Space Resource Management Plan

The Town owns and manages approximately 250 acres of open space distributed among 21 parcels. These open space areas vary considerably in size, vegetation, occurrence of special-status species, and proximity to residences. Nearly all of the parcels were either purchased outright by the Town for preservation purposes or were acquired as a result of open space dedications required by the Town for new development projects. The primary emphasis of the Open Space Resource Management Plan is management of vegetation and protection from non-native, invasive species of vegetation. Other topic areas such as erosion, fire hazard management, and passive recreation are also addressed in the Open Space Management Plan.

Town of Tiburon Guide to Policies for Trees Located on Town Property

The Guide was prepared in 2003 by the Town as a guide to the Town's policies and procedures involving trees. The Guide includes criteria for Town review of applications involving trees and shrubs on Town property; a sidewalk area diagram; and a procedure for tree alteration, removal, or planting.

The Guide establishes the policies with respect to trees and shrubs on Town property, including but not limited to parks, open spaces, and public street rights-of-way (including medians and islands). The Town's overarching policy is that trees and shrubs on Town property are resources that will not generally be removed or substantially altered without good cause. The Guide identifies conditions that warrant removal, including public safety hazards, disease, and damage to utilities and establishes a process for pruning of trees and shrubs.

Marin County Stream Conservation Area Ordinance

Marin County adopted the interim Stream Conservation Area (SCA) Ordinance in October 2013. It is intended to "protect the hydraulic function, habitat value, and water quality of streams." The Ordinance established an area where impacts to riparian and stream habitat

due to new development must be avoided or mitigated, as well as guidelines and procedures for obtaining a SCA permit.

The SCA Ordinance applies only to unincorporated areas within Marin County, so it may potentially have an influence only on areas adjacent to the Town.

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC) has jurisdiction over all areas of San Francisco Bay that are subject to tidal action. Tidal action is defined by the shoreline that extends up to mean high water, except in marsh areas, where BCDC's jurisdiction extends to 5 feet above mean sea level. The BCDC also has "shoreline band" jurisdiction over an area 100 feet wide inland and parallel to the shoreline. For projects within BCDC jurisdiction, permits may be required, depending on the nature of the activity. Those projects requiring a permit must comply with the requirements of the McAteer-Petris Act and the Bay Plan.

The BCDC, established to both protect and direct development of the Bay and its shoreline, is a commission which regulates development along the waters of the Bay. Altogether, the Commission is charged with:

- Regulating all filling and dredging in San Francisco Bay (which includes San Pablo and Suisun Bays, sloughs and certain creeks and tributaries that are part of the Bay system, salt ponds and certain other areas that have been diked-off from the Bay);
- Protecting the Suisun Marsh, the largest remaining wetland in California, by administering the Suisun Marsh Preservation Act in cooperation with local governments;
- Regulating new development within the first 100 feet inland from the Bay to ensure that maximum feasible public access to the Bay is provided;
- Minimizing pressure to fill the Bay by ensuring that the limited amount of shoreline area suitable for high priority water-oriented uses is reserved for ports, water-related industries, water-oriented recreation, airports, and wildlife areas.
- Pursuing an active planning program to study Bay issues to ensure that Commission plans and policies are based upon the best available current information.
- Leading regionwide adaptation planning in light of rising sea level;
- Administering the federal Coastal Zone Management Act within the San Francisco Bay segment of the California coastal zone to ensure that federal activities reflect Commission policies.
- Participating in the regionwide program to administer a Long Term Management Strategy (LTMS) to ensure appropriate dredging and dredged materials disposal in San Francisco Bay; and,
- Participating in California's oil spill prevention and response planning program.

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McAteer-Petris Act

The McAteer-Petris Act has long served as the key legal provision under California state law to preserve San Francisco Bay from indiscriminate filling. This law, enacted on September 17, 1965, established the San Francisco BCDC as a temporary state agency charged with preparing a plan for the long-term use of the Bay. In August 1969, the McAteer-Petris Act was amended to make BCDC a permanent agency and to incorporate the policies of the Bay Plan into state law.

San Francisco Bay Plan

The San Francisco Bay Plan (Bay Plan) guides BCDC's planning and actions for the area within its jurisdiction. The Bay Plan includes two primary parts: the policies to guide future uses of the Bay and shoreline, and the maps that apply these policies to the present Bay and shoreline. The Bay Plan addresses the following matters as specifically required by the law:

1. The results of the Commission's detailed study of the Bay;
2. The comprehensive plan adopted by BCDC for the conservation of the water of San Francisco Bay and the development of its shoreline;
3. BCDC's recommendation of the appropriate agency to maintain and carry out the Bay Plan;
4. BCDC's estimate of the approximate amount of money that would be required to maintain and carry out the provisions of the Plan for the Bay; and
5. Other information and recommendations BCDC deemed desirable.

BCDC has jurisdiction over five areas: the San Francisco Bay, a 100-foot shoreline band, salt ponds, managed wetlands, and certain waterways. The provisions of the Bay Plan pertaining to areas outside of the 100-foot shoreline band are advisory. In the Tiburon Planning Area, the Bay Plan applies to activities within San Francisco Bay and activities along the 100-foot shoreline band. The provisions of the Bay Plan pertaining to areas outside of the 100-foot shoreline band are advisory. There are no salt ponds, managed wetlands, or waterways under BCDC's jurisdiction in the Tiburon Planning Area.

Permit requirements are detailed in Title 7.2 of the California Government Code and Title 14, Division 5 of the California Code of Regulations. BCDC has the authority to approve projects with conditions that must be carried out as a part of the authorized project. According to BCDC's website, typical permit conditions include requirements to construct, guarantee, and maintain public access to the Bay, plan review requirements that must be met before construction can begin, and mitigation requirements to offset the adverse environmental impacts of proposed projects.

The Bay Plan establishes seven policies related to biological resources that address conservation of the Bay's tidal resources and native species and specifically address placement of fill and sediment. The Planning Area is located within the area addressed by Plan Map 4, which refers to the area as Central Bay North area. The Bay Plan establishes the following policies which apply to specific areas within the Planning Area:

30. Harbor Seal Haul-Out - Protect harbor seal haul-out and pupping site where harbor seals rest, give birth and nurse their young. Projects allowed only if protective of harbor seals and other sensitive wildlife.

31. Richardson Bay Special Area Plan – See Special Area Plan for detailed planning policies for the water area and shoreline north of a line drawn between Cavallo Point and Point Tiburon.

32. Angel Island State Park - Use only for camping, picnicking, water-oriented recreation. Access by boat only. Preserve boat slips and mooring buoys at Ayala Cove. No commercial uses except for convenience needs of park visitors. Preserve and interpret cultural, historical, and natural features of the island. Protect harbor seal haul-out and pupping site where harbor seals rest, give birth and nurse their young. Projects allowed only if protective of harbor seals and other sensitive wildlife.

33. Romberg Tiburon Center for Environmental Studies - If and when not needed by San Francisco State University, acquire, and develop for park. Expansion of Romberg Tiburon Center should be compatible with park use. Romberg Tiburon Center lands outside of the shoreline band should be developed consistent with recreation policy 4-b. Provide public access through the site to the shoreline.

Richardson Bay Special Area Plan

Richardson Bay provides a wide range of aquatic and wildlife habitats for abundant and diverse populations of fish and wildlife. Because of its location sheltered from strong tides and winds and close proximity to the Pacific Ocean, Richardson Bay is an area of high value for fish that spend part of their life in the ocean and part in an estuary, and for sea birds and migratory waterfowl as a refuge during winter storms. It is estimated that over 350,000 birds seek refuge during the winter months in the Audubon Society's wildlife sanctuary alone. Because of the shallowness of the Bay's water, many acres of mudflats are exposed at low tide providing important feeding areas for shorebirds and habitat for algae and small crustaceans. Moreover, Richardson Bay is one of the few areas in the San Francisco Bay system in which harbor seals reside and haul out.

Because of this, the BCDC recognized that the Richardson Bay is a unique and irreplaceable resource to the region. However, Richardson Bay has experienced increasing problems over the past years related to the protection of sensitive biological species and natural environments. In order to identify these problems to biological resources and offer recommended solutions, the Richardson Bay Special Area Plan was prepared to establish standards for development along the shores of Richardson Bay. Policies within the Richardson Bay Special Area Plan include:

1. The open water, marshes, and mud flats of Richardson Bay are particularly valuable wildlife habitat and should be afforded maximum protection. Eelgrass beds, important to herring spawning and for production of detritus, should also receive maximum protection.

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2. Future shoreline developments adjacent to mud flats or tidal or diked marshes should provide a natural landscaped buffer area between the development and the shoreline. The buffer area should be a minimum of 20 to 40 feet wide, depending on the sensitivity of the wildlife and the density and intensity of development, and should be planted with native shrubs and trees such as coyote brush, toyon, and coast live oak.
3. The harbor seal haul-out area on Strawberry Spit should be further protected by buoys placed offshore of the haulout site during the haul-out season (November to April).
4. Open areas of Richardson Bay used as resting and feeding areas by migratory waterfowl during the winter should be protected from speeding boats through continued patrolling of the Audubon Society Sanctuary and by posting of notice of boat speed restrictions in upper Richardson Bay.
5. Any development within Richardson Bay should avoid destruction of marshes, mud flats, shellfish beds, and eelgrass beds. If such losses are unavoidable, the project should be authorized only if the minimum amount of habitat disturbance necessary to accomplish the purpose of the project occurs and the habitat loss is mitigated to the fullest extent. Mitigation should be within Richardson Bay, preferably at the development site, or if that is not feasible, at a site identified in the Tidal Restoration and Marsh Enhancement section of the Special Area Plan.

3.3.4 THRESHOLDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Initial Study Environmental Checklist, which includes questions related to biological resources. The issues presented in the Initial Study Environmental Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it 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 California Department of Fish and Game or U.S. Fish and Wildlife Service;
- 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 California Department of Fish and Game or U.S. Fish and Wildlife Service;
- 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.

CEQA Guidelines Section 15065(a), Mandatory Findings of Significance, states that a project may have a significant effect on the environment if it would have "... the potential to substantially degrade the quality of the environment, 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 an endangered, rare or threatened species ..."

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional and/or local context. Substantial impacts would be those that would substantially diminish or result in the loss of, an important biological resource or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally adverse but not significant because, although they would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population- or region-wide basis.

CEQA Guidelines Section 15380, *Endangered, Rare or Threatened Species*, states that a lead agency can consider a non-listed species to be Rare, Threatened, or Endangered for the purposes of CEQA if the species can be shown to meet the criteria in the definition of Rare, Threatened, or Endangered. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special-status species was considered according to the definitions for Rare, Threatened, and Endangered listed in CEQA Guidelines Section 15380.

3.3.5 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts to biological resources resulting from implementation of the General Plan 2040 are discussed below. The impact analysis is based on information from the Environmental Setting and Regulatory Setting. Supplemental information is provided with a citation. Impacts to biological resources are assessed using the significance criteria established by the CEQA Guidelines. This analysis identifies the potential direct and indirect impacts to biological resources from construction, operation, and maintenance activities related to future development that could occur under the General Plan 2040.

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Impact 3.3-1 Development facilitated by the Project would not have a substantial adverse effect, either directly or through habitat modifications, on candidate, sensitive, or on special-status species.

As discussed in the Environmental Setting, 93 special-status plant species and 84 special-status animal species have been recorded by the CNDDDB to occur within 15 miles of the Planning Area. The special-status animal species include five bird species, four fish species, and two mammal species. Special-status plant and animal species receive protection from various federal and State laws and regulations, including FESA and CESA. These regulations generally prohibit the taking of protected plant and animal species, or direct impacts to foraging or breeding habitat, without a special permit.

The General Plan 2040 would enable development of new residential and non-residential uses; the General Plan proposes an increase of 916 residential units and a reduction of approximately 129,682 square feet of non-residential uses by 2040 buildout conditions. Subsequent development under the Project could result in the direct and/or indirect loss or indirect disturbance of special-status plant or animal species or their habitats that are known to occur, or have potential to occur, in the region.

Significant impacts on special-status plant species associated with individual site-specific projects could include the direct loss of individual plants and of habitat areas associated with these special-status plant species. Indirect impacts to special-status plant species could include habitat degradation or natural resource reduction. Significant impacts on special-status animal species associated with individual subsequent projects could include direct decrease in populations due to loss of breeding and foraging habitats.

To further protect and preserve natural habitats and species beyond State and federal standards, the General Plan 2040 includes policies and programs that are specifically designed to address potential impacts to biological resources. Conservation Policy C-3, Habitat Preservation, seeks to preserve and enhance the diversity of wildlife and aquatic habitat found throughout the Planning Area. To support Policy C-3, Conservation Chapter Policy C-4, New Development, indicates that access to environmentally sensitive marshland, and adjacent habitat, during times of constructions and development shall be restricted, especially during spawning and nesting seasons. Policy C-13, Development Impacts on Special-Status Species and Sensitive Habitats, assures that new development does not have a significant adverse effect of special status species or sensitive natural communities to the extent feasible and as regulated by federal and state laws. Policy C-15 Woodland Protection, further protects natural habitats and wooded areas.

In addition to Conservation-based policies, the General Plan 2040 Open Space, Parks, and Recreation Chapter provides policies and programs that ensure new development respects the ecological benefits of natural areas that serve as habitat and erosion protection. Open Space Program OS-a, Environmental Constraints Assessment, requires applicants to demonstrate that proposals for development minimize environmental impacts and comply

with the General Plan and applicable regulations, ordinances, and guidelines; and requires preparation of an assessment of environmental constraints that adequately addresses CEQA regulations, including those associated with biological resources. Program OS-c, Environmental Assessment, requires an environmental assessment for development proposed on sites that may contain sensitive biological resources, including wetlands, occurrences of special-status species and sensitive natural communities, native wildlife nurseries and nesting locations, and native wildlife movement corridors. The assessment would be required to be conducted by a qualified professional to determine which, if any, sensitive resources which could be affected by proposed development; would provide an assessment of the potential impacts; and, would define measures to avoid significant adverse impacts to the resource. The applicant would then be required to implement feasible measures to avoid or, if avoidance is not feasible, reduce, significant adverse impact. Future development under the General Plan 2040 would be subject to these policies and programs.

Further, future development under the Project would comply with the various local, State, and, federal laws and regulations that protect special-status plant and animal species, including FESA and CESA. Therefore, with adherence to the General Plan 2040 policies and programs, and local, State, and federal regulations, future development would not result in significant adverse effects to biological resources and impacts would be less than significant. As such, impacts from implementation of the Project would be considered ***less than significant*** relative to this topic.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None required

Impact 3.3-2 Development facilitated by the Project would not have a substantial adverse effect on riparian habitats, other sensitive natural communities, federally protected wetlands, or waters of the United States and/or State, through direct removal, filling, or hydrological interruption.

As discussed in Environmental Setting, the CNDDDB search revealed four sensitive natural communities within 15 miles of Tiburon. This includes coastal brackish marsh, salt marshes where a significant freshwater influx dilutes the seawater to brackish levels of salinity; coastal terrace prairie, a grassland plant community found along the Pacific Coast; northern coastal salt marsh, a non-tidal, non-forested wetland that is continuously or frequently flooded and contains saltwater; and serpentine bunchgrass.

The General Plan 2040 would enable development of new residential and non-residential uses. While no site-specific projects are proposed at this time, subsequent development under the Project could have a substantial adverse effect on riparian habitats, other sensitive

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natural communities, federally protected wetlands, or waters of the United States and/or State, through direct removal, filling, or hydrological interruption.

While not always documented as sensitive natural communities in the CNDDDB, streams, rivers, and estuaries are of high concern because they provide unique aquatic habitat for many endemic species, including special-status plants, birds, invertebrates, amphibians, and fish species. These aquatic habitats oftentimes qualify as protected wetlands or jurisdictional waters and are protected from disturbance through the Clean Water Act. Subsequent development under the Project, primarily within close proximity to Richardson’s Bay, could result in direct or indirect effects on estuarine habitat and other sensitive marine communities.⁴

Riparian habitats and sensitive natural communities receive protection under the California Fish and Game Code (FGC §§ 1601–1603). Any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any lake or stream, must obtain a “Streambed Alteration Agreement” from CDFW prior to any alteration of a lake bed, stream channel, or their banks. Through this agreement, the CDFW may impose conditions to limit and fully mitigate impacts on fish and wildlife resources.⁵

Section 404 of the Clean Water Act requires any project that involves disturbance to a wetland or waters of the United States to obtain a permit that authorizes the disturbance. If a wetland or jurisdictional water is determined to be present, then a permit must be obtained from the US Army Corp of Engineers (USACE) to authorize a disturbance to the area. Although subsequent projects may disturb protected wetlands and/or jurisdictional waters, the regulatory process that is established through Section 404 of the Clean Water Act ensures that there is “no net loss” of wetlands or jurisdictional waters. If, through the design process, it is determined that a future development project cannot avoid a wetland or jurisdictional water, then the USACE would require that there be an equal amount of wetland created elsewhere to mitigate any loss of wetland.

Section 401 of the Clean Water Act (33 USC § 1341) requires an applicant who is seeking a 404 permit to first obtain a water quality certification from the Regional Water Quality Control Board (RWQCB). To issue a water quality certification, the RWQCB must indicate that the proposed fill is consistent with the standards set forth by the State.

Further, the General Plan 2040 includes policies and programs designed to protect sensitive natural communities, as well as protect wetlands, waters of the United States and, waters of the State. General Plan Conservation Chapter Policy C-6, Wetlands Setbacks, subsequent Program (Program C-a, Wetland and Streamside Regulations), as well as Policy C-7, Construction in Jurisdictional Waters and Wetlands, establish local wetland and waters development regulations, and require all construction to, at the minimum, comply with all

⁴ De Novo Planning Group, 2022. Existing Conditions Report.

⁵ California Dept. of Fish and Wildlife (CDFW), 2023b. Lake and Streambed Alteration Program. Available <https://wildlife.ca.gov/Conservation/Environmental-Review/LSA> . Accessed January 31, 2023.

federal and State regulations regarding jurisdictional waters and wetlands. Conservation Policies C-8 and C-9 monitor development so as to ensure preservation of freshwater habitats in the bayfront areas; and require open space buffers where streams are present. Further, Conservation Policies C-2, C-3, and C-12, focus generally on aquatic habitat and sensitive area preservation. In addition, Open Space Program OS-c, Environmental Assessment, requires an environmental assessment for development proposed on sites that may contain sensitive biological resources, including wetlands, occurrences of natural communities, and native wildlife nurseries and nesting locations. The assessment would be required to be conducted by a qualified professional to determine which, if any, sensitive resources which could be affected by proposed development; would provide an assessment of the potential impacts; and, would define measures to avoid significant adverse impacts to the resource.

Beyond Town-wide regulations, Marin County adopted an interim SCA Ordinance in October 2013, with the intention to protect the hydraulic function, habitat value, and water quality of streams in the County. However, the SCA Ordinance applies only to unincorporated areas within Marin County, so it may potentially have an influence only on areas adjacent to the Town.; still within the Planning Area, in the Sphere of Influence.⁶

Future development under the Project would comply with adopted federal, State, and local regulations for the protection of sensitive natural communities, including riparian habitat, wetlands, and waters. Therefore, with mandatory regulatory compliance, future development would not result in significant adverse effects to riparian habitat, other sensitive natural communities, federally protected wetlands, waters of the United States, or waters of the State. Impacts would be considered **less than significant** under this criterion.

Level of Significance before Mitigation

Less than significant

Mitigation Measures

None required

Impact 3.3-3 Development facilitated by the Project would not 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.

As presented in the Existing Conditions Report Conservation Chapter, Tiburon is located on the Tiburon Peninsula, surrounded on three sides by the San Francisco Bay, Raccoon Straits, and Richardson Bay. From the San Francisco Bay, the Tiburon Peninsula rises steeply to the Tiburon Ridge. The southwest facing side of the Tiburon Peninsula, overlooking Richardson

⁶ Marin County Board of Supervisors, 2013. Draft Marin Stream Conservation Area Ordinance Revised per Board of Supervisors Hearing, October 29, 2013.

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Bay, consists primarily of open spaces and sloping grasslands. The north-facing side, overlooking San Francisco Bay and San Pablo Bay is sparsely developed and steep with dense tree cover over much of the area. And, as described in the Environmental Setting, riparian habitats, foothill access areas, and streams, are found within Town limits and serve as wildlife corridors. In addition, the urban forest canopy can support movement of a variety of migratory bird species, while open space areas, creeks, and un-named drainages could serve as aquatic and terrestrial wildlife migration corridors within the Planning Area.

The General Plan 2040 would enable development of new residential and non-residential uses. While no site-specific projects are proposed at this time, subsequent development under the Project could 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.

However, many of the General Plan 2040 policies aim to protect species movement and habitat corridors. General Plan 2040 Conservation Policy C-4 states that development shall not encroach into sensitive wildlife habitats, limit normal range areas, or create barriers to wildlife that cut off or substantially impede access to food, water, or shelter, or cause damage to fisheries or fish habitats; and access to environmentally sensitive marshland and adjacent habitat is to be restricted, especially during spawning and nesting seasons. Policy C-9, Stream Setbacks, requires open space buffers be implemented to minimize disturbance of natural vegetation and maintain the environmental integrity of movement corridors.

Further, Open Space Program OS-c, Environmental Assessment, requires an environmental assessment for development proposed on sites that may contain sensitive biological resources, including wetlands, occurrences of special-status species and sensitive natural communities, native wildlife nurseries and nesting locations, and native wildlife movement corridors. The assessment would be required to be conducted by a qualified professional to determine which, if any, sensitive resources which could be affected by proposed development; would provide an assessment of the potential impacts; and, would define measures to avoid significant adverse impacts to the resource.

Future development under the Project would comply with adopted State, federal, and local regulations for the protection of biological resources, including General Plan 2040 policies and programs. Therefore, future development would not result in significant adverse effects to wildlife corridors or native wildlife nursery sites, nor would it interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. As such, impacts would be considered ***less than significant***.

Level of Significance before Mitigation

Less than Significant

Mitigation

None required

Impact 3.3-4 Development facilitated by the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The General Plan 2040 would enable development of new residential and non-residential uses. While no site-specific projects are proposed at this time, subsequent development under the Project could potentially conflict with local ordinances.

Future development associated with the implementation of the Project would be subject to all applicable local policies and regulations related to the protection of important biological resources. Specifically, development under the General Plan 2040 would be required to comply with the City's Tree Ordinance. Chapter 15A, Trees, of the Municipal Code acknowledges the contribution of trees to the character and beauty of the City and as such, regulates the planting, removal or alteration of such trees through the provision of permits. Section 15A-3 of the Chapter defines when a when a permit is required, and Section 15A-4 defines instances of exceptions from permits.

General Plan 2040 Conservation Program C-b, Tree Preservation, under Policy C-14, Tree Protection, considers revising and expanding the Tiburon Tree Ordinance to provide protection of both individual trees and native woodlands. Further, Policy C-15, Woodland Protection, aims to protect natural habitat, and natural wooded areas to the maximum extent feasible.

Further, the Town has adopted the Town of Tiburon Guide to Policies for Trees Located on Town Property. The Guide's overarching policy is that trees and shrubs within the Planning Area are resources that are generally not to be removed or substantially altered without good cause. The Guide identifies conditions that warrant removal, including public safety hazards, disease, and damage to utilities and establishes a process for pruning of trees and shrubs.

Future development would be subject to these local, mandatory tree preservation requirements. Therefore, the potential impacts regarding conflicts with local policies or ordinances protecting biological resources would be ***less than significant***.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None required

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Impact 3.3-5 Development facilitated by the Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

The General Plan 2040 would enable development of new residential and non-residential uses. As discussed in Regulatory Setting, there are several conservation plans in affect within the Tiburon area, including: San Francisco Bay Plan (Bay Plan), Richardson Bay Special Area Plan, and the Town of Tiburon Open Space Resource Management Plan.

Protection of the San Francisco Bay and enhancement of its shoreline are the key components of the Bay Plan. As such, the San Francisco Bay Conservation and Development Commission (BCDC) has been authorized by the State (under the McAteer-Petris Act) to control both the Bay filling and dredging and Bay-related shoreline development. Various methods, mitigation measures, and alternative designs are provided in the Bay Plan to ensure development projects protect and enhance the Bay. The Town jurisdiction encompasses the Tiburon Peninsula and Angel Island, and includes portions of the Raccoon Strait and San Francisco Bay. As the BCDC has jurisdiction over all areas of the San Francisco Bay that are subject to tidal action and, "shoreline band" jurisdiction, development in the Town must adhere to the BCDC Bay Plan.⁷

The Richardson Bay Special Area Plan establishes standards for development along the shores of Richardson Bay. While no site-specific development is proposed under the Project, potential development and redevelopment associated with the implementation of the Project would be required to adhere to the Richardson Bay Special Area Plan, if the project were to be located within proximity.

The primary emphasis of the Open Space Resource Management Plan is adequate management of vegetation and protection from non-native, invasive species of vegetation. According to the Land Use, Growth, and Environmental Justice Chapters of the Existing Conditions Report, there are currently 797 acres of Open Space within Tiburon and the Sphere of Influence. The General Plan 2040 proposes to have 801 acres dedicated as Open Space. As the Project does not propose to reduce the amount of Open Space, but rather increase it, nor does it propose any site-specific development that could harm vegetation at this time, implementation would not conflict with the Open Space Resource Management Plan.

As such, implementation of the Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. The Project would have a **less-than-significant impact** relative to this topic.

⁷ San Francisco Bay Conservation & Development Commission (BCDC) (2023). San Francisco Bay Plan. Available https://www.bcdc.ca.gov/plans/sfbay_plan.html. Accessed January 31, 2023.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None required

Impact 3.3-6 Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to biological resources.

The geographic context for analysis of cumulative impacts to biological resources includes the incorporated and unincorporated lands surrounding the Planning Area. This analysis evaluates whether the impacts of the Project, together with the impacts of cumulative development, would result in a cumulatively significant impact on special-status species; wetlands and other Waters of the United States and/or State; or other biological resources protected by federal, State, or local regulations or policies. This analysis then considers whether incremental contribution to cumulative impacts associated with the implementation of the Project would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance.

Cumulative development within unincorporated Marin County is identified in the Marin Countywide Plan Update Final EIR. Cumulative development contributes to an incremental reduction in the amount of existing wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance can be lost as development encroaches into previously undeveloped areas, disrupting or eliminating movement corridors, and fragmenting the remaining suitable habitat retained within parks, private open space, or undeveloped properties. New development in the region could eventually result in further conversion of existing natural habitats to urban and suburban conditions, limiting the existing habitat values of the surrounding area. This could include further loss of wetlands and sensitive natural communities, reduction in essential habitat for special-status species, removal of mature native trees and other important wildlife habitat features, and obstruction of important wildlife movement corridors. Additional development may also contribute to degradation of the aquatic habitat found in the Richardson's and San Francisco Bays.

As described in Regulatory Setting, numerous laws and regulations are in place to protect biological resources, including, but not limited to, CESA, FESA, and the Clean Water Act. The BCDC has jurisdiction over all areas of San Francisco Bay that are subject to tidal action. Development facilitated future projects within the cumulative geographic context, would be required to comply with federal, State, and local laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on biological resources. Because cumulative development would be required to comply with the above requirements, as well as the overall land use vision, design review regulations and policies in local and regional plans, including the Marin Countywide

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Plan and Marin County Development Code, cumulative biological impacts will be ***less than significant***.

As discussed, the Project proposes no substantive changes in land use that would result in significant impacts to biological resources. Future development projects associated with the General Plan 2040 would be required to comply with established local, State, and federal regulations and demonstrate that biological resources would not be significantly affected. Therefore, implementation of the Project would not result in a considerable incremental contribution to cumulative impacts to biological resources; the Project's contribution to cumulative impacts would be ***less than significant***.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None required

Figure 3.3-1. Land Cover Types

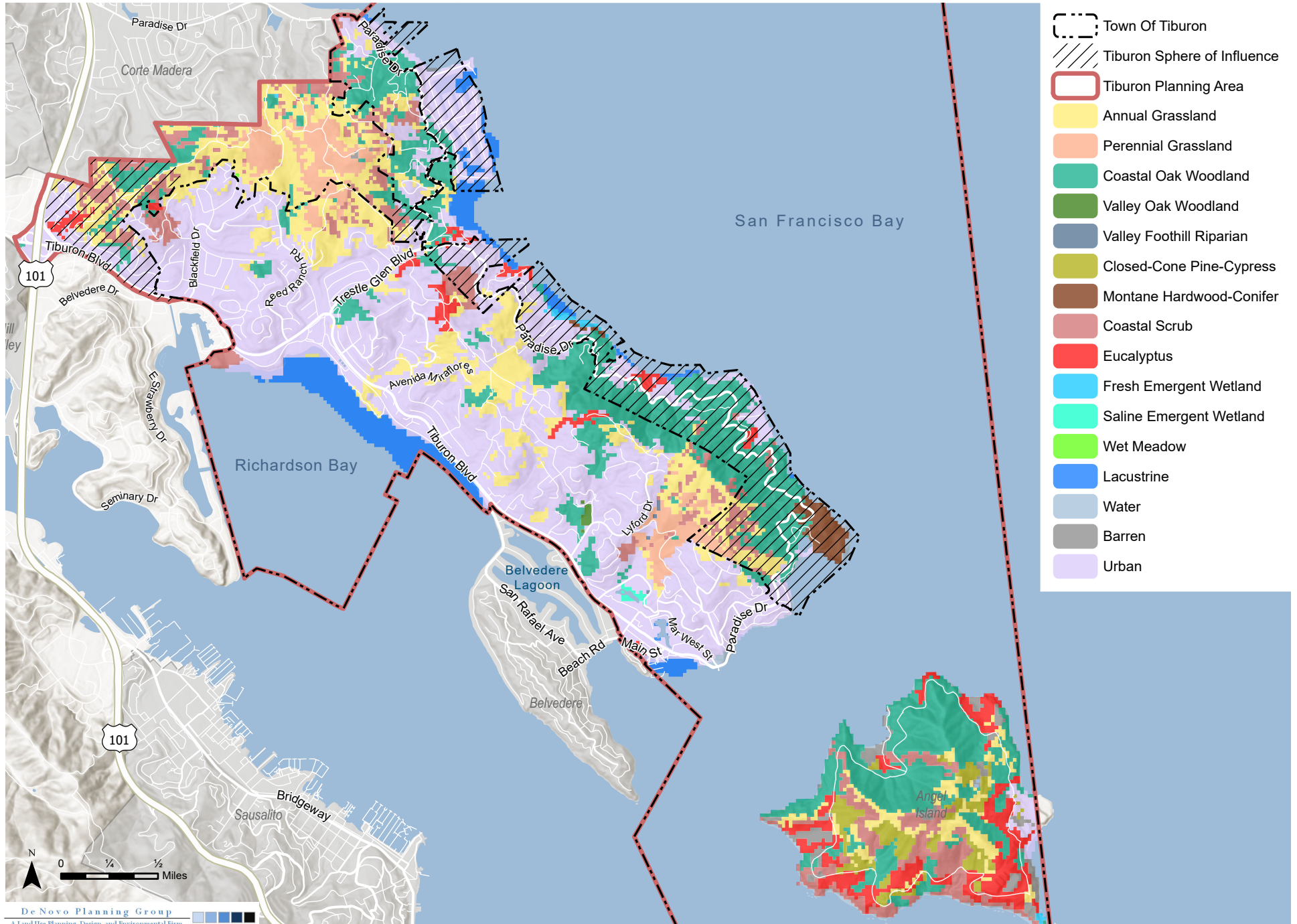


Figure 3.3-2: California Natural Diversity Database - 9-quad* Search

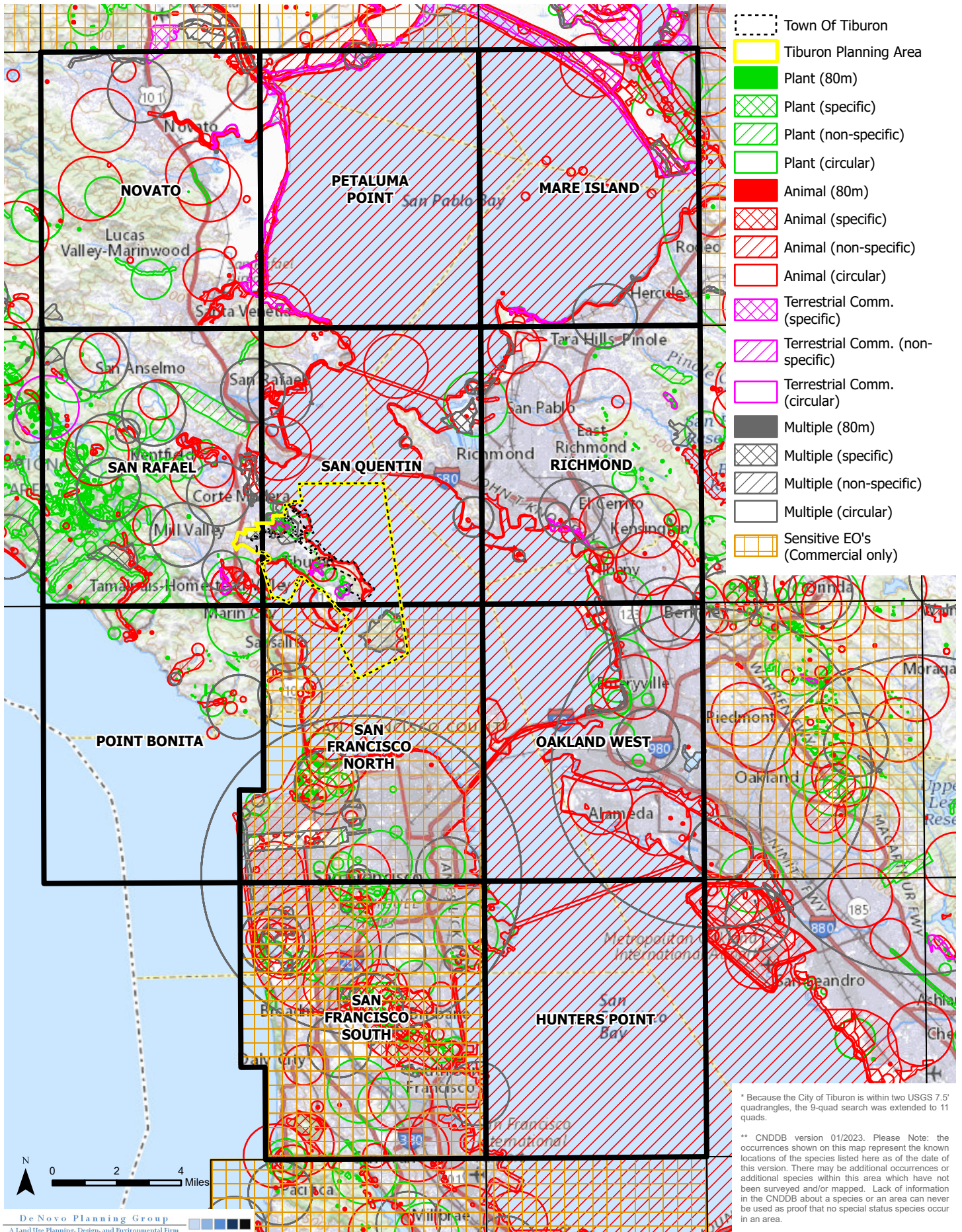
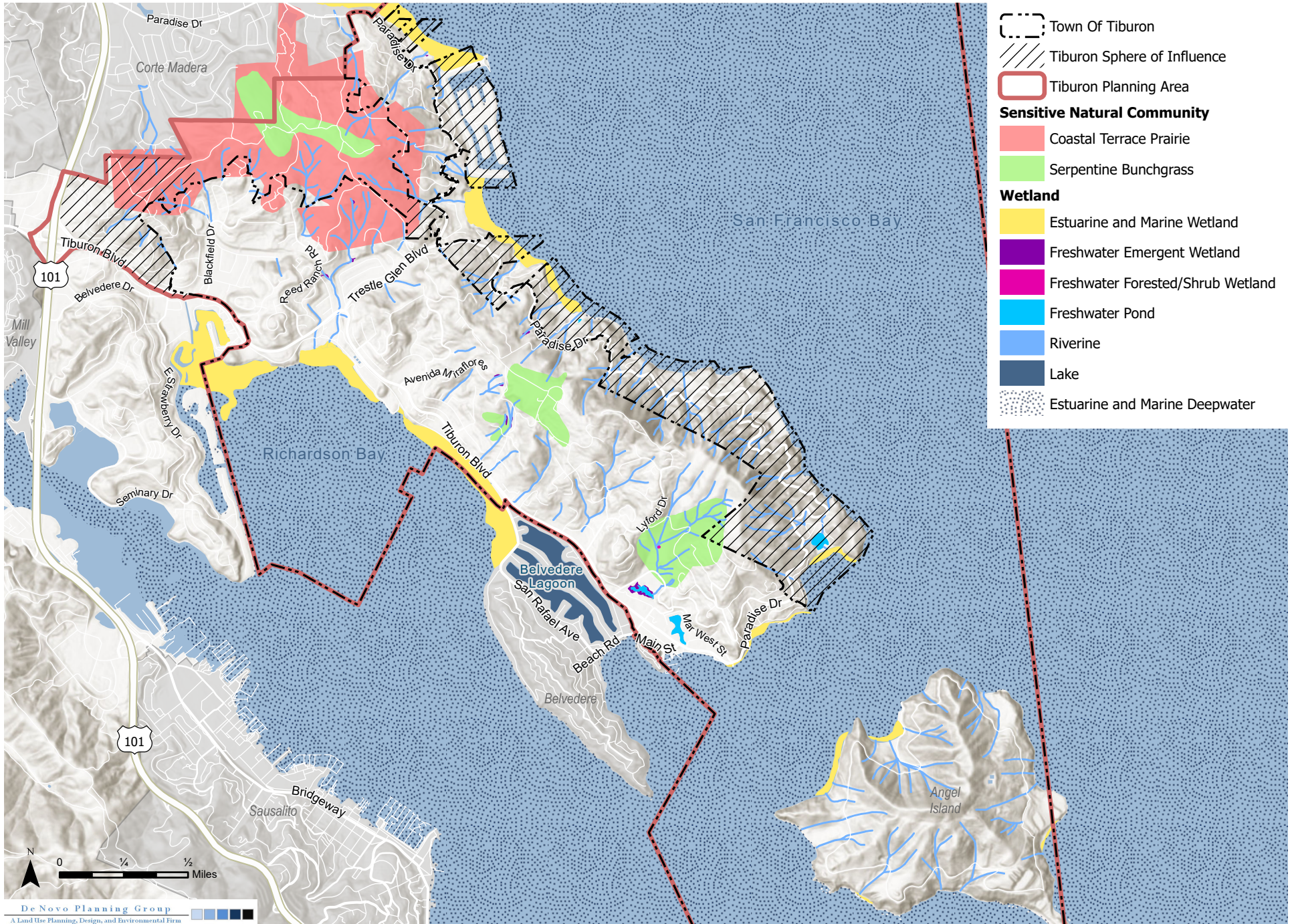


Figure 3.3-3. Sensitive Natural Communities and Wetlands



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3.4 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

This section identifies existing cultural (including historical and archeological resources) and tribal cultural resources within the Planning Area, and provides an analysis of potential impacts associated with implementation of the General Plan Update. Potential impacts are identified and mitigation measures to address potentially significant impacts are recommended, as necessary.

Information in this section is based on information provided by the following sources and reference materials:

- Create Tiburon 2040: Existing Conditions Report;
- Tiburon Municipal Code;
- Fanning, B., 2006. *Images of America: The Tiburon Peninsula*. Arcadia Publishing, Charleston;
- Fanning, B. 2010. *Then & Now: Tiburon and Belvedere*. Arcadia Publishing, Charleston;
- Fanning, B. & Wong, W., 2007. *Images of America: Angel Island*. Arcadia Publishing, Charleston;
- Heig, J., 1984. *Pictorial History of Tiburon: A California Railroad Town*. Scottwell Associates, San Francisco;
- Jones, T. & Klar, K., 2009. *California Prehistory*. Alta Mira Press, London;
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- Mathews, G., 1999. *Downtown Tiburon Historic Resources Study*. Ms. on file, Town of Tiburon, Marin County, California; and
- 3D Visions, 2001. *Intensive Survey of Downtown Historic Resources*. Ms. on file, Town of Tiburon, Marin County, California.

One comment was received during the NOP comment period regarding cultural and tribal cultural resources. The comment was received from the Native American Heritage Commission (NAHC). The NAHC provides recommendations for cultural resources assessments and recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the Planning Area as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.

3.4.1 EXISTING SETTING

Cultural resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archeological, cultural, including tribal cultural, or scientific importance. Key terms related to cultural resources include:

Archeology. The study of historic or prehistoric peoples and their cultures by analysis of their artifacts and monuments.

Complex. A patterned grouping of similar artifact assemblages from two or more sites, presumed to represent an archeological culture.

Ethnography. The study of contemporary human cultures.

Midden. A deposit marking a former habitation site and containing such materials as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock, human remains, structural remnants, and other cultural leavings.

Paleontology. The science of the forms of life existing in former geologic periods, as represented by their fossils.

Prehistory

Humans are believed to have resided in southern Marin County for the past 13,000 years. Archeologists who have studied these past cultures have uncovered evidence of widespread activities that allowed them to divide these previous 13,000 years into periods or phases based on the kinds of subsistence behaviors practiced.

Six periods have been identified with locally defined phases and regional cultures added to the mix. The six periods are:

- Early Holocene (Lower Archaic), 8000 - 3500 B.C
- The Early Middle Period (Middle Archaic), 3500 B.C. - 500 B.C.
- The Lower Middle Period (Initial Upper Archaic), 500 B.C. – A.D. 430
- Upper Middle Period (Late Upper Archaic), A.D. 430 – A.D. 1050
- Initial Late Period (Lower Emergent), A.D. 1050 – A.D. 1550
- Terminal Late Period: Protohistoric Ambiguities, A.D. 1550 – 1775 (Milliken et al. in Jones and Klar 2007).

Early Holocene (Lower Archaic), 8000 B.C. – 3500 B.C.

Few Bay Area sites have been discovered to represent this time period. A pattern of generalized mobile foraging with artifacts such as the milling slab and hand stone (mano and metate), and large wide stem and leaf shaped projectile points are common.

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The Early Middle Period (Middle Archaic), 3500 B.C. – 500 B.C.

New technological advances involving the use of the mortar and pestle first appear during this period as does the first evidence for the manufacture of shell beads. Researchers suggest increased sedentism occurred as did an expansion in trade.

The Lower Middle Period (Initial Upper Archaic), 500 B.C. – A.D. 430

A dramatic shift in the types of shell beads being manufactured is observed at sites with components dating to this period. New types of bone tools, such as the barbless fishhooks, first appeared indicating an increasing exploitation of the immediate environment, probably brought on by increasing populations pressures.

Upper Middle Period (Late Upper Archaic), A.D. 430 – A.D. 1050

A.D. 430 witnessed another dramatic shift in the selection of bead styles and the way people were buried. What caused this dramatic cultural upheaval is uncertain. The formally popular style of shell beads became obsolete with new, smaller varieties becoming widespread.

Initial Late Period (Lower Emergent), A.D. 1050 – A.D. 1550

Populations continued to increase as did resource exploitation and with it a whole new level of the manufacture of numerous, finely made grave goods that were buried with the dead. Social stratification can also be observed in the differing amounts of grave goods interred with a particular individual. The bow and arrow appeared in the area around A.D. 1250 causing among other things, a shift in the procurement of rock types and sources used in the manufacture in this new technological innovation.

Terminal Late Period: Protohistoric Ambiguities, A.D. 1550 – 1775

Once again, the style of shell beads abruptly changed throughout the Bay Area. Grave goods became less common and some researchers have suggested that populations were faced with increasing stress by over population and perhaps the early introduction of European-based diseases.

Ethnology

Coast Miwok

The voyages of Drake in 1579 and Cermeño in 1595 resulted in sketchy accounts of the life of the Coast Miwok prior to disruption of the native culture. The Coast Miwok traditional way of life disappeared rapidly after the founding of the mission at San Francisco in 1776 and the later missions at San Rafael and Sonoma. Forced movement of Coast Miwok to the missions and the determination of the friars to convert the natives to Christianity and destroy all vestiges of their former life, along with epidemic diseases of the whites, soon left few natives that could remember the pre-contact culture. The Russian colony at Fort Ross used Bodega Bay in Coast Miwok territory as a port, but the Russian policy was to interfere with Indian life only to the extent necessary to harvest the maximum number of sea otter pelts.

The Coast Miwok occupied what is now Marin County and part of Sonoma County, as far north as the vicinity of Sebastopol. There is extensive coastline in this territory and resources from the sea and salt marshes were important in Coast Miwok subsistence; however, the resources available in the interior of their territory were by no means ignored. Sea mammals were not part of the diet, but various species of fish were taken with nets, seines, weirs, spears, and line-with-gorge technologies. Even more important in the diet were clams and some species of mussel, resulting in the characteristic coastal shell middens familiar through archeology.

The most important food resource, as with most California Indians, was the acorn. It was leached to remove most of the tannic acid and then ground into meal and prepared in various ways. It was particularly valuable because the meal could be stored against times of shortage of other foods. Kelp was collected, dried, and stored as another hedge against seasonal shortages. The interior of the territory provided, in addition to acorns, the many mammals and rodents that were hunted or trapped. Birds, both interior and coastal, were netted and a wide variety of vegetable foods were collected. Despite the relative abundance of their food sources, winter and early spring were still times of short food supply, and stored acorns and kelp were then the primary foods.

Villages were situated so as to be handy to food resources at various times of year. The Coast Miwok moved among residences on the coast, around salt or freshwater marshes and on interior streams so that they would be close to the most abundant food supply available at a particular season. Dwellings were conical brush-on-frame structures capable of sheltering up to ten individuals. Other structures included semi-subterranean sweathouses, that served as something of a men's club, and--at major villages--a dance house for religious ceremonies. The dance house was basically the same construction as the sweathouse only larger. An excavation about two feet deep and fifteen in diameter formed the floor and a timber framework supported a brush dome capped with earth.

Archeology has provided an extensive collection of the stone tools that were used, but it is clear from ethnology that basketry and cordage were used for the majority of utilitarian objects. These materials do not preserve well, so they are uncommon in archeological sites. Basket making was a highly developed skill and baskets were woven tightly enough to hold water and cooking of acorn mush was accomplished by dropping hot rocks into baskets containing the mush. Cordage was used for the variety of nets used in taking fish, birds, and small mammals.

In terms of socio-political organization, the term Coast Miwok is primarily a convenience for anthropologists, denoting a group speaking the same language and occupying a contiguous territory. In fact, there was no overall political control of this group and the real basis of social organization was the main village. Major villages were occupied by a group of related families under the authority of a headman. Even at this level the powers of the headman were limited and, basically, advisory. No overall authority for Coast Miwok was recognized, and village groups were sometimes on better terms with their Pomo or Patwin neighbors than with

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other Coast Miwok village groups. Within the village group, close ties were maintained through the extensive religious/ceremonial life and through kinship ties.

Through much of aboriginal California, shell beads served as a form of currency. As a coastal people, the Coast Miwok had access to the raw material and bead manufacture was an important industry because it provided currency to trade for goods from neighboring groups. This allowed the Coast Miwok to import obsidian from the Wappo to the north to use in making arrowheads and other edged tools. Chert was used to form more utilitarian edged implements, but obsidian was the preferred material. Yellow ocher was also obtained from the Wappo for paint and venison and magnesite cylinders were obtained from the Pomo. Despite their access to clam shell, the trade relationships of the Coast Miwok do not appear to have been very extensive. Perhaps this reflects the relative abundance of resources available in their own territory.

Historic Period

Tiburon is a community that has had extensive documentation over the years and remains committed to the preservation and protection of resources through the Belvedere-Tiburon Landmarks Society, a non-profit group founded in 1959. Until the Covid-19 pandemic caused closures, the Landmarks Society maintained the Landmarks History Collection with two archivists, and published articles and books on the local history, as well as creating videos.

The Landmarks Society maintains a website providing access to all of these resources to the public. Of particular value is the detailed timeline of events for the community. The Landmarks Society manages and maintains the Old St. Hilary's Landmark and the surrounding wildflower preserve, the China Cabin (in Belvedere), the Railroad Ferry & Depot Museum, and the Landmarks Art and Garden Center.

The following is a synthesis of the many books and documents on the history of the community, including publications documenting different aspects of the community and economy of the Town, as well as photographs documenting buildings within Tiburon.

The land of the Tiburon Peninsula was first awarded by the Mexican government to John Thomas Reed in 1834 as the Rancho Corte de Madera del Presidio. An Irish sailor, Reed had arrived in the area in 1826, and became a Mexican citizen in 1834. His widow and four children applied for confirmation of the grant of 7,845 acres; it was finally awarded to the family in 1884. Dairying and cod fishing were two major industries in the area.

Angel Island, first named by early arrivals in San Francisco Bay in 1775, has been called by its current name since the arrival of the Americans in the region. It is the largest island in San Francisco Bay, and has served as a cattle ranch, part of the coastal defense system, the West Coast immigration station (1910-1940), a prisoner of war camp, and a Nike missile base. Since 1962, the island has been a California State Park.

In 1882, Peter Donahue made a deal with the Reed family for a railroad right-of-way for the North Pacific Railroad (name later changed to Northwestern Pacific). The railroad company built a railroad yard and ferry terminal, with ferries taking commuters and vehicles to San Francisco and Sausalito. Barges hauled loaded freight cars to San Francisco and Richmond. In the 1970s, the abandoned railroad was removed, and the right-of-way purchased by Tiburon for the waterfront path. The railyards were used for housing and commercial projects.

Other enterprises in the Town included the U.S. Navy Coaling Station where ships refueled, beginning operations in 1904 until 1931. That site became the California Maritime Academy until World War II and was converted to the manufacture of anti-submarine nets. Later, research facilities were established at the site.

For many years, most of the land of the peninsula were controlled by descendants of the Reed family and used for cattle ranching. Development began after the War on smaller tracts. Eventually, the primary landowners finalized a Master Plan in 1956.

In 1961, Richardson Bay Audubon Center became established, representing a culmination of a seven-year local campaign to protect bay and shoreland from real estate development. The Center includes the Rose Verrall gift of nine shoreland acres and the wildlife sanctuary of nine hundred tideland acres. This was followed by the dedication of Old St. Hillary's Historic Preserve, which was the first hillside open space conserved with wildflower acreage as part of Marin County parks system.

There were attempts to incorporate a town of Tiburon, opposed by the large landowners. In 1964, the incorporation became official and included Angel Island. The citizens elected a town council, and a town manager was appointed. Open space became a priority. A major preservation effort was launched to revitalize Main Street and Downtown Tiburon. New buildings have been added to provide community services.

In 1971, the Richardson Bay Path and lineal park was established on an old railroad right-of-way along the shoreline. This was followed by the acquisition of the Belvedere Cove waterfront by the Town for open space, panoramic vista and preservation of China Cabin. In 1983, the Ring Mountain Preserve was dedicated under ownership and management of The Nature Conservancy.

Cultural Resources

Northwest Information Center

142 cultural resources have been identified within the Town's General Plan Planning Area, according to files maintained by the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). The 142 recorded cultural resources represent both the prehistoric and historic periods; refer to Table 3.4-1.

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Most of the prehistoric period resources were identified in the early part of the 20th century by archeologist Nels Nelson who recorded over 400 shell mound midden sites along the Bay Area's shorelines during this period (thirty-two of which were recorded in the Planning Area). Many of these shell mound middens were the result of simple shellfish processing and do not possess artifacts or features that indicate habitation while others are connected with more permanently inhabited prehistoric village sites, some of which continued to be occupied well into the early Spanish Period. In addition to the prehistoric resources identified by Nelson, 11 other prehistoric sites, including prehistoric rock art, habitation, and lithic scatter have been identified in the Planning Area. Historic resources include a preponderance of historic period resources relates to Angel Island's military installations and immigration station, as well as assorted historic foundations, walls, and buildings in the Planning Area.

TABLE 3.4-1: RESOURCES LISTED WITH THE NORTHWEST INFORMATION CENTER FILE DIRECTORY

PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-000055 / CA-MRN-000024	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 24
P-21-000056 / CA-MRN-000025	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 25
P-21-000057 / CA-MRN-000026	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 26
P-21-000058 / CA-MRN-000027	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 27
P-21-000059 / CA-MRN-000028	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 28
P-21-000060 / CA-MRN-000029	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 29
P-21-000061 / CA-MRN-000030	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 30
P-21-000062 / CA-MRN-000031	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 31
P-21-000063 / CA-MRN-000032	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 32
P-21-000064 / CA-MRN-000033	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 33
P-21-000065 / CA-MRN-000034	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 34
P-21-000066 / CA-MRN-000035	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 35
P-21-000067 / CA-MRN-000036	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 36
P-21-000068 / CA-MRN-000037	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 37
P-21-000069 / CA-MRN-000038	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 38

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PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-000072 / CA-MRN-000042	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 42
P-21-000073 / CA-MRN-000043	Not Listed	Prehistoric Habitation/Quarry	Nelson No. 43
P-21-000074 / CA-MRN-000044	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 44
P-21-000075 / CA-MRN-000045	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 45
P-21-000076 / CA-MRN-000046	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 46
P-21-000077 / CA-MRN-000047	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 47
P-21-000078 / CA-MRN-000048	Not Listed	Prehistoric Habitation/Shell Midden	Nelson No. 48
P-21-000079 / CA-MRN-000049	Not Listed	Prehistoric Habitation/Shell Midden	Nelson No. 49
P-21-000080 / CA-MRN-000050	Not Listed	Prehistoric Habitation/Shell Midden	Nelson No. 50
P-21-000081 / CA-MRN-000051	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 51
P-21-000082 / CA-MRN-000052	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 52
P-21-000083 / CA-MRN-000053	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 53
P-21-000084 / CA-MRN-000054	Not Listed	Prehistoric/Historic Habitation/Shell Midden	Nelson No. 54
P-21-000085 / CA-MRN-000055	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 55
P-21-000086 / CA-MRN-000056	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 56
P-21-000087 / CA-MRN-000057	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 57
P-21-000088 / CA-MRN-000058	Not Listed	Prehistoric Habitation/ Shell Midden	Nelson No. 58
P-21-000267 / CA-MRN-000281	Not Listed	Prehistoric/Historic Habitation	Not Listed
P-21-000371 / CA-MRN-000405	Not Listed	Prehistoric Habitation	Not Listed
P-21-000385 / CA-MRN-000423	Not Listed	Prehistoric Rock Art	Not Listed
P-21-000386 / CA-MRN-000425	Not Listed	Prehistoric Rock Art	Not Listed
P-21-000407 / CA-MRN-000453	Not Listed	Prehistoric Habitation	Lee's Shell Mound
P-21-000408 / CA-MRN-000454	Not Listed	Prehistoric Habitation	Not Listed

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PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-000409 / CA-MRN-000455	Not Listed	Prehistoric Habitation	Not Listed
P-21-000415 / CA-MRN-000461	Not Listed	Prehistoric Habitation	Not Listed
P-21-000530 / CA-MRN-000604	Not Listed	Prehistoric Lithic Scatter	Not Listed
P-21-000531 / CA-MRN-000605	Not Listed	Prehistoric Lithic Scatter	Not Listed
P-21-000545 / CA-MRN-000407	Not Listed	Prehistoric Habitation	Not Listed
P-21-000576 / CA-MRN-000617H	Not Listed	Historic Foundations	Not Listed
P-21-000577 / CA-MRN-000618H	Angel Island	Historic Military Property	Battery Wallace, Building 89
P-21-000578 / CA-MRN-000619H	Not Listed	Historic Cemetery	Not Listed
P-21-000579 / CA-MRN-000620H	Not Listed	Historic Foundations	Not Listed
P-21-000580 / CA-MRN-000621H	Not Listed	Historic Refuse Scatter/Wall	Not Listed
P-21-000581 / CA-MRN-000622H	Not Listed	Historic Foundations	Not Listed
P-21-000582	Not Listed	Historic Concrete Rubble	Not Listed
P-21-000583	Not Listed	Historic Foundation	Not Listed
P-21-000584	Not Listed	Historic Water Conveyance Feature	Not Listed
P-21-000585	Not Listed	Historic Cistern	Not Listed
P-21-000586	Not Listed	Historic Refuse Scatter	Not Listed
P-21-000587/ CA-MRN-000623H	Not Listed	Historic Foundation	Not Listed
P-21-000588	Not Listed	Historic Foundations/Landscape	Not Listed
P-21-000589	Not Listed	Historic Building	Not Listed
P-21-000590	Angel Island	Historic Improved Spring Feature	Stone Spring Box
P-21-0005891	Angel Island	Historic Water Tanks	Concrete Tank Site
P-21-000592	Angel Island	Historic Water Tank	Redwood Tank Site
P-21-000595 / CA-MRN-000627	Not Listed	Prehistoric Isolated Artifact	Not Listed
P-21-000625 / CA-MRN-000641	Not Listed	Prehistoric Lithic Scatter	Not Listed
P-21-001091	13 Main Street, Tiburon	Historic Commercial Building	Not Listed
P-21-001092	Not Listed	Historic Single Family Property	Railway Employees Houses/Sharktown
P-21-001093	Not Listed	Historic Single Family Property	Grant House
P-21-001094	Not Listed	Historic Wetland Feature	Downtown Marsh
P-21-001099	Angel Island	Historic District	Angel Island District

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PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-002436	Angel Island	Historic Military Property	Bachelors Officer's Quarters
P-21-002437	Angel Island	Historic Military Property	Residence Building
P-21-002438	Angel Island	Historic Military Property	Residence Building
P-21-002439	Angel Island	Historic Military Property	Residence Building
P-21-002440	Angel Island	Historic Military Property	Old Hospital Building, Building 316
P-21-002441	Angel Island	Historic Military Property	Company Officer's Quarters
P-21-002442	Angel Island	Historic Military Property	Field Officer's Quarters
P-21-002443	Angel Island	Historic Military Property	General Shafter Quarters
P-21-002444	Angel Island	Historic Military Property	Non-Commissioned Officer's Quarters
P-21-002445	Angel Island	Historic Military Property	Company Officer's Quarters
P-21-002446	Angel Island	Historic Military Property	Quartermaster's Storehouse
P-21-002447	Angel Island	Historic Military Property	Detention Barracks, Building 317
P-21-002448	Angel Island	Historic Military Property	Power House, Building 314
P-21-002449	Angel Island	Historic Military Property	Stable/Mule Barn, Building 313
P-21-002450	Angel Island	Historic Military Property	Carpentry Shop
P-21-002451	Angel Island	Historic Military Property	WWII Barracks, Building 241
P-21-002452	Angel Island	Historic Military Property	WWII Barrack, Building 242
P-21-002453	Angel Island	Historic Military Property	WWII Mess Hall, Building 233
P-21-002454	Angel Island	Historic Military Property	Sentry Tower
P-21-002455	Angel Island	Historic Military Property	Monument
P-21-002456	Angel Island	Historic Military Property	Bell
P-21-002457	Angel Island	Historic Military Property	Immigration Station Site
P-21-002541	Angel Island	Historic Military Property	Angel Island Telegraph
P-21-002553	Not Listed	Prehistoric Habitation	Gilmartin Mound
P-21-002630	Not Listed	Historic Rock Wall	Not Listed
P-21-002636	Angel Island	Historic Road/Trail	Perimeter Road/Perle's Beach Trail
P-21-002654	Not Listed	Prehistoric Habitation	Not Listed
P-21-002655	Not Listed	Prehistoric Habitation	Not Listed
P-21-002662	20- 22 Main Street, Tiburon	Historic Commercial Building	Harbor Light
P-21-002664 / CA-MRN-684H	Not Listed	Historic Refuse Scatter	Not Listed
P-21-002859	Rock Hill Drive & Del Mar Drive, Tiburon	Historic Commercial Building	Belvedere Tennis Club
P-21-002912	Paradise Park Marina, Tiburon	Historic Wharf	El Campo Resort/Monticello Grove
P-21-003019	Angel Island	Historic District	Camp Reynolds District
P-21-003021 / CA-MRN-00754/H	Not Listed	Prehistoric Habitation	Not Listed
P-21-003022	Angel Island, West Garrison	Historic Military Property	600 Man Barracks
P-21-003023	Angel Island, West Garrison	Historic Military Property	Captain's Quarters, Building 54

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PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-003024	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 55
P-21-003025	Angel Island, West Garrison	Historic Military Property	Chapel, Building 59
P-21-003029	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 58
P-21-003030	Angel Island, West Garrison	Historic Military Property	Mule Barn, Building 69
P-21-003031	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 70
P-21-003032	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 71
P-21-003033	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 79
P-21-003034	Angel Island, West Garrison	Historic Military Property	Office and Barracks/West Garrison Hospital
P-21-003035	Angel Island, West Garrison	Historic Military Property	Latrine, Building 86
P-21-003036	Angel Island, West Garrison	Historic Military Property	West Garrison Flagpole/Camp Reynolds Flagpole
P-21-003037	Angel Island, West Garrison	Historic Military Property	Quarters/Duplex, Building 95
P-21-003038	Angel Island, West Garrison	Historic Military Property	NCO Quarters, Building 72
P-21-003045	Angel Island, North Garrison	Historic Military Property	Fire Station, Building 231
P-21-003046	Angel Island	Historic Military Property	Cable Vault/Subterranean Cable Vault
P-21-003064	Angel Island	Historic Military Property	Battery, Building 88
P-21-003066	Angel Island, East Garrison	Historic Military Property	Administration Building
P-21-003067	Angel Island, East Garrison	Historic Military Property	Hospital/Hospital Annex, Building 23
P-21-003068	Angel Island, East Garrison	Historic Military Property	Post Exchange, Building 19
P-21-003069	Angel Island, East Garrison	Historic Military Property	Guard House, Building 20
P-21-003070	Angel Island, East Garrison	Historic Military Property	Mess & Drill Hall, Building 22
P-21-003071	Angel Island, East Garrison	Historic Military Property	N.C.O. Quarters, Building 24
P-21-003072	Angel Island, East Garrison	Historic Military Property	N.C.O. Quarters, Buildings 25-28
P-21-003073	Angel Island, East Garrison	Historic Military Property	Officer's Club, Building 29
P-21-003074	Angel Island, East Garrison	Historic Military Property	Tennis Courts
P-21-003075	Angel Island, East Garrison	Historic Military Property	N.C.O. Quarters, Buildings 32, 34-37

PROPERTY NUMBER	ADDRESS	PERIOD/TYPE	NAME
P-21-003076	Angel Island, East Garrison	Historic Military Property	Bowling Alley, Building 38
P-21-003077	Angel Island, East Garrison	Historic Military Property	PX Tailor Shop, Building 40
P-21-003078	Angel Island, East Garrison	Historic Military Property	Commissary Warehouse, Building 41
P-21-003079	Angel Island	Historic Military Property	Battery Drew Mortar Hill, Building 87
P-21-003080	Angel Island, East Garrison	Historic Military Property	Barrack, Building 103
P-21-003081	Angel Island, North Garrison	Historic Military Property	Barrack, Building 222
P-21-003082	Angel Island, North Garrison	Historic Military Property	Dental Clinic, Building 224
P-21-003083	Angel Island, North Garrison	Historic Military Property	Wharf & Dock Storehouse, Buildings 315 and 319
P-21-003084	Angel Island, East Garrison	Historic Military Property	Electric Sub-station
P-21-003088	Not Listed	Historic Building	Garage
P-21-003090 / CA-MRN-757/H	Not Listed	Prehistoric Habitation	Not Listed
P-21-005505	Angel Island	Historic NRHP District	Angel Island District
P-21-005553	Angel Island, East Garrison	Historic Military Property	600 Man Barracks
P-21-005568	Angel Island, East Garrison	Historic Military Property	Commissary Warehouse, Building 41

SOURCE: Northwest Information Center, California Historical Resources Information System, California State University, Sonoma, 2020.

National Register of Historic Places

The National Register of Historic Places (NRHP) lists five properties within the Town’s General Plan Planning Area as of March 1, 2023.¹ These include:

- Angel Island, U.S. Immigration Station;
- San Francisco and North Pacific Railroad Station House-Depot (Peter Donahue Building);
- Lyford’s Stone Tower;
- Benjamin and Hilarita Lyford House (Lyford House); and
- St. Hilary’s Mission Church (Old St. Hilary’s Church).

Two NRHP Districts, the Camp Reynolds District and the Angel Island District are also on record.

¹ U.S. National Park Service, 2023. National Register Database and Research. Available: <https://www.nps.gov/subjects/nationalregister/database-research.htm#table>. Accessed: March 1, 2023.

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Local and Regional Directories and Studies

Forty buildings were evaluated in 1999 for the Downtown Tiburon Historic Resources Study (Mathews) and are identified on the Marin County Built Environment Resources Directory, as shown on Table 3.4-2. Some resources appear on multiple directories (NWIC list of resources/Marin County Built Environment Resources Directory). Three significance ratings were assigned to the forty buildings by Mathews:

- Significant, which are structures that have retained their historic integrity and have the highest importance in maintaining the historic character of the neighborhood;
- Complementary, which are structures that are not deserving of individual architectural merit, but which have enough architectural quality that they support the pervasive historical character established by significant structures; and
- Non-Complementary, which are structures that have since been substantially altered and thus no longer maintain architectural qualities or character typical of the time they were built.

Of the buildings evaluated in 1999 for the Downtown Tiburon Historic Resources Study, 17 buildings were designated Significant, another 17 buildings were designated Complementary, and 6 buildings were designated Non-Complementary.

TABLE 3.4-2: HISTORIC RESOURCES FROM THE DOWNTOWN TIBURON HISTORIC RESOURCES STUDY AND THE MARIN COUNTY HISTORIC PROPERTY DATA FILE DIRECTORY

SIGNIFICANCE RATING	ADDRESS	YEAR BUILT	BUSINESS NAME
Significant	20 Main Street	1910	Harbor Light
Significant	21A Main Street (Ark)	Unknown	Not Listed
Significant	26 Main Street	1912	Mark Rueben Gallery
Significant	27 Main Street	1920	Sam's Café Anchor Restaurant
Significant	32 Main Street	1921	Junelles Gifts
Significant	34 Main Street	1921	Han Syi Studio/Masson Real Estate
Significant	38 Main Street	1900	Rooney's Café and Grill
Significant	55 Main Street	1925	Not Listed
Significant	72 Main Street	1918	Windsor Vineyards
Significant	104 Main Street	1895	Switzer Galleries/Attorney
Significant	106 Main Street	1920	Schoenberg Guitars
Significant	108 Main Street	1920	Not Listed
Significant	110 Main Street	1920	Tiburon Deli
Significant	112 Main Street	1890	Residential/Ed's Garage Antique Car Display
Significant	114 Main Street	1930	Servino Restaurant
Significant	116 Main Street	1906	Ark Angels
Significant	118-120 Main Street	1880	Alterations & Dressmaking by Trudy
Complementary	5-7 Main Street	1965	Guyamas/Boudin/Candy Store
Complementary	9 Main Street	1975	Tutto Mare

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SIGNIFICANCE RATING	ADDRESS	YEAR BUILT	BUSINESS NAME
Complementary	10 Main Street, 1700 and 1704 Tiburon Boulevard	1969	Little Angels/Portofino/St. Angelo's
Complementary	15-17 Main Street	1886	Waypoint Pizza/Silk, Satin & Lace/Old Gold Jewel
Complementary	16 Main Street	1916	St. Angelo's
Complementary	31 Main Street	1929	Store
Complementary	35 Main Street	1925	Sweden House Bakery
Complementary	40 Main Street	1958	Tiburon Playhouse
Complementary	42 Main Street	1955	Not Listed
Complementary	44 Main Street	1955	For Her
Complementary	46 Main Street	1962	Westerly Tea
Complementary	74-76 Main Street	1972	Giftique/Ruth Livingston Interior
Complementary	80 Main Street	1965	Attorney/Creature Comforts/Abaya/Bucky's Place
Complementary	82-100 Main Street	1970	Tiburon Books/Parsley's/Stephens Antiques/Tiburon Shoe Repair/The Attic/Still Life/Office/Tiburon Mail Service/For Paws/Tiburon Physical Therapy/Tiburon Thrift Shop/Business Services
Complementary	122 Main Street	1870	Just Nailed Manicuring/Next Salon
Complementary	130 Main Street	1920+	Main Street Properties
Complementary	1696 Tiburon Boulevard	1936	New Morningside Café and Paradise
Non-Complementary	21 Main Street	Unknown	Main Treat
Non-Complementary	23-25 Main Street	1961	Bird & Hound General Store
Non-Complementary	28 Main Street	1918	Watch Store
Non-Complementary	30 Main Street	1916	R.J. Sax
Non-Complementary	39 Main Street	1926	National Emergency Services
Non-Complementary	41 Main Street	1930	Tiburon Tommies (was Pharmacy)

SOURCE: Mathews, 1999. Downtown Tiburon Historic Resources Study, Appendix D, Marin County Built Environment Resources Directory.

In 2001, a second study, *Intensive Survey of Downtown Historic Resources* (3D Visions), supplemented the work of Mathews (1999) by providing additional construction and cultural details concerning 23 properties in order to allow the application of the California Historical Building Code (Title 24, Part 8) to these properties. The Town prepared a list of buildings eligible for the State's Historical Building Code, *Buildings in Downtown Eligible for State Building Code (as of June 8, 2016)*. The list includes: (Main Street Lower) 13, 15, 17, 19 Main Street; 16, 18 Main Street; 21A Main Street (on pier); 24, 26 Main Street; 27, 29 Main Street; 30 Main Street; 31, 33 Main Street; 32 Main Street; 34, 36 Main Street; 35 Main Street; 38 Main Street;

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55 Main Street; (Main Street Upper, aka Ark Row) 72 Main Street; 104 Main Street; 106 Main Street; 108 Main Street; 110 Main Street; 112 Main Street; 116 Main Street; 188, 120 Main Street; and, 122 Main Street.

The Town also prepared a list of local historic landmarks, *Town of Tiburon Local Historic Landmarks (as of June 8, 2016)*. The list has five properties:

- Peter Donahue Building, 1920 Paradise Drive;
- Lyford's Stone Tower, 2034 Paradise Drive;
- Old St. Hilary's Church, 201 Esperanza Drive;
- Brick Kiln Bunkhouse, 841 Tiburon Boulevard; and
- Lyford House, 376 Greenwood Beach Road.

Tribal Consultation

A Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC). The NAHC responded on November 4, 2020 indicating that the SLF search had been completed with “positive” results and included a list of Native American individuals or tribal organizations that may have knowledge of cultural resources within the boundaries of Marin County. This included the Federated Indians of Graton Rancheria and the Guidiville Indian Rancheria. The Town contacted representatives of the tribes to provide an opportunity to consult on the project. However, to date, no responses have been received.

3.4.2 REGULATORY SETTING

Federal

National Historic Preservation Act

Enacted in 1966 and amended in 2000, the National Historic Preservation Act (NHPA) declared a national policy of historic preservation and instituted a multifaceted program, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at federal, State, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer (SHPO) and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the purposes of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation.

Section 106 Process

Through regulations associated with the NHPA, an impact to a cultural resource would be considered significant if government action would affect a resource listed in or eligible for listing in the NRHP. The NHPA codifies a list of cultural resources found to be significant within the context of national history, as determined by a technical process of evaluation.

Resources that have not yet been placed on the NRHP, and are yet to be evaluated, are afforded protection under the Act until shown not to be significant.

Section 106 of the NHPA and its implementing regulations (36 Code of Federal Regulations Part 800) state that for a cultural resource to be determined eligible for listing in the NRHP, the resource must meet specific criteria associated with historic significance and possess certain levels of integrity of form, location, and setting. The criteria for listing on the NRHP are applied within an analysis when there is some question as to the significance of a cultural resource. The criteria for evaluation are defined as the quality of significance in American history, architecture, archeology, engineering, and culture. This quality must be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B: It is associated with the lives of persons significant in our past; or
- Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

Criterion (D) is usually reserved for archaeological resources. Eligible cultural resources must meet at least one of the above criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character.

The Section 106 evaluation process does not apply to projects undertaken under city environmental compliance jurisdiction. However, should the undertaking require funding, permits, or other administrative actions issued or overseen by a Federal agency, analysis of potential impacts to cultural resources following the Section 106 process would likely be necessary. The Section 106 process typically excludes cultural resources created less than 50 years ago unless the resource is considered highly significant from the local perspective. Finally, the Section 106 process allows local concerns to be voiced and the Section 106 process must consider aspects of local significance before a judgment is rendered.

Secretary of the Interior's Standards for the Treatment of Historic Properties

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings was published in 1995 and codified as 36 Code of Federal Regulations Part 68. The purpose of the standards and guidelines is to provide guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers prior to beginning work. Neither technical nor prescriptive, these standards are "intended to

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promote responsible preservation practices that help protect our Nation's irreplaceable cultural resources." There are four sections, each focusing on one of four treatment Standards: Preservation, Rehabilitation, Restoration, and Reconstruction. "Preservation" acknowledges a resource as a document of its history over time, and emphasizes stabilization, maintenance, and repair of existing historic fabric. "Rehabilitation" not only incorporates the retention of features that convey historic character, but also accommodates alterations and additions to facilitate continuing or new uses. "Restoration" involves the retention and replacement of features from a specific period of significance. "Reconstruction," the least used treatment, provides a basis for recreating a missing resource. These standards have been adopted, or are used informally, by many agencies at all levels of government to review projects that affect historic resources.

American Indian Religious Freedom Act and Native American Graves and Repatriation Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved. Additionally, Native American remains are protected by the Native American Graves and Repatriation Act of 1990.

Other Federal Legislation

Historic preservation legislation was initiated by the Antiquities Act of 1966, which aimed to protect important historic and archeological sites. It established a system of permits for conducting archeological studies on Federal land, as well as setting penalties for noncompliance. This permit process controls the disturbance of archeological sites on Federal land. New permits are currently issued under the Archeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to enhance preservation and protection of archeological resources on public and Native American lands. The Historic Sites Act of 1935 declared that it is national policy to "Preserve for public use historic sites, buildings, and objects of national significance."

State

California Environmental Quality Act

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (Public Resources Code Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing, in the CRHR, a resource included in a local register of historical resources, or any object building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource is considered historically significant if it meets any of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- 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
- Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (Public Resources Code Section 21083.2[a], [b], and [c]). Public Resources Code Section 21083.2(g) defines a unique archaeological resource 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 any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Register of Historical Resources (CRHR)

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the criteria modeled on the NRHP criteria.

Public Resources Code Section 5097 (Related to Cultural Resources)

California Public Resources Code (PRC) Section 5097 addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native

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American skeletal remains are discovered during construction of a project; and establishes the California Native American Heritage Commission (NAHC) to resolve disputes regarding the disposition of such remains. It has been incorporated into Section 15064.5(e) of the CEQA Guidelines.

The NAHC, created in statute in 1976 (Chapter 1332, Statutes of 1976), is a nine-member body whose members are appointed by the Governor. The NAHC identifies, catalogs, and protects Native American cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act (CalNAGPRA), among many other powers and duties.

PRC Sections 5097.9 through 5097.991 establish that no public agency or private party using or occupying public property (or operating on under a public license, permit, grant, lease or contract made after July 1, 1977) shall in any manner interfere with the free expression or exercise of Native American religion as provided in the U.S. Constitution and the California Constitution. It also prohibits such agencies and parties from causing severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require it.

These sections also establish the state's NAHC. The NAHC is tasked with working to ensure the preservation and protection of Native American human remains, associated grave goods and cultural resources. Towards this end, the NAHC has a strategic plan for assisting the public, development communities, local and federal agencies, educational institutions and California Native Americans to better understand problems relating to the protection and preservation of cultural resources and to serve as a tool to resolve these problems. In 2006, PRC Sections 5097.91 and 5097.98 were amended by Assembly Bill 2641 to authorize the NAHC to bring legal action when necessary to prevent damage to Native American burial grounds or places of worship. It also established more specific procedures to be implemented in the event that Native American remains are discovered.

California Health and Safety Code (Sections 7050.5, 7051, and 7054)

Sections 7050.5, 7051, and 7054 of the California Health and Safety Code collectively address the illegality of interference with human burial remains (except as allowed under applicable sections of the PRC), as well as the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, treatment of the remains prior to, during and after evaluation, and reburial procedures.

Senate Bill 18

Signed into law in 2004, Senate Bill (SB) 18 requires that cities and counties notify and consult with California Native American Tribes about proposed local land use planning decisions for the purpose of protecting traditional tribal cultural sites. Cities and counties must provide general and specific plan amendment proposals to California Native American Tribes that have been identified by the Native American Heritage Commission as having traditional lands located within the city's boundaries. If requested by the Native American Tribes, the city must also conduct consultations with the tribes prior to adopting or amending their general and specific plans.

Assembly Bill 52 (Gatto, 2014)

On September 25, 2014, Governor Brown signed AB 52. AB 52 establishes a tribal consultation procedure designed to incorporate tribal knowledge into the CEQA environmental review and decision-making processes. Under AB 52, California tribes have the ability to establish, through a formal notice letter, a standing request to consult with a lead agency regarding any proposed project subject to CEQA in the geographic area with which the tribe is traditionally and culturally affiliated. Within 14 days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency must provide formal notification to the designated contact or tribal representative of traditionally and culturally affiliated California Native American tribes that have requested notice. Notice to the tribes must include a brief project description, the project location, and the lead agency's contact information. A tribe then has 30 days to request consultation. If the tribe does not respond in that period or writes to decline consultation, the lead agency has no further obligation. If the tribe requests consultation, the lead agency must begin the consultation within 30 days and prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for that proposed project. The Town has not received a standing request for AB 52 consultation from any tribes.

Local

Town of Tiburon Municipal Code

Title IV, Chapter 13B, *Historic Landmarks*, promotes the general and economic welfare of the Town by preserving, enhancing, or perpetuating those places, buildings, structures, works of art and other objects having a special historical interest or value for their use, education and view of the general public. Chapter 13B sets procedures and criteria for designations of historical landmarks of the Town. Conditions may be recommended for designated historical landmarks, including but not limited to: the prohibition of demolition, removal, or alternations other than routine maintenance and repair work without approval of the heritage and arts commission; restriction of allowed or permitted uses; that no buildings or structures exposed to public view within a specified distance of the historical landmark may be placed, erected, moved, removed, enlarged, or altered (excepting routine maintenance

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and repair work) in a manner that would materially detract from the public visibility and/or enjoyment of the historical landmark, without prior review and approval by the heritage and arts commission; or any other reasonable requirements, restrictions or conditions deemed necessary or appropriate to meet special or unique circumstances affecting the place, building, structure, work of art or other object to be designated as a historical landmark.

Title IV, Chapter 16, *Zoning*, also known as the Tiburon Zoning Ordinance, establishes development standards designed, in part, to ensure conservation of the Town's historic resources. The Zoning Ordinance and Zoning Map establishes the Historic Protection Overlay (HPO) zone, which serves to protect, maintain and enhance historic structures in the downtown area that are included in the Town's local historic inventory of buildings located in downtown Tiburon (i.e., Inventory), as adopted by the Town Council. Inclusion of the buildings within the inventory in the HPO acknowledges the protection of historic resources as provided by CEQA and allows application of the California State Historic Building Code to the buildings included therein.

3.4.3 THRESHOLDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains the Initial Study Environmental Checklist, which includes questions related to cultural resources. The issues presented in the Initial Study Environmental Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries; and/or
- 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, and that 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); and/or
 - 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.

3.4.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impact 3.4-1 Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

Known historic resource sites are located throughout the Planning Area, as described above, and undiscovered or potentially eligible sites may be located in various areas of the Planning Area. Redevelopment and alteration of existing structures has the potential to impact known and potentially eligible historical resources. A substantial adverse change in the significance of an historic resource is defined in Section 15064.5 (b)(1) of the CEQA Guidelines as the “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.”

Within the Planning Area, there are 142 recorded cultural resources from prehistoric and historic periods; five properties and two Districts identified by the NRHP; five local historic landmarks; and numerous buildings downtown that are potentially historically significant and/or eligible for the State’s Historical Building Code. These historic resources are located throughout the Planning Area and vary in terms of type, architectural style, condition, and alteration history. While the General Plan Update does not directly propose any changes to any historic resources, future development allowed under the General Plan Update could cause a substantial adverse change in the significance of known historical resources or unknown historical resources which have not yet been identified. This is considered a potentially significant impact.

The General Plan Land Use, Downtown, and Conservation Chapters include policies and programs addressing historical resources. Policy LU-14 encourages and supports the State of California in the management of Angel Island State Park to protect the natural character and preserve the historic resources of the island. Policy C-16 protects significant geological, ecological, archaeological, tribal cultural, and paleontological resources and historic sites. Program C-c requires that projects proposed for sites that have the possibility of containing cultural and tribal cultural resources and resulting in ground disturbance be evaluated by a qualified archaeologist prior to project approval and requires such projects to implement measures to reduce or avoid impacts to any identified or inadvertently discovered cultural and tribal cultural resources. Policy C-17 preserves and protects structures and properties which have historical, cultural, aesthetic, or other special character or interest to the Town. Program C-d considers adopting an overlay zone for the area containing the Town’s Inventory of Local Historical Buildings and adopting additional protection measures for the structures identified in the Inventory. Policy DT-10 encourages preservation of significant

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historic buildings and resources in the Downtown. Policy DT-11 requires the character-defining elements of buildings listed on the Town's Inventory of Local Historical Buildings to be retained, preserved, and restored wherever feasible. Policy DT-12 addresses the preservation of Ark Row retaining and rehabilitating the historic arks, cottages, and other resources of Ark Row.

As future development and infrastructure projects are considered by the Town, each project would be evaluated for conformance with the General Plan, Municipal Code, and other applicable State and local regulations relative to historic and potentially historic resources. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA, pursuant to the Town's entitlement review process. Per Chapter 13B of the Municipal Code, potential historic resources may be considered for a historical landmark designation and would be afforded protections such as requiring approval by the heritage and arts commission to demolish, remove, change, repair, or alter the appearance of the designated historical resource. Additionally, the Tiburon Zoning Ordinance includes the HPO zone. Inclusion of the buildings within the inventory in the HPO zone acknowledges the protection of historic resources as provided by CEQA and allows application of the California State Historic Building Code to the buildings included therein. Further, for all structures that have potential historical significance, the Town would require preparation of a study by a qualified professional archaeologist or historian to determine the significance of the structure and potential impacts of the proposed development in compliance with CEQA. Therefore, through compliance with existing regulations related to historical resources and implementation of the General Plan Update policies and programs, the General Plan Update would not cause a substantial adverse change in the significance of a historical resource and impacts would be **less than significant**.

Mitigation Measures

None required.

Impact 3.4-2 Development facilitated by the Project has the potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5.

Redevelopment and development of previously undeveloped areas have the potential to impact known and unknown archaeological resources. Surface-level and subsurface archaeological sites and deposits can be affected by ground-disturbing activities associated with construction activities.

Within the Planning Area, there are 142 recorded cultural resources from prehistoric and historic periods. Effects on archaeological resources deemed to be significant could be considered adverse if they involve physical demolition, destruction, or alteration of the resource or its immediate surroundings such that the significance of a resource would be materially impaired. While the General Plan Update does not directly propose site-specific

development with the potential to directly impact archaeological resources, future development allowed under the General Plan Update could cause a substantial adverse change in the significance of known or unknown archaeological resources. This is considered a potentially significant impact.

The General Plan Update Conservation and Open Space, Parks and Recreation Chapters include goals, policies, and programs addressing cultural resources, including archeological resources. Policy C-16 protects significant geological, ecological, archaeological, tribal cultural, and paleontological resources and historic sites. Program C-c requires that projects proposed for sites that have the possibility of containing cultural and tribal cultural resources and resulting in ground disturbance be evaluated by a qualified archaeologist prior to project approval and requires such projects to implement measures to reduce or avoid impacts to any identified or inadvertently discovered cultural and tribal cultural resources. When encountering unanticipated cultural resources, artifacts, or human remains, contractors shall cease construction activities upon until proper authorities have been notified and a mitigation plan is developed. Goal OS-B seeks to permanently preserve as much open space as possible to protect shorelines, open water, wetlands, significant ridgelines, streams, drainageways, riparian corridors, steep slopes, rock outcroppings, special status species and their habitat, woodlands, cultural and historic resources, and areas of visual importance, such as views of and views from open space.

Archaeological resources are protected under federal, State, and local regulations as described above and implementation of General Plan Update policies and programs would reduce potential adverse impacts to archaeological resources associated with future development. Subsequent development and infrastructure projects would be analyzed for potential environmental impacts, consistent with the requirements of CEQA, pursuant to the Town's entitlement review process. Through compliance with existing regulations and the General Plan Update policies and programs, the General Plan Update would not cause a substantial adverse change in the significance of an archaeological resource and impacts would be **less than significant**.

Mitigation Measures

None required.

Impact 3.4-3 Development facilitated by the Project has the potential to disturb human remains, including those interred outside of formal cemeteries.

Future construction projects within the Project Area could have the potential to disturb or destroy buried Native American human remains as well as other human remains, including those interred outside of formal cemeteries.

Health and Safety Code Section 7050.5, CEQA Guidelines Section 15064.5(e), and PRC Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. In the event that human

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remains are discovered during ground disturbing activities, the County coroner must be called in to assess the remains (Section 15064.5[e] of the CEQA Guidelines). If the County coroner determines that the remains are those of a Native American, the Native American Heritage Commission (NAHC) must be contacted within 24 hours, and the provisions for treating or disposing of the remains and any associated grave goods as described in Section 15064.5 of the CEQA Guidelines must be followed.

As future development and infrastructure projects are considered by the Town, each project would be evaluated for conformance with the Town's General Plan, Municipal Code, and other applicable State regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. Under CEQA, human remains are protected under the definition of archaeological materials as being "any evidence of human activity." Public Resources Code Section 5097 has specific stop-work and notification procedures to follow in the event that Native American human remains are inadvertently discovered during development activities.

The General Plan Update Conservation Chapter includes policies and programs addressing cultural resources, including human remains. Policy C-16 protects significant geological, ecological, archaeological, tribal cultural, and paleontological resources and historic sites. Program C-c requires that projects proposed for sites that have the possibility of containing cultural and tribal cultural resources and resulting in ground disturbance be evaluated by a qualified archaeologist prior to project approval and requires such projects to implement measures to reduce or avoid impacts to any identified or inadvertently discovered cultural and tribal cultural resources. When encountering unanticipated cultural resources, artifacts, or human remains, contractors shall cease construction activities upon until proper authorities have been notified and a mitigation plan is developed.

Subsequent development and infrastructure projects would be analyzed for potential environmental impacts, consistent with the requirements of CEQA, pursuant to the Town's entitlement review process. Compliance with the General Plan Update policies and programs and existing regulations, including Health and Safety Code Section 7050.5, CEQA Guidelines Section 15064.5(e), and PRC Section 5097.98, would ensure that potential impacts associated with the inadvertent discovery of human remains would be reduced to **less than significant**.

Mitigation Measures

None required.

Impact 3.4-4 **Development facilitated by the Project has the potential to 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, and that is: 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); and/or 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.**

According to the NAHC, the Planning Area is located within the traditional lands or cultural places associated with the Federated Indians of Graton Rancheria and the Guidiville Indian Rancheria. Information including the records search and documented history of the area indicates the Project Area may contain tribal cultural resources.

Prehistoric archaeological sites and isolates are tribal cultural resources; additionally, plants and other natural resources, as well as geographic locations can also be tribal cultural resources. Grading of original in situ soils could expose buried tribal cultural resources and features including sacred sites. While the General Plan Update does not directly propose site-specific development with the potential to directly impact a tribal cultural resource, future development allowed under the General Plan Update could cause a substantial adverse change in the significance of a tribal cultural resource. This is considered a potentially significant impact.

The General Plan Update Conservation and Open Space, Parks and Recreation Chapters include goals, policies, and programs addressing cultural resources, including tribal cultural resources. Policy C-16 protects significant geological, ecological, archaeological, tribal cultural, and paleontological resources and historic sites. Program C-c requires that projects proposed for sites that have the possibility of containing cultural and tribal cultural resources and resulting in ground disturbance be evaluated by a qualified archaeologist prior to project approval and requires such projects to implement measures to reduce or avoid impacts to any identified or inadvertently discovered cultural and tribal cultural resources. When encountering unanticipated cultural resources, artifacts, or human remains, contractors shall cease construction activities upon until proper authorities have been notified and a mitigation plan is developed. Goal OS-B seeks to permanently preserve as much open space as possible to protect shorelines, open water, wetlands, significant ridgelines, streams, drainageways, riparian corridors, steep slopes, rock outcroppings, special status species and their habitat, woodlands, cultural and historic resources, and areas of visual importance, such as views of and views from open space.

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Potential impacts to tribal cultural resources associated with future development would be reduced through implementation of General Plan Update policies and programs. Subsequent development and infrastructure projects would be analyzed for potential environmental impacts, consistent with the requirements of CEQA, pursuant to the Town's entitlement review process. Subsequent projects implemented in accordance with the project would be subject to the provisions of AB 52 and may require tribal consultation with California Native American tribes that are traditionally and culturally affiliated with the Planning Area. Future AB 52 consultation may identify tribal cultural resources not yet found and formally recorded that could be impacted by subsequent projects. Therefore, through compliance with the General Plan Update policies and programs and existing regulations, the General Plan Update would not cause a substantial adverse change in the significance of a tribal cultural resource and impacts would be **less than significant**.

Mitigation Measures

None required.

Impact 3.3-6 Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to cultural resources.

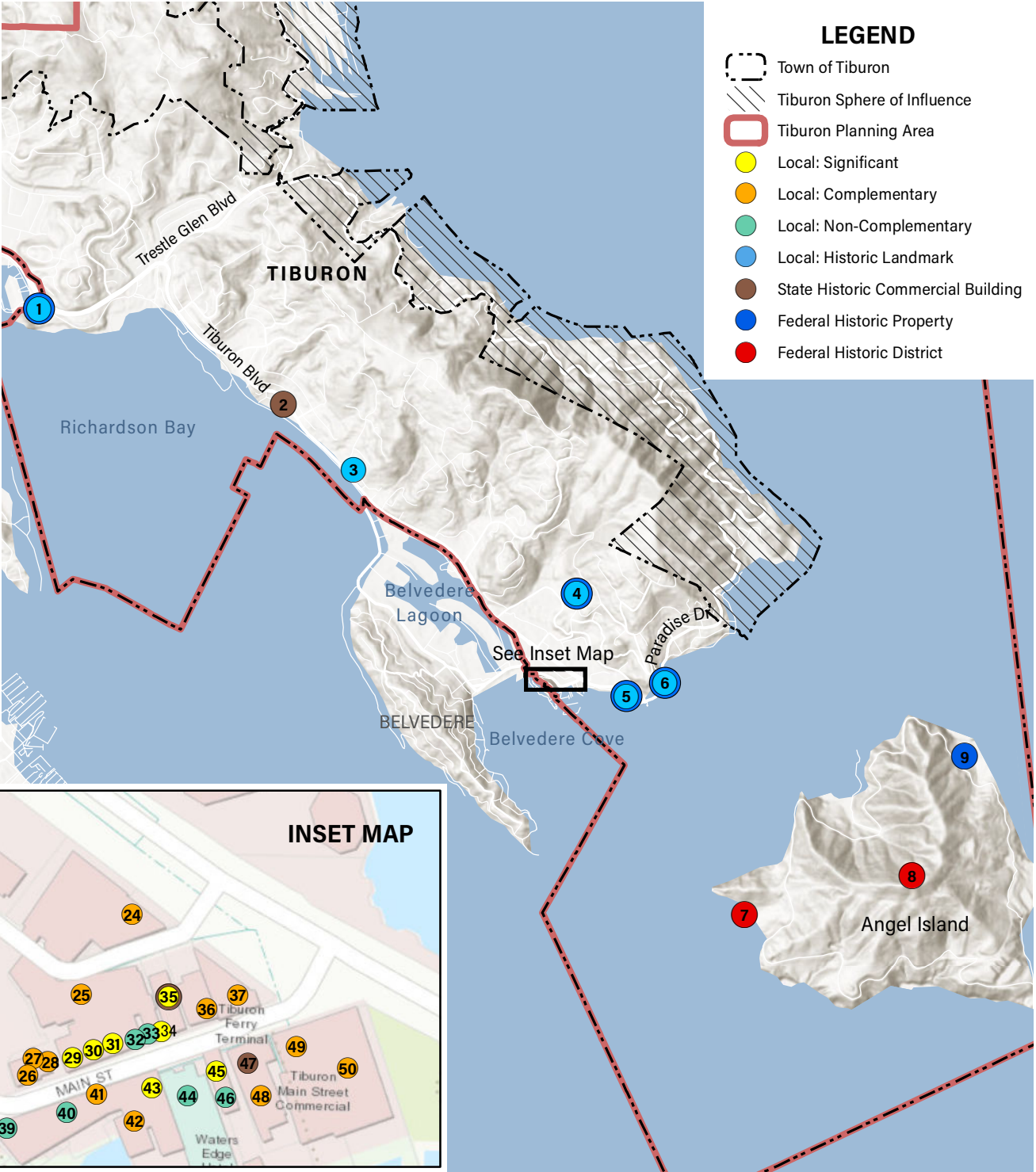
Cultural resource impacts are site specific and generally do not combine to result in cumulative impacts. Construction of individual development projects allowed under the land use designations of General Plan Update may result in the discovery and removal of cultural resources, including historic, archaeological, and tribal cultural resources, as well as the inadvertent discovery of human remains, including Native American remains. The General Plan Update policies and programs, as well as federal, State, and local regulations, would reduce the risk to resources in the region. As discussed above, site-specific development with the potential to impact known or unknown historic, archaeological, and tribal cultural resources would require a resource assessment to determine the significance of potential resources and if potential impacts are identified, to incorporate mitigation measures to reduce potential impacts to the identified resources. In the event of inadvertent discovery of human remains, Health and Safety Code Section 7050.5, CEQA Guidelines Section 15064.5(e), and PRC Section 5097.98 would dictate the proper identification and handling. Adherence to the General Plan Update policies and programs, and existing federal, State, and local regulations would avoid and/or minimize a cumulative loss of these important resources if they are identified during project-specific surveys or construction activities. Therefore, the General Plan Update's incremental contribution to cumulative cultural resource impacts would be less than cumulatively considerable.

Mitigation Measures

None required.

Figure 3.4-1: Historic Sites

ID	Name	ID	Name
1	Benjamin and Hilarita Lyford House	26	Westerly Tea
2	Belvedere Tennis Club	27	For Her
3	Brick Kiln Bunkhouse	28	Not Listed
4	St. Hilary's Mission Church	29	Rooney's Café and Grill
5	SFNP Railroad Station House-Depot	30	Han Syi Studio/Masson Real Estate
6	Lyford's Stone Tower	31	Junelles Gifts
7	Camp Reynolds NRHP District	32	R.J. Sax
8	Angel Island	33	Watch Store
9	Angel Island U.S. Immigration Station	34	Mark Rueben Gallery
10	Main Street Properties	35	Harbor Light
11	Just Nailed Manicuring/Next Salon	36	St. Angelo's
12	Alterations & Dressmaking by Trudy	37	Little Angels/Portofino/St. Angelo's
13	Ark Angels	38	Not Listed
14	Servino Restaurant	39	Tiburon Tommies (was Pharmacy)
15	Residential/Ed's Garage Antique Car Display	40	National Emergency Services
16	Tiburon Deli	41	Sweden House Bakery
17	Not Listed	42	Store
18	Schoenberg Guitars	43	Sam's Café Anchor Restaurant
19	Switzer Galleries/Attorney	44	Bird & Hound General Store
20	Tiburon Books/Parsley's/Stephens Antiques/Tiburon Shoe Repair/The Attic/Still Life/Office/Tiburon Mail Service/For Paws/Tiburon Physical Therapy/Tiburon Thrift Shop/Business Services	45	Not Listed
21	Attorney/Creature Comforts/Abaya/Bucky's Place	46	Main Treat
22	Giftique/Ruth Livingston Interior	47	Not Listed
23	Windsor Vineyards	48	Waypoint Pizza/Silk, Satin & Lace/Old Gold Jewel
24	New Morningside Café and Paradise	49	Tutto Mare
25	Tiburon Playhouse	50	Guyamas/Boudin/Candy Store



Sources: ArcGIS Online World Hillshade Map Service; Town of Tiburon; National Register; Northwest Information Center. Map date: March 1, 2021.



3.5 ENERGY

This section of the Draft EIR is intended to provide an overall perspective on energy consumption to address the requirement in the California Environmental Quality Act (CEQA), Public Resources Section 21100(b)(3) that an EIR include mitigation measures that are proposed to reduce the wasteful, inefficient, and unnecessary consumption of energy. This section contains an analysis of the potentially significant energy implications relevant and applicable to the General Plan 2040 as outlined in CEQA Guidelines, Appendix F. Future discretionary projects facilitated by the General Plan 2040 will be evaluated for project-specific impacts to energy at the time they are proposed.

Energy resources include electricity, natural gas, and other fuels. The production of electricity and other usable energy often requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into usable energy. Energy production and use can each result in the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emission of pollutants.

Energy usage related to the General Plan 2040 includes direct consumption for heating and cooling, electric facilities, and lighting. Indirect energy consumption is associated with the generation of electricity at power plants. Transportation-related energy consumption includes the use of fuels and electricity to power cars, trucks, and public transportation. Energy is also consumed by equipment and vehicles used during Project construction and routine maintenance activities. This analysis considers whether the General Plan 2040 would result in inefficient, wasteful, and unnecessary consumption of energy.

This section provides background information on energy resources and contains an analysis of the impacts that the General Plan 2040 may have on the consumption of energy, including but not limited to the measures proposed to minimize the environmental effects of the consumption of energy that is wasteful, inefficient, or unnecessary. Energy consumption as an environmental impact is also evaluated and discussed in other sections of the Revised Draft EIR, including Section 3.2, Air Quality; Section 3.7, Greenhouse Gas Emissions; Section 3.14, Transportation; and Section 3.15, Utilities and Service Systems. See Appendix B for supporting information.

Information in this section was developed based on data provided by the following documents/resources:

- Marin Clean Energy;
- Marin Climate & Energy Partnership;
- Pacific Gas & Electric Company;
- California Energy Commission;
- California Public Utilities Commission;

- Town of Tiburon Climate Action Plan, Marin Climate & Energy Partnership, Adopted September 21, 2022; and
- Traffic modeling and analysis prepared by GHD (traffic consultant).

3.5.1 EXISTING SETTING

Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves several system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity, or electrical power, is generally measured in watts while energy use is measured in watt-hours. For example, if a light bulb has a capacity rating of 100 watts, the energy required to keep the bulb on for 1 hour would be 100 watt-hours. If ten 100-watt bulbs were on for 1 hour, the energy required would be 1,000 watt-hours or 1 kilowatt-hour (kWh). On a utility scale, a generator’s capacity is typically rated in megawatts, which is a million watts, while energy usage is measured in megawatt-hours or gigawatt-hours (GWh), which is one billion watt-hours.

Pacific Gas & Electric Company (PG&E) service area stretches from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada Mountains in the east. PG&E owns and maintains 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines. Approximately 5.4 million electric customer accounts are served by PG&E.¹ In 2018, PG&E provided approximately 80,369 GWh of electricity to its customers. Electricity consumption within PG&E’s service area by sector is displayed in Table 3.5-1. Electricity consumption within Marin County for 2018 is displayed in Table 3.5-2.

TABLE 3.5-1: ELECTRICITY CONSUMPTION WITHIN PG&E’S SERVICE AREA (2018)

ENERGY USAGE CATEGORY	GWH	PERCENT
INDUSTRY	10,519	13.1%
COMMERCIAL	30,148	37.5%
RESIDENTIAL	27,700	34.5%

¹ Pacific Gas and Electric Company. 2020. Company Profile. Website: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed April 20, 2020.

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ENERGY USAGE CATEGORY	GWH	PERCENT
MINING AND CONSTRUCTION	1,594	2.0%
AGRICULTURE AND WATER PUMPING	5,832	7.3%
STREET LIGHTING	311	0.4%

Source: California Energy Commission. Electricity Consumption by Entity. Website: <http://www.ecdms.energy.ca.gov/elecbyutil.aspx>. Accessed April 20, 2020.

TABLE 3.5-2: ELECTRICITY CONSUMPTION WITHIN MARIN COUNTY (2018)

SECTOR	GWH	PERCENT
NON-RESIDENTIAL	680	51.2%
RESIDENTIAL	649	48.8%
TOTAL	1,329	100.0%

Source: California Energy Commission, Electricity Consumption by County, <http://www.ecdms.energy.ca.gov/elecbycounty.aspx>, Accessed April 20, 2020.

Account holders with PG&E within the Town can choose to have 60 percent to 100 percent of their electricity supplied from clean, renewable sources such as solar, wind, bioenergy, geothermal, and hydroelectric, through Marin Clean Energy (MCE), a public, not for-profit electricity provider. MCE currently provides energy to residents and businesses within 34 member communities across four Bay Area counties, including Napa, Marin, Contra Costa, and Solano. MCE has 678 megawatts of new, California renewable energy online and under development.²

Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network and, therefore, resource availability is typically not an issue. Natural gas is used in electricity generation, space heating, cooking, water heating, industrial processes, and as a transportation fuel.

Natural gas is provided to the Town through PG&E. PG&E provides natural gas services within 48 counties in California with a total service area of approximately 70,000 square miles in

² Marin Clean Energy (MCE). Company Profile. Website: <https://www.mcecleanenergy.org/energy-suppliers/>. Accessed April 20, 2020.

northern and central California. PG&E provides services with 42,141 miles of natural gas distribution pipelines and 6,438 miles of transportation pipelines. PG&E serves approximately 4.5 million natural gas distribution customers.³ One therm is approximately 100 cubic feet of natural gas. In 2021, PG&E provided and distributed approximately 4,467 million therms of natural gas to its customers. Natural gas consumption within PG&E's service area by sector is displayed in Table 3.5-3. Natural gas consumption within Marin County for 2021 is displayed in Table 3.5-4.

TABLE 3.5-3: NATURAL GAS CONSUMPTION WITHIN PG&E'S SERVICE AREA (2021)

ENERGY USAGE CATEGORY	MILLION THERMS	PERCENT
INDUSTRY	1,429	32.0%
COMMERCIAL	835	18.7%
RESIDENTIAL	1,877	42.0%
MINING AND CONSTRUCTION	223	5.0%
AGRICULTURE AND WATER PUMPING	52	1.2%
TOTAL	4,467	100%¹

1. Totals are approximated due to rounding.

Source: California Energy Commission. Gas Consumption by Entity. Website: <http://www.ecdms.energy.ca.gov/gasbyutil.aspx>. Accessed March 1, 2023.

TABLE 3.5-4: NATURAL GAS CONSUMPTION WITHIN MARIN COUNTY (2021)

SECTOR	MILLION THERMS	PERCENT
NON-RESIDENTIAL	18	26.5%
RESIDENTIAL	50	73.5%
TOTAL	68	100.0%

Source: California Energy Commission. Gas Consumption by County. Website: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>. Accessed March 1, 2023.

California Energy Consumption

According to the California Energy Commission (CEC), total system electric generation for California in 2019 was 277,764 GWh. California's in-State electric generation was 194,127 GWh and electricity imports were 83,636 GWh. California's non-CO₂ emitting electric

³ Pacific Gas and Electric Company (PG&E). 2023. Company Profile. Website: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed March 1, 2023.

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generation categories (biomass, geothermal, small hydroelectric, solar, and wind), which generated 67,461 GWh, accounted for 35 percent of total in-State generation for 2021. The in-State renewable generation included 5,381 GWh from biomass, 11,116 GWh from geothermal, 2,531 GWh from small hydroelectric power plants, 33,260 GWh from solar, and 15,173 GWh from wind.⁴

According to the CEC, nearly 45 percent of the natural gas burned in California was used for electricity generation, with the remainder consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. In 2012, total natural gas demand in California for industrial, residential, commercial, and electric power generation was 2,313 billion cubic feet.⁵

According to the CEC, gasoline has remained the dominant fuel within the transportation sector, with diesel fuel and aviation fuels following. In 2021, California consumed approximately 13.8 billion gallons of gasoline and approximately 4.2 billion gallons of diesel fuel.^{6,7} An increasing amount of electricity is being used for transportation energy, which is chiefly attributed to the acceleration of light-duty plug-in electric vehicles.

3.5.2 REGULATORY SETTING

Federal and State agencies regulate energy use and consumption through various programs. The Federal Energy Regulatory Commission (FERC) is an independent agency that regulates the transmission and sales of electricity, natural gas, and oil in interstate commerce, licensing of hydroelectric projects, and oversight of related environmental matters. The regulation and enforcement of interstate transmission sales is also regulated by FERC. The United States Department of Transportation (USDOT), United States Department of Energy, and the United States Environmental Protection Agency (EPA) are three agencies with substantial influence over energy policies and programs. Generally, federal agencies influence transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through federal taxes on fuel, through funding of energy-

⁴ California Energy Commission (CEC). 2023. Total System Electric Generation. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation>. Accessed March 1, 2023.

⁵ California Energy Commission (CEC). 2023. Supply and Demand of Natural Gas in California. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california>. Accessed March 1, 2023.

⁶ California Energy Commission (CEC). 2023. California Gasoline Data, Facts, and Statistics. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-gasoline-data-facts-and-statistics>. Accessed March 1, 2023.

⁷ California Energy Commission (CEC). 2023. Diesel Fuel Data, Facts, and Statistics. Website: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/diesel-fuel-data-facts-and-statistics>. Accessed March 1, 2023.

related research and development projects, and through funding for transportation infrastructure projects.

On the State level, the California Public Utilities Commission (CPUC) and CEC are the two agencies with authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares Statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and regulates the power plant siting process.

At the local level, the Town, through its regulatory and planning activities, directly influences how, and to what extent, energy is used in the town. Local regulations governing the design, construction and use of buildings affect operational energy needs. Transportation and land use policy decisions directly and indirectly affect petroleum-based fuel use (e.g., mixed use land uses and improved pedestrian systems) and can affect reliance on the private automobile.

Some of the more relevant federal, State, and local energy-related laws and plans are discussed below.

Federal

Energy Policy and Conservation Act

The Energy Policy Act of 1975 (1975 Act) was established in response to the oil crisis of 1973, which increased oil prices due to a shortage of reserves. The 1975 Act required that all vehicles sold in the United States meet certain fuel economy goals. Under the 1975 Act, Corporate Average Fuel Economy (CAFE) standards were established. The CAFE standards are fleet-wide averages that must be achieved by each automaker for its car and truck fleet, each year, since 1978. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon.⁸ Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 to 23.5 miles per gallon.⁹ Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not subject to fuel economy standards. This 1975 Act indirectly applies to the General Plan 2040 due to its requirements for increased fuel economy standards particularly for the construction equipment to be used.

In 2022, the U.S. Department of Transportation's National Highway Traffic Safety Administration announced new, landmark fuel economy standards which follow Executive Order 13990. The Corporate Average Fuel Economy (CAFE) standards require an industry-wide fleet average of approximately 49 miles per gallon (mpg) for passenger cars and light

⁸ United States Department of Transportation (USDOT). 2014. Summary of Fuel Economy Performance. December 15.

⁹ United States Department of Transportation (USDOT). 2014. Summary of Fuel Economy Performance. December 15.

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trucks in model year 2026, which will increase fuel efficiency 8% annually for model years 2024-2025 and 10% annually for model year 2026. They will also increase the estimated fleetwide average by nearly 10 miles per gallon for model year 2026, relative to model year 2021.

Energy Policy Act of 1992

The Energy Policy Act of 1992 (1992 Act) set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. The 1992 Act consists of 27 titles detailing various measures designed to lessen the nation's dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings.

Energy Star Program

In 1992, the EPA introduced Energy Star as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas (GHG) emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the EPA joined with the United States Department of Energy to expand the program, which now also includes qualifying commercial, industrial, and residential buildings. The Energy Star Most Efficient program was launched in May 2011 to identify and advance highly-efficient products in the marketplace. Its goal is to increase market awareness and promote innovation in these products. This program identifies the most efficient products among those that qualify for Energy Star in certain product categories on an annual basis.

Energy Policy Act of 2005

The Energy Policy Act of 2005 (2005 Act) seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under the 2005 Act, consumers and businesses can attain federal tax credits for purchasing fuel-efficient appliances and products, buying hybrid vehicles, building energy efficient buildings, and improving the energy efficiency of residential and commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary micro-turbine power plants, and solar power equipment.

Energy Independence and Security Act

In 2007, the Energy Independence and Security Act was signed into law. The Energy Independence and Security Act aims to move the United States toward greater energy independence and security; increase the production of clean renewable fuels; increase the efficiency of buildings, products, and vehicles; promote research on and deploy GHG capture and storage options; and improve the energy performance of the federal government.

State

California Renewables Portfolio Standard

The California Renewables Portfolio Standard was established in 2002 under Senate Bill (SB) 1078, accelerated in 2006 under SB 107, expanded in 2011 under SB 2, and enhanced in 2015 by SB 350. The Renewables Portfolio Standard program requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2030. In 2018, PG&E served approximately 39 percent of its retail electricity sales with renewable power.¹⁰ SB 100, passed in September 2018, accelerates the Renewables Portfolio Standard to achieve a 50 percent renewable resources target by 2026, and contained a 60 percent target by 2030, along with a goal for zero-carbon electricity by 2045.

Reducing Dependence on Petroleum

In response to AB 2076, the CEC and the California Air Resources Board (ARB) prepared and adopted a joint agency report in August 2003, *Reducing California's Petroleum Dependence*. The report addresses both near-term and mid- to long-term strategies to reduce the demand for petroleum fuels in California. The two agencies evaluated various demand reduction options and categorized them as fuel efficiency, fuel substitution, pricing, and other options.¹¹

Senate Bill 1

Enacted in 2006, Senate Bill (SB) 1 is the culmination of Governor Schwarzenegger's "Million Solar Roofs Initiative" and builds on the CPUC's California Solar Initiative program, the CEC's New Solar Homes Partnership, and existing publicly-owned utility solar energy system incentive programs. SB 1 directs total expenditures of up to \$3,350,800,000 by 2017 with goals to install solar energy systems with a generation capacity equivalent of 3,000 megawatts; to establish a self-sufficient solar industry in 10 years so that solar energy systems are a viable mainstream option for homes and commercial buildings; and in 13 years to put solar energy systems on 50 percent of new homes. The overall goal is to help build a self-sustaining solar electricity market combined with improved energy efficiency in the State's residential and non-residential buildings. In 2015, SB 83 extended the life of the New Solar Homes Partnership. In June 2016, the CPUC approved Decision 16-06-006, which approved the CEC's request to direct the investor owned utilities to collect additional ratepayer funds necessary to continue the New Solar Homes Partnership and achieve the

¹⁰ California Public Utilities Commission (CPUC). 2019. California Renewables Portfolio Standard - Annual Report. November.

¹¹ California Energy Commission (CEC) and California Air Resources Board (ARB). 2003. Reducing California's Petroleum Dependence. August.

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\$400 million in program funds originally authorized under SB 1 and designated the CEC as the program administrator of the continued New Solar Homes Partnership program.¹²

Energy Efficiency Act of 2006

AB 2021 encourages all investor-owned and municipal utilities to aggressively invest in achievable, cost-effective, energy efficiency programs in their service territories. The results of AB 2021 are expected to reduce forecasted electricity demand by 10 percent over 10 years from 2006 through 2016, offsetting the projected need to build 11 new major power plants. Since its inception, annual reports have been prepared by the CEC to track progress under AB 2021. The most recent report, “Achieving Cost-Effective Energy Efficiency in California: 2013 Status Update,” presents an analysis of energy efficiency data compiled from investor-owned utilities’ annual reports filed with the CPUC, and from the California Municipal Utilities Association who, on behalf of publicly owned utilities, annually files reports with the CEC. As a group, publicly-owned utilities achieved 64 percent of their combined annual electricity savings target that was established in 2007. Since 2006, publicly-owned utilities have spent \$2.1 billion on energy efficiency and demand reduction programs, resulting in 7,545 GWh of reported first year electricity savings and 1,390 megawatts in peak demand reduction.¹³

Waste Heat and Carbon Emissions Reduction Act

AB 1613, enacted in 2007 and amended by AB 2791 in 2008, directed the CEC, the CPUC, and the ARB to implement the Waste Heat and Carbon Emissions Reduction Act. The Act is designed to encourage the development of new combined heat and power systems in California with a generating capacity of not more than 20 megawatts. The Act directs the CPUC, publicly-owned electric utilities, and the CEC to establish policies and procedures for the purchase of electricity from eligible combined heat and power systems. It also directs the ARB to report on the reduction in GHG emissions resulting from the increase of new electricity generation from combined heat and power systems.¹⁴

State Alternative Fuels Plan

AB 1007 required the CEC to prepare a State plan to increase the use of alternative fuels in California. In December 2007, the CEC prepared the State Alternative Fuels Plan in partnership with the ARB and in consultation with the other state, federal, and local agencies. The plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and

¹² California Energy Commission (CEC), 2018. Guidelines for California’s Solar Electric Incentive Programs (Senate Bill 1), 7th Edition. Website: <https://www.energy.ca.gov/publications/2018/guidelines-californias-solar-electric-incentive-programs-senate-bill-i-7th>. Accessed March 1, 2023.

¹³ California Energy Commission (CEC). 2023. Energy Efficiency in the Public Power Sector. Available: <https://www.energy.ca.gov/programs-and-topics/topics/energy-assessment/energy-efficiency-public-power-sector>. Accessed March 1, 2023.

¹⁴ California Energy Commission (CEC). Waste Heat and Carbon Emissions Reduction Act. Website: <http://www.energy.ca.gov/wasteheat/>. Accessed April 20, 2020.

maximizes the economic benefits of in-State production. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-State production of biofuels without causing a significant degradation of public health and environmental quality.

Executive Order N-79-20

In September 2020, Governor Gavin Newsom issued Executive Order N-79-20, which requires sales of all new passenger vehicles to be zero-emission by 2035 and additional measures to eliminate harmful emissions from the transportation sector.

2008 Energy Action Plan Update

The State adopted the California Energy Action Plan in 2003, followed by the Energy Action Plan II in 2005. The current plan, the California 2008 Energy Action Plan Update, is California's principal energy planning and policy document. The updated document examines the State's ongoing actions in the context of global climate change, describes a coordinated implementation plan for State energy policies, and identifies specific action areas to ensure that California's energy resources are adequate, affordable, technologically advanced, and environmentally sound. The California 2008 Energy Action Plan Update establishes energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods) as the first-priority actions to address California's increasing energy demands. Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy demand and transmission capacity needs, clean and efficient fossil-fired generation is supported. The California 2008 Energy Action Plan Update examines policy changes in the areas of energy efficiency, demand response, renewable energy, electricity reliability and infrastructure, electricity market structure, natural gas supply and infrastructure, research and development, and climate change.¹⁵

2017 Integrated Energy Policy Report

In 2002, the Legislature passed SB 1389, which required the CEC to develop an integrated energy plan biannually for electricity, natural gas, and transportation fuels, for the California Energy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for Zero Emission Vehicles and their

¹⁵ California Energy Commission (CEC). 2008 Energy Action Plan Update. Website: http://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/energy_-_electricity_and_natural_gas/2008-energy-action-plan-update.pdf. Accessed March 1, 2023.

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infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

The 2017 Integrated Energy Policy Report, was adopted by the CEC on April 16, 2018, and provides CEC's assessments of a wide variety of energy issues currently facing California.¹⁶ These issues include implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

2019 Energy Efficiency Action Plan

The 2019 Energy Efficiency Action Plan is a comprehensive roadmap to achieving the state's energy efficiency and building decarbonization goals. The Energy Efficiency Action Plan applies key energy efficiency principles to California's energy vision and climate goals to support the development of robust, sustainable efficiency marketplaces that deliver multiple benefits to California residents. The anticipated results are a consistent increase in energy efficiency savings through 2030, much more widespread customer adoption of energy efficient practices and equipment, and overall reduction of GHG emissions from buildings.¹⁷

Clean Energy and Pollution Reduction Act

In October 2015, Governor Brown signed SB 350, the Clean Energy and Pollution Reduction Act, establishing new clean energy, clean air, and GHG reduction goals for 2030 and beyond. SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020, to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the State to double Statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and GHG emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans. These Integrated Resource Plans will detail how each entity will meet their customers resource needs, reduce GHG emissions, and ramp up the deployment of clean energy resources.¹⁸

¹⁶ California Energy Commission (CEC). 2023 Final 2022 Integrated Energy Policy Report Update, Publication Number: CEC-100-2022-001-CMF. February.

¹⁷ California Energy Commission (CEC). 2019 Energy Efficiency Action Plan – Final Commission Report. December.

¹⁸ California Energy Commission (CEC). Clean Energy and Pollution Act SB 350 Overview. Website: <http://www.energy.ca.gov/sb350/>. Accessed March 1, 2023.

California Building Codes

California's Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations [CCR] Title 24, Part 6) were first established in 1978 to reduce California's energy consumption. Energy efficient buildings require less electricity, natural gas, and other fuels, the use of which creates GHG emissions. The Title 24 standards are updated on a 3-year schedule. On July 1, 2022, the 2022 standards went into effect, that have been designed to lower energy consumption, limit emissions, and enhance energy efficiency. The 2022 updates are meant to foster widespread adoption of electric heat pumps and make sure that new businesses and homes are outfitted with electric-ready natural gas appliances. These updates are also designed to bolster solar storage and energy standards while also increasing ventilation standards. Every new home is expected to be electric-ready, which means that electrical circuits will be available for each appliance. The battery storage and solar standards that were first implemented in the 2019 updates are becoming broader in scope to make sure that they apply to additional nonresidential and residential buildings. Further, most new homes and buildings in California must have one or more appliances that are powered with electricity as opposed to natural gas. Among the most impactful changes that has been incorporated into the 2022 code is the fact that many new commercial buildings and homes are now required to be outfitted with solar batteries and panels. The code currently focuses on new builds until the law allows for updates to be made to existing businesses and homes. The Town

The Green Building Standards Code (also known as CALGreen), which requires all new buildings in the State to be more energy efficient and environmentally responsible, took effect in January 2011. CALGreen is also updated every 3 years and the current version is the 2022 CALGreen that become effective on January 1, 2023. The CALGreen Code contains requirements for construction site selection; stormwater control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. CALGreen provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. CALGreen also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency.

CALGreen provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, stormwater management, building design, insulation, flooring, and framing, among others. Implementation of CALGreen measures reduces energy consumption and vehicle trips and encourages the use of alternative-fuel vehicles, which reduces pollutant emissions.

Some of the notable changes in the 2022 CALGreen Code over the prior 2019 CALGreen Code include adding mandatory provisions for electric vehicle (EV) charging requirements related

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to multifamily developments, hotels, and motels; alterations or additions to existing parking facilities; and new voluntary measures for EV ready spaces and EV chargers for multifamily development projects, hotels, and motels under both Tier 1 and Tier 2.

Regional

Marin Climate & Energy Partnership

Created in 2007, the mission of the Marin Climate & Energy Partnership (MCEP) is to reduce GHG emissions levels to the targets of Marin County and local municipalities, consistent with the standards set by AB 32. All 11 Marin Cities and towns, the Marin County Community Development Agency, the Transportation Authority of Marin, and the Marin Municipal Water District are members. MCEP annually produces GHG Emissions Inventories all of the Marin jurisdictions as well as Climate Action Plans (CAPs). Partner members have agreed to use their adopted CAPs to identify mutual measures to reduce community-wide GHG emissions and develop policies and programs to support priority measures. The Town worked closely with the MCEP to complete its 2022 CAP and implement a coordinated approach to local and regional emissions reduction targets and climate action planning goals.

Local

Tiburon General Plan

The existing General Plan includes goals, policies, and implementation measures that assist in reducing or avoiding impacts to energy. These goals, policies, and implementation measures are found in the Open Space and Conservation Element and Circulation Element.

Tiburon Municipal Code

Article II, 13.4-10 of the Tiburon Municipal Code (Energy Code) adopts the 2019 California Energy Code, Title 24, Part 6.

Chapter 13E (Water Efficient Landscape) contains regulations to support water conservation. All landscaping proposed for review and/or approval by the City shall comply with the provisions of the Marin Municipal Water District Water Efficient Landscape Regulations.

Chapter 13.17 (Recycling and Diversion of Construction and Demolition (C&D) Waste) addresses construction and demolition reporting and diversion requirements for construction and demolition waste. The diversion requirements specified in the code for a project and for a certified recycling facility shall be a minimum of ninety percent on December 31, 2018, and ninety-four percent on December 31, 2025.

Tiburon Climate Action Plan

The Town's CAP was updated and adopted in 2022.¹⁹ The Town's CAP includes strategies and actions related to energy conservation and efficiency in the following areas:

RE-C1: Renewable Energy Generation and Storage. Accelerate installation of residential and commercial solar and other renewable energy systems and energy storage systems.

RE-C2: GHG-Free Electricity. Encourage residents and businesses to switch to 100% renewable electricity (MCE Deep Green, MCE Local Sol, and PG&E Solar Choice) through engagement campaigns and partner agency incentives and work with MCE Clean Energy to assure that it reaches its goal to provide electricity that is 95% GHG-free by 2022. Target 15% of the electricity load to be Deep Green in 2030.

RE-C3: Building and Appliance Electrification. Accelerate electrification of building systems and appliances that currently use natural gas, including heating systems, hot water heaters, stoves, ranges, and clothes dryers.

1. Explore opportunities to continue existing rebate programs, such as Electrify Marin and BayREN, and promote them to the community by illustrating the financial and health benefits of electrification.
2. Study alternatives and draft regulations for Council consideration that requires homeowners and landlords to replace natural gas appliances, such as water heaters, stoves, cooktops, clothes dryers, and heating systems with high-efficiency electric appliances at time of replacement where feasible. Educate the public about the health hazards of owning and operating natural gas appliances and available incentives and rebates to replace them.
3. Prohibit the use of natural gas end uses in new residential buildings in the Town's green building ordinance that aligns with the 2022 California Building Standards code update. Extend the same prohibition to new nonresidential buildings in the 2025 code cycle, if not earlier.
4. Collaborate with the County's work to update the Green Building Code and develop a model ordinance that all Marin jurisdictions can utilize in establishing requirements for new residential, multi-family, and commercial buildings and remodels and renovations be all-electric, thereby creating consistency across all jurisdictions.

RE-C4: Innovative Technologies. Investigate and pursue innovative technologies such as micro-grids, battery storage, and demand-response programs that will improve local resilience and the electric grid's resiliency and help to balance demand and renewable energy production in cooperation with local and regional partners such as MCE and PG&E, as feasible.

¹⁹ Town of Tiburon. 2022. Town of Tiburon Climate Action Plan 2030. September 21.

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RE-M1: Municipal 100% Renewable Electricity. Install solar energy systems at all municipal buildings and facilities where feasible and investigate and pursue innovative technologies such as battery storage and demand response programs for them. Where feasible, replace natural gas appliances/equipment with electric and electrify all Town buildings and facilities, where feasible. Continue to purchase 100% renewable energy for Town buildings, facilities, and vehicles through programs such as MCE Deep Green.

EE-C1: Energy Efficiency Programs. Promote and expand participation in residential and commercial energy efficiency programs.

EE-C2: Energy Audits. Investigate requiring energy audits for residential and commercial buildings at time of sale or major remodel. Requirements could include identification of electrification and energy efficiency opportunities and supporting programs could connect building owners to potential rebates and financing options.

EE-C3: Cool Pavement and Roofs. Use reflective, high albedo material for roadways, parking lots, sidewalks, and cool roofs to reduce the urban heat island effect and save energy.

EE-C4: Green Building Reach Code. Adopt a green building ordinance for new and remodeled commercial and residential projects that requires green building methods, materials, and efficiency above the State building and energy codes. Consider adoption of low embodied-carbon concrete standards similar to those adopted by the County.

EE-C5: Streamline Permit Process and Provide Technical Assistance: Analyze current green building permit and inspection process to eliminate barriers and provide technical assistance to ensure successful implementation of green building requirements. Work countywide to make it easier for contractors and building counter staff to simplify applications and identify incentives.

EE-C6: Sustainable Building Materials: Study alternatives and draft regulations that require use of Forest Stewardship Council certified material in new constructions, major remodels, and outdoor use and that prohibit use of non-certified old-growth and other materials.

EE-M1: Public Lighting: Replace remaining inefficient street, parking lot, and other outdoor lighting with LED fixtures.

EE-M2: Energy Efficiency Audit and Retrofits in Town Buildings: Work with the Marin Energy Management Team to identify and implement energy efficiency projects in municipal buildings and facilities and electrification of existing building systems and equipment that use natural gas.

EE-M3: Energy Conservation in Town Buildings: Reduce energy consumption through behavioral and operational changes.

3.5.3 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the General Plan 2040 would have a significant impact related to energy resources if it would:

- Result in the wasteful, inefficient, or unnecessary consumption of energy during project construction or operation, including transportation energy; or
- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

3.5.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to energy resources resulting from implementation of the General Plan 2040 are discussed below. This analysis is based on operational energy demand that would result from projected future growth at buildout of the General Plan 2040. The California Emissions Estimator Model (CalEEMod Version 2020.4.0) was used to compute energy demand (see Appendix B).

Impact 3.5-1 **Development facilitated by the General Plan would not result in the wasteful, inefficient, or unnecessary consumption of energy during project construction or operation, including transportation energy.**

Implementation of the General Plan 2040 would utilize energy resources during construction and operational activities. Energy resources that would be potentially impacted include electricity, natural gas, and petroleum-based fuel supplies and distribution systems.

Construction Energy Usage

The General Plan 2040 does not expressly authorize any specific construction projects. The land use patterns in the General Plan 2040 would not be substantially different from existing land use patterns. Moreover, the incremental potential growth in residential and non-residential uses would be infill development and would occur within the fabric of already developed areas throughout the Town. By encouraging residential, commercial, and industrial development within already developed and urban areas, the concentration of population, employment, and services allows for more efficient use of energy. Construction activities associated with individual development projects under the General Plan 2040 would consume energy in the form of petroleum fuel for heavy equipment, as well as from worker trips and material delivery trips to the construction sites. Temporary electrical grid power may also be provided to construction sites. It is too speculative at this time to calculate energy usage associated with construction activities because the details regarding future construction activities are not known, including phasing, construction duration, and construction equipment. It should be noted that subsequent environmental review of future development projects would be required to assess potential construction-related energy consumption impacts.

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New development would be subject to energy conservation requirements in the California Energy Code (Title 24, Part 6, of the California Code of Regulations, California's Energy Efficiency Standards for Residential and Nonresidential Buildings) and CALGreen (Title 24, Part 11 of the California Code of Regulations).

The Municipal Code contains rules and regulations to reduce energy usage during construction. Chapter 8.54 promotes the redirection of recyclable materials generated during construction away from landfills. All project applicants are required to complete and submit a recycling management plan to estimate the volume of debris to be generated during construction and the estimated amount of debris that would be sent to the landfill. The intent of Chapter 8.54 is to divert at least 50 percent of all debris waste from most construction, demolition, and renovation projects away from local landfills.

Based on standards for new construction established by the State and the Bay Area Air Quality Management District (BAAQMD), and adherence to the development standards in the Municipal Code, activities associated with implementation of the General Plan 2040 would not result in wasteful, inefficient, or unnecessary consumption of energy. Therefore, implementation of the General Plan 2040 will have a ***less-than-significant*** impact under this criterion.

Operational Energy Usage

Implementation of the General Plan 2040 may result in development of up to approximately 916 residential units, although there would also be a reduction of approximately 129,682 square feet of non-residential uses within the Planning Area. Operation of the potential new development in the Town would consume natural gas and electricity for building heating and power, lighting, and water conveyance, among other operational requirements. The electrical consumption and natural gas usage associated with the potential development have been calculated in the CalEEMod model, which found that the potential development would consume 4,983,490 kWh of electricity per year and 2,231,606 kilo-British Thermal Units (kBtus) of natural gas per year.

The electricity and natural gas consumption rates are based on implementation of the General Plan 2040 policies, including Policy S-8, which requires application of green building principles in the design, construction, and operation of new Town and Town-sponsored facilities, and Policy S-9, which requires integration of energy efficiency, conservation, and other green building incentives into the zoning permit and building permit processes. In addition, the 2019 California Code of Regulations Title 24 Part 6 standards require all homes built in California to have zero-net-energy use, which is achieved through energy-efficiency measures as well required rooftop solar photovoltaic systems. The 2019 California Code of Regulation Title 24 Part 6 standards also apply to non-residential buildings and require a variety of energy efficiency measures to be implemented during construction of the structures that will reduce energy as usage as well as air emissions. It is anticipated that the

future development within the town will be designed and built to minimize electricity and natural gas usage.

The Vehicle Miles Traveled (VMT) created from implementation of the General Plan 2040 has been analyzed in Section 3.14, Transportation, which found that implementation of the Project would result in an approximately 21.2% increase in town-wide VMT, compared to a 23.9% increase in combined population. Therefore, the growth rate associated with the proposed General Plan 2040 is higher than the VMT increase associated with it. The addition of Project-generated VMT would result in an approximately 15.7% decrease in total VMT per capita by 2040 compared with the General Plan 2040 VMT year 2040 projections under the existing General Plan 2040. The reduction in VMT per capita will result in improvements to energy efficiency for transportation-related energy usage.

Due to the recent passage of the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which removed the waiver allowing California to set its own vehicle emissions standard, the State is now reliant on the EPA to set vehicle efficiency standards. As such, the most recent national miles per gallon rate of 22.3 miles per gallon for light-duty vehicles has been utilized from Bureau of Transportation Statistics, resulting in the estimated consumption of an additional 7,272 gallons of petroleum fuel per year with implementation of the General Plan 2040.²⁰ In September 2020, Governor Gavin Newsom issued Executive order N-79-20, which requires sales of all new passenger vehicles to be zero-emission by 2035 and additional measures to eliminate harmful emissions from the transportation sector, indicating that further reductions in vehicle emissions will be forthcoming through buildout of this General Plan 2040.

The Mobility Chapter of the General Plan 2040 contains several goals, policies and programs that assist in reducing VMT. For example, Policy M-65 supports and prioritize land uses and transportation provisions that help reduce VMT. Policy M-66 requires the Town to consider the effect of planned circulation improvements on VMT when updating the Town's capital improvement program. In addition, Policy M-67 require the Town to support car sharing and bicycle sharing opportunities in Downtown Tiburon. Therefore, potential new development that may occur from implementation of the General Plan 2040 would be designed and built to minimize transportation energy through the promotion of the use of alternative transportation modes.

In addition, all new development in the Town would be required to meet State energy efficiency regulations that include Title 24 Part 6 building energy efficiency standards that require new residential uses to meet a net zero energy use standard, that is met through installation of rooftop solar PV systems, enhanced insulation and energy-efficient appliances. The Title 24 Part 6 requirements also require nonresidential buildings to be designed for increased energy-efficiency standards. Other State energy-efficiency

²⁰ Bureau of Transportation Statistics. 2019. Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles. October 22. Website: <https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles>. Accessed April 22, 2020.

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regulations include SB 100 that requires 100 percent of retail sales of electricity to be generated from zero-carbon emission sources by 2045 and Executive Order N-79-20 that requires 100 percent of new passenger vehicles sold in California to be zero-emissions by 2035.

Based on compliance with the General Plan 2040 policies and programs, adherence to the development standards in the Municipal Code, and compliance with State regulations operations associated with implementation of the General Plan 2040 would not result in wasteful, inefficient, or unnecessary consumption of energy. These policies and programs would minimize demands for energy resources and ensure their efficient use. Furthermore, implementation of the General Plan 2040 continuation of land use designations and development of infill areas would not result in the wasteful, inefficient use, or unnecessary consumption of energy. Therefore, implementation of the General Plan 2040 will have a ***less-than-significant*** impact under this criterion.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.5-2 **Implementation of the General Plan would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.**

Development envisioned by the General Plan 2040 could result in an incremental increase in new residential, industrial, and commercial uses. It should be noted that the General Plan 2040 does not authorize any new development and the projected development in the town is allowed under the existing 1995 General Plan. Potential new development that may occur from implementation of the General Plan 2040 would be required to comply with the General Plan 2040 policies and programs and adherence to the development standards within Article II, 13.4-10 in the Municipal Code. The General Plan 2040 policies and programs will result in greater energy efficiency requirements than what would occur without adoption of the General Plan 2040.

The Town adopted its CAP in September 2022, which addresses potential impacts related to climate change through the implementation of several energy efficiency measures that are listed in Section 3.5.2, Regulatory Setting. All future development from buildout of the General Plan 2040 would be required to implement all applicable energy-efficiency measures listed in the CAP. In addition, all future development would be required to adhere to the Municipal Code, which contains rules and regulations regarding energy efficiency. Article II, 13.4-10 of the Municipal Code (Energy Code) adopts the 2019 California Energy Code, Title 24, Part 6, and incorporates the code into the Municipal Code. Chapter 13E (Water Efficient Landscape) contains regulations to support water conservation. Chapter 13.17 (Recycling

and Diversion of Construction and Demolition (C&D) Waste) addresses construction and demolition reporting and diversion requirements for construction and demolition waste.

In addition, the programs and policies provided in the General Plan 2040 would not conflict with applicable State or regional plans for renewable energy or energy efficiency that include Plan Bay Area 2040, BAAQMD 2017 Clean Air Plan, 2007 State Alternative Fuels Plan, including Executive Order N-79-20 that requires 100 percent of new passenger vehicles sold in California to be zero-emissions by 2035, 2008 Energy Action Plan Update, 2011 Energy Efficiency Strategic Plan, and SB 100 that requires 100 percent of retail sales of electricity to be generated from zero-carbon emission sources by 2045. On the contrary, the programs and policies in the General Plan 2040 support State and regional plans for renewable energy and energy efficiency, such as Policy S-2, which requires the Town to accelerate the conversion to renewable energy sources, and Program S-g, which requires the Town to evaluate solar energy production and storage systems at all municipal buildings and facilities and plan for replacement of natural gas appliances and equipment, and to continue to purchase 100% renewable energy for Town buildings and facilities.

Development envisioned by the General Plan 2040 would not result in an incremental increase in new residential, industrial, and commercial uses over what is already allowed under the 1995 General Plan. In addition, compliance with the CAP policies, General Plan 2040 policies and programs, and adherence to the development standards in the Tiburon Municipal Code, would ensure that potential new development associated with implementation of the General Plan 2040 will not conflict with or obstruct State or local plans for renewable energy or energy efficiency. Therefore, implementation of the General Plan 2040 will have a **less than significant impact** under this criterion.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.5-3 Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to energy resources.

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, could result in a cumulatively significant impact with respect to energy resources. This analysis then considers whether the incremental contribution of the impacts associated with the implementation of the General Plan 2040 would be significant. Both conditions must apply for a Project's cumulative effects to rise to the level of a significant impact.

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The geographic context for this analysis includes the Planning Area, Marin City, Mill Valley, Sausalito, Belvedere, and other adjacent unincorporated areas. Past, present, and future development projects contribute to energy impacts. If the Project is determined to have a significant energy impact, it is concluded that the impact is a cumulative impact. All cumulative projects would be required to comply with Town ordinances and County policies that address energy conservation and energy efficiency, such as complying with the latest California Energy Code. Further, since MCE is the official electricity provider for the communities of Marin City, Mill Valley, Sausalito, Belvedere, and Unincorporated Marin County, cumulative projects would be automatically enrolled in MCE. Additional countywide program, such as those required by the Marin Countywide Plan, would combine to reduce the energy demand, water use, amount of materials and wood use, and carbon dioxide emissions of buildings. Accordingly, potential cumulative impacts would be ***less than significant***.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

3.6 GEOLOGY, SOILS, & SEISMICITY

3.6.1 PURPOSE

This section addresses potential physical environmental effects related to seismic hazards, underlying soil characteristics, slope stability, erosion, and paleontological resources within the Planning Area from implementation of the General Plan 2040 (Project). Future discretionary projects facilitated by the Project will be evaluated for project-specific impacts to geology and soils at the time they are proposed.

The Planning Area is defined as all lands within the Town limits and Tiburon Sphere of Influence (SOI), as well as the Highway 101 Tiburon Boulevard/East Blithedale Avenue interchange west of the northwestern SOI boundary and the open space land to the north of the northern SOI boundary on Ring Mountain.

Information in this section is based, in part, on statements, data, and figures provided by the following reference materials:

- Create Tiburon 2040: Existing Conditions Report; (“Existing Conditions Report”) and
- Tiburon Municipal Code.

No comments were received during the NOP Comment period in regards to geologic and seismic hazards.

3.6.2 ENVIRONMENTAL SETTING

The following information is primarily sourced from the Existing Conditions Report Conservation Chapter. Supplemental information is provided with a citation.

Regional Geology

As discussed in the Existing Conditions Report Conservation Chapter, the Planning Area lies within Coast Range Geomorphic Provinces. The Coast Range is a northwest-trending mountain range (2,000 to 4,000, occasionally 6,000, feet elevation above sea level) and set of valleys. The ranges and valleys trend northwest, subparallel to the San Andreas Fault. Strata dip beneath alluvium of the Great Valley. To the west is the Pacific Ocean. The coastline is uplifted, terraced and wave-cut. The Coast Range is composed of thick Mesozoic and Cenozoic sedimentary strata. The northern and southern ranges are separated by a depression containing the San Francisco Bay. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata. In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma, and

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Clear Lake volcanic fields. The Coast Ranges are subparallel to the active San Andreas Fault. The San Andreas is more than 600 miles long, extending from Pt. Arena to the Gulf of California. West of the San Andreas is the Salinian Block, a granitic core extending from the southern extremity of the Coast Ranges to the north of the Farallon Islands.

Local Setting

Topography

The topography ranges in elevation from approximately sea level to approximately 790 feet above sea level. Hillside areas of the Planning Area have the highest elevation, while the marine and waterfront areas have the lowest elevation. Figure 3.6-1 shows the United States Geologic Survey (USGS) Tiburon Quadrangle Topographic view.

Tiburon consists of two general topographic zones: the lowland zone and the hillside zone. The lowland zone corresponds to estuarine and flatland soils, and the hillside zone includes steep slopes and rocky soils.

In the **Lowland Zone**, estuarine (coastal) areas are underlain by Bay Mud, which consists of unconsolidated silt and clay with abundant organic material, local peat, sand, and gravel lenses or discontinuous beds. Local deposits of artificial fill occur along the margins of San Francisco Bay and in filled channels. Old fill (generally placed before the 1950s) typically consisted of heterogeneous material. Engineering challenges associated with coastal areas include weak compressible soils and risk of liquefaction. The flatland areas of Tiburon are underlain by alluvial deposits, unconsolidated flood-plain deposits, sand, silt, gravel, and clay, irregularly interstratified.

In the **Hillside Zone**, the hillside areas of Tiburon consist primarily of tilted marine sedimentary and volcanic rocks that range in age from Paleocene to Pliocene. Hillside areas of the Planning Area contain steep slopes, weak bedrock, and local landslide deposits.

Soils

During the preparation of the Existing Conditions Report, a Custom Soil Survey was completed for the Planning Area using the Natural Resource Conservation Service (NRCS) Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.6-2. Table 3.6-1 below identifies the type and range of soils found in the Planning Area. As shown in Table 3.6-1, the majority of soils within the Planning Area consist of clay soils and sandy loams. Below is a brief description of prominent soils within the Planning Area.

TABLE 3.6-1: PLANNING AREA SOILS (IN ACRES)

Fault Activity Rating	Town of Tiburon	SOI	Planning Area	Grand Total
Barnabe very gravelly loam, 30 to 50 percent slopes	141.02	0.00	0.00	141.02

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Fault Activity Rating	Town of Tiburon	SOI	Planning Area	Grand Total
Gilroy-Typic Argixerolls-Bonnydoon, 30 to 50 percent slopes	68.66	0.00	0.00	68.66
Henneke stony clay loam, 15 to 50 percent slopes	422.38	59.57	196.05	678.00
Los Osos-Bonnydoon complex, 15 to 30 percent slopes	154.84	46.22	19.53	220.59
Los Osos-Bonnydoon complex, 30 to 50 percent slopes	637.49	122.26	100.52	860.27
Los Osos-Urban land-Bonnydoon complex, 15 to 30 percent slopes	8.94	60.25	3.31	72.50
Los Osos-Urban land-Bonnydoon complex, 30 to 50 percent slopes	196.45	0.00	0.16	196.61
Maymen-Maymen variant gravelly loams. 30 to 75 percent slopes	5.60	0.00	0.00	5.60
Montara clay loam, 15 to 30 percent slopes	14.57	0.00	0.00	14.57
Rock outcrop-Xerorthents complex, 50 to 75 percent slopes	31.17	0.00	0.00	31.17
Saurin-Bonnydoon complex, 30 to 50 percent slopes	20.58	0.00	0.00	20.58
Saurin-Urban land-Bonnydoon complex, 15 to 30 percent slopes	84.30	5.09	0.00	89.39
Saurin-Urban land-Bonnydoon complex, 30 to 50 percent slopes	0.00	0.00	0.03	0.03
Tamalpais-Barnabe variant very gravelly loams, 30 to 50 percent slopes	43.83	0.00	0.00	43.83
Tocaloma-McMullin complex, 50 to 75 percent slopes	663.01	388.80	0.00	1,051.81
Tocaloma-McMullin-Urban land complex, 30 to 50 percent slopes	2.62	0.00	0.00	2.62
Tocaloma-Saurin association, very steep	91.62	37.28	0.00	128.90
Urban land-Xerorthents complex, 0 to 9 percent slopes	22.02	0.00	0.00	22.02
Water	6,903.61	161.07	0.00	7,064.68
Xerorthents, fill	92.91	0.00	0.00	92.91
Xerorthents-Urban land complex	160.33	66.33	29.36	256.02
Total	9,765.95	946.87	348.95	11,061.78

SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.

The **Barnabe** series consists of shallow, well drained soils that formed in material from sandstone and shale. Runoff varies from medium to very rapid, and permeability is moderate. These soils are located mostly in the southern portion of Angel Island.

The **Gilroy** series consists of moderately deep, well drained soils that formed in material weathered from basic igneous and metamorphic rocks. Runoff varies from medium to rapid, and permeability is moderately slow. These soils are located on Angel Island.

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The **Henneke** series consists of shallow, well drained soils that formed in material weathered from ultramaficserpentinite rocks. Runoff varies from medium to very high, and permeability is moderately slow and slow. These soils are primarily located through the center of Tiburon.

The **Los Osos** series consists of moderately deep, well drained soils that formed in material weathered from sandstone and shale. Runoff is considered very high and permeability is slow. These soils are primarily located through the western and center portions of Tiburon.

The **Maymen** series consists of shallow, somewhat excessively drained soils that formed in residuum weathered from shale, schist, greenstone, sandstone and conglomerate. Runoff is high to very high runoff; moderate to moderately rapid permeability. A small portion of this soil is located on the central portion of Angel Island.

The **Montara** series consists of shallow well drained soils that formed in material weathered from serpentinitic rocks. Runoff is medium and high, and permeability is moderately slow. Seep areas adjacent to rock outcrops may persist for several months after the end of the rainy season. A small portion of this soil is located on southwestern side of Angel Island.

The **Novato** series consists of very deep, very poorly drained soils that formed in alluvium deposited along the margin of bays. Soil is very poorly drained and has a low saturated hydraulic conductivity. Water table fluctuates with the tides from 0.5 meter above the surface during very high tides to a depth of 0.5 meter during low tides. These soils are primarily located along the southern shore of the Tiburon Peninsula.

The **Saurin** series consists of moderately deep, well drained soils that formed in material weathered from sandstone and shale. Runoff is slow to very rapid, and permeability is moderate. This soil is primarily located along the northern and southeastern shore of mainland Tiburon.

The **Bonnydoon** series consists of shallow, somewhat excessively drained soils that formed in material weathered from sandstone and shale. Runoff is medium to very rapid, and permeability is moderate. This soil is primarily located along the northern shore of mainland Tiburon.

The **Tamalpais** series consists of moderately deep, well drained soils that formed in material weathered from igneous rock and sandstone. Runoff is rapid to very rapid and permeability is slow. This soil is primarily located at the southern portion of mainland Tiburon.

The **Tocaloma** series consists of moderately deep, well drained soils that formed in material weathered from sandstone and shale. Runoff is slow to very rapid and permeability is moderately rapid. This soil is primarily found at the northeastern corner of mainland Tiburon and along the coast of Angel Island.

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Faulting & Seismicity

Faults

A fault is a fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side. A fault trace is the line on the earth's surface defining the fault. Displacement of the earth's crust along faults releases energy in the form of earthquakes and in some cases in fault creep. Most faults are the result of repeated displacements over a long period of time.

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. Surface ruptures have been known to extend up to 50 miles with displacements of an inch to 20 feet. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Sudden displacements are more damaging to structures because they are accompanied by shaking.

The State designates faults as active, potentially active, and inactive depending on how recent the movement that can be substantiated for a fault. Table 3.6-2 presents the California fault activity rating system.

TABLE 3.6-2: FAULT ACTIVITY RATING

Fault Activity Rating	Geologic Period of last Rupture	Time Interval (years)
Active (A)	Holocene	Within last 11,000 years
Potentially Active (PA)	Quaternary	11,000-1.6 Million Years
Inactive (I)	Pre-Quaternary	Greater than 1.6 Million

SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.

As established in the Existing Conditions Report, the closest faults to the Planning Area include the Hayward Fault Zone located approximately 7 miles to the east of the Planning Area, the Morgana Fault located approximately 9 miles east of the Planning Area, and the San Andreas Fault Zone located approximately 9 miles west of the Planning Area. Figure 3.6-3 provides a map of known area faults.

Seismicity

Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.6-3 provides a description and a comparison of intensity and magnitude.

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TABLE 3.6-3: RITCHER MAGNITUDES AND EFFECTS

Magnitude	Effects
< 3.5	Typically not felt
3.5 – 5.4	Often felt but damage is rare
5.5 – < 6	Damage is slight for well-built buildings
6.1 – 6.9	Destructive potential over ±60 miles of occupied area
7.0 – 7.9	“Major Earthquake” with the ability to cause damage over larger areas
≥ 8	“Great Earthquake” can cause damage over several hundred miles

SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.

In 2014, the United States Geological Survey (USGS) updated the 30-year earthquake forecast for California, which concluded that there is a 72 percent probability of at least one earthquake of magnitude 6.7 or greater striking somewhere in the San Francisco Bay region before 2043. The 72 percent probability of a magnitude 6.7 or greater earthquake includes the well-known major plate-boundary faults, lesser-known faults, and unknown faults. As shown in Table 3.6-3, an earthquake at this magnitude is capable of causing widespread damage to over ±60 miles of occupied area.

The Modified Mercalli intensity scale for earthquakes is summarized in Table 3.6-4.

TABLE 3.6-4: MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES

Richter Magnitude	Modified Mercalli	Effects of Intensity
0.1 – 0.9	I	Earthquake shaking not felt
1.0 – 2.9	II	Shaking felt by those at rest.
3.0 – 3.9	III	Felt by most people indoors, some can estimate duration of shaking.
4.0 – 4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6 – 4.9	V	Felt by everyone indoors, many can estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle and glasses clink. Doors open, close and swing.
5.0 – 5.5	VI	Felt by all who estimate duration of shaking. Sleepers awoken, liquids spill, objects are displaced, and weak materials crack.
5.6 – 6.4	VII	People frightened and walls unsteady. Pictures and books thrown, dishes and glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5 – 6.9	VIII	Difficult to stand. Waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, and elevated tanks twist and fall.
7.0 – 7.4	IX	General fright as people are thrown down, hard to drive. Trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken.
7.5 – 7.9	X	General panic. Ground cracks, masonry and frame buildings destroyed. Bridges destroyed and railroads bent slightly. Dams, dikes and embankments damaged.
8.0 – 8.4	XI	Large landslides, water thrown, general destruction of buildings. Pipelines destroyed and railroads bent.
8.5 +	XII	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.

SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.

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The Significant United States Earthquake data published by the USGS in the National Atlas identifies earthquakes that caused deaths, property damage, and geologic effects or were felt by populations near the epicenter. No significant earthquakes have been identified within the Planning Area; however, significant earthquakes are documented in the region. The following table presents the significant earthquakes in the region.

TABLE 3.6-5: SIGNIFICANT EARTHQUAKES IN THE REGION

Magnitude	Intensity	Location	Year
4.1	IV	9 miles south east of Alum Rock	2017
4.0	IV	Piedmont	2015
4.1	IV	6 miles east of Yountville	2015
4.0	IV	2 miles north of Fremont	2015
6.0	VIII	South Napa	2014
5.6	VI	San Jose	2007
5.0	VII	Napa	2000
6.9	IX	Loma Prieta (San Andreas)	1989
5.4	N/A	Santa Cruz County	1989
6.2	N/A	Morgan Hill	1984
5.8, 5.8	VII	Livermore	1980
5.7	N/A	Coyote Lake	1979
5.7, 5.6	N/A	Santa Rosa	1969
5.3, 4.2	N/A	Daly City	1957
5.4	N/A	Concord	1954
6.5	N/A	Calaveras fault	1911
7.9	IX	San Francisco	1906
6.8	N/A	Mendocino	1898
6.2	N/A	Mare Island	1898
6.3	N/A	Calaveras fault	1893
6.2	VIII	Winters	1892
6.4	N/A	Vacaville	1892
6.8	VII	Hayward	1868
6.5	VIII	Santa Cruz Mountains	1865
6.8	N/A	San Francisco Peninsula	1838

SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.

Alquist-Priolo Special Study Zone

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The California Geologic Survey (CGS) evaluates faults with available geologic and seismologic data and determines if a fault should be zoned

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as active, potentially active, or inactive. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a project site. The Planning Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zones are the Hayward Fault Zone and the San Andreas Fault Zone, as shown on Figure 3.6-3. The Hayward Fault Zone is located approximately 7 miles east of Tiburon and the San Andreas Fault Zone is located approximately 9 miles west of Tiburon.

Seismic Hazards

Earthquake hazards can be categorized as primary hazards, which include fault rupture, ground shaking, or secondary hazards, which include liquefaction, seismically induced landslides, subsidence, and seismically induced water inundation. Both hazard categories can result in extensive property damage, personal injury, and/or death. Seismically induced water inundation is described in Section 3.9, Hydrology and Water Quality.

Seismic Ground Shaking

The potential for seismic ground shaking in California is expected. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e., earthquake) or slow (i.e. fault creep). The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. Tiburon does not have surface expression of active faults and fault rupture is not anticipated. Figure 3.6-3 shown regional faults in relation to Tiburon.

Ground Failure

Ground failure is a secondary effect of earthquake shaking that can be potentially dangerous and damaging. Ground failure effects include landslides, rock falls, subsidence, liquefaction, and ground lurching in areas not actually ruptured by a fault. These activities involve ground surface displacement due to loss of strength or failure of underlying materials during earthquake shaking. Moisture content and groundwater levels are important in assessment of ground failure potential, as are soil type and slope instability.

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Subsidence/Liquefaction

Liquefaction typically requires a significant sudden decrease of shearing resistance in cohesionless soils and a sudden increase in water pressure, which is typically associated with an earthquake of high magnitude. The potential for liquefaction is highest when groundwater levels are high, and loose, fine, sandy soils occur at depths of less than 50 feet. Figure 3.6-4 provides a map of the liquefaction potential of the soils within the Planning Area and general vicinity. As shown in the Figure, portions of Tiburon could be subject to liquefaction during or after an earthquake. The locations in the Town which are prone to liquefaction are located in the hillside areas and the marina and waterfront.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. The potential for liquefaction exists in the hillside and waterfront areas; lateral spreading of soils may occur in these areas of the Planning Area.

Landslide and Slope Instability

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. Common causes of landslides include heavy rainfall events and construction activity that is associated with road building (i.e., cut and fill). The potential for landslides is moderate to high in the hillside areas of the Planning Area. Figure 3.6-5 shows Landslide Vulnerability within the Planning Area. As indicated on Figure 3.6-5, the majority of the Planning Area has a low vulnerability index with a few landslides. Surficial deposits, or areas not vulnerable to landslide are located on the coast on all sides of the Planning Area. The areas with the highest landslide vulnerability are located inland to the northwestern portions of the Planning Area, particularly on the slopes of high elevations.

As discussed in the Existing Conditions Report, the Susceptibility to Deep-Seated Landslides map covers the entire State of California and was originally published in May of 2011 as CGS Map Sheet 58. It made use of several data layers of varying scales and formats, such as landslide inventory, geology, rock strength, and slope and identifies classes of landscape susceptibility on a scale of 0 (low) to 10 (high) that reflects the generalization that on very low slopes, landslide susceptibility is low even in weak materials, and that landslide susceptibility increases with slope and in weak rocks. The landslide susceptibility matrix, based on rock strength and slope steepness in degrees, is described in Table 3.6-6. Landslide susceptibility zones in the Planning Area range from class 0 to 10, as shown on Figure 3.6-5. Areas with highest landslide susceptibility (classes 9 and 10) are located inland to the northwestern portions of the Planning Area, particularly on the slopes of high elevations. Other areas with moderate to high susceptibility (classes 6 through 8) are located throughout the majority of the Planning Area, particularly on the hills on the north and south side of the Tiburon Peninsula and Angel Island.

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TABLE 3.6-6: LANDSLIDE SUSCEPTIBILITY MATRIX

Landslide Susceptibility Class	Rock Strength	Slope Steepness
0 (0)	1	<3 to 10
	2	<3
	3	<3
3 (III)	1	10 to 15
5 (V)	2	3 to 10
6 (VI)	1	15 to 20
7 (VII)	1	20 to 30
	3	3 to 10
8 (VIII)	1	30 to >40
	2	10 to 15
9 (IX)	2	15 to >40
	3	10 to 15
10 (X)	3	15 to >40

SOURCE: De Novo Planning Group, 2022. Existing Conditions Report.

Non-Seismic Hazards

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering.

According to the NRCS Web Soil Survey, the soils in the Planning Area vary from a low shrink-swell potential to a high shrink-swell potential as shown in Figure 3.6-6, Expansive Soil Potential. Portions of the Planning Area with a high expansive soil potential are located in the foothill areas and along the coast of the western Planning Area. The eastern portions of the Planning Area, particularly Angel Island and the western portion of the Tiburon Peninsula, have a low to moderate expansive soil potential with a moderate potential typically with the areas of higher elevation.

Erosion

Erosion naturally occurs on the surface of the earth as surface materials (i.e., rock, soil, debris, etc.) are loosened, dissolved, or worn away, and transported from one place to another by gravity. Two common types of soil erosion include wind erosion and water erosion. The steepness of a slope is an important factor that affects soil erosion. Erosion potential in soils is influenced primarily by loose soil texture and steep slopes. Loose soils can be eroded by water or wind forces, whereas soils with high clay content are generally

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susceptible only to water erosion. The potential for erosion generally increases as a result of human activity, primarily through the development of facilities and impervious surfaces and the removal of vegetative cover.

The Custom Soils Report, prepared for the Existing Conditions Report, identified the erosion potential for the soils in the Planning Area. Soil property data for each map unit component includes the hydrologic soil group, erosion factors (Kf) for the surface horizon, erosion factor (T), and the representative percentage of sand, silt, and clay in the surface horizon.

Erosion factor (K) indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Within the Planning Area, the erosion factor (Kf) varies from 0.20 to 0.43, which is considered a low to moderate potential for erosion. The wind erosion potential ranges from moderate-to-high during the spring, summer, and fall, however this potential for wind erosion diminishes during the winter.

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs when heavily irrigated landscape areas are near a building foundation. Collapsible soils have not been identified in the Planning Area as an issue. However, in areas subject to potential liquefaction, the potential for liquefaction-induced settlement is present.

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Subsidence has not been identified as an issue in the Planning Area.

Naturally Occurring Asbestos

The term "asbestos" is used to describe a variety of fibrous minerals that, when airborne, can result in serious human health effects. Naturally occurring asbestos is commonly associated with ultramafic rocks and serpentinite. As they are intrusive in nature, these rocks often undergo metamorphosis, prior to their being exposed on the Earth's surface. The

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metamorphic rock serpentinite is a common product of the alteration process. Naturally occurring asbestos is identified within Marin County. There is no naturally occurring asbestos mapped within the Planning Area.

Paleontological Resources

Among the natural resources deserving conservation and preservation are the often-unseen records of past life buried in the sediments and rocks below the pavement, buildings, soils, and vegetation which now cover most of the area. These records – fossils and their geologic context – undoubtedly exist below the surface in areas in and near Tiburon, and span millions of years in age of origin. Fossils constitute a non-renewable resource: once lost or destroyed, the exact information they contained can never be reproduced.

The sensitivity of a given area or body of sediment with respect to paleontological resources is a function of both the potential for the existence of fossils and the predicted significance of any fossils which may be found there. The primary consideration in the determination of paleontological sensitivity of a given area, body of sediment, or rock formation is its potential to include fossils. Information that can contribute to assessment of this potential includes: 1) direct observation of fossils within the project area; 2) the existence of known fossil localities or documented absence of fossils in the same geologic unit (e.g., “Formation” or one of its subunits); 3) descriptive nature of sedimentary deposits (such as size of included particles or clasts, color, and bedding type) in the area of interest compared with those of similar deposits known elsewhere to favor or disfavor inclusion of fossils; and 4) interpretation of sediment details and known geologic history of the sedimentary body of interest in terms of the ancient environments in which they were deposited, followed by assessment of the favorability of those environments for the preservation of fossils.

The most general paleontological information can be obtained from geologic maps, but geologic cross sections (slices of the layer cake to view the third dimension) must be reviewed for each area in question. These usually accompany geologic maps or technical reports. Once it can be determined which formations may be present in the subsurface, the question of paleontological resources must be addressed. Even though a formation is known to contain fossils, they are not usually distributed uniformly throughout the many square miles the formation may cover. Other resources to be considered in the determination of paleontological potential are regional geologic reports, site records on file with paleontological repositories and site-specific field surveys.

Paleontologists consider all vertebrate fossils to be of significance. Fossils of other types are considered significant if they represent a new record, new species, an oldest occurring species, the most complete specimen of its kind, a rare species worldwide, or a species helpful in the dating of formations. However, even a previously designated low potential site may yield significant fossils. No paleontological resources have been identified in the Planning Area.

3.6.3 REGULATORY SETTING

Federal

Earthquake Hazards Reduction Act

Congress passed the Earthquake Hazards Reduction Act in 1977 to reduce risks to life and property from future earthquakes in the United States through establishment and maintenance of an effective earthquake hazards reduction program. To accomplish this goal, the Act established the National Earthquake Hazards Reduction Program. This program was substantially amended in November 1990 by the National Earthquake Hazards Reduction Program Act, which refined the description of agency responsibilities, program goals, and objectives.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act of 2002 codifies the generally accepted practice of limited vertebrate fossil collection and limited collection of other rare and scientifically significant fossils by qualified researchers. Researchers must obtain a permit from the appropriate State or federal agency and agree to donate any materials recovered to recognized public institutions, where they would remain accessible to the public and other researchers.

State

The State has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Standards Code, the Alquist-Priolo Earthquake Fault Zoning Act, and the Seismic Hazards Mapping Act.

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or simply "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes 12 parts: California Building Standards Administrative Code, California Building Code, California Residential Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, California Green Building Standards Code (CALGreen Code), and the California Reference Standards Code. Through the CBSC, the State provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design, Chapter 17 addresses structural tests and special inspections, and Chapter 18 addresses soils and

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foundations. Section 1610 provides structural design standards for foundation walls and retaining walls to ensure resistance to lateral soil loads. Section 1613 provides structural design standards for earthquake loads. Section 1704.7 requires special inspections for existing site soil conditions, fill placement and load-bearing requirements during the construction as specified in Table 1704.7 of this section. Sections 1704.8 through 1704.16 provide inspection and testing requirements for various foundation types, and construction material types. Section 1803.1.1.1 requires each city and county enact an ordinance which requires a preliminary soil report and that the report be based upon adequate test borings or excavations, of every subdivision, where a tentative and final map is required pursuant to Section 66426 of the Government Code. Section 1803.5.3 defines expansive soils and specifies that in areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Section 1803.5.4 specifies that a subsurface soil investigation must be performed to determine whether the existing ground-water table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation. Section 1803.5.8 provides specific standards where shallow foundations will bear on compacted fill material more than 12 inches (305 mm) in depth. Sections 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Section 1804 provides standards and requirements for excavation, grading, and fill. Sections 1808, 1809, and 1810 provide standards and requirements for the construction of varying foundations.

State Laws Pertaining to Paleontological Resources

Several sections of the California Public Resources Code protect paleontological resources.

Section 5097.5 prohibits “knowing and willful” excavation, removal, destruction, injury, and defacement of any “vertebrate paleontological site, including fossilized footprints,” on public lands, except where the agency with jurisdiction has granted express permission. “As used in this section, ‘public lands’ means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.”

California Public Resources Code, Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

The sections of the California Administrative Code relating to the State Division of Beaches and Parks afford protection to geologic features and “paleontological materials” but grant the director of the State park system authority to issue permits for specific activities that may result in damage to such resources, if the activities are in the interest of the State park system and for State park purposes (California Administrative Code, Title 14, Section 4307 – 4309).

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and criteria of the State Mining and Geology Board, which governs the exercise of governments’

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responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;
- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

“Sufficiently Active” and “Well Defined” are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various “seismic hazard zones.”

- Cities and counties, or other local permitting authority, must regulate certain development “projects” within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

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Caltrans Seismic Design Criteria

The California Department of Transportation (Caltrans) has Seismic Design Criteria (SDC), which is an encyclopedia of new and currently practiced seismic design and analysis methodologies for the design of new bridges in California. The SDC adopts a performance-based approach specifying minimum levels of structural system performance, component performance, analysis, and design practices for ordinary standard bridges. The SDC has been developed with input from the Caltrans Offices of Structure Design, Earthquake Engineering and Design Support, and Materials and Foundations. Memo 20-1 outlines the bridge category and classification, seismic performance criteria, seismic design philosophy and approach, seismic demands and capacities on structural components and seismic design practices that collectively make up Caltrans' seismic design methodology.

Regional & Local

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General Plan 2020 includes a discussion on geologic and seismic hazards. The Safety Chapter considers manmade and natural hazards, and includes policies aimed at reducing potential geotechnical hazards, unstable slopes, and flood-prone areas. The Land Use Chapter establishes development patterns and guidelines. Land Use development guidelines and regulations are founded on public and personal safety, and aim to allow the Town to grow in a safe and cohesive manner.

Tiburon Municipal Code

Municipal Code Chapter 13, Building Regulations, codifies the California Building Standards technical codes (CBSC) including: the California Building Code (Section 13-4.1), Residential Code (13-4.2), Plumbing Code (13-4.3), Electrical Code (13-4.4), Fire Code (13-4.5), Housing Code (13-4.6) and Dangerous Buildings Code (13-4.8). Specifically, through Section 13-4.1, the Town has adopted the 2022 California Building Standards Code and subsequent amendments established in Subsection 13-4.1.1.

Chapter 13C, Individual and Alternative Sewage Disposal Systems, under Title IV, Land Improvement and Use, establishes alternative waste system standards and regulations, adopts the Marin County individual sewage disposal system ordinance, and, adopts the Marin County alternative sewage disposal system ordinance.

The Municipal Code incorporates Chapter 13D, Flood Damage Prevention, to promote the public health, safety and general welfare, and to minimize public and private losses to flood conditions in specific areas. This Chapter then provides methods and provisions to reduce flood loss. This Chapter requires a development permit to be obtained before construction or development begins within any area of special flood hazards.

Chapter 16, Zoning, contains Chapter 16.52, Permit Review and Decisions, which provides procedures for the final review and approval or denial of the zoning permit applications and

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other review requirements. The provisions of Chapter 16.52 apply to all: site plan and architectural reviews; variances; conditional use permits; condominium use permits; precise development plans; conceptual master plans; and tidelands permits.

Chapter 20A, Urban Runoff Pollution Prevention, is included to ensure the future health, safety and general welfare of the citizens of the Town of Tiburon and, to protect and enhance watercourses, fish and wildlife habitat.

3.6.4 THRESHOLDS OF SIGNIFICANCE

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G, the Project would have a significant impact related to geology, soils, and/or seismicity if it would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; Refer to Division of Mines and Geology Special Publication 42;
- ii. Strong seismic ground shaking;
- iii. Seismic-related ground failure, including liquefaction; or
- iv. Landslides.

In addition, the Project would have a significant impact related to geology, soils, or paleontological resources if it would:

- b) Result in substantial soil erosion or the loss of topsoil;
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- d) Be located on expansive soil, as defined in the Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems where sewers are not available for the disposal of wastewater; or
- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

3.6.5 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to geology, soils, and paleontological resources resulting from implementation of the Project are discussed below. The following impact analysis is based

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on information from the Environmental Setting and Regulatory Setting. Supplemental information is provided with a citation.

Impact 3.6-1 **Development facilitated by the Project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death from rupture of an earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.**

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for developments for areas with identified seismic hazard zones. The Planning Area is not within an Alquist-Priolo Special Study Zone. The nearest Alquist-Priolo fault zones are the Hayward Fault Zone (7 miles east) and the San Andreas Fault Zone (9 miles west), as shown on Figure 3.6-3.

Given the City's proximity to the Hayward and San Andreas Fault Zones, as well as other active faults, it is likely that the greater Tiburon region will experience periodic minor to strong earthquake motion. Within the Planning Area, hazards may include liquefaction, seismically induced landslides, and subsidence; hazards are dispersed throughout the Town. The intensity of seismic ground shaking within the Planning Area would depend upon characteristics of the generating fault, distance to the earthquake epicenter and rupture zone, the magnitude and duration of the earthquake, and site-specific geologic conditions.

The General Plan 2040 would enable development of new residential and non-residential uses; the General Plan proposes an increase of 916 residential units and a reduction of approximately 129,682 square feet of non-residential uses by 2040 buildout conditions. As such, additional residents could be potentially exposed to the effects of fault rupture, seismic ground shaking, liquefaction, subsidence, and landslides from local and regional earthquakes. Structures that would be built on steep slopes could be exposed to an existing risk of landslide or, if improperly constructed, could exacerbate existing landslide conditions.

However, the General Plan 2040 includes policies and programs that require applicants to provide sufficient geotechnical data and reports to demonstrate that any site-specific conditions can be appropriately addressed through site preparation and construction techniques. To mitigate potential dangers of earthquake damage, the General Plan 2040 includes General Plan Safety and Resilience Chapter Policy SR-5, Seismic and Geologic Hazards, Policy SR-6, Development in Areas with Geologic Hazards, and Policy SR-7, Hazard Reduction. Safety and Resilience Policy SR-6 assures that development allowed within areas of potential geologic hazard is neither endangered by, nor contributes to, the hazardous conditions on the site or on surrounding properties. Program SR-j, Building Code Compliance, requires new development and infrastructure projects to conform to seismic requirements of the California Building Code (CBC) and, when applicable, incorporate mitigation required by CEQA. Program SR-k, Geotechnical Analysis, requires preparation of a report by a qualified engineer for new development proposals to determine the extent of

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geotechnical hazards, specify adequate repair/improvement techniques, describe optimum design for structures and improvements, and set forth any special requirements for the sites. Program SR-l, Landslide Mitigation Policy, require that new development in areas subject to land sliding comply with the Town's Landslide Mitigation Policy. Program SR-n, Seismic Improvement Program, creates and implements a Seismic Improvement Program that involves conducting a seismic risk assessment of existing Town infrastructure, which would then help to create a list which would prioritize the buildings and equipment that should be retrofitted.

Potential structural damage and exposure of people to risk of injury or death from structural failure would be further minimized by compliance with CBC engineering design and construction measures. Foundations and other structural support features would be designed to resist or absorb damaging forces from strong ground shaking, liquefaction, and subsidence according to Section 13.4-1 of the Municipal Code, which incorporates the most recent CBC. The Tiburon Building Inspection Department reviews plans and applications for site clearance, grading, and building permits to ensure compliance with Municipal Code Chapter 13. The Division imposes requirements for revisions where needed to ensure that new or significantly remodeled structures are constructed in compliance with the CBC, and reflects any additional measures deemed appropriate based on geotechnical analysis, such as would be required by General Plan 2040 Program SR-k. Permit issuance would be based upon satisfactory completion of any identified applicable measures.

In conclusion, compliance with mandatory CBC requirements and adherence of the General Plan 2040 policies and programs would ensure that future development projects are appropriately investigated in terms of potential seismic hazards and that any new buildings and structures are constructed to withstand the anticipated range of seismic events. At the programmatic level, seismic impacts would be reduced to a less-than-significant level. Consistent with General Plan 2040 policies, future development projects would be required to undergo project-specific environmental review, which may require additional site-specific or project-specific measures to reduce any potential for loss, injury, or death in the event of a seismic event. As such, potential impacts would be reduced to **less-than-significant** levels.

Mitigation Measures

None Required

Impact 3.6-2 Development facilitated by the Project would not result in substantial soil erosion or the loss of topsoil.

As mentioned in Environmental Setting, the erosion factor varies from low to moderate potential throughout the Planning Area. The wind erosion potential ranges from moderate-to-high during the spring, summer, and fall, then diminishes during the winter. Construction activities could result in temporary disturbance of soil and would expose disturbed areas to

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storm events. Rain of sufficient intensity and duration could dislodge soil particles, generate runoff, and cause localized erosion and sedimentation. As such, soil erosion is dependent on individual site locations and conditions on-site during construction.

The General Plan 2040 would enable development of new residential and non-residential uses. Subsequent development under the Project could potentially result in substantial soil erosion or loss of topsoil as future development would involve construction activities such as stockpiling, grading, excavation, paving, and other earth-disturbing activities.

To hinder potential adverse water erosion impacts, the Regional Water Quality Control Board (RWQCB) has issued the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), which regulates stormwater discharges related to construction activities.¹ Projects disturbing one or more acres of soil, or whose projects disturb less than one acre but are part of a larger common plan of development that, in total, disturbs one or more acres, are required to obtain coverage under the Construction General Permit. Compliance with the permit requires each qualifying development project to file a Notice of Intent with the State Water Board. Permit conditions require development of a Stormwater Pollution Prevention Plan (SWPPP), which must describe the site, facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls.

The General Plan 2040 includes policies and programs to decrease soil erosion and stormwater runoff. General Plan Open Space Chapter Policies OS-9 through OS-18 all pertain to development standards for geographical areas in high-risk geologic hazards. With the aim of protecting natural features- ridgelines and hillsides- these policies establish setbacks, allowable land uses, and construction activity regulations. Preservation of natural features helps to prevent soil erosion and loss of topsoil. Further, Safety and Resilience Program SR-k, Geotechnical Analysis, requires preparation of a report by a geotechnical engineer for new development proposals to determine the extent of geotechnical hazards, specify adequate repair/improvement techniques, describe optimum design for structures and improvements, and set forth any special requirements for the sites. Safety and Resilience Policy SR-15, Mitigation of Storm Drainage Impacts, and its subsequent programs (Programs SR-cc, SR-dd, SR-ee, SR-ff, SR-gg, and SR-hh) aim to ensure new development mitigates storm drainage impacts and potential increases in runoff. Specifically, Program SR-gg, Analysis of Impacts on Drainageways, requires new development to prepare a hydraulic and geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff. In the event existing channel instabilities are noted, the applicant may

¹ SWRCB (State Water Resources Control Board), 2012. National Pollutant Discharge Elimination System (NPDES), General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2012-006-DWQ NPDES # CA000002).

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either propose their own channel stabilization program or defer to the mitigations generated during the Town's environmental review.

General Plan Conservation Policy C-20, Water Quality, and its subsequent Program C-g, Implement Stormwater Regulations, aim to enhance water quality by implementing MCSTOPPP best management practices (BMPs). In support of Program C-g, Title VI, Public Health, Safety, and Welfare, of the Municipal Code sets forth rules and regulations to control excavation, grading, and earthwork construction on land to safeguard public health, safety, and welfare. The Town of Tiburon's Urban Runoff Pollution Prevention Ordinance (Municipal Code Chapter 20A) requires the implementation of construction BMPs, including erosion and sediment control plan requirements, which directly address the potential for erosion and loss of topsoil during construction of projects. As is noted in Section 3.9, Hydrology and Water Quality, qualifying new development and redevelopment projects are required to prepare an erosion and sediment control plan (ESCP), a stormwater control plan (SCP), or similar demonstration of post-construction BMPs to mitigate downstream impacts to flooding and water quality. The ESCP/SCP would require the project to incorporate site design measures and/or treatment facilities that minimize imperviousness, minimize or detain stormwater, slows runoff rates, and reduces pollutants in post-development runoff. Where required by the authorized enforcement official, as a condition precedent to the issuance of a building permit, project applicants are required to submit a preliminary stormwater facilities operation and maintenance plan (O&M plan). The approval of the O&M plan by the agency is required prior to final inspection and approval of building permit closure. The SCP must also include a statement accepting responsibility to maintain the stormwater treatment facilities until that responsibility is transferred to the project operator or owner or another responsible party. Further discussion on hydrological procedures and maintenance can be found in Section 3.3-9, Hydrology and Water Quality, of this Draft EIR. Together with RWQCB requirements, construction projects are appropriately required to incorporate BMPs that effectively reduce the potential for erosion and sedimentation in on-site or off-site watercourses.

Through compliance with mandatory NPDES permit requirements, appropriate application of BMPs established in the Municipal Code and, submittal of necessary reports identified under General Plan 2040, future development projects would not result in substantial soil erosion. As such, potential Project impacts related to erosion and loss of topsoil would be ***less than significant***.

Mitigation Measures

None Required

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Impact 3.6-3 Development facilitated by the Project would not result in a significant impact related to development on unstable geologic units or soil, or geologic units or that would become unstable, or result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.

As mentioned in the Environmental Setting, the majority of soils within the Planning Area consist of clay soils and sandy loams (refer to Figure 3.6-2). The flatland areas of Tiburon are underlain by alluvial deposits, unconsolidated flood-plain deposits, sand, silt, gravel, and clay. Hillside areas of the Planning Area contain steep slopes, weak bedrock, and local landslide deposits (refer to Figure 3.6-5). Engineering challenges associated with coastal areas include weak compressible soils and risk of liquefaction as seen in Figure 3.6-4. While collapsible soils and subsidence have not been identified in the Planning Area as significant issues, the potential for liquefaction-induced settlement is present.

Certain geologic units present in the Planning Area could have the potential for landslides, slope instability, and liquefaction. Other geologic hazards, such as subsidence, lateral spreading, or collapse, could pose a potential hazard for future development. Implementation of the General Plan 2040 would accommodate the future development of both residential and non-residential uses. To accommodate anticipated growth in Tiburon, development allowed under the Project could occur within areas containing unstable geologic units.

The General Plan 2040 includes a number of policies and programs specifically designed to protect individuals from injuries and minimize property damage resulting from land instability and geologic hazards. The Safety and Resilience Chapter contains policies and programs specifically dedicated to minimizing seismic and geologic hazards. For example, Safety and Resilience Policy SR-6, Development in Areas with Geologic Hazards, assures that development allowed within areas of potential geologic hazard is neither endangered by, nor contributes to, the hazardous conditions on the site or on surrounding properties. Program SR-j, Building Code Compliance, requires that new development and infrastructure projects conform to seismic requirements of the CBC. Under Program SR-k, Geotechnical Analysis, new development projects are required to have a report prepared by a qualified engineer in order to determine the extent of geotechnical hazards, specify adequate repair/improvement techniques, and, set forth any special requirements for the sites. Program SR-l, requires that new development in areas subject to land sliding comply with the Town's Landslide Mitigation Policy, or requires physical improvements to landslide and to potential landslide areas, in instances where avoidance is not feasible or appropriate. Compliance with General Plan 2040 policies and programs would help ensure future development associated with the Project would not result in significant impacts related to unstable geologic units or soil, or geologic units or that would become unstable, or result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse.

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In addition to the General Plan 2040 policies, Municipal Code Chapter 13, Building Regulations, institutes permit processes, fees, technical codes, and development standards for all general development projects. Section 13-2 states that “no person shall do any excavating or grading without first obtaining a grading permit from the building inspection division.” The Tiburon Building Inspection Division ensures that construction in the Town is compliant with adopted technical construction codes, in conformance with accepted building practices, and consistent with the Town’s adopted policies and regulations. The Building Division issues permits, conducts regular building permit inspections, performs plan check reviews for construction applications, and, performs code enforcement. With few exceptions, building permits are required for all construction involving electrical, mechanical, plumbing, re-roofing, or drainage work.² With permit approval by the Building Inspection Division, future projects would not result in a significant impact related to development on unstable, or potentially unstable, geologic units or soil.

As such, with the implementation of the policies and programs in the General Plan 2040, adherence to the Municipal Code, as well as compliance with applicable State and local codes, potential ground instability or failure impacts associated with future development would be ***less than significant***.

Mitigation Measures

None Required

Impact 3.6-4 Development facilitated by the Project would not result in the construction of structures on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

As discussed in Environmental Setting, the soils in the Planning Area soils vary from a low shrink-swell potential to a high shrink-swell potential (refer to Figure 3.6-6). Portions of the Planning Area with a high expansive soil potential are located in the foothill areas and along the coast of the western Planning Area. The eastern portions of the Planning Area, particularly Angel Island, and the western portion of the Tiburon Peninsula, have a low to moderate expansive soil potential with a moderate potential typically with the areas of higher elevation.

Implementation of the General Plan 2040 would accommodate the future development of both residential and non-residential uses. While the Project is programmatic in nature, and does not propose any site-specific projects, it does identify potential sites appropriate for potential development. As such, new development could possibly be constructed on

² Town of Tiburon, 2023. Building. Available: <http://www.townoftiburon.org/157/Building>. Accessed February 6, 2023.

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expansive soils and could then, be subject to damage or become unstable when underlying soil shrinks or swells.

General Plan Safety and Resilience Chapter Program SR-j, Building Code Compliance, requires new development and infrastructure projects conform to seismic requirements of the California Building Code (CBC). The CBC includes requirements to address soil-related hazards, including expansive soils. Typical measures to treat hazardous soil conditions involve removal, proper fill selection, and compaction. In cases where sufficiently mitigating hazardous soils is not feasible, the CBC requires structural reinforcement of foundations to resist expansive soil forces.

General Plan Program Safety and Resilience Program SR-k, Geotechnical Analysis, requires reports be prepared by a qualified engineer for new development proposals to determine the extent of geotechnical hazards, specify adequate repair/improvement techniques, describe optimum design for structures and improvements, and set forth any special requirements for the sites.

In addition to the General Plan 2040 regulations, the Municipal Code Chapter 13, Building Regulations, states that “no person shall do any excavating or grading without first obtaining a grading permit from the building inspection division.” As discussed in Impact 3.6-3, the Tiburon Building Inspection Division ensures that construction in the Town is compliant with adopted technical construction codes, in conformance with accepted building practices, and consistent with the Town’s adopted policies and regulations. The Building Inspection Division issues permits, conducts regular building permit inspections, performs plan check reviews for construction applications, and, performs code enforcement.³ The Building Inspection Division imposes requirements for revisions, to ensure projects comply with the CBC while reflecting any additional measures deemed appropriate based on the required geotechnical report. Permit issuance is based upon satisfactory completion of any applicable measures. As such, with the implementation of the policies and programs in the General Plan 2040, adherence to the Municipal Code, as well as compliance with applicable State and local codes, potential impacts related to expansive soils would be reduced to a **less-than-significant** level.

Mitigation Measures

None Required

³ Town of Tiburon, 2023. Building. Available: <http://www.townoftiburon.org/157/Building>. Accessed February 6, 2023.

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Impact 3.6-5 Development facilitated by the Project would not place septic tanks or alternative wastewater disposal systems in areas where soils are not capable of supporting such uses.

Implementation of the General Plan 2040 would accommodate the future development of both residential and non-residential uses. Under the Project, the location and timing of growth in the City would be planned with consideration for infrastructure capacity, public service availability, and fiscal impacts. While likely to connect to the existing sewer system, future development facilitated by the Project could implement new, or expand upon, septic tanks or alternative wastewater disposal systems.

General Plan 2040 Land Use Policy LU-4, Sanitary Sewer, encourages the connection of new development to the sanitary sewer system. However, when and where a septic or on-site sewage system is proposed, a soils investigation shall determine that on-site soil conditions are suitable for drainage beforehand, and shall determine that Project conditions will not cause slope instability. All new or improved septic systems shall be designed by a registered civil engineer that specializes in septic design.

Further, as discussed in Impact 3.6-3, the Tiburon Building Inspection Division reviews plans and applications for site clearance, grading, and building permits to ensure compliance with Municipal Code Chapter 13, Building Regulations. The Building Inspection Division ensures that construction in the Town is compliant with adopted technical construction codes, in conformance with accepted building practices, and consistent with the Town's adopted policies and regulations. The Building Inspection Division would not issue permits to projects in areas where soils are not capable of supporting such development, unless adequate mitigation is provided and applied.

Further, all future development associated with the implementation of the Project that wants to utilize alternative wastewater systems would be subject to Municipal Code Chapter 13C, Individual and Alternative Sewage Disposal Systems, which adopts the Marin County individual and alternative sewage disposal system ordinances, with minor modifications. Such projects would also be subject to General Plan 2040 Safety and Resilience Program SR-k, Geotechnical Analysis. Program SR-k requires preparation of a report by an engineering geologist or geotechnical engineer for new development proposals, to determine the extent of geotechnical hazards, specify adequate repair/improvement techniques, describe optimum design for structures and improvements, and set forth any special requirements for the site.

As such, any proposed septic tanks or alternative wastewater disposal systems facilitated by General Plan 2040 implementation would be analyzed in a geologic investigation in which recommendations could be made regarding unstable soil concerns before approval. Such projects would need permit approval from the Building Inspection Division as well. Further

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discussion on sewer and utilities systems can be found in Section 3.15, Utilities and Service Systems, of this Draft EIR.

Adherence to the Municipal Code, implementation of policies and programs in the General Plan 2040, as well as applicable local codes, would ensure that new septic tanks or alternative wastewater disposal systems would be constructed on soils that can support such systems. Therefore, impacts would be ***less than significant***.

Mitigation Measures

None required

Impact 3.6-6 Development facilitated by the Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

As discussed in Environmental Setting, Tiburon consists of two general topographic zones: the lowland zone and the hillside zone. The lowland zone corresponds to estuarine and flatland soils, and the hillside zone includes steep slopes and rocky soils. The flatland areas of Tiburon are underlain by alluvial deposits, unconsolidated flood-plain deposits, sand, silt, gravel, and clay, irregularly interstratified. The hillside areas of Tiburon consist primarily of tilted marine sedimentary and volcanic rocks that range in age from Paleocene to Pliocene. Hillside areas of the Planning Area contain steep slopes, weak bedrock, and local landslide deposits.

Any project involving earth-moving activity could potentially result in inadvertent discovery and disturbance of paleontological resources during grading and excavation work. However, as established in the Existing Conditions Report Conservation Chapter, the Planning Area does not contain any identified paleontological resources and, the likelihood of encountering paleontological resources is low.

Potential impacts to paleontological resources would be minimized through compliance with federal and State laws that protect paleontological resources. Section 5097 of the Public Resources Code specifies procedures to be followed in the event of unexpected discovery of paleontological resources. Project compliance with local, State, and federal regulations would reduce the potential to impact paleontological resources directly and indirectly. However, because the possibility of uncovering a previously undiscovered paleontological resources is possible, the impact is potentially **significant**.

Mitigation Measures

MM 3.6-6 *If any paleontological resources (fossils) or unique geologic features are discovered during grading or construction activities within the project area, work shall be halted immediately within 50 feet of the discovery, and the Town Planning Division shall be immediately notified. The project applicant will retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance*

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with Society of Vertebrate Paleontology guidelines (SVP 2010). The recovery plan may include but is not limited to a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the Town to be necessary and feasible will be implemented by the applicant before construction activities resume in the area where the paleontological resources were discovered.

Implementation of Mitigation Measure 3.6-6 would enforce halting of construction activities, and ensure protection of unique paleontological resources and unique geologic features should they be discovered during site disturbing activities. Mitigation Measure 3.6-6 would suspend construction and require a professional paleontologist to prepare a recovery plan. Construction – including excavation and grading – activities would be suspended until the recommendations in the recovery plan, that the Town determines to be necessary and feasible, are implemented by the project applicant.

Therefore, with mandatory regulatory compliance with adopted State, federal, regional, and local regulations, and the implementation of Mitigation Measure 3.6-6, future development under the General Plan 2040 Update would not result in significant adverse effects to paleontological or unique geologic resources and, impacts would be considered ***less than significant***.

Cumulative Impacts

The geographic context for analysis of cumulative impacts related to geology, soils, and seismicity includes the incorporated and unincorporated lands comprising the Planning Area. The geographic context for paleontological resources includes Marin County. This analysis evaluates whether impacts of the General Plan 2040, together with impacts of cumulative development, could result in a cumulatively significant impact to geology, soils, seismicity, or paleontological resources. This analysis then considers whether incremental contribution of impacts associated with implementation of the Project would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance.

Impact 3.6-7 Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to geology, soils, seismicity, or paleontological resources.

Potentially adverse environmental effects associated with seismic hazards, as well as those associated with expansive soils, topographic alteration, and erosion, usually are site-specific and generally do not result in cumulative effects.

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Cumulative projects could be exposed to moderate to strong ground shaking during seismic events, but the development of individual projects would not increase the potential for impacts to occur. Individual development proposals would be reviewed separately by the appropriate public agency depending on location and undergo environmental review if appropriate. In the event that future cumulative development would result in impacts related to geologic or seismic impacts, those potential project or site-specific impacts would be addressed in accordance with the requirements of CEQA. New buildings would be constructed utilizing current design and construction methodologies for earthquake resistant design as required by relevant regulations. Compliance with the CBC, NPDES permits, Marin County Code, and laws and regulations mentioned above, would ensure that cumulative development would have ***less-than-significant impacts*** regarding geology, soils, or seismicity.

As cumulative development occurs, all future projects must comply with the federal, State, and pertinent local regulations regarding structural stability to reduce potential impacts from liquefaction, lateral spreading, or landslides. Compliance with established regulations, including the CBC, would result in ***less-than-significant cumulative impacts*** related to subsidence or collapse.

It is expected, and desired by the Town, that new development associated with the Project would connect to existing sewer systems. However, under Municipal Code provisions, alternative waste water systems are allowed within the Planning Area. So, while unlikely, cumulative development within the Planning Area could result in the use of septic tank systems in the future. However, compliance with Municipal Code and General Plan policies would ensure cumulative development would not contribute to potentially-significant impacts on the soils. General Plan Land Use Policy LU-4, requires a soils investigation to determine if on-site soil conditions are suitable for drainage; the investigation is also meant to determine if a project will cause slope substantial instability or not. Regardless, all new or improved septic systems shall be designed by a registered civil engineer that specializes in septic design. The Project's incremental contribution to these less-than-significant cumulative impacts would not be significant. Therefore, implementation of the Project would not contribute to potential cumulative impacts related to soils supporting septic systems and reduces potential cumulative impacts to ***less than significant***.

Any project involving earth-moving activity could potentially result in inadvertent discovery and disturbance of paleontological resources during grading and excavation work; these inadvertent discoveries could create potentially-significant impacts.

As analyzed in 3.6-6, the Planning Area does not contain any identified paleontological resources and, the likelihood of encountering paleontological resources is low. However, while unlikely, future development associated with the General Plan 2040 could have potential to cumulatively impact paleontological resources, and the project would have a

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cumulatively considerable contribution to that impact. As such, the cumulative impact to paleontological resources would be **potentially significant**.

Mitigation Measures

MM 3.6-7 *Implement Mitigation Measure 3.6-6.*

All cumulative projects, including development facilitated under the General Plan 2040, would be required to comply with federal, State, and local policies. Implementation of Mitigation Measure 3.6-6 would ensure that paleontological resources inadvertently discovered during implementation of the General Plan 2040 would protect paleontological resources by halting construction, assessing the significance of the find, and preparing a recovery plan to preserve or protect the resource. Implementation of Mitigation Measure 3.6-6 would reduce potential cumulative impacts to paleontological resources to a **less-than-significant level**.

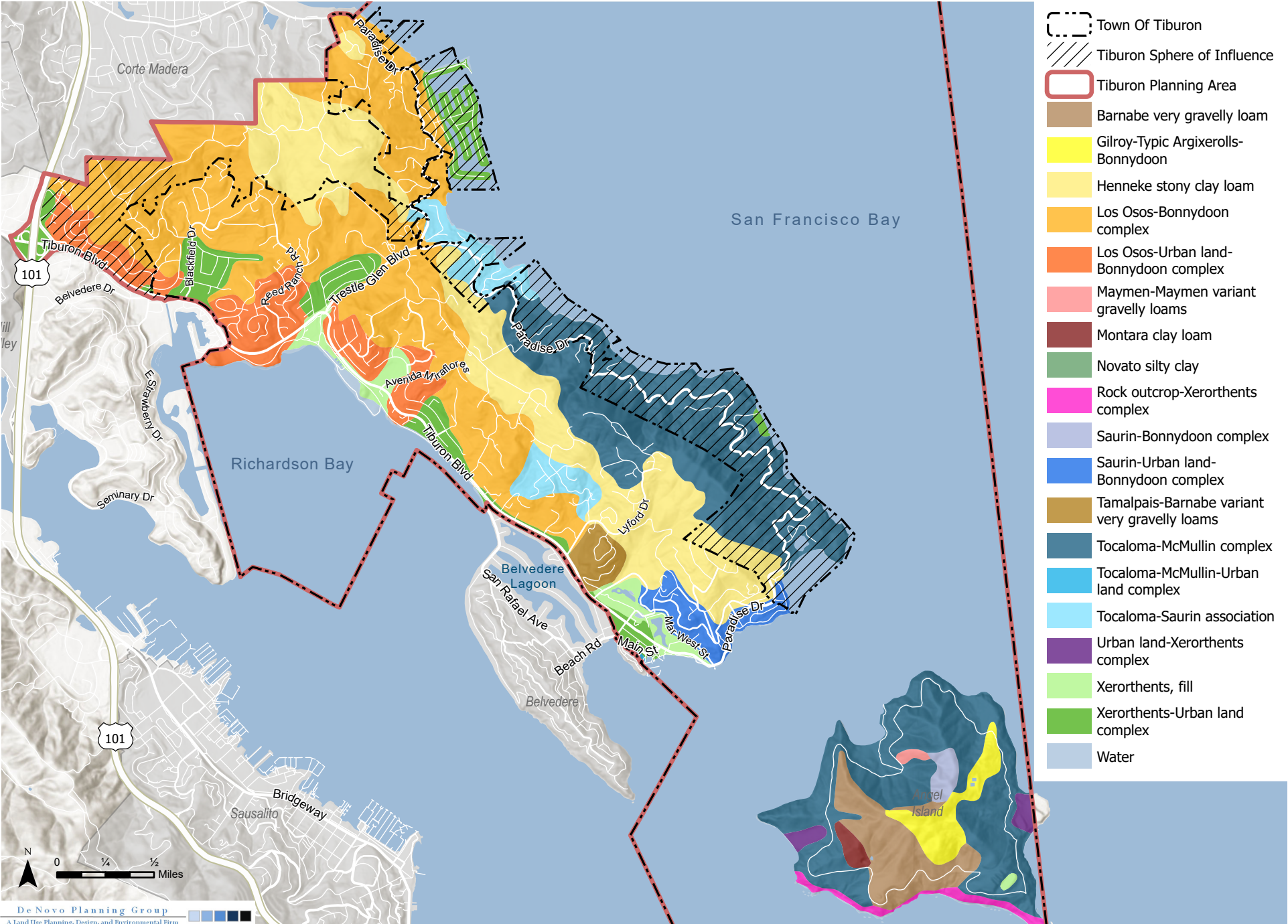
3.6.6 REFERENCES

De Novo Planning Group, 2022. Existing Conditions Report.

SWRCB (State Water Resources Control Board), 2012. National Pollutant Discharge Elimination System (NPDES), General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2012-006-DWQ NPDES # CA000002).

Town of Tiburon, 2023. Building. Available: <http://www.townoftiburon.org/157/Building>. Accessed February 6, 2023.

Figure 3.6-2. NRCS Soil Map



Sources: ArcGIS Online World Hillshade Map Service; NRCS Web Soil Survey, Marin County (CA041) and San Mateo County, Easter Part/San Francisco County (CA689); Marin County GIS. Map date: February 2, 2023.

Figure 3.6-3. Earthquake Faults

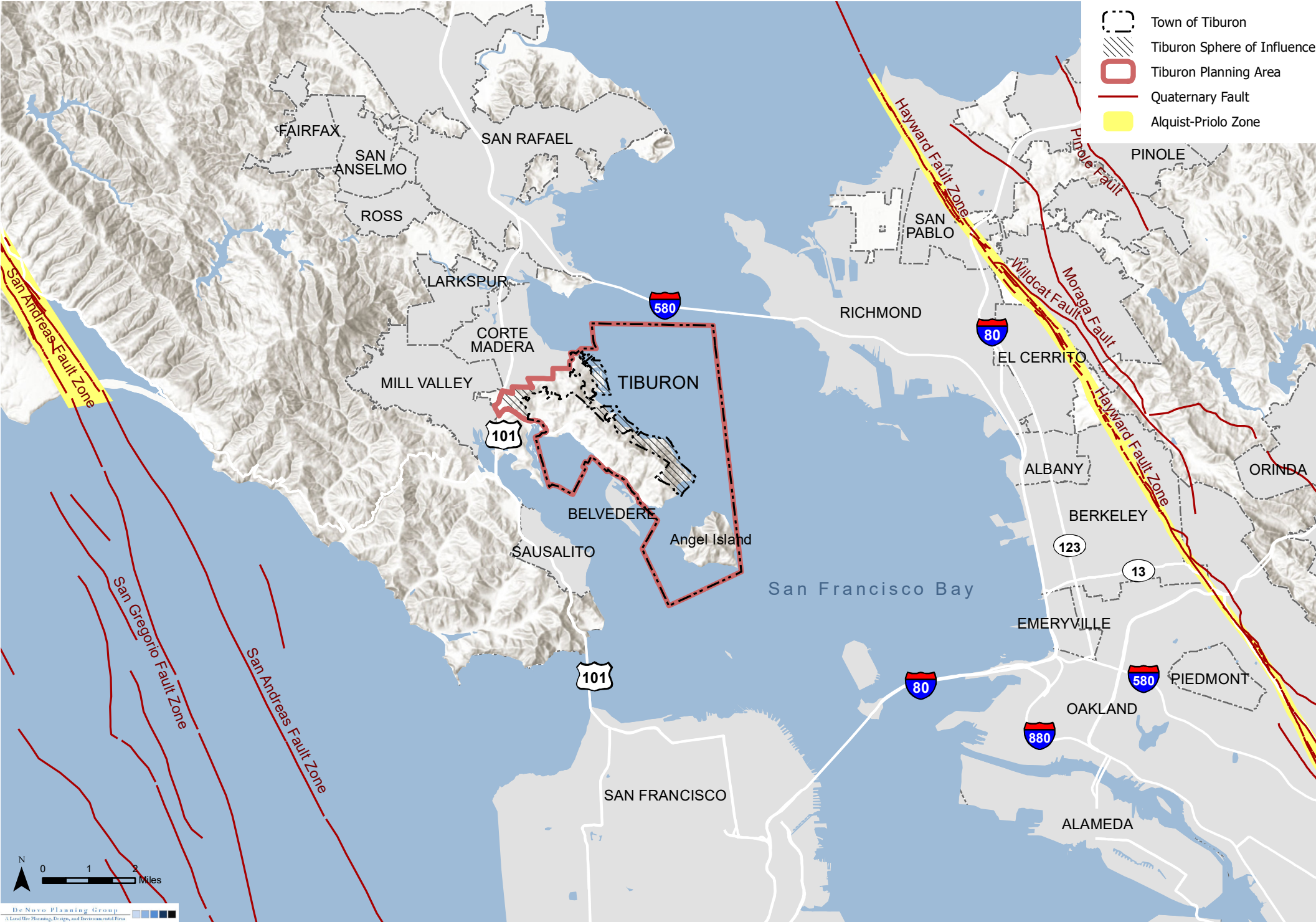


Figure 3.6-4. Liquefaction Potential

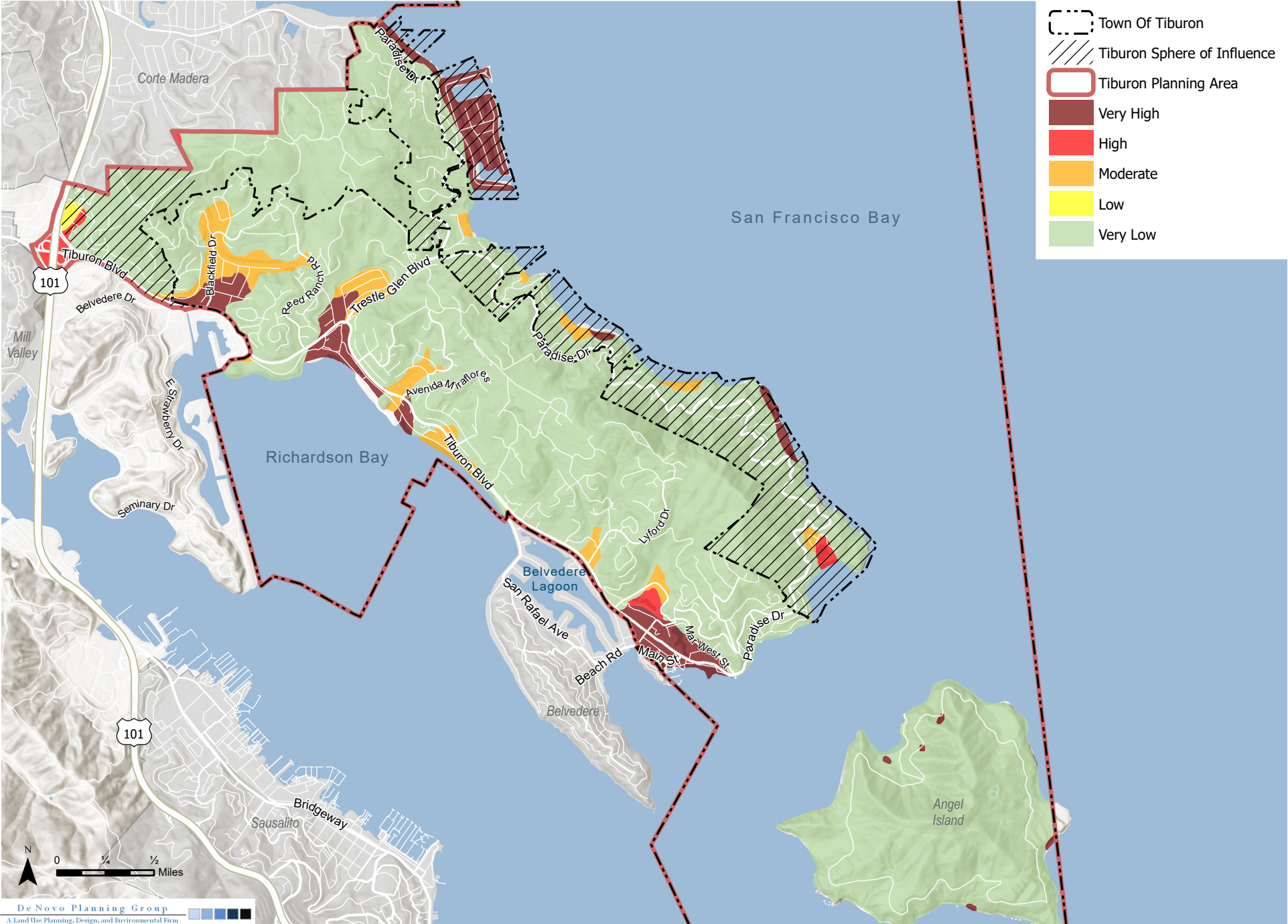


Figure 3.6-5. Landslide Potential

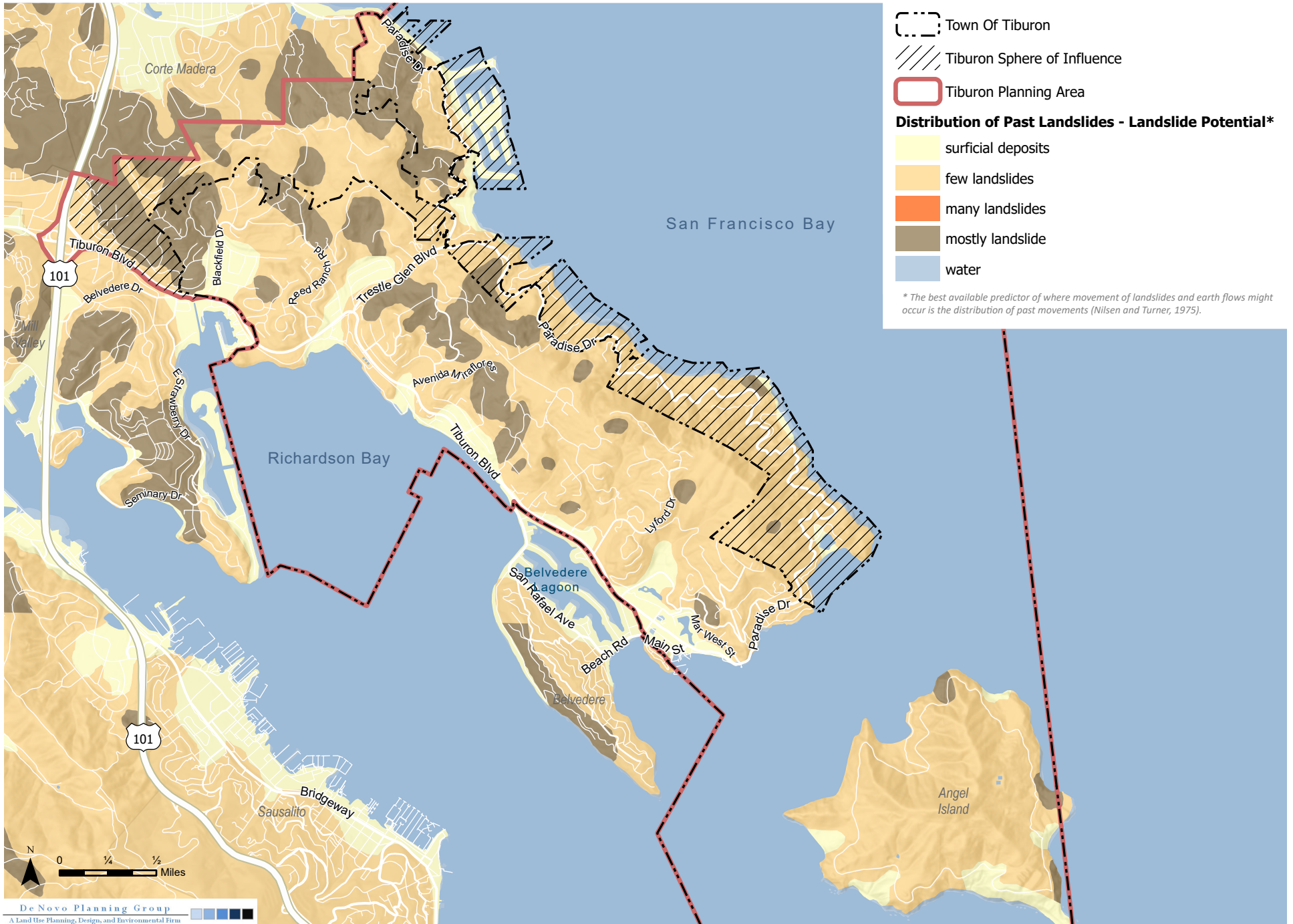
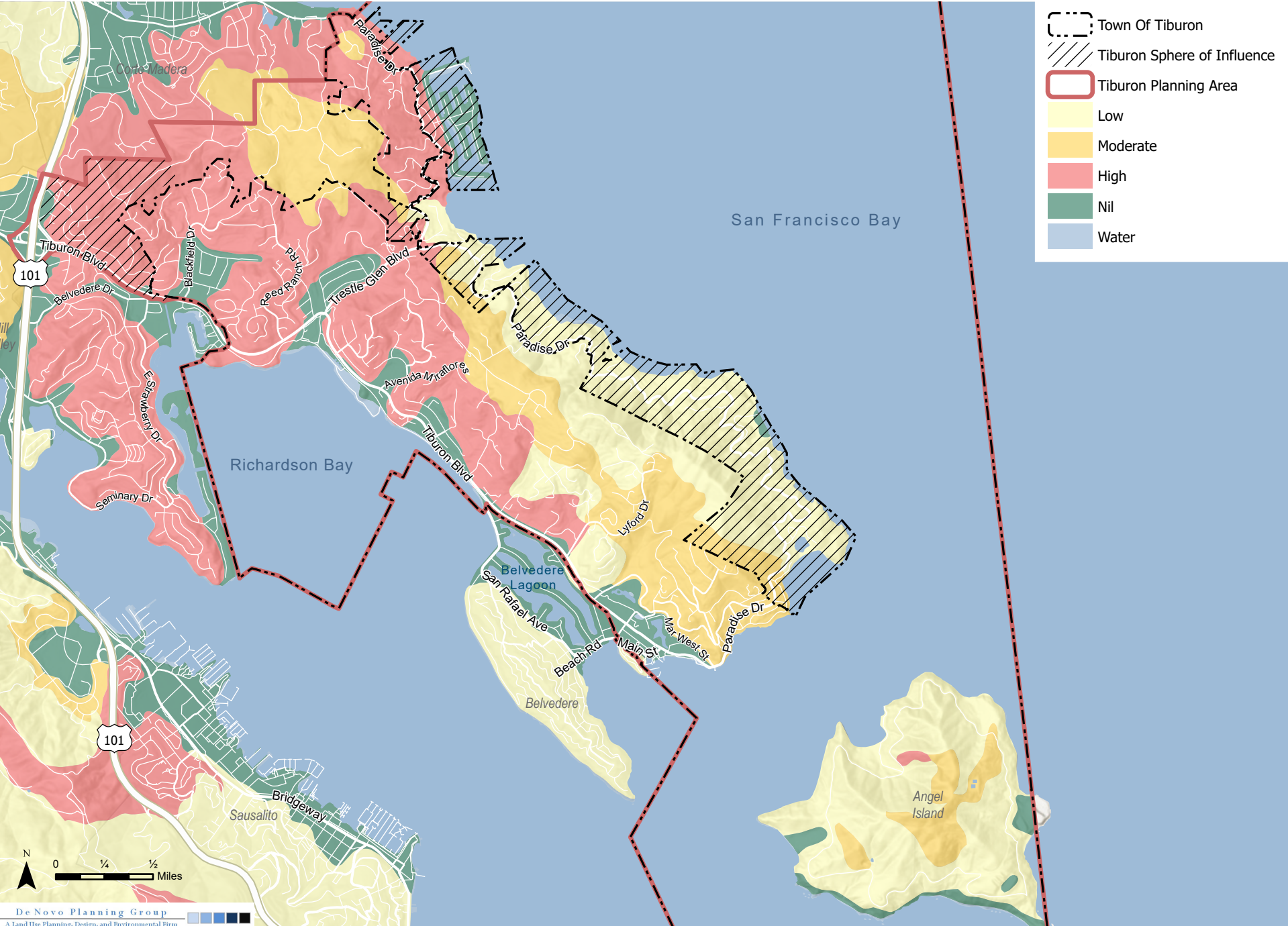


Figure 3.6-6. Expansive Soil Potential





3.7 GREENHOUSE GAS EMISSIONS

This section describes the existing setting for greenhouse gas emissions and climate change, and the greenhouse gas and climate change impacts that are likely to result from Project implementation. There was one comment received during the public review period for the NOP related to greenhouse gas emissions or climate change; a comment regarding sea level rise was provided by a local resident.

Air quality emissions are discussed in Section 3.2, Air Quality.

3.7.1 EXISTING SETTING

Greenhouse Gas Emissions and Climate Change

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. Human activities are responsible for most of the increase in GHGs in the atmosphere over the last 150 years, mostly from changes in land cover and emissions of air pollutants associated with the industrial revolution and the generation of electricity. The largest source of GHG emissions from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation. The four main GHGs emitted by human activities at the global scale are:¹

- **Carbon dioxide (CO₂)** is primarily emitted from fossil fuel use. Carbon dioxide can also be emitted from direct human-induced impacts on forestry and other land use, such as through deforestation, land clearing for agriculture, and degradation of soils. Carbon dioxide can be removed from the atmosphere through reforestation, improvement of soils, and other activities.
- **Methane (CH₄)** is emitted from agricultural activities (livestock and other agricultural practices), waste management (decay of organic waste in municipal landfills and water treatment facilities), energy use, and biomass burning.
- **Nitrous oxide** is emitted during agricultural activities (e.g., fertilizer use), industrial activities, and during the combustion of fossil fuels and solid waste.
- **Fluorinated gases** are synthetic GHGs that are emitted from industrial processes, refrigeration, and the use of a variety of consumer products. Fluorinated gases include hydrofluorocarbons (HFCs), perfluorocarbons, sulfur hexafluoride, and nitrogen fluoride.

These GHGs have different global warming potential. The global warming potential of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale

¹ United States Environmental Protection Agency (EPA). Greenhouse Gas Emissions. Website: <https://www.epa.gov/ghgemissions>, Accessed April 28, 2020.

(generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as “carbon dioxide equivalent” (CO₂e), and is the amount of a GHG emitted multiplied by its global warming potential. Carbon dioxide has a 100-year global warming potential of one. By contrast, CH₄ has a global warming potential of 28 over 100 years,² meaning its global warming effect is 28 times greater than carbon dioxide on a molecule per molecule basis. Nitrous oxide has a global warming potential of 265 over 100 years and HFC-152a has a global warming potential of 506 over 100 years.³

Indicators of Climate Change in California

The California Environmental Protection Agency (Cal/EPA) released a report on May 9, 2018, detailing the indicators of climate change in California.⁴ Indicators are scientifically based measurements that track trends in various aspects of climate change. The report presents 36 indicators that show how climate change is affecting California, which are grouped into four categories: human-influenced drivers of climate change; changes in the State’s climate; impacts of climate change on physical systems (oceans, lakes, snowpack); and impacts of climate change on biological systems (humans, vegetation, wildlife). A summary of the report is presented below followed by a table that summarizes the indicators of climate change in California.

Annual average air temperatures have increased throughout the State since 1895, with temperatures increasing at a consistently faster rate beginning in the 1980s. The last several years have seen record breaking temperatures due to climate change. Temperatures at night have increased even more than the daytime temperatures. Minimum temperatures (which generally occur at night) increased at a rate of 2.3°F (degrees Fahrenheit) per Century as compared to 1.3°F per Century for maximum (daytime) temperatures.

Temperature is a basic physical factor that affects many natural processes and human activities. Warmer air temperatures alter precipitation and runoff patterns, affecting the availability of fresh water supplies. Temperature changes can also increase the risk of severe weather events such as heat waves and more intense storms. A wide range of impacts on ecosystems and on human health and well-being are associated with increased temperatures.

² Intergovernmental Panel on Climate Change, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

³ Intergovernmental Panel on Climate Change, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

⁴ California Environmental Protection Agency (Cal/EPA). 2018. Indicators of Climate Change in California. May. Website: <https://oehha.ca.gov/media/downloads/climate-change/report/2018caindicatorsreportmay2018.pdf>, Accessed April 17, 2020.

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Warming temperatures and changing precipitation patterns have altered California’s “physical systems” including the ocean, lakes, rivers, and snowpack. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the State’s annual water supply. Less snowpack accumulates when winter temperatures are warmer because more precipitation falls as rain instead of snow. As a result, the fraction of snowmelt runoff reaching the Sacramento River between April and July has decreased by about 9 percent since 1906. With less spring runoff, less water is available during summer months to meet the State’s domestic and agricultural water demands. These reductions also affect the generation of hydroelectricity, impair cold-water habitat for certain fishes, and stress forest vegetation. The latter has consequences for long-term forest health and an associated increase in the risk of wildland fires.

Warming temperatures have also affected some of the largest glaciers in the Sierra Nevada, which have lost an average of about 70 percent of their area from the beginning of the 20th Century to the present day. Glacier shrinkage worldwide is an important contributor to global sea level rise. Along the California coast, sea levels have generally risen since 1900. Sea level rise threatens existing or planned infrastructure, development, and ecosystems along California’s coast.

Warming temperatures have affected terrestrial, marine, and freshwater ecosystems in California. Species responses include elevational or latitudinal shifts in range; changes in the timing of key plant and animal life cycle events (known as “phenology”); and changes in the abundance of species and in community composition. With continued climate change, many species may be unable to adapt or to migrate to suitable climates, particularly given the influence of other factors such as land use, habitat alteration, and emissions of pollutants.

Climate change can impact human well-being in many ways, including injuries and fatalities from extreme climatic events (e.g., heat waves and intense storms) and respiratory stress from poor air quality (e.g., asthma). Vector-borne pathogen transmission and disease patterns in California have also been altered; West Nile Virus poses the greatest mosquito-borne disease threat.

Warmer temperatures, declining snowpack, and earlier spring snowmelt runoff have created conditions for extreme, high severity wildfires that spread rapidly, as evidenced by the largest recorded wildfire in the State (August Complex Fire) that occurred in August 2020. In parts of the Central Valley, certain fruits and nuts (specifically prunes and at least one variety of walnut) are maturing more quickly with warming temperatures, leading to earlier harvests. Shorter maturation times generally lead to smaller fruits and nuts, potentially causing a significant loss of revenue for growers and suppliers.

Table 3.7-1 provides an overview of the four indicators described in the CalEPA report.

TABLE 3.7-1: INDICATORS OF CLIMATE CHANGE IN CALIFORNIA

CLIMATE CHANGE DRIVERS	
	GHG emissions
	Atmospheric GHG concentrations
	Atmospheric black carbon concentrations
	Acidification of coastal waters
CHANGES IN CLIMATE	
	Annual air temperature
	Extreme heat events
	Winter Chill
	Cooling and heating degree days
	Precipitation
	Drought
IMPACTS OF CLIMATE CHANGE ON PHYSICAL SYSTEMS	
	Snowmelt runoff
	Snow-water content
	Glacier change
	Lake water temperature
	Coastal ocean temperature
	Sea level rise
	Dissolved oxygen in coastal waters
IMPACTS OF CLIMATE CHANGE ON BIOLOGICAL SYSTEMS	
ON HUMANS	Vector-borne diseases
	Heat-related mortality and morbidity
ON VEGETATION	Forest tree mortality
	Wildfires
	Ponderosa pine forest retreat
	Vegetation distribution shifts
	Changes in forests and woodlands
	Subalpine forest density
	Fruit and nut maturation time
ON WILDLIFE	Spring flight of Central Valley butterflies
	Migratory bird arrivals
	Bird wintering ranges

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	Small mammal and avian range shifts
	Effects of ocean acidification on marine organisms (Type III)
	Nudibranch range shifts
	Copepod populations
	Sacramento River fall-run Chinook salmon abundance
	Cassin's auklet breeding success
	California sea lion pup demography

Note:

A "Type III" indicator is conceptual; no ongoing monitoring or data collection is in place for California.

Source: Indicators of Climate Change in California, California Environmental Protection Agency, May 2018.

Statewide Summary Report

The Statewide Summary Report presents an overview of the main findings from California's Fourth Climate Change Assessment.⁵ The Summary Report aims to translate climate science into useful information for decision-makers and practitioners to catalyze action that will benefit regions, the ocean and coast, frontline communities, and tribal and indigenous communities. The Statewide Summary Report presents findings in the context of existing climate science, including strategies to adapt to climate impacts and key research gaps needed to spur additional progress on safeguarding California from climate change.

The Fourth Climate Change Assessment uses global climate models and Representative Concentration Pathways, as described in the Summary Report, to describe climate outcomes. Table 3.7-2 provides a qualitative description of the current understanding of historical and expected climate impacts in California.

⁵ Governor's Office of Planning and Research, California Energy Commission, and California Natural Resources Agency. 2019. California's Fourth Climate Change Assessment: Statewide Summary Report. January 16.

TABLE 3.7-2: HISTORICAL AND EXPECTED CLIMATE IMPACTS IN CALIFORNIA

CLIMATE IMPACT	HISTORIC TRENDS	FUTURE DIRECTION OF CHANGE	CONFIDENCE FOR FUTURE CHANGE
TEMPERATURE	Warming (last 100+ years)	Warming	Very High
SEA LEVELS	Rising (last 100+ years)	Rising	Very High
SNOWPACK	Declining (past 60+ years)	Declining	Very High
ANNUAL PRECIPITATION	No significant trends (last 100+ years)	Unknown	Low
INTENSITY OF HEAVY PRECIPITATION EVENTS	No significant trends (last 100 years)	Increasing	Medium-High
FREQUENCY OF DROUGHT	No significant trends (last 100+ years)	Increasing	Medium-High
FREQUENCY AND INTENSITY OF SANTA ANA WINDS	No significant trends (last 60+ years)	Unknown	Low
MARINE LAYER CLOUDS	Some downward trends; mostly not significant (last 60+ years)	Unknown	Low
ACRES BURNED BY WILDFIRE	Increasing (last 30+ years)	Increasing	Medium-High

Source: Strategic Summary Report, Table 3. Website: [://WWW.ENERGY.CA.GOV/SITES/DEFAULT/FILES/2019-07/STATEWIDE%20REPORTS-%20SUM-CCCA4-2018-013%20STATEWIDE%SUMMARY%20REPORT.PDF](http://WWW.ENERGY.CA.GOV/SITES/DEFAULT/FILES/2019-07/STATEWIDE%20REPORTS-%20SUM-CCCA4-2018-013%20STATEWIDE%SUMMARY%20REPORT.PDF) Published January 16, 2019

3.7.2 REGULATORY SETTING

Federal

The U.S. Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) held that the United States Environmental Protection Agency (EPA) has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act. The EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the EPA issued a Final Rule that establishes the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2014, the U.S. Supreme Court in *Utility Air Regulatory Group v. EPA* (134 S. Ct. 2427 [2014]) held that EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

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On August 3, 2015, the EPA announced the Clean Power Plan, emissions guidelines for U.S. states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired power plants (Federal Register Vol. 80, No. 205, October 23, 2015). On February 9, 2016, the Supreme Court stayed implementation of the Clean Power Plan due to a legal challenge from 29 states and in April 2017, the Supreme Court put the case on a 60-day hold and directed both sides to make arguments for whether it should keep the case on hold indefinitely or close it and remand the issue to the EPA. On October 11, 2017, the EPA issued a formal proposal to repeal the Clean Power Plan and on June 19, 2019, the EPA issued the Affordable Clean Energy Rule that replaces the Clean Power Plan.

On September 27, 2019, the EPA and the National Highway Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). Part One of the SAFE Vehicles Rule revokes California's authority to set its own GHG emissions standards and zero-emission vehicle mandates in California, which results in one emission standard to be used nationally for all passenger cars and light trucks that is set by the EPA.

State

California Code of Regulations Title 24, Part 6

The California Energy Commission (CEC) is responsible for implementing the California Code of Regulations Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings that were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. In 2008 the State set an energy-use reduction goal of zero-net-energy use of all new homes by 2020 and the CEC was mandated to meet this goal through revisions to the Title 24, Part 6 regulations.

The Title 24 standards are updated on a 3-year schedule and since 2008 the standards have been incrementally moving to the ultimate goal of the zero-net-energy use. On January 1, 2023, the 2022 standards went into effect, which have been designed so that the average new home built in California will now result in zero-net-energy demand. The regulations are also designed to ensure that non-residential buildings will use substantially less energy than the 2019 standards. The 2022 standards encourage the use of battery storage, the use of heat pump water heaters, and also require widespread use of light emitting diode (LED) lighting, as well as improvements to the thermal envelope of buildings through high performance attics, walls and windows. Additionally, the 2022 standards limit the use of gas appliances, require ventilation of gas stoves, require non-residential steam trap monitoring, limit non-residential outdoor lighting sources, and require an increase in non-residential computer room efficiency.

California Code of Regulations Title 24, Part 11

California Code of Regulations Title 24, Part 11 (CALGreen) was developed in response to continued efforts to reduce GHG emissions associated with energy consumption. CALGreen is also updated every three years and the current version is the 2022 CALGreen that become effective on January 1, 2023.

The CALGreen Code contains requirements for construction site selection; stormwater control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency.

The CALGreen Code provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, stormwater management, building design, insulation, flooring, and framing, among others. Implementation of the CALGreen Code measures reduces energy consumption and vehicle trips and encourages the use of alternative-fuel vehicles, which reduces pollutant emissions.

Some of the notable changes in the 2022 CALGreen Code over the prior 2019 CALGreen Code include a requirement for automatic sprinklers for large parking garages in high-rise buildings and in buildings with a height exceeding 55 feet, additional illumination for exit stairways and exit access, and other more stringent fire protection requirements. The 2022 Building Code establishes an energy budget based on efficient heat pumps or water heaters to encourage installation of heat pumps over gas-fueled HVAC units and requires homes to be electric-ready, with dedicated 240-volt outlets and space, so electric appliances can eventually replace installed gas appliances.

California Advanced Clean Cars Program

On September 27, 2019, the EPA and the National Highway Safety Administration published the SAFE Vehicles Rule Part One: One National Program. The Part One Rule revokes California's authority to set its own GHG emissions standards and sets zero-emission vehicle mandates in California. To account for the effects of the Part One Rule, the California Air Resources Board (the CARB) released off-model adjustment factors on November 20, 2019, to adjust criteria air pollutant emissions outputs from the EMFAC model. These off-model adjustment factors are to be applied by multiplying the emissions calculated for light- and medium-duty vehicles by the adjustment factor. These model adjustment factors were incorporated into the latest version of the EMFAC model (EMFAC2021). With the incorporation of these adjustment factors, operational emissions generated by light-duty

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automobiles, light-duty trucks, and medium-duty trucks associated with project-related vehicle trips at the year 2030 (a conservative year to use as the project buildout is year 2026) would be approximately 0.5 percent greater for reactive organic gas (ROG), 1.4 percent greater for particulate matter, 0.5 percent greater for NO_x, and 1.6 percent greater for CO.

Executive Order B-30-15

In September 2020, Governor Gavin Newsom issued Executive Order N-79-20, which requires sales of all new passenger vehicles to be zero-emission by 2035 and additional measures to eliminate harmful emissions from the transportation sector.

Assembly Bill 1279

Assembly Bill (AB) 1279 (Muratsuchi, Chapter 337, Statutes of 2022), the California Climate Crisis Act, commits California to reducing GHG emissions 85 percent below 1990 levels and achieving carbon neutrality by 2045. AB 1279 also requires California to maintain a net negative greenhouse gas emissions thereafter. The bill would require the California Air Resources Board to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies in California, as specified. AB 1279 would also require the CARB to submit an annual report.

Executive Order B-30-15, Senate Bill 32, and Assembly Bill 197

The California Governor issued Executive Order B-30-15 on April 29, 2015, that aims to reduce California's GHG emissions 40 percent below 1990 levels by 2030. This Executive Order aligns California's GHG reduction targets with those of other international governments, such as the European Union that set the same target for 2030 in October 2014. This target will make it possible to reach the ultimate goal of reducing GHG emissions 80 percent under 1990 levels by 2050 that is based on scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius – the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. Assembly Bill (AB) 197 (September 8, 2016) and SB 32 (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in Executive Order B-30-15. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires the CARB to consider the social costs of emissions impacting disadvantaged communities.

Executive Order B-29-15

The California Governor issued Executive Order B-29-15 on April 1, 2015, and directed the State Water Resources Control Board to impose restrictions to achieve a Statewide 25 percent reduction in urban water usage and directed the Department of Water Resources to replace 50 million square feet of lawn with drought tolerant landscaping through an update to the State's Model Water Efficient Landscape Ordinance. The Ordinance also requires

installation of more efficient irrigation systems, promotion of greywater usage and onsite stormwater capture, and limits the turf planted in new residential landscapes to 25 percent of the total area and restricts turf from being planted in median strips or in parkways unless the parkway is next to a parking strip and a flat surface is required to enter and exit vehicles. Executive Order B-29-15 would reduce GHG emissions associated with the energy used to transport and filter water.

Executive Order B-48-18 and Assembly Bill 2127

The California Governor issued Executive Order B-48-18 on January 26, 2018, that orders all state entities to work with the private sector to put at least 5 million zero-emission vehicles on California roads by 2030 and to install 200 hydrogen fueling stations and 250,000 electric vehicle chargers by 2025. Currently there are approximately 350,000 electric vehicles operating in California, which represents approximately 1.5 percent of the 24 million vehicles total currently operating in California. Implementation of Executive Order B-48-18 would result in approximately 20 percent of all vehicles in California to be zero emission electric vehicles. AB 2127 was codified on September 13, 2018, and requires the CEC to work with the CARB to determine Statewide electric vehicle charging infrastructure needs to meet the State goal of at least 5 million zero emission vehicles in use by 2030.

Assembly Bill 1493

AB 1493 (also known as the Pavley Bill named after its author Fran Pavley) was enacted on July 22, 2002, and required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2004, the CARB approved the “Pavley I” regulations limiting the amount of GHGs that may be released from new passenger automobiles that are being phased in between model years 2009 through 2016. By 2016, these regulations reduced GHG emissions by 30 percent from 2002 levels. In June 2009, the EPA granted California the authority to implement GHG emission reduction standards for light duty vehicles, and in September 2009, amendments to the Pavley I regulations were adopted by the CARB and implementation of the “Pavley I” regulations started in 2009.

The second set of regulations “Pavley II” was developed in 2010 and is being phased in between model years 2017 through 2025 with the goal of reducing GHG emissions by 45 percent by 2020 as compared to the 2002 fleet. The 2020 goal was met early in 2016.⁶ The Pavley II standards were developed by linking the GHG emissions and formerly separate toxic tailpipe emissions standards previously known as the “LEV III” (third stage of the Low Emission Vehicle standards) into a single regulatory framework. The new rules reduce emissions from gasoline-powered cars as well as promote zero-emissions auto technologies such as electricity and hydrogen, and through increasing the infrastructure for fueling

⁶ California Office of the Governor. 2019. Governor Newsom Announces Climate Pollution Continues to Drop Below 2020 Target While State’s Economy Grows. August 12. Website: <https://www.gov.ca.gov/2019/08/12/governor-newsom-announces-climate-pollution-continues-to-drop-below-2020-target-while-states-economy-grows/>. Accessed May 29, 2020.

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hydrogen vehicles. In 2009, the EPA granted California the authority to implement the GHG standards for passenger cars, pickup trucks, and sport utility vehicles and these GHG emissions standards are currently being implemented nationwide. However, EPA has performed a midterm evaluation of the longer-term standards for model years 2022-2025, and based on the findings of this midterm evaluation, the EPA has proposed to amend the corporate average fuel economy and GHG emissions standards for light vehicles for model years 2021 through 2026. The EPA's proposed amendments do not include any extension of the legal waiver granted to California by the 1970 Clean Air Act and which has allowed the State to set tighter standards for vehicle pipe emissions than the EPA standards. On September 20, 2019, California filed suit over the EPA decision to revoke California's legal waiver that has been joined by 22 other states.

California Executive Orders S-3-05 and S-20-06, Assembly Bill 32

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to (1) 2000 levels by 2010; (2) 1990 levels by the 2020; and (3) 80 percent below the 1990 levels by the year 2050.

In 2006, this goal was further reinforced with the passage of AB 32, the Global Warming Solutions Act of 2006, which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required the CARB to develop a Climate Change Scoping Plan that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by the CARB in 2008 and must be updated every 5 years. The First Update to the Climate Change Scoping Plan was approved by the Board on May 22, 2014.

In 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. The second update to the Scoping Plan was published by the CARB in November 2017. The 2017 Climate Change Scoping Plan identifies how the State can reach the 2030 climate target to reduce GHG emissions by 40 percent from 1990 levels, as set by Executive Order B-30-15 and codified by SB 32. The 2017 Climate Change Scoping Plan also describes how the State can substantially advance toward the 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels.

Senate Bill 375

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the State's 18 major Metropolitan Planning Organizations to prepare a "sustainable communities strategy" that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan. On September 23, 2010, the CARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. In 2018, the State was not on

track to meet the 2020 goal.⁷ At time of writing of this Revised Draft EIR, there has not been an update on whether the 2020 goal has yet been met.

Senate Bill 1383

Signed September 19, 2016, SB 1383 is a supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH₄. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels (e.g., on-and off-road transportation, residential wood burning, charbroiling, and industrial processes). SB 1383 required the CARB, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve the following reductions below 2013 levels by 2030, including CH₄ by 40 percent, hydrofluorocarbon gases by 40 percent, and black carbon by 50 percent. SB 1383 also establishes targets for reducing organic waste in landfills (see Section 3.15, Utilities and Service Systems). In response to SB 1383, the CARB adopted the Final Proposed Short-Lived Climate Pollutant Strategy on March 14, 2017.

California Renewables Portfolio Standard

The California Renewables Portfolio Standard was established in 2002 under SB 1078, accelerated in 2006 under SB 107, expanded in 2011 under SB 2, and enhanced in 2015 by SB 350. The Renewables Portfolio Standard program requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2030.⁸ SB 100, passed in September 2018, accelerates the Renewables Portfolio Standard to achieve a 50 percent renewable resources target by 2026, a 60 percent target by 2030, and set a standard for zero-carbon electricity by 2045.

California Environmental Quality Act, SB-97

Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State California Environmental Quality Act (CEQA) Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, a variety of air districts have adopted quantitative significance thresholds for GHGs.

⁷ California Air Resources Board (CARB). 2018. 2018 Progress Report: California's Sustainable Communities and Climate Protection Act. November.

⁸ California Public Utilities Commission (CPUC). California Renewables Portfolio Standard. Website: <http://www.cpuc.ca.gov/rps/>. Accessed April 28, 2020.

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Regional

Plan Bay Area 2050

In October 2021, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) adopted Plan Bay Area 2050, a 30-year plan that charts a course for a Bay Area that is affordable, connected, diverse, healthy and vibrant for all residents through 2050 and beyond. Thirty-five strategies comprise the heart of the plan to improve housing, the economy, transportation and the environment across the Bay Area's nine counties — Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma. Under Plan Bay Area 2050's strategies, greenhouse gas emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19% reduction in per capita emissions by 2035 — but only if all strategies are implemented.

BAAQMD 2050 Climate Resolution Goals

In 2013, the Bay Area Air Quality Management District (BAAQMD) Board of Directors approved a Resolution (No. 2013-11) adopted a GHG goal and a commitment to developing a regional climate protection strategy that commits to the following.

- Setting a goal for the Bay Area region to reduce GHG emissions to 80 percent below 1990 levels by 2050.
- Developing a Regional Climate Protection Strategy to make progress toward the 2050 goal and to complement existing climate action efforts at the State, regional, and local levels.
- Preparing a work program to guide the BAAQMD climate protection activities in the near term.

BAAQMD 2017 Clean Air Plan

BAAQMD adopted the 2017 Clean Air Plan on April 19, 2017 to comply with State air quality planning requirements set forth in the California Health & Safety Code. The 2017 Clean Air Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as PM, ozone, and TACs, to reduce emissions of methane and other “super-greenhouse gases” that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

The proposed control strategy for the 2017 Clean Air Plan consists of 85 specific control measures targeting a variety of local, regional, and global pollutants. The control measures have been developed for stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Implementation of some of the control measures could involve retrofitting, replacing, or

installing new air pollution control equipment, changes in product formulations, or construction of infrastructure that have the potential to create air quality impacts.

The BAAQMD CEQA Guidelines set forth criteria for determining consistency with the Clean Air Plan. In general, a project is considered consistent if (1) the project supports the primary goals of the Clean Air Plan, (2) includes control measures and (3) does not interfere with implementation of the Clean Air Plan measures.

BAAQMD 2017 CEQA Air Quality Guidelines

The purpose of the CEQA Air Quality Guidelines is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin. The Guidelines contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities. The Guidelines focus on criteria air pollutant, GHG, toxic air contaminant, and odor emissions generated from plans or projects and are intended to help lead agencies navigate through the CEQA process. The Guidelines for implementation of the Thresholds are for information purposes only to assist local agencies. Recommendations in the Guidelines are advisory and should be followed by local governments at their own discretion.

The most recent version of the CEQA Air Quality Guidelines were published May 2017, and includes revisions made to address the Supreme Court's opinion (*California Building Industry Association v. Bay Area Air Quality Management District*, December 2015).⁹ The May 2017 Guidelines update does not address outdated references, links, analytical methodologies or other technical information that may be in the Guidelines or Thresholds Justification Report. The BAAQMD is currently working to update any outdated information in the Guidelines.

BAAQMD Justification Report: CEQA Thresholds for Evaluating the Climate Impacts of Land Use Projects and Plans

BAAQMD adopted the Justification Report: CEQA Thresholds for Evaluating the Climate Impacts of Land Use Projects and Plans (Justification Report) in April 2022. The Justification Report presents the Bay Area Air Quality Management District's (Air District's) recommended thresholds of significance for use in determining whether a proposed project will have a significant impact on climate change. The BAAQMD recommends that these thresholds of significance be used by public agencies to comply with the CEQA.

⁹ In March 2012, the Alameda County Superior Court ordered BAAQMD to set aside use of the significance thresholds within the BAAQMD 2010 CEQA Guidelines and cease dissemination until they complete an assessment of the environmental effects of the thresholds in accordance with CEQA. The Court found that the thresholds, themselves, constitute a "project" for which environmental review is required. In August 2013, the First District Court of Appeal reversed the Alameda County Superior Court's decision. The Court held that adoption of the thresholds was not a "project" subject to CEQA because environmental changes that might result from their adoption were too speculative to be considered "reasonably foreseeable" under CEQA. In December 2015, the California Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's opinion.

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For General Plans, the BAAQMD recommends that cities and counties evaluate General Plans based on whether they will be consistent with California's long-term climate goal of achieving carbon neutrality by 2045. To be consistent with this goal, these plans should reduce GHG emissions in the relevant jurisdiction to meet an interim milestone of 40 percent below the 1990 emission levels by 2030, consistent with SB 32, and to support the State's goal of carbon neutrality by 2045. Cities and counties planning to develop in a manner that is not consistent with meeting these GHG reduction targets will have a significant climate impact because they will hinder California's efforts to address climate change.

Local

Tiburon General Plan

The existing General Plan includes goals, policies, and implementation measures that assist in reducing or avoiding impacts to greenhouse gases and climate change. These goals, policies, and implementation measures are found in the Open Space and Conservation Element and Circulation Element.

Tiburon Municipal Code

Article II, 13.4-10 of the Municipal Code (Energy Code) adopts the 2019 California Energy Code, Title 24, Part 6.

Chapter 13E (Water Efficient Landscape) contains regulations to support water conservation. All landscaping proposed for review and/or approval by the Town shall comply with the provisions of the Marin Municipal Water District Water Efficient Landscape Regulations.

Chapter 13.17 (Recycling and Diversion of Construction and Demolition (C&D) Waste) addresses construction and demolition reporting and diversion requirements for construction and demolition waste. The diversion requirements specified in the code for a project and for a certified recycling facility shall be a minimum of ninety percent on December 31, 2018, and ninety-four percent on December 31, 2025.

Chapter 10A.40 (Plastic Bags Prohibited) restricts stores from providing customers a plastic carryout bag. This is intended to reduce the amount of plastic bag pollution in the environment, reduce the impacts of paper bags which cause other forms of pollution and greenhouse gas emissions, and encourage reusable bags by consumers and retailers.

Tiburon Climate Action Plan

The purpose of the Town of Tiburon Climate Action Plan 2030 (Tiburon CAP, or CAP) is to compile existing and potential strategies (i.e., actions, projects, and programs) that the Town's government and the community can use to address climate change. The CAP incorporates the Town's 2005 through 2020 Greenhouse Gas Emission Inventories, which identified sources of greenhouse gas emissions generated by the community and the local government; estimates how these emissions may change over time under a business-as-

usual forecast and provides energy use, transportation, land use, waste, water, wastewater, and natural system strategies necessary to minimize Tiburon's impacts on climate change and meet the Town's adopted greenhouse gas emissions reduction targets of mitigation and sequestering GHG emissions to 50% below 1990 levels by year 2030, and carbon neutrality by year 2050. The CAP includes the following strategies and actions to reduce greenhouse gas emissions:

LCT-C1: Zero Emission Vehicles. Take actions that will result in at least 45% of registered passenger vehicles in Tiburon and Marin County to be zero emission vehicles (ZEVs), including plug-in electric vehicles (EVs) and hydrogen fuel cell electric vehicles, by 2030.

LCT-C2: Bicycling and Micromobility. Encourage bicycling and micromobility as an alternative to vehicular travel.

LCT-C3: Walking. Encourage walking as an alternative to vehicle use.

LCT-C4: Safe Routes to School. Continue to support the Safe Routes to School Program and strive to increase bicycling, walking, carpooling (especially in a ZEV), and taking public transit to school.

LCT-C5: Public Transit. Support and promote public transit.

LCT-C6: Employee Trip Reduction. Reduce vehicle miles traveled commuting to work.

LCT-C7: Vehicle Idling. Encourage drivers and autonomous vehicles to limit vehicle idling through public outreach and engagement campaigns

LCT-C8: Smart Growth Development. Promote land use and development policies that prioritize infill housing and mixed-use development near commercial services and transit facilities. Achieve multifamily housing development on housing opportunity sites identified in the Town's Housing Element 2023-2031 and apply existing inclusionary requirements for units affordable to lower-income households as applicable.

LCT-C9: Zero Emission Landscape Equipment. Adopt an ordinance to require the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas.

LCT-M1: Zero Emission Town Vehicles. Purchase or lease zero-emission vehicles for the Town fleet whenever feasible and when not, the most fuel-efficient models available. Achieve a 100% electric light duty vehicle fleet by 2030.

LCT-M2: Low Carbon Fuels. Use low-carbon fuel such as renewable diesel as a transition fuel in the Town's fleet and encourage the Town's service providers and joint powers agencies to do the same until vehicles are replaced with zero-emission vehicles.

LCT-M3: Town Employee Commute. Provide Town employees with incentives and/or reduce barriers to drive electric vehicles and use alternatives to single occupant auto commuting, such as discounted EV charging, transit and e-bike discounts and subsidies, secure bicycle

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facilities, showers and changing facilities, ridesharing services, vanpools, emergency ride home service, flexible schedules, and telecommuting when practicable.

LCT-M4: Municipal Zero Emission Landscape Equipment and Small Off-Road Engines. Replace all gas-powered leaf blowers, mowers, brush cutters, hedgers, saws, and other landscape equipment and small off-road engines, including generators and pressure washers, with zero emission equipment.

RE-C1: Renewable Energy Generation and Storage. Accelerate installation of residential and commercial solar and other renewable energy systems and energy storage systems.

RE-C2: GHG-Free Electricity. Encourage residents and businesses to switch to 100% renewable electricity (MCE Deep Green, MCE Local Sol, and PG&E Solar Choice) through engagement campaigns and partner agency incentives and work with MCE Clean Energy to assure that it reaches its goal to provide electricity that is 95% GHG-free by 2022. Target 15% of the electricity load to be Deep Green in 2030.

RE-C3: Building and Appliance Electrification. Accelerate electrification of building systems and appliances that currently use natural gas, including heating systems, hot water heaters, stoves, ranges, and clothes dryers.

RE-C4: Innovative Technologies. Investigate and pursue innovative technologies such as micro-grids, battery storage, and demand-response programs that will improve local resilience and the electric grid's resiliency and help to balance demand and renewable energy production in cooperation with local and regional partners such as MCE and PG&E, as feasible.

RE-M1: Municipal 100% Renewable Electricity. Install solar energy systems at all municipal buildings and facilities where feasible and investigate and pursue innovative technologies such as battery storage and demand response programs for them. Where feasible, replace natural gas appliances/equipment with electric and electrify all Town buildings and facilities, where feasible. Continue to purchase 100% renewable energy for Town buildings, facilities, and vehicles through programs such as MCE Deep Green.

EE-C1: Energy Efficiency Programs. Promote and expand participation in residential and commercial energy efficiency programs.

EE-C2: Energy Audits. Investigate requiring energy audits for residential and commercial buildings at time of sale or major remodel. Requirements could include identification of electrification and energy efficiency opportunities and supporting programs could connect building owners to potential rebates and financing options.

EE-C3: Cool Pavement and Roofs. Use reflective, high albedo material for roadways, parking lots, sidewalks, and cool roofs to reduce the urban heat island effect and save energy.

EE-C4: Green Building Reach Code. Adopt a green building ordinance for new and remodeled commercial and residential projects that requires green building methods, materials, and

efficiency above the State building and energy codes. Consider adoption of low embodied-carbon concrete standards similar to those adopted by the County.

EE-C5: Streamline Permit Process and Provide Technical Assistance: Analyze current green building permit and inspection process to eliminate barriers and provide technical assistance to ensure successful implementation of green building requirements. Work countywide to make it easier for contractors and building counter staff to simplify applications and identify incentives.

EE-C6: Sustainable Building Materials: Study alternatives and draft regulations that require use of Forest Stewardship Council certified material in new constructions, major remodels, and outdoor use and that prohibit use of non-certified old-growth and other materials.

EE-M1: Public Lighting: Replace remaining inefficient street, parking lot, and other outdoor lighting with LED fixtures.

EE-M2: Energy Efficiency Audit and Retrofits in Town Buildings: Work with the Marin Energy Management Team to identify and implement energy efficiency projects in municipal buildings and facilities and electrification of existing building systems and equipment that use natural gas.

EE-M3: Energy Conservation in Town Buildings: Reduce energy consumption through behavioral and operational changes.

WR-C1: Commercial Organic Waste. Work with Zero Waste Marin, the Town's waste hauler, and nonprofits such as Extra Food to divert commercial organic waste from the landfill through recycling, composting, and participation in waste-to-energy and food recovery programs.

WR-C2: Residential Organic Waste. Work with Zero Waste Marin, the Town's waste hauler, and other organizations to educate and motivate residents to utilize curbside collection services and home composting for food waste.

WR-C3: Construction & Demolition and Self-Haul Waste. Require all loads of construction & demolition debris and self-haul waste to be processed for recovery of materials as feasible. Investigate creation of an ordinance requiring deconstruction of buildings proposed for demolition or remodeling when materials of significant historical, cultural, aesthetic, functional or reuse value can be salvaged.

WR-C4: Mandatory Waste Diversion. Adopt an ordinance requiring all commercial and residential accounts to subscribe to and fully participate in waste diversion activities, including recycling and organics collection provided by the Town's waste hauler. Consider including phased implementation of the ordinance, penalties, and practical enforcement mechanisms.

WR-C5: Waste Processing Franchise Agreement and Infrastructure. Review and revise the Town's franchise agreement with its waste hauler to ensure adequate recycling and

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composting capacity is available and waste reduction and diversion targets are met. Ensure organic waste collection service (including green waste, food waste, fibers, and manure) that complies with SB 1383 regulations is provided to all residents and businesses. Conduct a feasibility study (including cost estimates and estimated GHG reduction metrics) and consider investing in new solid waste processing infrastructure to remove recoverable materials (recycling and organics) from the waste stream and reduce contamination. Require regular residential and commercial waste audits and waste characterization studies to identify opportunities for increased diversion and to track progress in meeting targets.

WR-C6: Extended Producer Responsibility. Encourage the State to regulate the production and packaging of consumer goods and take-back programs. Encourage on-demand product and food delivery services to reduce packaging waste and investigate requirements and incentives for same through ordinance or engagement campaigns.

WR-C7: Inorganic Waste. Promote reuse, repair, and recycling of inorganic materials, and encourage reduced use of packaging and single use items through engagement campaigns.

WR-M1: Waste from Town Operations. Increase opportunities to reduce waste at Town facilities.

WC-C1: Community Water Use. Reduce indoor and outdoor water use in residential and commercial buildings and landscaping.

WC-M1: Municipal Water Use. Reduce indoor and outdoor water use in municipal facilities and operations.

S-C1: Urban Forest. Increase carbon sequestration and improve air quality and natural cooling through expansion and enhancement of green spaces and increasing appropriate (e.g., native, drought-resistant, fire resilient) tree cover, other vegetation, and healthy soils in Tiburon.

S-C2: Carbon Sequestration. Increase carbon sequestration in developed landscapes and open/natural areas.

S-C3: Carbon Offsets. Reduce the impact of greenhouse gas emissions through the purchase of high quality, well-vetted and verifiable carbon offsets.

S-C4: Building Materials. Decrease GHG emissions associated with building materials and increase the use of building materials with the highest potential for carbon storage.

CE-C1: Community Education. Work with community-based organizations, such as Resilient Neighborhoods, to educate and motivate community members to start or continue to reduce GHG emissions in their homes, businesses, transportation mode choices, and other activities, and increase community resilience through community-building activities.

CE-C2: Community Outreach. Implement a communitywide public outreach and behavior change campaign to engage residents, businesses, and consumers around the impacts of

climate change and the ways individuals and organizations can reduce their GHG emissions and create a more sustainable, resilient, and healthier community.

CE-C3: Advocacy. Advocate at the regional, state, and federal levels for policies and actions that support the rapid transition to GHG-free energy sources, electrification of buildings and the transportation fleet, and other impactful measures to sharply reduce greenhouse gas emissions.

CE-C4: Green Businesses. Encourage local businesses to participate in the Marin County Green Business Program.

CE-C5: Innovation and Economic Development. Participate in local economic development and innovation working groups to explore public-private partnerships and to develop ways to decarbonize the local economy while spurring sustainable enterprise and equitable employment.

3.7.3 GREENHOUSE GAS INVENTORIES

State of California Inventory

Based on the CARB annual Statewide GHG emission inventory, in 2017, emissions Statewide were 424.1 million metric tons (MMT) of CO₂e, 17.3 MMT CO₂e lower than 2015 levels, and just below the 2020 target of 431 MMT CO₂e.¹⁰ The largest source of GHG emissions in California is the transportation sector. Direct emissions from the tailpipe of cars, trucks, off-road transportation sources, intrastate aviation, and other sources, accounted for 40 percent of the inventory in 2017. Emissions from the remaining sectors in the 2017 inventory are as follows: industrial sector (21 percent); electricity sector (15 percent); commercial and residential fuel combustion (10 percent); agricultural sector (8 percent); high global warming potential (five percent); and recycling and waste (2 percent).

Bay Area Inventory

The BAAQMD estimated that in 2011, 86.6 MMT of CO₂e GHGs were emitted by the San Francisco Bay Area (83.9 MMT of CO₂e were emitted within the Bay Area Air District and 2.7 MMT of CO₂e were indirect emissions from imported electricity).¹¹ In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for 39.7 percent of the Bay Area's 86.6 MMT of GHG emissions in 2011. Industrial and

¹⁰ California Air Resources Board (CARB). 2019. California's 2000-2017 Greenhouse Gas Emissions Inventory, 2019 Edition. 2000-2017 Trends Figure Data. August.

¹¹ Bay Area Air Quality Management District (BAAQMD). 2015. Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011. January. Website: http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Emission%20Inventory/BY2011_GHGSummary.ashx?la=en, Accessed April 19, 2020.

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commercial sources were the second largest contributors of GHG emissions with about 35.7 percent of total emissions. Domestic sources (e.g., home water heaters, furnaces, etc.) account for about 7.7 percent of the Bay Area's GHG emissions, and energy production accounted for 14.0 percent. Off-road equipment and agriculture make up the remainder with approximately 1.5 percent and 1.5 percent, respectively, of the total Bay Area 2011 GHG emissions, respectively. The inventory is broken down by county, where Marin County emissions accounted for approximately 2.77 percent of total emissions within the Bay Area (2.4 MMT of CO₂e). As in many Bay Area counties, most Marin County emissions are from transportation (cars and trucking), accounting for approximately 56.3 percent of the county's emissions. About 40 percent of the entire Bay Area inventory is attributable to transportation.

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The GHG emissions generated by activities taking place in Tiburon have been quantified in the GHG inventory prepared by the Tiburon CAP. The Tiburon CAP quantified GHG emissions for each year from 2005 through 2020. In 2005, the activities taking place by the Tiburon community resulted in approximately 60,573 MT CO₂e. In 2020, those activities resulted in approximately 43,307 MT CO₂e, which equates to a reduction of 29 percent from 2005 levels. This means that the Town has met the State goal to reduce emissions 15 percent below the 2005 baseline by 2020.

The community inventory tracks emissions in seven sectors:

- **Built Environment - Electricity** sector represents emissions generated from the use of electricity in homes and commercial and public buildings and facilities, and electric vehicle charging in Tiburon.
- The **Built Environment – Natural Gas** sector represents emissions generated from the use of natural gas in homes and commercial and public buildings and facilities in Tiburon.
- The **Transportation** sector includes tailpipe emissions from passenger vehicle trips originating and/or ending in Tiburon, a share of tailpipe emissions generated by medium and heavy-duty vehicles travelling on Marin County roads, and emissions from transit vehicles when operating within the Town limits.
- The **Waste** sector represents fugitive methane emissions that are generated over time as organic material decomposes in the landfill.
- The **Off-Road** sector represents emissions from the combustion of gasoline and diesel from the operation of off-road vehicles and equipment used for construction and landscaping.
- The **Water** sector represents emissions from energy used to pump, convey, treat, and distribute potable water from the water source to water users in Tiburon.

- The **Wastewater** sector represents stationary, process, and fugitive GHGs that are created during the treatment of wastewater generated by the community and emissions created from energy used to process wastewater.

3.7.4 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the General Plan 2040 will have a significant impact related to GHG emissions if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Most individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence on climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even when individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects per CEQA Guidelines Section 15064(h)(1).

The BAAQMD CEQA Guidelines have identified emissions-based thresholds that apply to the evaluation of General Plans. These thresholds are based on meeting the AB 32 GHG emissions reductions targets. The BAAQMD adopted an efficiency measurement that can be applied to the evaluation of plans in Bay Area jurisdictions. For General Plans, the BAAQMD provides two approaches to determining significance of GHG emissions for plans. The two approaches are as follows:

1. Consistency with a qualified GHG reduction plan; or
2. Meets the efficiency plan threshold of 6.6 MT CO₂e per service population per year.

Regarding Approach 1, according to the BAAQMD Guidelines, a qualified GHG reduction plan is one that includes the following elements: quantifying communitywide GHG emissions for an existing baseline level and projected GHG emissions from a business-as-usual, no-plan, forecast scenario of the horizon year.

The Tiburon CAP is a qualified GHG reduction plan. The CAP was recently adopted (in September 2022) and accounts for the most recent Housing Element and provision of additional housing units and growth within Tiburon, which ensures that the growth associated with the General Plan 2040 growth was accounted for within the CAP. The CAP

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quantified communitywide GHG emissions for an existing baseline level¹², and projected GHG emissions from a business-as-usual, no-plan, forecast scenario for future years 2030 and 2045. The CAP also provides GHG reduction strategies that would allow the Tiburon to meet the aggressive state-level GHG targets associated with years 2030 and 2045. Therefore, the following analysis relies on BAAQMD Approach 1 to evaluate whether the General Plan 2040 would generate GHG emissions that would create a significant impact on the environment, under Impact 3.7-1. An analysis of the Project's consistency with other planning documents is also provided under Impact 3.7-2.

3.7.5 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impact 3.7-1 Development facilitated by the General Plan could directly or indirectly generate GHG emissions that may have a significant impact on the environment.

This impact discussion addresses the Project's consistency with the adopted Tiburon CAP.

Climate Action Plan Consistency

The General Plan 2040 would be consistent with the Tiburon CAP, which is considered a qualified GHG reduction plan. The CAP describes how consistency with the GHG reduction measures contained within the CAP would ensure that the Tiburon would achieve the state-level GHG reduction targets for years 2030 and 2045. Specifically, the CAP describes how the Town would meet the state-level year 2030 target of mitigating and sequestering GHG emissions to 50% below the Town's GHG emissions in year 1990, and the state-level year 2045 target of carbon neutrality.

The CAP was recently adopted (in September 2022) and accounts for the most recent Housing Element (i.e. the proposed 6th Cycle Housing Element) and provision of additional housing units and growth within Tiburon. Therefore, since the General Plan 2040 was based on the most recent Housing Element, development from the General Plan 2040 was accounted for within the projections contained within the CAP. Therefore, implementation of the GHG reduction measures contained within the CAP would ensure that the proposed General Plan 2040 would be consistent with the future state-level GHG reduction targets.

Specifically, the Town would be required to comply with the CAP's Low Carbon Transportation Strategies, such as Strategy LCT-C1 (Zero Emission Vehicles), which requires the Town to Take actions that will result in at least 45% of registered passenger vehicles in Tiburon and Marin County to be zero emission vehicles (ZEVs), including plug-in electric vehicles (EVs) and hydrogen fuel cell electric vehicles, by 2030. Further, the Town would be required to implement other Low Carbon Transportation Strategies, including Strategy LCT-C3 (Walking), which encourages walking as an alternative to vehicle use, and Strategy LCT-C5

¹² The CAP included baseline GHG emissions inventories for all years 2005 through 2020.

(Public Transit), which supports and promotes public transit. Moreover, Strategy LCT-M1 (Zero Emission Town Vehicles) requires the Town to purchase or lease zero-emission vehicles for the Town fleet whenever feasible and when not, the most fuel-efficient models available. Achieve a 100% electric light duty vehicle fleet by 2030.

The Town would also be required to comply with the CAP's other strategies, which include Renewable Energy and Electrification, Energy Efficiency and Green Building, Waste Reduction, Water Conservation, Sequestration, and Community Engagement Strategies. For example, Strategy RE-C1 (Renewable Energy Generation and Storage) would require the Town to accelerate installation of residential and commercial solar and other renewable energy systems and energy storage systems. Strategy RE-C3 (Building and Appliance Electrification) would require the Town to accelerate electrification of building systems and appliances that currently use natural gas, including heating systems, hot water heaters, stoves, ranges, and clothes dryers. Strategy RE-M1 (Municipal 100% Renewable Electricity) would require the Town to install solar energy systems at all municipal buildings and facilities where feasible and investigate and pursue innovative technologies such as battery storage and demand response programs for them, and where feasible, replace natural gas appliances/equipment with electric and electrify all Town buildings and facilities, where feasible. This strategy also requires the Town to continue to purchase 100% renewable energy for Town buildings, facilities, and vehicles through programs such as MCE Deep Green.

Strategy EE-C6 (Sustainable Building Materials) requires the Town to study alternatives and draft regulations that require use of Forest Stewardship Council certified material in new constructions, major remodels, and outdoor use and that prohibit use of non-certified old-growth and other materials. Strategy EE-M2 (Energy Efficiency Audit and Retrofits in Town Buildings) requires the Town to work with the Marin Energy Management Team to identify and implement energy efficiency projects in municipal buildings and facilities and electrification of existing building systems and equipment that use natural gas. Further, Strategy WR-C1 (Commercial Organic Waste) requires the Town to work with Zero Waste Marin, the Town's waste hauler, and nonprofits such as Extra Food to divert commercial organic waste from the landfill through recycling, composting, and participation in waste-to-energy and food recovery programs.

Strategy WR-C4 (Mandatory Waste Diversion) requires the Town to adopt an ordinance requiring all commercial and residential accounts to subscribe to and fully participate in waste diversion activities, including recycling and organics collection provided by the Town's waste hauler. Consider including phased implementation of the ordinance, penalties, and practical enforcement mechanisms.

Other notable CAP strategies include Strategy S-C2 (Carbon Sequestration), which requires the Town to increase carbon sequestration in developed landscapes and open/natural areas; Strategy CE-C1 (Community Education), which requires the Town to work with community-

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based organizations, such as Resilient Neighborhoods, to educate and motivate community members to start or continue to reduce GHG emissions in their homes, businesses, transportation mode choices, and other activities, and increase community resilience through community-building activities.

Overall, many of the strategies contained within the CAP overlap with policies and programs contained within the proposed General Plan 2040. For example, proposed General Plan 2040 Policy S-2 requires the Town to accelerate the conversion to renewable energy sources, which is consistent with CAP strategies such as RE-C1, which requires the Town to accelerate installation of residential and commercial solar and other renewable energy systems and energy storage systems. A further example is proposed General Plan 2040 Policy S-I, which requires the Town to give priority to electric and zero emissions vehicles, as feasible, when replacing vehicles in the Town's fleet with the goal of achieving a zero-emissions fleet by 2030. This policy is similar to the CAP Strategy LCT-M1, which requires the Town to purchase or lease zero-emission vehicles for the Town fleet whenever feasible and when not, the most fuel-efficient models available, and to achieve a 100% electric light duty vehicle fleet by 2030.

Overall, the CAP has been prepared consistent with the projections contained in the proposed General Plan 2040, and the CAP has been prepared as a qualified GHG reduction plan. However, as provided under Impact 3.14-2 of Section 3.14: Transportation of this Draft EIR, the General Plan 2040's VMT per resident would exceed the threshold of 15 percent below the regional average. Therefore, out of an abundance of caution, impacts related to proposed General Plan 2040 GHG emissions would be **significant and unavoidable** with no feasible mitigation measures.

Level of Significance before Mitigation

Potentially Significant

Mitigation Measures

None Feasible

Level of Significance after Mitigation

Significant and Unavoidable

Impact 3.7-2 Development facilitated by the General Plan would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

The following plans have been adopted and are applicable to development in the Planning Area:

ARB 2017 Climate Change Scoping Plan

The 2017 Climate Change Scoping Plan includes examples of plan-level GHG reduction actions that could be implemented by local governments to support the State's climate goals.

The examples include local municipal code changes, zoning changes, or policy directions that could apply broadly to the community within the General Plan 2040 or CAP Planning Area. The examples also include mitigation measures that could be required of individual projects under CEQA, if feasible, when the local jurisdiction is the lead agency.

The General Plan 2040 contains the various policies and programs to support the State's climate goals. For example, Policy S-1 requires the Town to mitigate the impacts of climate change by reducing community greenhouse gas emissions. Policy S-3 requires the Town to encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. In addition, the 2022 California Code of Regulations Title 24 Part 6 standards also now require that all homes built in California shall have zero-net-energy use, which is achieved through energy-efficiency measures as well as required rooftop solar photovoltaic systems and electric appliance and electric-ready requirements. It should also be noted that, while not applicable for the proposed General Plan 2040, the 2022 California Code of Regulations Title 24 Part 6 standards also apply to nonresidential buildings and require a variety of energy efficiency measures to be implemented during construction of the structures to reduce energy usage as well as air emissions.

Additionally, as stated in the CAP, the Town Council adopted a goal to reduce community-wide GHG emissions to 50% below 1990 levels by year 2030, and to achieve carbon neutrality by year 2045. This is consistent with the state-wide GHG reduction goals for future years.

As described above, the General Plan 2040 and CAP include GHG reduction actions similar to those recommended in the 2017 Climate Change Scoping Plan. Future projects would be required to comply with State standards for new construction as well as policies and programs of the General Plan 2040 that aim to reduce GHG emissions.

Plan Bay Area 2050

To achieve the ABAG and MTC sustainable vision for the San Francisco Bay Area, the Plan Bay Area 2050 land use concept plan concentrates most new population and employment growth in and around Priority Development Areas (PDAs). Under this Plan, PDAs are described as areas generally near existing job centers or frequent transit that are locally identified (i.e., identified by towns, cities or counties) for housing and job growth. Plan Bay Area 2050's Growth Geographies identify a mix of locally identified Priority Development Areas, areas near high-quality transit and areas of high opportunity as communities poised to accommodate additional growth. To accommodate new families and meet the needs of those living in the Bay Area today, Plan Bay Area 2050 plans for sufficient housing growth (i.e., growth in the number of homes available) to ensure that strong job growth is not met with an increase in traffic congestion and long-distance commuters traveling to the Bay Area

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from outside of the region. In total, the region would need to build another 1.4 million new homes by 2050 to meet forecasted future demand.¹³

Together, the North Bay counties of Marin, Napa, Sonoma and Solano are expected to be home to less than 10% of new households and jobs, as relatively limited job centers and transit options coupled with wildfire risk make these counties less suited for growth. In fact, Marin County is projected to see a minor net loss in jobs as its population continues to age and exit the workforce.¹⁴

Marin County is anticipated to grow to 146,000 households by 2050.¹⁵ Between 2015 and 2050, just 3% of all new households in the Bay Area are anticipated to be located in Marin County.¹⁶ Buildout of the proposed General Plan 2040 could yield up to 916 new residential units. As such, the General Plan 2040 would promote implementation of the Plan Bay Area 2050 by focusing growth in existing urban areas, without expanding suburban sprawl. In addition, as described above, the policies and programs of the General Plan 2040 encourage the use of alternative modes of travel and reduce dependence on auto use, consistent with Plan Bay Area's vision.

BAAQMD 2017 Clean Air Plan

The BAAQMD 2017 Clean Air Plan contains control measures that focus primarily on reducing GHG emissions across the following sectors: stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Table 3.7-4 identifies the control measures from the 2017 Clean Air Plan that are relevant to the Tiburon and the General Plan 2040's consistency with those measures.

¹³ Association of Bay Area Governments and Metropolitan Transportation Commission, 2021. Plan Bay Area 2050: A Vision for the Future. Released October 1. Available: <https://planbayarea.org/finalplan2050>. Accessed March 1, 2023.

¹⁴ Association of Bay Area Governments and Metropolitan Transportation Commission, 2021. Plan Bay Area 2050: A Vision for the Future. Released October 1. Available: <https://planbayarea.org/finalplan2050>. Accessed March 1, 2023.

¹⁵ Association of Bay Area Governments and Metropolitan Transportation Commission, 2021. Plan Bay Area 2050: A Vision for the Future. Marin County Factsheet. Released October 1. Available: https://planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_Final_Marin_County_Factsheet_012822_4.pdf. Accessed March 1, 2023.

¹⁶ Association of Bay Area Governments and Metropolitan Transportation Commission, 2021. Plan Bay Area 2050: A Vision for the Future. Marin County Factsheet. Released October 1. Available: https://planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_Final_Marin_County_Factsheet_012822_4.pdf. Accessed March 1, 2023.

TABLE 3.7-3: TIBURON GENERAL PLAN 2040 CONSISTENCY WITH 2017 CLEAN AIR PLAN

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
<p>TR2 (TRIP REDUCTION PROGRAMS): ENCOURAGE TRIP REDUCTION POLICIES AND PROGRAMS IN LOCAL PLANS. ENCOURAGE LOCAL GOVERNMENTS TO REQUIRE MITIGATION OF VEHICLE TRAVEL AS PART OF NEW DEVELOPMENT APPROVAL, TO ADOPT TRANSIT BENEFITS ORDINANCES IN ORDER TO REDUCE TRANSIT COSTS TO EMPLOYEES, AND TO DEVELOP INNOVATIVE WAYS TO ENCOURAGE RIDESHARE, TRANSIT, CYCLING, AND WALKING FOR WORK TRIPS.</p>	<p>Yes</p>	<p>The General Plan includes the following policies to reduce vehicle miles traveled:</p> <ul style="list-style-type: none"> • Policy C-23. Vehicle Emissions Reduction. Encourage the reduction of the number of single-occupant vehicle trips and cumulative emissions that result from auto use through implementation of Mobility Element policies. • Policy S-1. Greenhouse Gas Emission Reductions. Mitigate the impacts of climate change by reducing community greenhouse gas emissions. • Policy M-65. Land Use and Transportation Priorities to Reduce VMT. Support and prioritize land uses and transportation provisions that help reduce VMT. • Policy M-67. Car Sharing and Bicycle Sharing. Support car sharing and bicycle sharing opportunities in Downtown Tiburon. <p>Programs:</p> <ul style="list-style-type: none"> • Program C-h. Participate in Emission Reduction Efforts. Participate in efforts to voluntarily reduce activities that pollute on Spare the Air days and help publicize Spare the Air day activities. • Program C-i. Reduce Particulate Emissions. • Promote the reduction of particulate matter from construction sites, roads, parking lots, and other sources through requiring development projects to implement best management practices (BMPs). • Program C-k. Emission Reductions. Require the use of feasible control measures to reduce PM10, NOx, and diesel particulate matter related to development, including construction and operational phases. • Program C-l. Zero Emission Landscape and Small Off-Road Equipment. Consider adoption of an ordinance requiring the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas. • Program S-a Emissions Reduction Targets. Implement strategies to achieve reductions in greenhouse gas emissions at least 50 percent below 1990 levels by 2030, and to support the State's goal to achieve zero net emissions statewide by 2045.
<p>TR9 (BICYCLE AND PEDESTRIAN ACCESS FACILITIES): ENCOURAGE PLANNING FOR BICYCLE AND PEDESTRIAN FACILITIES IN LOCAL PLANS.</p>	<p>Yes</p>	<p>The General Plan 2040 includes the following policies related to bicycle and pedestrian facilities:</p> <ul style="list-style-type: none"> • Policy M-36. Bicycle Safety for Children. To reduce single-child automobile trips to schools, the Town shall support infrastructure improvements and programs that encourage children to bike and/or walk safely to school or ride a bus. This includes installation of sidewalks in critical areas where feasible. • Policy M-37. Countdown Pedestrian Signals. The Town supports, where warranted, the replacement by Caltrans of pedestrian traffic

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2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
		<p>signals with "countdown-style" pedestrian signals, which inform pedestrians of the number of seconds remaining to cross safely.</p> <ul style="list-style-type: none"> • Policy M-39. Bike Facilities. Bicycle facilities, including bike racks, shall be included as part of new public and commercial projects, particularly in Downtown Tiburon. • Policy M-40. Pedestrian Streets. Establish pedestrian routes, particularly for school children, for all neighborhoods where feasible and appropriate. Require that pedestrian-oriented streets be designed to provide a pleasant environment for walking and other desirable uses of public space, including such elements as shade trees, plantings, and wayfinding signage where appropriate. Pedestrian routes shall include safe crossings at major intersections. • Policy M-42. Bicycle and Pedestrian Master Plan. In developing capital improvement budgets, the Town shall use the Bicycle and Pedestrian Master Plan as a guide for prioritizing bicycle and pedestrian improvements. New development shall be consistent with applicable provisions of the Bicycle and Pedestrian Master Plan. <p>Programs:</p> <ul style="list-style-type: none"> • Program M-i. Bicycle and Pedestrian Master Plan. Review and update the Bicycle and Pedestrian Master Plan periodically and revise the list of improvements and actions called for in the Master Plan when implementation has occurred, and/or when conditions warrant.
<p>EN2 (DECREASE ELECTRICITY DEMAND): WORK WITH LOCAL GOVERNMENTS TO ADOPT ADDITIONAL ENERGY-EFFICIENCY POLICIES AND PROGRAMS.</p>	<p>Yes</p>	<p>The General Plan 2040 includes the following policies to decrease electricity demand:</p> <ul style="list-style-type: none"> • Policy S-2. Renewable Energy. Accelerate the conversion to renewable energy sources. • Policy S-3. Building Energy Efficiency. Encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. • Program S-j. Energy Efficiency Programs. Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel. <p>Programs:</p> <ul style="list-style-type: none"> • Program S-f. Building and Appliance Electrification. Consider building regulations which preclude gas appliances and infrastructure in new buildings and regulations and require gas appliances to be replaced with high-efficiency electric at burnout. • Program S-i. Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements.
<p>BL4 (URBAN HEAT ISLAND MITIGATION):</p>	<p>Yes</p>	<p>The General Plan 2040 includes the following policies and programs to encourage local governments to develop green buildings (which could include cool roofing techniques)</p>

2017 BAY AREA CLEAN AIR PLAN CONTROL MEASURE	CONSISTENT WITH CONTROL MEASURE?	DISCUSSION
PERFORM OUTREACH TO CITIES AND COUNTIES TO MAKE THEM AWARE OF COOL ROOFING AND PAVING TECHNIQUES.		<ul style="list-style-type: none"> • Policy S-8. Green Building in Town Facilities. Apply green building principles to the design, construction, and operation of new Town and Town-sponsored facilities to provide long-term cost savings and to serve as an example for the community. • Policy S-3. Building Energy Efficiency. Encourage energy efficiency improvements in existing residential and commercial buildings to reduce energy use. <p>Programs:</p> <ul style="list-style-type: none"> • Program S-l. Green Building Regulations. Consider adopting green building regulations for new construction and building remodels and additions that exceed minimum State building and energy code requirements. • Program S-j. Energy Efficiency Programs. Promote programs and incentives to property owners to improve energy efficiency. Consider requiring energy audits at time of building sale or major remodel.
NW2 (URBAN TREE PLANTING): ENCOURAGE LOCAL GOVERNMENTS TO ADOPT A MUNICIPAL TREE PLANTING ORDINANCE.	Yes	<p>The General Plan 2040 includes the following policies to encourage local governments to adopt a municipal tree planning ordinance:</p> <ul style="list-style-type: none"> • Policy C-14. Tree Protection. Preserve protected trees, as defined in the Municipal Code, tree stands, and tree clusters to the maximum extent feasible. <p>Programs:</p> <ul style="list-style-type: none"> • Program C-b. Tree Preservation. Consider revising and expanding the Tiburon Tree Ordinance to provide protection of both individual trees and native woodlands. Factors to consider in expanding the current ordinance include the importance of protecting smaller sapling trees and balancing their protection against those of designated “protected trees”, defining critical management guidelines necessary to maintain healthy woodlands, and methods to encourage natural regeneration in woodland habitats.
WA3 (GREEN WASTE DIVERSION): FACILITATE ADOPTION OF LOCAL ORDINANCES AND PROGRAMS TO REDUCE THE AMOUNT OF GREEN WASTE GOING TO LANDFILLS.	Yes	<p>The General Plan 2040 includes the following policies to reduce the amount of green waste going to landfills:</p> <ul style="list-style-type: none"> • Policy S-5. Waste Diversion Targets. Strive to meet or exceed waste diversion and food recovery targets set by the state. <p>Programs:</p> <ul style="list-style-type: none"> • Program S-m. Business Waste Management Plans. Require that businesses prepare and implement waste management plans to maximize recycling and food recovery and minimize disposal of organic waste where appropriate as a condition of approval of use permits. • Program S-n. Organic Waste Reduction. Work with the Town’s waste hauler and Zero Waste Marin to develop and implement programs to educate and motivate residents and business owners to increase recycling of materials and food recovery and reduce disposal of organic waste.

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WA4 (RECYCLING AND WASTE REDUCTION): PROMOTE COMMUNITY-WIDE ZERO WASTE GOALS AND RECYCLING OF CONSTRUCTION AND DEMOLITION MATERIALS.	Yes	<p>The General Plan 2040 includes the following policies to promote community-wide zero waste goals and recycling of construction and demolition materials:</p> <ul style="list-style-type: none"> • Policy S. Municipal Waste Reduction. Maximize recycling, composting, reuse, waste reduction, and food recovery within municipal operations and at public parks and facilities. <p>Programs:</p> <ul style="list-style-type: none"> • Program S-o. Construction and Demolition Debris. Modify the solid waste disposal ordinance to maximize the recovery and recycling of construction debris consistent with the Marin Zero Waste model ordinance. • Program S-p. Recycling Facilities. Provide sufficient recycling and composting bins for public and staff use.
WR2 (SUPPORT WATER CONSERVATION): INCORPORATE WATER CONSERVATION BEST PRACTICES INTO LOCAL PLANNING GUIDANCE.	Yes	<p>The General Plan 2040 includes the following policy related to water conservation:</p> <ul style="list-style-type: none"> • Policy C-18. Water Conservation. Support the efforts of the Marin Municipal Water District (Marin Water) to conserve the use of water through enforcement of the Town's water conservation ordinance requiring implementation of water conservation measures. <p>Programs:</p> <ul style="list-style-type: none"> • Program C-e. Development Impacts on Water Retention. Where impervious surface construction and storm drain system installation and/or hillside stabilization (e.g., landslide repair) are proposed as part of development proposals, or wherever such stabilization is required by the Town to protect public safety, require Project applicants to analyze the impacts of these drainage pattern modifications on groundwater recharge and on downslope water wells and their yields. In the event impacts are likely, modifications to the Project, including possible downsizing, should be implemented to the extent feasible. • Program C-f. Water Conservation Ordinance. Continue to implement the Town's water conservation ordinance through the review of new development proposals involving new landscaping.

Source: Bay Area Air Quality Management District (BAAQMD). 2017 Clean Air Plan. Adopted April 19, 2017.

As demonstrated by Table 3.7-4, the General Plan 2040 is consistent with the applicable control measures of the 2017 Clean Air Plan. Future projects would be required to comply with requirements of the General Plan 2040 and Municipal Code that aim to reduce GHG emissions in the Planning Area.

In conclusion, development facilitated by the General Plan 2040 would be required to comply with requirements of the General Plan 2040 and Municipal Code to reduce GHG emissions. In addition, the Town will be required to comply with existing and new federal, State, and local statutes and regulations related to GHG emissions. Lastly, the proposed General Plan

2040 would also be consistent with the recently adopted local CAP. As demonstrated above, development facilitated by the General Plan 2040 would not conflict with the applicable plans for reducing GHG emissions and the impact would be **less than significant**.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.7-3 Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, could result in significant cumulative impacts with respect to GHG emissions.

As described above, GHG emissions related to implementation of the General Plan 2040 are not confined to a particular air basin but are dispersed worldwide and GHG emissions are widely acknowledged as a significant cumulative impact. Therefore, the analysis under Impacts 3.7-1 and 3.7-2 also address cumulative impacts.

As discussed under Impacts 3.7-1 and 3.7-2, the General Plan 2040 establishes the framework for future growth and development in Tiburon. A General Plan 2040 does not directly result in development without additional approvals. Before any development can occur in the town, it is required to be analyzed for consistency with the General Plan 2040, zoning requirements, and other applicable local and State requirements; comply with the requirements of CEQA; and obtain all necessary clearances and permits. Furthermore, existing federal, State, and local regulations and policies described throughout this section that serve to reduce communitywide GHG emissions would apply to future projects. Continued compliance with these regulations and implementation of General Plan 2040 policies would reduce the General Plan 2040's cumulative contribution to this impact.

As discussed under Impact 3.7-1 and as described in the adopted Tiburon CAP, the Town would achieve the year 2030 and 2045 State-level GHG emission targets, with implementation of the GHG emissions strategies contained in the CAP. This is necessary for the town to achieve its fair share of statewide GHG reductions in accordance with the State's long-term GHG reduction targets.

All cumulative projects would be required to comply with Town ordinances, General Plan 2040 policies, and adopted CAPs to reduce GHG emissions. Cumulative projects will also be required to comply with existing federal, State, and local regulations and policies to reduce communitywide GHG emissions. Last, cumulative projects will be required to comply with the requirements of CEQA and obtain all necessary clearances and permits. However, as described under Impact 3.7-1, out of an abundance of caution, impacts related to proposed General Plan 2040 GHG emissions would be potentially significant. Therefore, the cumulative impact would be **significant and unavoidable** with no feasible mitigation measures.

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Level of Significance before Mitigation

Potentially Significant

Mitigation Measures

None Feasible

Level of Significance after Mitigation

Significant and Unavoidable

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3.8 HAZARDS AND HAZARDOUS MATERIALS

This section identifies existing hazards and hazardous materials sites within the Planning Area and provides an analysis of potential impacts associated with implementation of the General Plan 2040. Potential impacts are identified and mitigation measures to address potentially significant impacts are recommended, as necessary.

For the purpose of this analysis, the term “hazardous material” refers to both hazardous substances and hazardous waste. A material is defined as “hazardous” if it appears on a list of hazardous materials prepared by a federal, tribal, State, or local regulatory agency, or if it possesses characteristics defined as “hazardous” by such an agency. A “hazardous waste” is a solid waste that exhibits toxic or hazardous characteristics (i.e., ignitability, corrosivity, reactivity, and/or toxicity). Other hazards, such as potential airport-related safety hazards for people residing/working in the Planning Area, interference with an adopted emergency response plan, and exposure of people/structures to risk involving wildland fires, are also addressed in this section.

Information in this section is based, in part, on statements, data, and figures provided by the following reference materials:

- Create Tiburon 2040: Existing Conditions Report; and
- Tiburon Municipal Code.

Four comments were received during the NOP comment period in regard to hazards. One comment was received by the Department of Toxic Substances Control (DTSC). DTSC recommends the DEIR address actions to be taken for any sites impacted by hazardous waste or hazardous materials within the Planning Area, not just those found on the Cortese List. DTSC further recommends consulting with other agencies that may provide oversight to hazardous waste facilities and sites in order to determine a comprehensive listing of all sites impacted by hazardous waste or hazardous materials within the Planning Area. In addition, DTSC recommends that the following issues be evaluated:

- A State of California environmental regulatory agency such as DTSC, a Regional Water Quality Control Board (RWQCB), or a local agency that meets the requirements of Health and Safety Code section 101480 should provide regulatory concurrence that the Project sites are safe for construction and the proposed use.
- The EIR should acknowledge the potential for historic or future activities on or near the Project area to result in the release of hazardous wastes/substances. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation

and the government agency who will be responsible for providing appropriate regulatory oversight.

- Due to the potential for ADL-contaminated soil, DTSC recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the Project in the forthcoming EIR.
- If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition, and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 *Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers*.
- If any projects initiated as part of the proposed Project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to DTSC's 2001 *Information Advisory Clean Imported Fill Material*.
- If any sites included as part of the proposed Project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision)*.

Three comment letters were received by Dorene Curtis, Julie and Seth Jacobs, and Kathy and Gerry Silverfield expressing concern about emergency evacuation routes, emergency vehicle access, and housing development in areas of wildfire risk.

3.8.1 EXISTING SETTING

Hazardous Materials and Waste

Hazardous Materials

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported, or disposed of. Hazardous materials are mainly present because of industries involving chemical byproducts from manufacturing, petrochemicals, and hazardous building materials.

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Hazardous Waste

Hazardous waste is the subset of hazardous materials that have been abandoned, discarded, or recycled and is not properly contained, including contaminated soil or groundwater with concentrations of chemicals, infectious agents, or toxic elements sufficiently high to increase human mortality or to destroy the ecological environment. If a hazardous material is spilled and cannot be effectively picked up and used as a product, it is considered to be hazardous waste. If a hazardous material site is unused, and it is obvious there is no realistic intent to use the material, it is also considered to be a hazardous waste. Examples of hazardous materials include flammable and combustible materials, corrosives, explosives, oxidizers, poisons, materials that react violently with water, radioactive materials, and chemicals.

Transportation of Hazardous Materials

The transportation of hazardous materials within California is subject to various federal, State, and local regulations. The Town has no direct authority to regulate the transport of hazardous materials on State highways or rail lines. Transportation of hazardous materials by truck and rail is regulated by the U.S. Department of Transportation (DOT). DOT regulations establish criteria for safe handling procedures. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery, or the loading of such materials (California Vehicle Code Section 31602(b), 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in cases where additional travel is required from that route to deliver or receive hazardous materials to and from users.

Hazardous Sites

EnviroStor Data Management System

The Department of Toxic Substances Control (DTSC) maintains the *EnviroStor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. This site cleanup information includes: Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Corrective Action Sites, Tiered Permit Sites, and Evaluation / Investigation Sites. The hazardous waste facilities include: Permitted–Operating, Post-Closure Permitted, and Historical Non-Operating.

There are two listings in the Planning Area listed in the EnviroStor database. Table 3.8-1 provides the listings located within the Planning Area. A discussion of each of the sites follows the table.

TABLE 3.8-1: TIBURON SITE CLEANUP AND HAZARDOUS FACILITIES LIST (ENVIROSTOR)

NAME	STATUS	PROJECT TYPE	ADDRESS
Fort McDowell	Active	State Response	Angel Island
Naval Net Depot	No Further Action	Military Evaluation	Juanita Lane, Tiburon
SOURCE: California Department of Toxic Substances Control, 2023. EnviroStor Database. Available: https://www.envirostor.dtsc.ca.gov/public/ . Accessed: January 27, 2023.			

Fort McDowell/Angel Island

The Fort McDowell/Angel Island site is identified as a Formerly Used Defense Site (FUDS) and is designated as a State Response Site with a status of Active in EnviroStor. According to the site history information in EnviroStor, Fort McDowell is a former Department of Defense site comprising 640 (really 740 acres) and located on Angel Island in Marin County.¹ Fort McDowell was established in 1850. The island was used by the U.S. Army as a discharge and replacement depot and as an installation for San Francisco harbor defenses. In 1941, the northeast corner of the island was designated the North Garrison of Fort McDowell and was used for troop barracks and a prisoner-of-war camp. A U.S. Marine Health Center was developed to quarantine facilities and disinfect ships in Ayala Cove. Fort McDowell was also utilized as a processing center and quarantine for soldiers returning from overseas bases for many years. On September 20, 1946, the site was declared surplus and over a period of years the ownership transferred to U.S. Department of the Interior with management by the Bureau of Land Management. In 1954, a NIKE missile base was established at Point Blunt for defense against potential invading aircraft, which was eventually deactivated in 1962. Between 1954 and 1963, the property was transferred to State of California piecemeal.

Today Fort McDowell is open to, and used recreationally by, the public under the management of the California State Park Service. Only a small seven-acre portion of the site at the end of Point Blunt is under the jurisdiction of the U.S. Coast Guard supporting a lighthouse station. Access to the island is via ferry and private boats. Single family residential housing exists for full time California State Park Service employees and their families.

According to information on EnviroStor, the site contains underground storage tanks (USTs), aboveground storage tanks (ASTs), potentially contaminated soil, several buildings that pose a safety hazard, and potential ordnance. This property is also known or suspected to contain military and explosives of concern (e.g., unexploded ordnance) and therefore may present an explosive hazard. Based on the history of the island, five separate use areas are described below outlining the previous uses and potential hazardous sources on-site, except for munitions and explosives of concern, which is summarized after.

¹ California Department of Toxic Substances Control, 2023. EnviroStor: FORT MCDOWELL (71000007). Available: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=71000007. Accessed: January 27, 2023.

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North Garrison – Fort McDowell: The North Garrison, originally known as China Cove, is in the northeast corner of the island.² The site was used as an immigration detention station for Asian immigrants starting in 1905. In 1941, the island was transferred to the Army, and redesignated as the North Garrison of Fort McDowell. Army uses at this site included troop barracks and prisoner-of-war camp.

According to the 2003 Fort McDowell Site Investigation Report, potential hazardous sources identified at North Garrison during a preliminary assessment include a former ship fuel area with possible beach contamination, four former UST locations, six possible remaining USTs, four ASTs, a rifle range, and pistol range, as well as a potential dump site adjacent to the pistol range.

East Garrison – Fort McDowell: The East Garrison was established in 1907. The garrison was used during the World War I as a recruit depot and during World War II as a debarkation and receiving point for troops sent to the Pacific Theater. The garrison included barracks, a hospital, motor pool area, gymnasium, incinerator, and several buildings. In 1986, the California Office of the State Architect (OSA) conducted a polychlorinated biphenyl (PCB) survey of the island. A PCB removal project began in 1987. During the removal project, a PCB spill occurred in front of the East Garrison Substation, and an unspecified quantity of contaminated soil was removed. The crawlspace of a Warehouse Building at the East Garrison was used by OSA as the PCB storage area during the 1987/1988 removal project. Several shallow metal containment trays were left by the state and some show patterns of liquid spillage. The State developed a dump site located southeast of the East Garrison Engineering Buildings. A historical account of the island mentions that the California Department of Parks and Recreation employees' children used the gymnasium facilities during the early years of state ownership.

According to the 2003 Fort McDowell Site Investigation Report, potential hazardous sources identified at East Garrison during a preliminary assessment include the former motor pool area (hazardous waste drum storage area, vehicle lift rack, oil change rack, incinerator, wash rack, and electrical equipment storage area, and former UST location), two possible remaining USTs, two 30,000-gallon ASTs, a former photo shop, an electrical substation, and former transformer pad.

Ayala Cove – Fort McDowell: Ayala Cove is located south of the Present State Parks boat launch area. The area was used as a quarantine station, which was established in 1892 by the U.S. Marin Health Service (later to become the U.S. Public Health Service). An extensive ship and baggage disinfection operation operated at the cove. The U.S. Army reportedly used the site during ware times and took back ownership in 1952. Many of the buildings in this area were demolished after the area was conveyed to the Park Service in 1954. The four

² TN & Associates, Inc. 2003. Final Site Inspection Report: Fort McDowell/Angel Island. Available: https://www.envirostor.dtsc.ca.gov/public/deliverable_documents/2828230142/FinalSIReport_FtMcDowell_U_SACE.pdf. Accessed: January 27, 2023.

remaining buildings in this area are used by the Park Service as a Visitor's Center and residences for park employees.

According to the 2003 Fort McDowell Site Investigation Report, potential hazardous sources identified at Ayala Cove during a preliminary assessment include four former UST locations, three former AST locations, a former disinfection building, and a possible dumpsite.

West Garrison – Fort McDowell: The West Garrison, also known as Camp Reynolds, was established in 1850 and used by the Army during the Civil War era for the receipt and distribution of new recruits bound for the west. Several barracks buildings and a hospital are located in this area. Several gun batteries, including Battery Wallace, Battery Ledyard, and Battery Drew were established for defense of the bay and area located southeast of the West Garrison.

According to the 2003 Fort McDowell Site Investigation Report, potential hazardous sources identified at West Garrison during a preliminary assessment include a possible dumpsite in the parade grounds, a possible dumpsite near the West Garrison Hospital, a possible dumpsite at Pearl's beach, a possible UST at the lighthouse, and a paint shop.

Point Blunt – Fort McDowell: A gun battery was constructed on Point Blunt in 1864, but reportedly slid into the water in 1869. In 1954, the US Army established a Nike Missile Base at Point Blunt. Approximately, 100 men were stationed at the base and occupied buildings in the East Garrison. The base was in operation until 1962. A seven-acre strip of land on the southeast tip of the island is currently used as a U.S. Coast Guard lighthouse station.

The Nike Missile Facility located near Point Blunt consists of three missile magazines, a generator building, missile refueling area, missile assembly building, and sentry building. An Inventory Project Report prepared in November 1900 for Nike Battery 91 indicated the presence of 25 rusted 55-gallon drums in the refueling area. The 55-drums were moved to the motor pool in East Garrison in 1994. Soil sampling conducted at the refueling area in 1992 and again in 1997. The drums and their contents were removed and disposed of in 1994. No further action was recommended based on the sample results, and DTSC issued a closure letter on November 25, 1998.

A Nike CON/HTRW Project (No. J09CA0943) was conducted to remove the hydraulic fluids, USTs, and associated pipelines between July and December 1995. According to the 2003 Fort McDowell Site Investigation Report, the following removal actions were conducted during the July to December 1995 timeframe:

- Removal and disposal of a 4,000-gallon UST;
- Removal and disposal of a concrete pump vault including the pump;
- Removal and disposal of approximately 25-feet of 2-inch underground pipe;
- Removal and disposal of an AST saddle (no tank);
- Cleaning, cutting, capping, and abandonment in-place of approximately 25-feet of underground pipe on the east end of the generator building;

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- Disposal of 250-gallon and 500-gallon tanks stored on site that had been removed by others;
- Removal and disposal of the hydraulic fluid from the hydraulic system in each of the three missile vaults; and
- Flushing the hydraulic systems.

Munitions and Explosives of Concern: In 2009, the Munitions Response Site Prioritization Protocol (MRSP) Final Site Inspection Report for Fort McDowell was prepared to evaluate the evidence for the presence of munitions and explosives of concern (MEC) and munitions constituents (MC) at the site.³ The report analyzed the 1,000-inch Rifle Range site near the North Garrison Area, the P-100 Pistol Range near the East Garrison, the Quarry Point Mining Casement Area near the East Garrison, the Point Blunt Ordnance Dump Area in Point Blunt, the Mortar Hill Mining Casement Area in between the West Garrison and Point Blunt areas, and the Complex No. 1 near West Garrison.

The results of the MRSP Site Inspection Report noted one explosive (nitroglycerin) was detected in Complex No. 1 site. No explosives were detected in any of the other sites; however, lead concentrations within soil found at the Quarry Point Mining Casement Area, 1,000 Inch Rifle Range, and Complex No. 1 exceeded human screening values. Additionally, at all sites, except the Mortar Hill Mining Casement Area, a number of other munitions constituent metals (i.e., mercury, lead, nickel, zinc, copper, etc.) were detected exceeding acceptable ecological screening values (ESVs). Munitions constituents refers to any materials originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and nonexplosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions. According to the 2009 MRSP Site Investigation Report, further munitions constituents metal sampling should be conducted at all sites except the Mortar Hill Mining Casement Area and a Remedial Investigation and Feasibility Study (RI/FS) should be prepared for all sites. To date, additional munitions constituents metal sampling or a RI/FS has been prepared for the Fort McDowell site.

Upcoming Activities: According to EnviroStor, the Fort McDowell/Angel Island site is subject to future activities required by the cleanup oversight agencies (DTSC and Regional Water Quality Control Board 2 – San Francisco Bay). The first is a Site Characterization Report due in 2023 of the Containerized/Hazardous, Toxic and Radioactive Waste area 02, which is the location for a historical fuel spill area. The next is a Site Characterization Report due in 2023 of the Hazardous, Toxic and Radioactive Waste area, which is the historical location of the paint shop in the West Garrison area. Lastly, a Preliminary Assessment/Site Inspection Report (PA/SI) is due in 2025 to analyze the existing USTs and ASTs across the five separate use areas and see if there are any changes in site conditions due to USTs and ASTs.

³ Parsons, 2009. Final Inspection Report: Fort McDowell/Angel Island. Available: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=71000007&doc_id=5005798. Accessed: January 27, 2023.

Additionally, a Feasibility Studying Report of the USTs and ASTS across the five separate use areas is due in 2026.

Naval Net Depot

The Naval Net Depot site is a Military Evaluation site with a status of No Further Action. According to the site history information in EnviroStor, the Naval Net Depot was originally purchased for use as a Navy Coaling Station in 1904.⁴ Since then, the site has had service ships carrying various cargo, such as cod, coal, and lumber.

From 1931 to 1940, the Naval Net Depot site was a nautical training school, harboring and servicing various cargo ships. In 1940, the Navy reclaimed the base for a storage and distribution center. The site was also used to store steel cable during construction of the Golden Gate Bridge, and later to fabricate anti-submarine nets. The site became part of the National Oceanographic and Atmospheric Administration of the Department of Commerce on October 4, 1970.⁵ From the late 1950s to 1962 the Naval Reserve Electronics Facility was located at the site. Other sections of the site became surplus property and are now sites for two County parks. The former Floating Dry Dock Training Center Annex is now Paradise Beach County Park and that part of the base west of Paradise Drive became Tiburon Upland Nature Reserve. Another parcel of land was officially transferred from the U.S. to San Francisco State University. All that is left of the Navy's presence on-site is a three-acre area used for instrument testing.

The Naval Depot site has various facilities for servicing vessels, including an oil house, ships service fuel pumps, sewage treatment facilities, and several above-and-below-ground storage tanks. Thirty original buildings remain on site, approximately 20 of which are being used for on-site research. Most on-site buildings have asbestos tile siding, asbestos-wrapped piping, asbestos-wrapped boilers, and asbestos ceiling tiles. Part of the north dock has caved in, and the seawall has collapsed. There are several USTs on site.

A Phase I Environmental Site Assessment (ESA) conducted for the Paradise Beach Park in 2015 indicated that there were no recognized environmental conditions associated with the Paradise Beach Park parcels.⁶ The Phase I ESA indicated that on the Naval Net Depot Site, four USTs were removed in 1991 and soils impacted by fuel hydrocarbons (FHCs) were over-excavated, except inaccessible soils that were left in place beneath a concrete slab. Groundwater monitoring wells were installed and monitored over an 18-month period. The

⁴ California Department of Toxic Substances Control, 2023. EnviroStor: NAVAL NET DEPOT (80000711). Available: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=80000711. Accessed: January 27, 2023.

⁵ Ruhge, J., 2016. Tiburon Naval Depot History. Available: <http://www.militarymuseum.org/Tiburon.html>. Accessed: January 27, 2023.

⁶ Edd Clark & Associates, 2015. Paradise Beach Park Phase I Environmental Site Assessment. Available: <https://www.parks.marincounty.org/-/media/files/sites/marin-county-parks/projects-and-plans/park-improvements/master-plan-paradise-beach-park/appendix-c-phase-i-report.pdf?la=en>. Accessed: January 27, 2023.

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San Francisco Bay Regional Water Quality Control Board issued a no further action letter with respect to these USTs dated December 1, 1995.

DTSC issued a letter concurring with the U.S. Army Corps of Engineers Finding of No Department of Defense Actions Indicated for the Tiburon Naval Net site on February 4, 2015.⁷

Cortese List

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. There is one Cortese List site within the Planning Area: Fort McDowell (U.S. EPA ID 71000007).⁸ This site is characterized as an active site and is located on Angel Island. Information about this site is provided in the previous EnviroStor discussion.

GeoTracker

GeoTracker is the State Water Resources Control Board's online database that provides access to statewide environmental data and tracks regulatory data for the following types of sites:

- Leaking underground fuel tank (LUFT) cleanup sites;
- Cleanup Program Sites (CPS; also known as Site Cleanups and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites);
- Military sites (consisting of military underground storage tank [UST] sites, military privatized sites, and military cleanup sites [formerly known as DoD non-UST]);
- Land disposal sites (landfills); and
- Permitted UST facilities.

⁷ Department of Toxic Substances Control (DTSC), 2015. Concurrence With Finding of No Department of Defense Actions Indicated (NDAI) for Formally Used Defense Sites in California. Available: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=80000711&doc_id=60385132. Accessed: January 27, 2023.

⁸ Department of Toxic Substances Control (DTSC), 2023. Hazardous Waste and Substances List (Cortese). Available: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29. Accessed: January 27, 2023.

In January of 2023, a search was performed using GeoTracker to identify any known or suspected (reported but not yet confirmed) sources of environmental hazards within the Town. Results of the search are presented below.

Leaking Underground Storage Tanks (LUST)

There are eight locations with a Tiburon address that are listed in the GeoTracker database for Leaking Underground Storage Tanks (LUST). All the locations have undergone LUST cleanup and the State has closed the case. None of the locations in Tiburon have an open case. Table 3.8-2 lists the location of LUSTs in Tiburon.

TABLE 3.8-2: TIBURON LUST CLEANUP SITES

NAME	STATUS	LOCATION
Chevron 9-4493	Completed - Case Closed	1515 Tiburon Highway
Mobil	Completed - Case Closed	1600 Tiburon Boulevard
Texaco	Completed - Case Closed	1660 Tiburon Boulevard
Tiburon Marine Fishery Service	Completed - Case Closed	3150 Paradise Drive
Tiburon Navy Net Depot Bldg 50	Completed - Case Closed	3150 Paradise Drive
Wilson Property	Completed - Case Closed	16 Old Landing Road
Paradise Clay	Completed - Case Closed	127 Trinidad Drive
Tosco – Facility #4886	Completed - Case Closed	25 Tiburon Boulevard
SOURCE: California State Water Resources Control Board (SWRCB), 2023. GeoTracker. Available: https://geotracker.waterboards.ca.gov/search . Accessed: January 27, 2023.		

Cleanup Program Sites

There is one location with a Tiburon address that is listed in the GeoTracker database as a Cleanup Program Site. The site, the Newhall Residence (Site T10000009130), located at 2900 Paradise Drive, has a cleanup status of Open – Inactive as of July 13, 2016.⁹ A status of Open – Inactive indicates that no regulatory oversight activities are being conducted by the Lead Agency. The potential contaminants of concern are heating oil/fuel oil, and the potential media of concern is the aquifer which is used for drinking water supply.

Military Cleanup Sites

There are four locations with a Tiburon address that are listed in the GeoTracker database as military cleanup sites, all of which are located on Angel Island. All the locations have a status of Open, including three site assessment sites and one inactive site (Nike Battery 91, Angel Island). Three of the locations are Military Privatized Sites, and one is a Military Cleanup Site (Nike Battery 91, Angel Island). Table 3.8-3 lists the location of the military cleanup sites in Tiburon.

⁹ California State Water Resources Control Board (SWRCB), 2023. GeoTracker: Newhall Residence (T10000009130). Available: https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000009130. Accessed: January 31, 2023.

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TABLE 3.8-3: TIBURON MILITARY CLEANUP SITES

NAME	STATUS	LOCATION
Fort McDowell – Above Ground Storage Tanks 149 and 150	Open – Site Assessment	Eastern portion of Angel Island
Fort McDowell – Central Heating Plant	Open – Site Assessment	Northern portion of Angel Island
Fort McDowell – Fuel Tanks 158 and 159	Open – Site Assessment	Eastern portion of Angel Island
Nike Battery 91, Angel Island (J09CA094300)	Open – Inactive	PO Box 318, Angel Island

SOURCE: State Water Resources Control Board (SWRCB), 2023. GeoTracker. Available: <https://geotracker.waterboards.ca.gov/search>. Accessed: January 27, 2023.

Solid Waste Information System (SWIS)

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Department of Resources Recycling and Recovery (CalRecycle). The SWIS data identifies active, planned, and closed sites. The Town has two solid waste facilities listed in the database, both of which are closed. The site details are listed in Table 3.8-4, below.

TABLE 3.8-4: TIBURON SOLID WASTE FACILITIES/SITES

NUMBER	NAME	ACTIVITY	REGULATORY STATUS	OPERATIONAL STATUS
21-CR-0027	Pozzi Disposal Site	Solid Waste Disposal Site	Unpermitted	Closed
21-CR-0003	Angel Island	Solid Waste Disposal Site	TBD (Pending Investigation)	Closed

SOURCE: California Department of Resources Recycling and Recovery (CalRecycle), 2023. SWIS Facility/Site Search. Available: <https://www2.calrecycle.ca.gov/SolidWaste/Site/Search>. Accessed: January 27, 2023.

Air Traffic Hazards

There are no private or public airport facilities in the Planning Area. The closest airport facility to the Planning Area is the San Rafael Airport.

Local Airport Facilities

San Rafael Airport. The San Rafael Airport is in the City of San Rafael, approximately 7.4 miles north of the Tiburon town limits. The San Rafael Airport is a privately-owned executive airport with a 2,700 feet runway. The airport is located at an elevation of approximately 5 feet above Mean Sea Level (MSL). The Planning Area is not located within the airport influence zone for this airport.

Major Regional Airport Facilities

San Francisco International Airport (SFO): SFO is the largest airport in the region, and a hub for United Airlines. It provides a wide range of domestic airline service and all the region’s long-haul international flights. San Francisco serves 68 percent of regional Bay Area air passengers and 43 percent of regional air cargo shipments.

Metropolitan Oakland International Airport (OAK): Oakland Airport has traditionally been the hub for low cost carriers and a major air cargo center due to operations by FedEx and UPS. Oakland serves 17 percent of Bay Area regional air passengers and 52 percent of air cargo.

National Transportation Safety Board Aviation Accident Database

The National Transportation Safety Board Aviation Accident Database identifies one aircraft accident in Tiburon between January 1, 1950 to January 27, 2023.¹⁰ This incident occurred on September 30, 1986. After completing an aerial advertising flight across the San Francisco Bay, the pilot attempted a landing on up-sloping terrain.¹¹ However, the terrain was steeper than anticipated and the pilot became distracted, resulting in the plane crashing and starting a wildfire. The pilot survived the crash; however, the plane (Cameron 0-77) was destroyed.

Other Potential Hazards

Wildland Fire Hazards

CalFire Fire Threat Areas

The California Department of Forestry and Fire Protection (CalFire) Fire Threat Model identifies fire threats using fuel rank, which is a ranking system developed by CalFire that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index, and modeled characteristics regarding fire probability and behaviors.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by CalFire, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10%, 11-25%, 26-40%, 41-55%, 56-75% and >75%. The combined fuel model and slope data are organized into three categories, referred to as surface rank. Thus, surface rank reflects the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index is the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index reflects the quantity of leafy vegetation present within individual specimens of a given species.

¹⁰ National Transportation Safety Board, 2023. Aviation Accident Database & Synopses. Available: <https://www.nts.gov/Pages/AviationQuery.aspx>. Accessed: January 27, 2023.

¹¹ National Transportation Safety Board, 2023. National Transportation Safety Board Aviation Accident Final Report. Available: <https://app.nts.gov/pdfgenerator/ReportGeneratorFile.ashx?EventID=20001213X34824&AKey=1&RType=Final&IType=LA>. Accessed: January 27, 2023.

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The surface rank, ladder index, and crown index for a given area are combined to establish a fuel rank of medium, high, or very high. Fuel rank is used by CalFire to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The fuel rank data are used by CalFire to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The five classes of fire threat range from low to extreme.

As shown in Figure 3.16-1, Fire Threat, the Town primarily contains areas with “moderate” and “high” fire threats. However, Figure 3.16-1 does identify three small areas with “low” fire threats, including one in the northwest portion of the Planning Area adjacent to Richardson Bay and Trestle Glen Boulevard, another in the southeast portion of the Planning Area east of Paradise Drive, and one along the southern shoreline of Angel Island. The two highest fire threat levels, “very high” and “extreme”, are not mapped within or adjacent to the Planning Area. “High” fire threats are located in the northern and eastern portions of the Planning Area, where there tends to be a greater amount of combustible vegetation and where slopes are greater. CalFire data for the areas immediately north and west of the Planning Area include “moderate” and “high” fire threats.

Fire Hazard Severity Zones

The state has charged CalFire with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CalFire must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas (LRA). The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards. Figure 3.16-2, Fire Hazard Severity Zones, illustrates the Town’s Fire Hazard Severity Zones and Responsibility Areas.

As shown in Figure 3.16-2, there are no VHFHSZs located within the Town or Planning Area. While the majority of the Planning Area is not within a FHSZ, portions of the Planning Area are located in “moderate” and “high” FHSZs in State Responsibility Areas (SRA), including areas in the northern, northwestern, northeastern, and eastern portions of the Planning Area. No areas within or adjacent to the Planning Area are categorized as containing a “very high” FHSZs by CalFire.

Wildland-Urban Interface Zones

A Wildland-Urban Interface (WUI) zone is an area where human made structures and infrastructure (e.g., cell towers, schools, water supply facilities, etc.) are in or adjacent to areas prone to wildfire. Approximately 60,000 acres in Marin County fall within the WUI, where residences are intermixed with open space and wildland vegetation.¹² Due to surrounding vegetation and proximity to wildlands, these areas are considered to be at

¹² Marin County, 2018. Marin County Multi-Jurisdiction Local Hazard Mitigation Plan. Available: <https://marinflooddistrict.org/documents/marin-county-multi-jurisdiction-local-hazard-mitigation-plan-2018>. Accessed: January 30, 2023.

greater risk of wildfires. A Wildland Urban Intermix zone is defined as a housing development interspersed in an area dominated by wildland vegetation subject to wildfire. Lastly, a Wildfire Influence Zone is an area where wildfire susceptible vegetation is within 1.5 miles from a Wildland-Urban Interface or Wildland-Urban Intermix zone.

The majority of Tiburon is located within either a “Wildland-Urban Interface”, “Wildland-Urban Intermix”, or Wildfire Influence fire hazard zone. Figure 3.16-3, Fire Hazards and Wildland Urban Interface, Intermix, and Wildfire Influence Zones (WUI), identifies the Wildland-Urban Interface, Wildland-Urban Intermix, and Wildfire Influence Zones within Tiburon and the fire hazard severity for each. As shown in Figure 3.16-3, areas throughout Town and Planning Area have significant portions designated with a high fire hazard severity associated with Wildland Urban Interface, Wildland Urban Intermix, and Wildfire Urban Influence zones. Table 3.8-5 identifies the amount acres within the Planning Area located in an either a Wildland Urban Interface, Wildland Urban Intermix, and Wildfire Urban Influence zones.

TABLE 3.8-5: WUI TYPE BY FIRE HAZARD SEVERITY IN TIBURON PLANNING AREA

WUI TYPE	TOWN LIMITS	SOI	PLANNING AREA	GRAND TOTAL
Wildland-Urban Interface Zone				
Not in a Fire Hazards Severity Zone	0.00	0.00	0.00	0.00
Moderate Fire Hazard Severity	427.49	169.79	1.19	598.46
High Fire Hazard Severity	388.90	71.09	4.28	464.27
<i>Wildland Urban Influence Subtotal</i>	<i>816.39</i>	<i>240.88</i>	<i>5.47</i>	<i>1,062.73</i>
Wildland-Urban Intermix Zone				
Not in a Fire Hazards Severity Zone	0.00	0.00	0.00	0.00
Moderate Fire Hazard Severity	108.29	72.19	0.96	181.45
High Fire Hazard Severity	126.83	72.50	1.64	200.97
<i>Wildland Urban Intermix Subtotal</i>	<i>235.12</i>	<i>144.69</i>	<i>2.60</i>	<i>382.42</i>
Wildfire Urban Influence Zone				
Not in a Fire Hazards Severity Zone	87.92	16.69	1.72	106.34
Moderate Fire Hazard Severity	616.53	64.78	2.31	683.62
High Fire Hazard Severity	415.24	309.19	304.39	1,028.82
<i>Wildfire Urban Influence Subtotal</i>	<i>1,119.69</i>	<i>390.66</i>	<i>308.42</i>	<i>1,818.78</i>

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WUI TYPE	TOWN LIMITS	SOI	PLANNING AREA	GRAND TOTAL
Not in a WUI Zone				
Not in a Fire Hazards Severity Zone	7,536.49	122.74	30.73	7,689.96
Moderate Fire Hazard Severity	38.45	28.04	0.00	66.49
High Fire Hazard Severity	19.82	19.85	1.74	41.40
<i>Not in a WUI Zone Subtotal</i>	<i>7,594.76</i>	<i>170.63</i>	<i>32.47</i>	<i>7,797.85</i>
Total	9,765.96	946.86	348.96	11,061.78

SOURCE: CALFIRE FRAP, Wildland Urban Interface, Intermix, and Influence Zones – with Housing Density and Hazard Class, 2021.

Asbestos-Containing Materials (ACM)

Asbestos, a natural fiber used in the manufacturing of different building materials, has been identified as a human carcinogen. Most friable (i.e., easily broken or crushed) asbestos-containing materials (ACM) were banned in building materials by 1978. By 1989, most major manufacturers had voluntarily removed non-friable ACM (i.e., flooring, roofing, and mastics/sealants) from the market. These materials, however, were not banned completely. The Planning Area includes existing development from and prior to the 1960s; therefore, the presence of ACM is likely in some structures.

Lead-Based Paint

Lead-based paint has been identified by the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), and the Department of Housing and Urban Development (HUD) as a potential health risk to humans, particularly children, based on its effects to the central nervous system, kidneys, and bloodstream. The risk of lead-based paint has been classified by HUD based upon the age and condition of the painted surface. The Planning Area includes existing development from and prior to the 1960s; therefore, the presence of lead-based paint is likely in some structures.

Emergency Response

The Tiburon Peninsula Emergency Operations Plan (EOP), adopted in 2022, addresses the planned response to extraordinary emergency situations associated with disasters affecting the City of Belvedere and the Town. The Tiburon Peninsula Emergency Operations Center (EOC), located in the Tiburon Police Department, is equipped to manage disaster response for Tiburon and Belvedere. The Tiburon Peninsula EOC is activated during extraordinary emergencies or events and during disasters. The Tiburon Peninsula EOP guides the Town on how to operate during an emergency. The Tiburon Peninsula EOP utilizes the Standard Emergency Management System criteria for identifying Tiburon Peninsula EOC activation levels. Tiburon also utilizes standard operating procedures established by Police, Fire, and Public Works for conducting routine monitoring of events to determine appropriate actions prior to activating the EOC.

At the local level, the Tiburon Peninsula EOC is used as the central location for gathering and disseminating information, coordinating all jurisdictional emergency operations, and coordinating with the Marin County Office of Emergency Services (OES) and the Marin County Operational Area EOC level during events outside the scope of the Town. When a disaster occurs and two or more of the County's local jurisdictions' EOCs (or at the request of one local jurisdiction) within the Marin County Operational Area (OA) are activated, the Marin County EOC serves as the focal point for information transfer and supports requests by cities and towns. The Marin County EOC is maintained by the Marin OES, which is responsible for planning, outreach, and training as it relates to disaster management and emergency preparedness in Marin County.

If the scope of an emergency is larger than the Marin OA, regional- and State-level EOCs may need to be activated and serve as the focal point of information between counties, cities, and towns. The California Governor's Office of Emergency Services is a California cabinet-level agency that is responsible for emergency preparedness, response, recovery, and homeland security activities within the State.

3.8.2 REGULATORY SETTING

Federal

Aviation Act of 1958

The Federal Aviation Act resulted in the creation of the Federal Aviation Administration (FAA). The FAA is charged with the creation and maintenance of a National Airspace System.

Federal Aviation Regulations (CFR, Title 14)

The Federal Aviation Regulation establish regulations related to aircraft, aeronautics, and inspection and permitting.

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

Clean Water Act

The Clean Water Act (CWA), which amended the Water Pollution Control Act (WPCA) of 1972, sets forth the Section 404 program to regulate the discharge of dredged and fill material into Waters of the United States and the Section 402 National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into Waters of the United States. The

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Section 401 Water Quality Certification program establishes a framework of water quality protection for activities requiring a variety of Federal permits and approvals (including CWA Section 404, CWA Section 402, Federal Energy Regulatory Commission Hydropower and Section 10 of the Rivers and Harbors Act).

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) introduced active Federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous material releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Environmental Protection Agency

The primary regulator of hazards and hazardous materials is the EPA, whose mission is to protect human health and the environment. The Town is located within EPA Region 9, which includes Arizona, California, Hawaii, and New Mexico.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) established EPA's "cradle to grave" control (generation, transportation, treatment, storage and disposal) over hazardous materials and wastes. In California, the DTSC has RCRA authorization.

State

Airport Land Use Commission Law (Public Utilities Code Section 21670 et seq.)

The law, passed in 1967, authorized the creation of Airport Land Use Commissions (ALUCs) in California. Per the Public Utilities Code, the purpose of an ALUC is to protect public health, safety, and welfare by encouraging orderly expansion of airports and the adoption of land use measures that minimizes exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses (Public Utilities Code Section 21670). Furthermore, each ALUC must prepare an Airport Land Use Compatibility Plan (ALUCP). Each ALUCP, which must be based on a twenty-year planning horizon, should focus on broadly defined noise and safety impacts.

Assembly Bill 337

Per AB 337, local fire prevention authorities and CalFire, are required to identify VHFHSZ in LRA. Standards related to brush clearance and the use of fire-resistant materials in FHSZ are also established.

California Code of Regulations

Title 3 of the California Code of Regulations (CCR) pertains to the application of pesticides and related chemicals. Parties applying regulated substances must continuously evaluate application equipment, the weather, the treated lands and all surrounding properties. Title 3 prohibits any application that would:

- Contaminate persons not involved in the application;
- Damage non-target crops or animals or any other public or private property; and
- Contaminate public or private property or create health hazards on said property.

Title 8 of the CCR establishes California Occupational Safety and Health Administration (Cal OSHA) requirements related to public and worker protection. Topics addressed in Title 8 include materials exposure limits, equipment requirements, protective clothing, hazardous materials, and accident prevention. Construction safety and exposure standards for lead and asbestos are set forth in Title 8.

Title 14 of the CCR establishes minimum standards for solid waste handling and disposal.

Title 17 of the CCR establishes regulations relating to the use and disturbance of materials containing naturally occurring asbestos.

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Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

Title 22 of the CCR sets forth definitions of hazardous waste and special waste. The section also identifies hazardous waste criteria and establishes regulations pertaining to the storage, transport, and disposal of hazardous waste.

Title 26 of the CCR is a combination of State regulations pertaining to hazardous materials and waste that are presented in other regulatory sections. Title 26 mandates specific management criteria related to hazardous materials identification, packaging, and disposal. In addition, Title 26 establishes requirements for hazardous materials transport, containment, treatment, and disposal. Finally, staff training standards are set forth in Title 26.

Title 27 of the CCR sets forth a variety of regulations relating to the construction, operation, and maintenance of the state's landfills. The title establishes a landfill classification system and categories of waste. Each class of landfill is constructed to contain specific types of waste (household, inert, special, and hazardous).

California Department of Transportation

Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the Traffic Noise Analysis Protocol. The noise abatement criteria specified in the protocol are the same as those specified by the Federal Highway Administration (FHWA).

California Government Code Section 65302

This section, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements.

California Health and Safety Code

Division 11 of the Health and Safety Code establishes regulations related to a variety of explosive substances and devices, including high explosives and fireworks. Section 12000 *et seq.* establishes regulations related to explosives and explosive devices, including permitting, handling, storage, and transport (in quantities greater than 1,000 pounds).

Division 12 establishes requirements for buildings used by the public, including essential services buildings, earthquake hazard mitigation technologies, school buildings, and postsecondary buildings. Section 13000 *et seq.* establishes State fire regulations and broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

Division 20 establishes DTSC authority and sets forth hazardous waste and underground storage tank regulations. In addition, the division creates a state superfund framework that mirrors the Federal program.

Division 26 establishes California Air Resources Board (CARB) authority. The division designates CARB as the air pollution control agency per Federal regulations and charges the Board with meeting Clean Air Act requirements.

California Vehicle Code Section 31600 (Transportation of Explosives)

This code establishes requirements related to the transportation of explosives in quantities greater than 1,000 pounds, including licensing and route identification.

California Public Resources Code

The State's Fire Safety Regulations are set forth in Public Resources Code Section 4290, which include the establishment of SRA.

Public Resources Code Section 4291 sets forth defensible space requirements, which are applicable to anyone who "...owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material" (Section 4291(a)).

Food and Agriculture Code

Division 6 of the California Food and Agriculture Code establishes pesticide application regulations. The division establishes training standards for pilots conducting aerial applications as well as permitting and certification requirements.

State Oversight of Hazards and Hazardous Materials

The DTSC is primarily responsible for regulating the handling, use, and disposal of toxic materials. The SWRCB regulates discharge of potentially hazardous materials to waterways and aquifers and administers the basin plans for groundwater resources in the various regions of the state. The Regional Water Quality Control Board (RWQCB) oversees surface and groundwater. Programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under OSHA at the federal and state level (Cal OSHA) and the California Department of Health Services (DHS) at the state level. Air quality is regulated through the CARB and Bay Area Air Quality Management District (BAAQMD). The State Fire Marshal is responsible for the protection of life and property through the development and application of fire prevention engineering, education, and enforcement; CalFire provides fire protection services for State and privately-owned wildlands.

Senate Bill 99

SB 99 requires cities and counties, upon the next revision of the housing element on or after January 1, 2020, to review and update the safety element to include information identifying residential developments in hazard areas that do not have at least two emergency evacuation routes (California Government Code Section 65302(g)(5)).

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Water Code

Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Water Quality Control Act, created the SWRCB and the RWQCB. In addition, water quality responsibilities are established for the SWRCB and RWQCBs.

Local

Marin Operational Area Emergency Operations Plan

The Marin Operational Area Emergency Operations Plan (EOP) was adopted in October 2014 and provides the planned response to extraordinary emergency situations associated with large-scale disasters affecting Marin County. The Marin Operational Area (OA) consists of the cities/towns, special districts, and the unincorporated areas within the county. The Marin OA EOP provides the overall concept, organizational framework, and policies for responding to a major emergency or disaster within the County. Agencies and organizations within the Marin OA separately publish documents to support this EOP, which further describe the operation or functional response to specific threats or specific emergency response disciplines. Additionally, each of these supporting plans contain checklists and other resource material designed to provide users with the basic considerations and actions necessary for effective emergency response for the specific hazard or function. The Marin County Office of Emergency Services (Marin OES) is responsible for managing all plans and documents that support and carry out the concepts and policies outlined in the EOP to ensure compatibility between plans and enhanced coordination among jurisdictions.

Marin County Operational Area Emergency Recovery Plan

The Marin County Sheriff's Office of Emergency Services' Marin County Operational Area Emergency Recovery Plan (ERP) was adopted by the Marin County Board of Supervisors in November 2012. While the Marin Operational Area EOP describes the planned response to emergencies, the ERP is designed to accommodate the special challenges inherent in all disasters, especially those severe disasters requiring significant recovery effort and support. This ERP establishes procedures and assigns responsibilities to ensure the effective management of emergency recovery operations within the Marin County Operational Area. It provides an All-Hazards framework for collaboration and coordination during emergencies in the county. Further, it describes operational concepts relating to recovery, identifies components of a recovery organization, and describes general responsibilities of the Marin County Sheriff's Office of Emergency Services and the other entities for the restoration of communities in Marin. The ERP also identifies resources that State and federal agencies may provide.

Marin County Multi-Jurisdiction Local Hazard Mitigation Plan

Hazard mitigation is the use of long-term and short-term policies, programs, projects, and other activities to alleviate the death, injury, and property damage that can result from a disaster. Marin County and its partners developed the 2018 Multi-Jurisdictional Local Hazard

Mitigation Plan (2018 LHMP) to assess risks posed by natural hazards and to develop a mitigation strategy for reducing the County's risks. The County prepared the 2018 LHMP in accordance with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). Additionally, the plan complies with federal and state hazard mitigation planning requirements to establish eligibility for funding under the FEMA grant programs. The 2018 LHMP replaced the County LHMP that was approved by FEMA on August 29, 2013 and serves as the current Local Hazard Mitigation Plan for all participating jurisdictions.

The Town is a participating jurisdiction of the 2018 LHMP, which includes jurisdiction-specific mitigation actions that are designed to reduce or eliminate losses resulting from natural hazards. The Town approved and adopted the 2018 LHMP on March 6, 2019. The 2018 LHMP identifies risks associated with earthquake, flood, fire, tsunami, landslide, and dam inundation events and assesses the vulnerability of the Town's structures and its transportation, communications, power, and water/sewage systems due to such events. The 2018 LHMP also includes an evaluation of the previous hazard mitigation plans to determine which actions have been completed or should be retained.

Marin County Community Wildfire Protection Plan (CWPP)

The Marin County Community Wildfire Protection Plan (CWPP), updated in 2020, is an advisory document prepared by Fire Safe Marin in collaboration with stakeholder agencies, including the Tiburon Fire Protection District and the Southern Marin Fire Protection District. The CWPP is a countywide strategic plan with action items to reduce fire hazard in the County, especially in areas of concern, which mostly fall within Marin's WUI boundary. The CWPP assists in protecting human life and reducing property loss from wildfire throughout Marin County. The CWPP describes wildfire risk, hazard, and recommendations for improving wildfire preparedness at the County level.

Marin County Hazardous Materials Area Plan

The Marin County Hazardous Materials Area Plan describes the County's pre-incident planning and preparedness for hazardous materials releases. It clarifies the roles and responsibilities of federal, State and local agencies during a hazardous materials incident. It describes the County's hazardous materials incident response program, training, communications and post-incident recovery procedures. The Plan fulfills the Certified Unified Program Agency (CUPA) regulatory program requirements per State law.

Marin County Waste Management Division

The Marin County Department of Public Works Waste Management Division is the local administrative agency (i.e., Certified Unified Program Agency) that coordinates the regulation of hazardous materials and hazardous waste in Marin County, including the Town. The Certified Unified Program Agency (CUPA) is responsible for consolidating, coordinating, and making consistent the administrative requirements, permits, inspections, and enforcement activities of State standards regarding the transportation, use, and disposal of hazardous materials in Marin County. The CUPA implements the hazardous materials business plans

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that include an inventory of hazardous materials used, handled, or stored at any business in the County, and is also responsible for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, aboveground storage tanks, and stationary sources handling regulated substances.

Tiburon Peninsula Emergency Operations Plan

The Tiburon Peninsula Emergency Operations Plan (Tiburon Peninsula EOP) addresses the planned response to extraordinary emergency situations associated with disasters affecting the City of Belvedere and the Town. The plan also addresses integration and coordination with other governmental agencies when required and as guided by applying the Whole Community approach (the Whole Community Approach refers to meeting needs, regardless of demographics such as age, economics, or accessibility). This plan is not intended to address the normal day-to-day emergency or well-established emergency procedures. This plan accomplishes the following:

- Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting the Tiburon Peninsula; and
- Establishes the overall operational concepts associated with the Tiburon Peninsula's Emergency Operations Center (Tiburon Peninsula EOC) activities and the recovery process.

The Tiburon Peninsula EOP establishes policies and procedures and assigns responsibilities to ensure the effective management of emergency operations within the City of Belvedere and the Town. It provides information on the Tiburon Peninsula's emergency management structure and how and when the Tiburon Peninsula EOC staff is activated. The overall objective of emergency management is to ensure the effective management, support and coordination of response forces and resources in preparing for and responding to situations associated with natural disasters, technological incidents, and national security emergencies. To carry out its responsibilities, the emergency management organization will accomplish the following objectives during a disaster/emergency using the Whole Community approach:

- Maintain overall coordination of emergency response and recovery operations. This includes on-scene incident management as required;
- Coordinate and liaise with other appropriate local government agencies, as well as applicable segments of private sector entities and volunteer agencies;
- Establish priorities and resolve conflicting demands for support;
- Prepare and disseminate emergency public information to alert, warn and inform the public; and
- Disseminate damage information and other essential data.

Tiburon Municipal Code

Title IV, Chapter 13, Article II, *Technical Codes*, of the Municipal Code adopts and incorporates various technical construction codes with modifications, including but not limited to, the

California Building Code, and the California Fire Code, as adopted and modified by the current Tiburon Fire Protection District and Southern Marin Fire Protection District ordinances. The Building Code contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. The Fire Code sets fire safety related building standards and practices to safeguard life and property.

Title V, Chapter 19, *Encroachments*, requires approval of an encroachment permit for work within, upon or beneath streets, street rights-of-way, public easements or Town-owned land.

Title VI, Chapter 21, *Emergency Organization*, provides for the preparation and carrying out of plans for the protection of persons and property within the Town in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of the Town with all other public agencies, corporations, organizations and affected private persons.

Title VI, Chapter 26, *Solid Waste Storage, Collection and Disposal*, regulates solid waste handling, including hazardous waste, in order to protect public health, safety, and welfare.

3.8.3 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the proposed project will have a significant impact related to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- 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 it create a significant hazard to the public or the environment;
- 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, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and/or
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

3.8.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impact 3.8-1 Development facilitated by the Project has the potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Many types of businesses utilize various chemicals and hazardous materials, and their routine business operations involve chemicals that are manufactured, warehoused, or transported. Implementation of the General Plan 2040 would accommodate the future development of both residential and non-residential uses. Increased development would result in an increase in the routine transport, use, and storage of hazardous materials in the Planning Area, potentially resulting in accidental releases. Risk of upset can involve scenarios that could adversely affect the public or the environment through accidental release of hazardous materials. Exposure of persons to hazardous materials could also occur through the operations of future developments associated with the improper handling of hazardous materials/wastes, particularly by untrained personnel; transportation accident; environmentally unsound disposal methods; or fire, explosion, or other emergencies. Typical incidents that could create a hazard involve accidental releases of hazardous materials including accidents during transport causing a “spill” of a hazardous materials and/or natural disasters causing the unauthorized release of a substance. If not cleaned up immediately and completely, these and other types of incidents could cause contamination of soil, surface water and groundwater, in addition to any toxic vapors that might be generated. Human exposure to contaminated soil or water could have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

The use, transportation, and disposal of hazardous materials in the Planning Area is regulated and monitored by the Tiburon Fire Protection District and Southern Marin Fire Protection District, the Marin County Department of Public Works Waste Management Division, Cal OSHA, and the DTSC consistent with the requirements of federal, State, and local regulations and policies. Facilities that store hazardous materials on-site are required to maintain a Hazardous Materials Business Plan in accordance with State regulations. In the event of an accidental release of hazardous materials, the local CUPA and emergency management agencies (e.g., Police and Fire) would respond. All future projects allowed under the General Plan 2040 would be required to comply with the provisions of federal, State, and local requirements related to hazardous materials. As future development and infrastructure projects are considered by the Town, each project would be evaluated for potential impacts, specific to the project, associated with hazardous materials as required under CEQA.

In addition to the requirements associated with federal, State, and local regulations, the General Plan 2040 includes policies and programs to address potential impacts associated with hazardous materials among other issues. Policy SR-1 ensures that the Town is prepared to effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-c

supports participation in education and training programs for emergency preparedness and disaster recovery. Policy SR-2 ensures continuation of essential public services during and after emergency events. Program SR-g ensures essential public facilities are accessible and operational during emergency events. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats. Policy SR-4 ensures new essential public facilities are located outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-24 actively addresses the need to reduce exposure to hazardous materials. Policy SR-25 encourages residents and businesses to reduce or eliminate the use of hazardous materials. Policy SR-26 reduces the presence of hazardous materials in the community and supports the operation of recycling centers that take hazardous substances. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan.

As described previously, hazardous materials regulations related to the use, handling, and transport of hazardous materials are codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in the California Health and Safety Code. These laws were established at the State level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. These regulations must be implemented by employers/businesses, as appropriate, and are monitored by the State (e.g., Cal OSHA in the workplace or DTSC for hazardous waste) and/or the County. The haulers and users of hazardous materials are listed with and regulated and monitored by the County of Marin. Compliance with the requirements of federal, State, and local laws and regulations regarding the use and storage of hazardous materials would ensure that risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes associated with implementation of the General Plan 2040 would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-2 Development facilitated by the Project has the potential 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.

Short-Term Construction-Related Accidental Release of Hazardous Materials

The General Plan 2040 would enable development of new residential and non-residential uses. Construction activities associated with new development could result in upset and/or accident conditions involving the release of hazardous materials into the environment.

Demolition

Specific development projects have not been identified as part of the General Plan 2040. However, future development accommodated through implementation of the General Plan 2040 could involve the demolition of existing structures and buildings as areas within the Town are redeveloped. As discussed above, the Planning Area includes existing development from and prior to the 1960s; therefore, the presence of lead-based paint, ACM, and/or other contaminants, which are typically present in buildings and structures constructed prior to 1978, are likely present in some structures. All demolition that could result in the release of ACMs or lead-based paint would be conducted according to federal and State regulations which govern the renovation and demolition of structures where ACMs and lead-based paint are present. The National Emission Standards for Hazardous Air Pollutants mandates that building owners conduct an asbestos survey to determine the presence of ACMs prior to the commencement of any remedial work, including demolition. In accordance with BAAQMD Regulation 11 Rule 2, if ACM material is found, abatement of asbestos would be required prior to any demolition activities. If paint is separated from building materials (chemically or physically) during demolition of the structures, the paint waste would be required to be evaluated independently from the building material by a qualified Environmental Professional in accordance with California Code of Regulations Title 8, Section 1532.1. If lead-based paint is found, abatement would be required to be completed by a qualified Lead Specialist prior to any demolition activities. Compliance with existing regulations related to ACM and lead-based paint would reduce potential impacts to a less-than-significant level.

Soil and Groundwater Contamination in Unknown Contaminated Sites

Future development accommodated through implementation of the General Plan 2040 could involve grading and excavation activities which could expose construction workers and the public to previously unknown hazardous substances present in the soil or groundwater. The presence of unknown hazardous substances, such as petroleum and heavy metals from industrial activities, may be of particular concern when developing on former industrial land within the Planning Area. Exposure to contaminants could occur if the contaminants migrated to surrounding areas or if contaminated zones were disturbed at the contaminated location. Grading and excavation activities could also reveal previously unidentified underground storage tanks. Although underground storage tank removal activities could

pose risks to workers and the public, potential risks would be minimized by managing the tank according to existing Marin County Department of Public Works Waste Management Division standards. Potential impacts to groundwater would be dependent upon the type of contaminant, the amount released, and depth to groundwater at the time of the release.

The public could also be exposed to hazardous materials if new development or redevelopment were to be located on a current or historical hazardous material site. As described in the Existing Setting section and shown on Table 3.8-1, Fort McDowell/Angel Island is the only active cleanup site within the Planning Area listed in the EnviroStor database. The entire Fort McDowell/Angel Island site is designated Public/Quasi-Public under the General Plan 2040 Land Use Map. As described in the General Plan Land Use Chapter, the Public/Quasi-Public land use is applied to areas suitable for public land uses including educational facilities, governmental and quasi-public buildings and facilities, and utility facilities; residential uses are not permitted. There are no open LUST sites in the Planning Area. One location with a Tiburon address, the Newhall Residence located at 2900 Paradise Drive, is listed in the GeoTracker database as a Cleanup Program Site with a cleanup status of Open – Inactive as of July 13, 2016. There are four locations with a Tiburon address listed in the GeoTracker database as military cleanup sites, all of which are located on Angel Island. Future development associated with implementation of the General Plan 2040 would be reviewed at the project-level to determine whether any development sites are listed on a hazardous materials site. Any development activities that may occur on documented hazardous materials sites would be required to undergo remediation and cleanup under the supervision of the regulatory agencies, such as DTSC and the San Francisco Bay RWQCB.

In addition to the requirements associated with federal, State, and local regulations, the General Plan 2040 includes policies and programs to address potential impacts associated with potentially contaminated sites. Policy SR-1 ensures that the Town is prepared to effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Policy SR-24 actively addresses the need to reduce exposure to hazardous materials. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan. Compliance with General Plan 2040 policies and programs, and existing regulations would reduce potential impacts involving the release of hazardous materials into the environment as a result of on-site contamination to a **less-than-significant** level.

Long-Term Operations-Related Accidental Release of Hazardous Materials

Long-term operation activities associated with new development could result in upset and/or accident conditions involving the release of hazardous materials into the environment. The General Plan 2040 does not propose site-specific development; thus, specific hazardous materials that could be accidentally released cannot be predicted at this time. Typical incidents that could occur due to the accidental release of hazardous materials include leaking underground storage tanks, spills during transport, inappropriate storage or use, and/or natural disasters.

If not cleaned up immediately and completely, these and other types of incidents could cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. Depending on the nature and extent of the contamination, groundwater supplies could become unsuitable for use as a domestic water source. Human exposure to contaminated soil or water could have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

The transport, storage, and handling of hazardous materials by developers, contractors, business owners, and others are required to comply with federal, State, and local regulations during project construction and operation. Facilities that use hazardous materials are required to obtain permits from the EPA under the RCRA, which gives the EPA the authority to control the generation, transportation, treatment, storage, and disposal of hazardous waste. Additionally, the hazardous materials regulations included in federal law govern the transportation of hazardous materials. Locally, the Marin County Department of Public Works Waste Management Division is the CUPA for Marin County and is responsible for consolidating, coordinating, and making consistent the administrative requirements, permits, inspections, and enforcement activities of state standards regarding the transportation, use, and disposal of hazardous materials in Marin County, including the Planning Area.

The General Plan 2040 includes policies and programs to address potential accidental exposure of individuals as a consequence of unknown existing environmental contaminants. Policy SR-1 ensures that the Town is prepared to effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-c supports participation in education and training programs for emergency preparedness and disaster recovery. Policy SR-2 ensures continuation of essential public services during and after emergency events. Program SR-g ensures essential public facilities are accessible and operational during emergency events. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats. Policy SR-4 ensures new essential public facilities are located outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-24 actively addresses the need to reduce exposure to hazardous

materials. Policy SR-25 encourages residents and businesses to reduce or eliminate the use of hazardous materials. Policy SR-26 reduces the presence of hazardous materials in the community and supports the operation of recycling centers that take hazardous substances. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan. Compliance with all applicable federal, State, and local laws related to the transport, storage, and handling of hazardous materials would reduce the likelihood and severity of accidents, and impacts involving the release of hazardous materials into the environment would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-3 Development facilitated by the Project has the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The Planning Area is served by a variety of preschools, elementary, middle, and high schools. As noted above, future development under the General Plan 2040 could utilize, transport, store, or dispose of hazardous materials during construction or operation. Excavation and grading activities associated with future development could expose the public to unknown hazardous materials present in soil or groundwater, which would require remediation activities. Remediation, if any, would include potential transport of hazardous materials to an approved landfill facility. As a result, future development within the Planning Area could potentially emit or handle hazardous materials within one-quarter mile of an existing or proposed school.

CEQA Guidelines Section 15186 requires that school projects, as well as projects proposed to be located near schools, examine potential health impacts resulting from exposure to hazardous materials, wastes, and substances. Furthermore, permitting requirements for individual hazardous material handlers or emitters would require evaluation and notification where potential hazardous materials handling and emissions could occur in proximity to existing schools.

In addition to the requirements associated with federal, State, and local regulations, the General Plan 2040 includes policies and programs to address potential impacts associated with hazardous materials. Policy SR-4 ensures new essential public facilities are located

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outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-24 actively addresses the need to reduce exposure to hazardous materials. Policy SR-25 encourages residents and businesses to reduce or eliminate the use of hazardous materials. Policy SR-26 reduces the presence of hazardous materials in the community and supports the operation of recycling centers that take hazardous substances. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan. Implementation of the safety procedures and regulations mandated by applicable federal, State, and local laws and the General Plan 2040 policies and programs would ensure that potential risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes in proximity to a school associated with implementation of the General Plan 2040 would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-4 Development facilitated by the Project has the potential to 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, create a significant hazard to the public or the environment.

There is one active site location with an active status listed on the Cortese list, compiled pursuant to Government Code Section 65962.5: the Fort McDowell/Angel Island site. As previously described, the entire Fort McDowell/Angel Island site is designated Public/Quasi-Public under the General Plan 2040 Land Use Map. As described in the General Plan Land Use Chapter, the Public/Quasi-Public land use is applied to areas suitable for public land uses including educational facilities, governmental and quasi-public buildings and facilities, and utility facilities; residential uses are not permitted. Future development associated with implementation of the General Plan 2040 would be evaluated at the project-level to determine whether any development sites are listed on a hazardous materials site. Any development activities occurring on documented hazardous materials sites would be required to undergo remediation and cleanup under the supervision of the DTSC and the San Francisco Bay RWQCB prior to construction.

The General Plan 2040 includes policies and programs to address potential impacts associated with hazardous materials. Policy SR-1 ensures that the Town is prepared to

effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-c supports participation in education and training programs for emergency preparedness and disaster recovery. Policy SR-2 ensures continuation of essential public services during and after emergency events. Program SR-g ensures essential public facilities are accessible and operational during emergency events. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats. Policy SR-4 ensures new essential public facilities are located outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-24 actively addresses the need to reduce exposure to hazardous materials. Policy SR-25 encourages residents and businesses to reduce or eliminate the use of hazardous materials. Policy SR-26 reduces the presence of hazardous materials in the community and supports the operation of recycling centers that take hazardous substances. Program SR-qq ensures potential impacts related to hazardous materials are evaluated during the environmental review process for new developments or businesses that involve use, transport, production, storage, and/or disposal of hazardous materials or that are proposed on a site affected by a hazardous materials release. It further requires coordination of hazardous materials management with other public agencies regarding the use, storage, transport, or disposal of hazardous materials, and requires mitigation of potential significant impacts associated with exposure to hazardous emissions or hazardous materials. Program SR-rr directs coordination with other local agencies to implement proper management measures as identified by the County's Hazardous Materials Area Plan. Compliance with General Plan 2040 goals, policies, and actions, and existing regulations would reduce potential impacts involving the hazardous materials sites, and the impact would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-5 **Development facilitated by the Project would not be 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, and would not result in a safety hazard or excessive noise for people residing or working in the project area.**

There are no airports within the Planning Area. The closest airport to the Planning Area is the San Rafael Airport in the City of San Rafael, approximately 7.4 miles north of the Tiburon town limits. The Planning Area is not located within the airport influence zone for this airport. Because the Planning Area is not within an airport land use plan or within two miles of a public use airport, impacts with regard to safety hazards to people residing or working in the Planning Area would be **less than significant**.

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Mitigation Measures

None required.

Impact 3.8-6 **Development facilitated by the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

The General Plan 2040 would allow a variety of new development which would result in increased jobs and population in the Planning Area. Existing roads and infrastructure are generally established throughout the community and large-scale improvements to roads and infrastructure would not be required to accommodate the new growth. Implementation of the General Plan 2040 would not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. As described in Section 3.13, Public Services and Recreation, fire protection and emergency response services in Tiburon are provided by the Tiburon Fire Protection District (TFPD) and the Southern Marin Fire Protection District (SMFPD).

The Marin OA EOP provides the overall concept, organizational framework, and policies for responding to a major emergency or disaster within the County. Agencies and organizations within the Marin OA separately publish documents to support this EOP, which further describe the operation or functional response to specific threats or specific emergency response disciplines. The Tiburon Peninsula EOP establishes policies and procedures and assigns responsibilities to ensure the effective management of emergency operations within the City of Belvedere and the Town. The Tiburon Peninsula EOP does not provide a specific evacuation route map, as evacuation measures would be implemented based on the specific emergency and area affected. The General Plan 2040 would not require or result in revisions to the adopted Marin OA EOP or Tiburon Peninsula EOP.

As noted in the General Plan 2040, Tiburon's location on a peninsula and topography of steep hillsides poses challenging constraints for emergency response and evacuation. One of the major problems Tiburon faces during any emergency is the possibility of becoming isolated from surrounding cities or counties and any subsequent resources or help. The Tiburon Peninsula has one major road (Tiburon Boulevard) and one minor road (Paradise Drive) which provide primary access to the entire Planning Area. Additionally, there is a second minor road (Trestle Glen Boulevard) connecting Tiburon Boulevard and Paradise Drive in the northern portion of the Planning Area; however, the remaining transportation network consists of narrow local streets within the hillsides. Therefore, the susceptibility to road blockages is high and delays during evacuations will be inevitable. During an emergency, some areas could be inaccessible to emergency service personnel and vehicles due to the limited access to the area.

In the event of an area-wide emergency, evacuation of the Planning Area would be difficult. Evacuation traffic on Tiburon Boulevard (Highway 131) would cause severe congestion since that is the only major access route for most of the Planning Area. As residents use the

Highway 101 Tiburon Boulevard/East Blithedale Avenue interchange to evacuate out of Marin County, key choke points would occur causing massive delays for Tiburon residents, especially those located in residential areas in the southern portion of the peninsula. During an evacuation of the Tiburon Peninsula area, it is anticipated that over 17,000 residents from Tiburon, Belvedere, and Strawberry would potentially utilize this interchange as the main evacuation route since it is the closest interchange to all three communities.

The fire departments serving Tiburon, the TFPD and the SMFPD, use a cloud-based platform called Zonehaven that provides public safety workers with tools to pre-plan evacuation zones and routes, run scenario models, and collaborate with other agencies. The platform communicates live updates to fire department personnel and the public about evacuation routes, traffic flow, and roadway conditions during an emergency. Using satellite images and other information, the platform delivers real-time evacuation instructions to residents through mobile alerts and social media that can be adapted to the type of emergency, such as wildfire, earthquake, and tsunami. As conditions change, evacuation routes can be quickly modified. For example, roadways may be closed or turned into one-way evacuation routes as needed.

The Town approved an Evacuation Decal program in August 2018 to demarcate potential evacuation routes to assist residents, businesses, and visitors in evacuating in the event of a disaster. The Evacuation Decal program was developed by the TFPD with input from the Belvedere Tiburon Joint Disaster Advisory Council.

The General Plan 2040 includes policies and programs to address emergency evacuation routes. Specifically, Program SR-d directs the Town to work with the TFPD, the SMFPD, the Marin Wildfire Prevention Authority, and the Tiburon Police Department to identify and map residential developments in hazard areas that do not have at least two emergency evacuation routes and identify mitigation measures as feasible; Program SR-e directs the Town to work with the TFPD, the SMFPD, the Marin Wildfire Prevention Authority, and the Tiburon Police Department to evaluate evacuation routes for their capacity, safety, and viability under a range of emergency scenarios; and Program SR-f directs the Town to improve local evacuation capacity by identifying evacuation routes through signage, promoting public safety route identification applications, and assessing the feasibility of adding additional evacuation routes.

The General Plan 2040 does not include any site-specific development. However, future development would be designed, constructed, and maintained in accordance with applicable standards, including vehicular access to ensure that adequate emergency access and evacuation would be maintained. Construction activities that may temporarily restrict vehicular traffic would be required to implement appropriate measures to facilitate the passage of persons and vehicles through/around any required temporary road closures. As described above, evacuation routes would depend upon the emergency event and area affected. The General Plan 2040 includes policies and programs to address emergency response and evacuation. Policy SR-1 ensures that the Town is prepared to effectively

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respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-a ensures implementation of the adopted LHMP. Program SR-b directs the Town to continue to review, update, and provide continued training to ensure that the Tiburon Peninsula EOP remains effective in preparing for disasters. Program SR-c supports participation in education and training programs for emergency preparedness and disaster recovery. Program SR-d directs the Town to work with the TFPD, the SMFPD, the Marin Wildfire Prevention Authority, and the Tiburon Police Department to identify and map residential developments in hazard areas that do not have at least two emergency evacuation routes and identify mitigation measures as feasible. Program SR-e directs the Town to work with the TFPD, the SMFPD, the Marin Wildfire Prevention Authority, and the Tiburon Police Department to evaluate evacuation routes for their capacity, safety, and viability under a range of emergency scenarios. Program SR-f directs the Town to improve local evacuation capacity by identifying evacuation routes through signage, promoting public safety route identification applications, and assessing the feasibility of adding additional evacuation routes. Policy SR-2 continues essential public services during and after natural disasters and other catastrophes. Program SR-g ensures essential public facilities are accessible and operational during flooding, seismic events, fires, extreme heat events, and other emergencies. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats such as flood or wildfire.

Primary access to all major roads would be maintained during construction of future developments within the Planning Area. Per Municipal Code Title V, Chapter 19, *Encroachments*, construction activities would require approval of an encroachment permit for work within, upon or beneath streets, street rights-of-way, public easements or Town-owned land. Additionally, as part of the site plan and architectural review process, future development projects would be reviewed for adequate infrastructure and access as well as consistency with adopted emergency and evacuation plans among many other environmental issues in order to ensure the safety of Town residents and the physical environment. Therefore, impacts associated with adopted emergency response or evacuation plans would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-7 **Development facilitated by the Project has the potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.**

The potential for wildland fires represents a hazard to people and structures, particularly within WUI areas. As described in Section 3.16, Wildfire, and shown in Figure 3.16-1, in that section of this EIR, the majority of the Planning Area is not within a FHSZ, however, portions

of the Planning Area are located in “moderate” and “high” FHSZs in SRA, including areas in the northern, northwestern, northeastern, and eastern portions of the Planning Area. According to CalFire’s Fire Threat Model, “High” fire threats are located in the northern and eastern portions of the Planning Area, where there tends to be a greater amount of combustible vegetation and where slopes are greater, and areas immediately north and west of the Planning Area include “moderate” and “high” fire threats. The majority of Tiburon is located within either a “Wildland-Urban Interface”, “Wildland-Urban Intermix,” or Wildfire Influence fire hazard zone. In addition to the direct physical threat to life and property, smoke released during an event can have a detrimental effect on air quality and lead to health risks from smoke inhalation.

Protection from wildland fires is realized through creation of defensible areas around structures, the use of fire-resistant building materials, and coordinated emergency response. All new construction is required to adhere to standards and requirements set forth in the Municipal Code, which incorporates the California Fire Code, as adopted and modified by the current TFPD and SMFPD ordinances. As part of the site plan and architectural review process, future development projects would be reviewed for consistency with the Fire Code. Further, the General Plan 2040 Safety and Resilience Chapter includes goals and policies to reduce the risk of wildland hazards. Policy SR-1 ensures that the Town is prepared to effectively respond to any emergency or disaster, including hazardous material releases, in cooperation with other public agencies and appropriate organizations. Program SR-c supports participation in education and training programs for emergency preparedness and disaster recovery. Policy SR-2 ensures continuation of essential public services during and after emergency events. Program SR-g ensures essential public facilities are accessible and operational during emergency events. Policy SR-3 encourages educational outreach and neighborhood organization to promote awareness and readiness among residents regarding disaster preparedness. Program SR-i promotes public safety emergency notification systems to warn residents of active threats. Policy SR-4 ensures new essential public facilities are located outside of high hazard areas or, when infeasible, requires site design, construction, and other methods to minimize damage. Policy SR-17 reduces the risk of loss of life, personal injury, and property damage resulting from wildfire through code enforcement and coordination the local Fire Districts and other agencies to ensure the safe delivery of emergency services and the effective evacuation of the community in the event of a disaster. Policy SR-18 requires new development to provide sufficient water supply and equipment for fire suppression to ensure that the requirements for minimum fire flow and the size, type, and location of water mains and hydrants set forth in the California Fire Code and by local ordinance are met. Policy SR-19 require new development within areas of insufficient peak load water supply to contribute to improvements to the water delivery system to meet requirements for minimum fire-flow. Policy SR-20 directs the Town to work with the Fire Districts and other agencies to provide, enhance, and maintain adequate access, including secondary access, to all areas within the Planning Area. Program SR-II considers adoption of an ordinance requiring the maintenance of defensible space on

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properties where fire hazard is significant. On-going maintenance of defensible space buffers and fire protection infrastructure (e.g., safe access for emergency response vehicles, visible street signs, fuel breaks, and emergency water sources and supplies, etc.) in new development projects shall be assured in a form satisfactory to the Town and the Fire Districts prior to construction of improvements. Program SR-mm reviews all development proposals for fire risk and require mitigation measures, including on-going maintenance of defensible space and infrastructure related to fire protection and fire hardening of structures and areas proximate to structures, for development located in state responsibility areas, high fire hazard severity zones, or other areas with significant wildfire potential, to reduce the probability of fire-related hazards to a less than significant level. All new development is required to meet the adopted State and local fire codes. All applications are referred to the appropriate Fire Districts for review. Program SR-nn implements the adopted Open Space Management Program to reduce fuel loads and maintain fire roads and evacuation routes.

Future development allowed under the General Plan 2040 would be required to comply with the provisions of federal, State, and local requirements related to wildland fire hazards, including State fire safety regulations associated with wildland-urban interfaces, fire-safe building standards, and defensible space requirements. As future development and infrastructure projects are considered by the Town, each project would be evaluated for project-specific potential impacts associated with wildland fire hazards as required under CEQA. Therefore, through compliance with existing federal, State, and local laws and regulations related to wildland fire hazards and implementation of the General Plan 2040 policies and programs, impacts regarding the exposure of people or structures to significant loss, injury, or death involving wildland fires would be **less than significant**.

Mitigation Measures

None required.

Impact 3.8-8 Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to hazards and hazardous materials.

Construction of individual development projects allowed under the land use designations of the General Plan 2040 may involve the transportation, use, and/or disposal of hazardous materials, which may involve the use of equipment that contains hazardous materials (e.g., solvents and fuels or diesel-fueled equipment), or the transportation of excavated soil and/or groundwater containing contaminants from areas that are identified as being contaminated. Furthermore, because of the regional nature of the General Plan 2040, some future land uses could transport or use hazardous materials within one-quarter mile of a school, or other sensitive receptors such as hospitals and residences.

As with specific projects resulting from implementation of the General Plan 2040, cumulative development would be required to evaluate individual hazards and hazardous materials

impacts at the project-level. While some cumulative impacts would potentially occur in the region as individual projects are constructed, the General Plan 2040 policies and programs, as well as local, State, and federal regulations would reduce the risk to people associated with hazards and hazardous materials in the region. Considering the protection granted by local, State, and federal agencies and their requirements for the use of hazardous materials and other potential hazards in the region, as described above, the overall cumulative impact for hazards impacts would not be significant. As a result, the General Plan 2040's incremental contribution to cumulative hazards and hazardous materials impacts would be less than cumulatively considerable, and the cumulative impact would be **less than significant**.

Mitigation Measures

None required.



3.9 HYDROLOGY AND WATER QUALITY

This section provides a discussion of the regional hydrology, flooding, and water quality in the Planning Area and provides an analysis of potential impacts associated with implementation of the General Plan 2040. Potential impacts are identified and mitigation measures to address potentially significant impacts are recommended, as necessary.

The discussion of water and storm drainage infrastructure is located in Section 3.15, Utilities and Service Systems.

Information in this section is based, in part, on statements, data, and figures provided by the following reference materials:

- Create Tiburon 2040: Existing Conditions Report; and
- Tiburon Municipal Code.

Four comments were received during the NOP Comment period in regards to hydrology and water quality impacts. One comment received by the California Geologic Survey (CGS) is concerned with tsunami hazards areas (THAs) within the Planning Area. The comment provides information that the Planning Area contains a Tsunami Design Zone within the California Building Code (CBC). The CGS urges the Town to consider discussing the Tsunami Design Zone in this DEIR. Three comments were received by Dorene Curtis, Julie and Seth Jacobs, and Kathy and Gerry Silverfield expressing concern about housing located within tsunami hazard zones.

3.9.1 EXISTING SETTING

Regional Hydrology

The Planning Area is located in the Angel Island-San Francisco Bay Estuaries, Arroyo Corte Madera Del Presido-Frontal San Francisco Bay Estuaries, Larkspur Creek-Frontal San Francisco Bay Estuaries, Redwood Creek-Frontal Pacific Ocean, and Richardson Bay-San Francisco Bay watersheds. Elevations on the peninsula range from sea level to about 650 feet, and it is drained by multiple small watersheds on the north and south sides. Raccoon Strait is present to the southeast of the peninsula (separating it from Angel Island), Richardson Bay lies to the west and southwest, Belvedere Lagoon and Cove to the South, and San Francisco Bay to the northeast.

Climate

The Tiburon peninsula is located in the Mediterranean-type climate zone typical of coastal central California. This zone is characterized by cool, wet winters and warm, dry summers, with almost all rain falling between the months of October and April. The mean annual

precipitation in the region ranges from up to 50 inches at the highest points of Mount Tamalpais to roughly 24 inches near the Town of Bolinas, with an average value of about 23 inches near Tiburon.

Watersheds

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds.

Hydrologic Region

Tiburon is located in the San Francisco Bay Hydrologic Region. The San Francisco Bay Hydrologic Region covers approximately 2.88 million acres (4,500 square miles) and includes all of San Francisco and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, and Alameda counties.¹ Significant geographic features include the Santa Clara, Napa, Sonoma, Petaluma, Suisun-Fairfield, and Livermore valleys; the Marin and San Francisco peninsulas; San Francisco, Suisun, and San Pablo bays; and the Santa Cruz Mountains, Diablo Range, Bolinas Ridge, and Vaca Mountains of the Coast Range.

Hydrologic Unit

The north lobe of San Francisco Bay is brackish and is known as San Pablo Bay. It is surrounded by Marin, Sonoma, Napa, and Solano counties. Suisun Marsh is between San Pablo Bay and the Delta and is the largest contiguous brackish marsh on the West Coast of North America, providing more than 10 percent of California's remaining natural wetlands.

Hydrologic Area

Within the San Pablo Bay hydrologic unit, the town is located within two hydrologic areas: the Corte Madera Creek-Frontal San Francisco Bay Estuaries hydrologic area and the San Francisco Bay hydrologic area.

Local Watersheds (Hydrologic Sub-Areas)

Within the San Francisco Bay Hydrologic Region, the Planning Area is located in the Angel Island-San Francisco Bay Estuaries, Arroyo Corte Madera Del Presido-Frontal San Francisco

¹ California Department of Water Resources (DWR), 2003. California's Groundwater: Bulletin 118 – Update 2003. Available: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/Statewide-Reports/Bulletin_118_Update_2003.pdf. Accessed: January 31, 2023.

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Bay Estuaries, Larkspur Creek-Frontal San Francisco Bay Estuaries, Redwood Creek-Frontal Pacific Ocean, and Richardson Bay-San Francisco Bay watersheds as shown on **Figure 3.9-1, Watersheds Map**.

Creeks and Flood Control Facilities

The Tiburon Department of Public Works is responsible for the maintenance and improvement of all public infrastructure owned and managed by the Town. In addition to normal maintenance operations, they are a key agency in responding to emergencies involving the Town's infrastructure as well as weather related events and other disasters that have the potential for adverse impacts to public health or the environment. Tiburon is responsible for maintaining the flood control system within the incorporated area. In the unincorporated parts of the Planning Area, responsibility for storm drain maintenance lies with the Marin County Flood Control and Water Conservation District.

The developed portions of the Planning Area are primarily within three major watersheds: Angel Island-San Francisco Bay Estuaries, Arroyo Corte Madera Del Presidio-Frontal San Francisco Bay Estuaries, and Larkspur Creek-Frontal San Francisco Bay Estuaries. The Town is drained by multiple small watersheds on the north and south sides of the Peninsula. Primarily, water drains to the Town stormwater drainage system that runs under Tiburon Boulevard and outlets to Raccoon Strait near the Ferry Terminal, or the secondary outlet which drains south to Belvedere Lagoon. Other portions of Tiburon drain to Railroad Marsh, a pond/marsh feature that serves as a flood control feature.

Tiburon's creeks are also a key part of the Town's open space network. They are valuable physical, aesthetic, recreational, and ecological assets. Protection of creeks not only preserves surface water quality, but also reduces flood risks, preserves biodiversity and habitat, minimizes erosion of stream banks, and prevents downstream siltation.

Groundwater

According to the California Department of Water Resource's Groundwater Basin Boundary Assessment Tool, there are no groundwater basins identified within the Planning Area.² Therefore, the Planning Area is not considered a groundwater recharge area. The nearest groundwater basin to the Planning Area is the Ross Valley Groundwater Basin located approximately 0.5 miles northwest of Ring Mountain.

² California Department of Water Resources (DWR), 2019. Groundwater Basin Boundary Assessment Tool. Available: <https://gis.water.ca.gov/app/bbat/>. Accessed: January 31, 2023.

Floodplain Mapping

FEMA Flood Zones

The FEMA mapping provides important guidance for the Town in planning for flooding events and regulating development within identified flood hazard areas. The FEMA's National Flood Insurance Program is intended to encourage State and local governments to adopt responsible floodplain management programs and flood measures. As part of the program, the NFIP defines floodplain and floodway boundaries that are shown on Flood Insurance Rate Maps (FIRMs). The FEMA FIRM for the Planning Area is shown on **Figure 3.9-2**.

Areas that are subject to flooding are indicated by a series of alphabetical symbols, indicating anticipated exposure to flood events:

- **Zone A:** Subject to 100-year flooding with no base flood elevation determined. Identified as an area that has a one percent chance of being flooded in any given year.
- **Zone AE:** Subject to 100-year flooding with base flood elevations determined.
- **Zone AH:** Subject to 100-year flooding with flood depths between one- and three-feet being areas of ponding with base flood elevations determined.
- **500-year Flood Zone:** Subject to 500-year flooding. Identified as an area that has a 0.2 percent chance of being flooded in a given year.

Figure 3.9-2, FEMA Flood Zone Designations, identifies the areas within the Planning Area with a FEMA flood zone designation. The Planning Area is subject to flooding problems along the shoreline and waterfront areas. The primary flood hazards are the low-lying areas adjacent to the San Francisco Bay, Belvedere Cove, Belvedere Lagoon, and Richardson Bay. The low-lying areas along the Planning Area shorelines are subject to occasional flooding.

The 100-year floodplain is largely confined to the Boardwalk Shopping Center and Downtown Tiburon area adjacent to the Belvedere lagoon, as well as various portions along the coast, including near Keil Cove, Richardson Bay, and Paradise Cay. Additionally, various portions of land along the coast are designated within the 100-year flood zone with additional stormwater wave hazard. These areas are typically located near land designated within the 100-year flood zone, such as land adjacent to the Boardwalk Shopping Center, Paradise Cay and Richardson Bay. Similarly, the 500-year floodplain is typically located adjacent to land designated within the 100-year flood zone, including land within the Boardwalk Shopping Center, Paradise Cay, and land north of Richardson Bay. Additionally, land adjacent to Tiburon Boulevard near downtown is designated within the 500-year flood zone.

Dam Inundation

Earthquakes centered close to a dam are typically the most likely cause of dam failure. Dam Inundation maps have been required in California since 1972, following the 1971 San Fernando Earthquake and near failure of the Lower Van Norman Dam. The Planning Area is not within a dam inundation zone.

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Tsunami

A tsunami is a series of waves in a water body caused by the displacement of a large volume of water, generally in an ocean or a large lake due to earthquakes, volcanic eruptions, and other underwater explosions. Depending on the location of an incident, a tsunami can reach the California coast in as little as ten minutes, for a local-source earthquake, or take from five to 14 hours, for a distant-source earthquake. The Great Alaskan earthquake of 1964 generated a tsunami that killed 12 people and destroyed 30 blocks in Crescent City, California.

Figure 3.9-3 identifies portions of the Planning Area located within a tsunami inundation zone. As shown in Table R-1 of the Marin County Multi-Jurisdiction Local Hazard Mitigation Plan, a tsunami has the potential to destroy/damage the ferry landing and a total of 170 structures within Tiburon, including 53 single-family structures, 72 multi-family structures, and 45 commercial structures.³ As previously mentioned, numerous residences, businesses, and yacht clubs on the Tiburon Peninsula are waterfront properties and are located within tsunami inundation areas. Specifically, all the residences adjacent to the Paradise Cay, Boardwalk Shopping Center, and the majority of the eastern coast are located within a tsunami inundation area. Additionally, many recreational areas such as beaches, shoreline park, Angel Island, Paradise Park, and the multiuse path or along the shoreline and are at risk from tsunamis.

Surface Water Quality

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminants in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500,

³ Marin County, 2018. Marin County Multi-Jurisdiction Local Hazard Mitigation Plan. Available: <https://marinflooddistrict.org/documents/marin-county-multi-jurisdiction-local-hazard-mitigation-plan-2018>. Accessed: January 30, 2023.

Section 208) until the mid-1980's. However, since then, the Federal Environmental Protection Agency has continued to develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to NPDES permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

303(d) Impaired Water Bodies

Section 303(d) of the federal Clean Water Act requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

The Planning Area's surface water resources include the San Francisco Bay (Central) and the Richardson Bay. Both the San Francisco Bay (Central), with 70,405 assessed acres, and Richardson Bay, with 2,439 assessed acres, are listed by the San Francisco Bay Regional Water Quality Control Board as having limited water quality, as required by the Clean Water Act, Section 303(d). Table 3.9-1 identifies each pollutant identified for San Francisco Bay (Central) and Richardson Bay, along with the final listing decision, TMDL status, expected TMDL completion date, U.S. EPA TMDL approval date (for approved TMDLs), and potential sources. Pollutants within the Planning Area include Chlordane, a synthetic viscous toxic compound used as an insecticide; DDT (Dichlorodiphenyltrichloroethane), another a synthetic viscous toxic compound used as an insecticide; Dieldrin, another a synthetic viscous toxic compound used as an insecticide; Mercury, a naturally-occurring chemical element used in the production of other chemicals; Selenium, a mineral found in the soil; Invasive Species, an organism that causes ecological or economic harm in a new environment where it is not native; Dioxin Compounds, a group of highly toxic chemical compounds that are harmful to health; Furan Compounds, a heterocyclic organic compound used in the creation of other chemicals that can be harmful to the immune system and reproductive development; and PCBs (Polychlorinated biphenyls), which are highly toxic industrial compounds that pose serious health risks to fetuses, babies and children, who may suffer developmental and neurological problems from prolonged or repeated exposure.

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TABLE 3.9-1: PLANNING AREA IMPAIRED WATER BODIES

POLLUTANT	FINAL LISTING DECISION	TMDL STATUS ¹	EXPECTED TMDL COMPLETION ²	USEPA TMDL APPROVAL DATE ³	POTENTIAL SOURCES
San Francisco Bay (Central)					
Chlordane	Do Not Delist from 303(d) list	5A	2013		Unknown
DDT (Dichlorodiphenyl trichloroethane)	Do Not Delist from 303(d) list	5A	2013		Unknown
Dieldrin	Do Not Delist from 303(d) list	5A	2013		Unknown
Mercury	Do Not Delist from 303(d) list (USEPA approved TMDL)	5B		2008-02-12	Atmospheric Deposition, Industrial Point Sources, Municipal Point Sources, Natural Sources, Nonpoint Sources, Resource Extraction
Selenium	Do Not Delist from 303(d) list (USEPA approved TMDL)	5B		2016-08-23	Unknown
Invasive Species	List on 303(d) list	5A	2019		Unknown
Dioxin compounds (including 2,3,7,8-TCDD)	List on 303(d) list	5A	2019		Unknown
Furan Compounds	List on 303(d) list	5A	2019		Unknown
PCBs (Polychlorinated biphenyls)	Do Not Delist from 303(d) list (USEPA approved TMDL)	5B		2010-03-29	Unknown
PCBs (Polychlorinated biphenyls) (dioxin-like)	List on 303(d) list	5B		2010-03-29	Unknown
Trash	List on 303(d) list	5A	2021		Unknown
Richardson Bay					
Chlordane	List on 303(d) list	5A	2013		Unknown
DDT (Dichlorodiphenyl trichloroethane)	List on 303(d) list	5A	2013		Unknown
Dieldrin	List on 303(d) list	5A	2013		Unknown
Dioxin compounds	List on 303(d) list	5A	2019		Unknown

(including 2,3,7,8-TCDD)					
Furan Compounds	List on 303(d) list	5A	2019		Unknown
PCBs (Polychlorinated biphenyls)	List on 303(d) list (being addressed by USEPA approved TMDL)	5B		2010-03-29	Unknown
PCBs (Polychlorinated biphenyls) (dioxin-like)	List on 303(d) list (being addressed by USEPA approved TMDL)	5B		2010-03-29	Unknown
Invasive Species	List on 303(d) list	5A	2019		Unknown
Indicator Bacteria	List on 303(d) list (being addressed by USEPA approved TMDL)	5B		2009-12-18	Unknown
Mercury	List on 303(d) list (being addressed by USEPA approved TMDL)	5B		2008-02-29	Unknown

NOTES:

1. *Total Maximum Daily Load (TMDL)*
2. *Determination the loading capacity of the waterbody and allocation of load among different pollutant sources.*
3. *Approved TMDL wasteload allocations generally become implemented through EPA's National Pollutant Discharge Elimination System (NPDES) permits under CWA section 402.*

SOURCE: California State Water Resources Control Board (SWRCB), 2022. 2020-2022 California Integrated Report (Clean Water Act Section 303(d) List and 305(b) Report). Available: https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html. Accessed January 31, 2023.

3.9.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including the Federal Emergency Management Agency (FEMA), the U.S. Environmental Protection Agency (EPA), the State Water Resources Board, and the Regional Water Quality Control Board (RWQCB). The following is an overview of the federal, State and local regulations that are applicable to the proposed project.

Federal

Clean Water Act

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

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The CWA establishes the basic structure for regulating the discharges of pollutants into the waters of the United States and gives the Environmental Protection Agency (EPA) the authority to implement pollution control programs. The statute's goal is to regulate all discharges into the nation's waters and to restore, maintain, and preserve the integrity of those waters. The CWA sets water quality standards for all contaminants in surface waters and mandates permits for wastewater and stormwater discharges.

The CWA also requires states to establish site-specific water quality standards for navigable bodies of water and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The following CWA sections assist in ensuring water quality for the water of the United States:

- CWA Section 208 requires the use of best management practices (BMPs) to control the discharge of pollutants in stormwater during construction;
- CWA Section 303(d) requires the creation of a list of impaired water bodies by states, territories, and authorized tribes; evaluation of lawful activities that may impact impaired water bodies; and preparation of plans to improve the quality of these water bodies. CWA Section 303(d) also establishes Total Maximum Daily Loads (TMDLs), which is the maximum amount of a pollutant that a water body can receive and still safely meet water quality standard; and
- CWA Section 404 authorizes the U.S. Army Corps of Engineers to require permits that will discharge dredge or fill materials into waters in the United States, including wetlands.

In California, the EPA has designated the SWRCB and its nine RWQCBs with the authority to identify beneficial uses and adopt applicable water quality objectives.

The SWRCB is responsible for implementing the CWA and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges (individual permits and general permits).

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) was passed in 1972. This act, administered by the National Oceanic and Atmospheric Administration, provides for the management of the nation's coastal resources, including the Great Lakes. The goal is to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The CZMA outlines three national programs: the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program (CELCP). The National Coastal Zone Management Program aims to balance competing land and water issues through state and territorial coastal management programs, the reserves serve as field laboratories that provide a greater

understanding of estuaries and how humans impact them, and CELCP provides matching funds to state and local governments to purchase threatened coastal and estuarine lands or obtain conservation easements.

Federal Emergency Management Agency

FEMA's primary mission is to reduce the loss of life and property and protect from all hazards, including flooding, among others. FEMA advises on building codes and flood plain management; teaches people how to get through a disaster; helps equip local and State emergency preparedness; coordinates the federal response to a disaster; makes disaster assistance available to states, communities, businesses and individuals; trains emergency managers; supports the nation's fire service; and administers the national flood and crime insurance programs.

Flood is a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties. The term "100-year flood" is defined by FEMA, as the flood elevation that has a one percent chance of being equaled or exceeded each year. A "500-year flood" is one which has a 0.2 percent chance of occurring each year. A 500-year flood event would be slightly deeper and cover a greater area than a 100-year flood event.

Flood zones are geographic areas that FEMA defines, based on studies of flood risk. The zone boundaries are shown on flood hazard maps, also called Flood Insurance Rate Maps (FIRM). High Risk Zones or Special Flood Hazard Areas (SFHA or Zone A) are high-risk flood areas where special flood, mudflow, or flood-related erosion hazards exist, and flood insurance is mandatory. SFHAs are those areas subject to inundation by a 100-year flood. Low-to-Moderate Risk Zones or Non-Special Flood Hazard Areas (Zones B, C, X) are areas that are not in any immediate danger from flooding caused by overflowing rivers or hard rains. Insurance purchase is not required in these zones.

FEMA is responsible for administering the National Flood Insurance Program (NFIP), which enables property owners in participating communities to purchase insurance as protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of Zone A, which are communities subject to a 100-year flood event. In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the nation's floodplains on FIRMs.

FEMA is mandated by the Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 to evaluate flood hazards and provide FIRMs for local and regional planners to further promote safe floodplain development. Flood risk data presented on FIRMs are based on historic, hydrologic, hydraulic, and meteorological data, as well as flood control works, open-space conditions, and development. To prepare a FIRM that illustrates the extent of flood hazards in flood-prone communities, FEMA conducts an engineering study referred to

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as Flood Insurance Study. Using information collected in these studies, FEMA engineers and cartographers delineate SFHAs on FIRMs.

Flood Control Act

The Flood Control Act (1917) established survey and cost estimate requirements for flood hazards in the Sacramento Valley. All levees and structures constructed per the Act were to be maintained locally but controlled federally. All rights of way necessary for the construction of flood control infrastructure were to be provided to the Federal government at no cost.

Federal involvement in the construction of flood control infrastructure, primarily dams and levees, became more pronounced upon passage of the Flood Control Act of 1936.

Flood Disaster Protection Act

The Flood Disaster Protection Act (FDPA) of 1973 was a response to the shortcomings of the NFIP, which were experienced during the flood season of 1972. The FDPA prohibited federal assistance, including acquisition, construction, and financial assistance, within delineated floodplains in non-participating NFIP communities. Furthermore, all Federal agencies and/or federally insured and federally regulated lenders must require flood insurance for all acquisitions or developments in designated SFHAs in communities that participate in the NFIP.

Improvements, construction, and developments within SFHAs are generally subject to the following standards:

- All new construction and substantial improvements of residential buildings must have the lowest floor (including basement) elevated to or above the base flood elevation (BFE).
- All new construction and substantial improvements of non-residential buildings must either have the lowest floor (including basement) elevated to or above the BFE or dry-floodproofed to the BFE.
- Buildings can be elevated to or above the BFE using fill, or they can be elevated on extended foundation walls or other enclosure walls, on piles, or on columns.
- Extended foundation or other enclosure walls must be designed and constructed to withstand hydrostatic pressure and be constructed with flood-resistant materials and contain openings that will permit the automatic entry and exit of floodwaters. Any enclosed area below the BFE can only be used for the parking of vehicles, building access, or storage.

National Flood Insurance Program (NFIP)

Per the National Flood Insurance Act of 1968, the NFIP has three fundamental purposes: better indemnify individuals for flood losses through insurance; reduce future flood damages through State and community floodplain management regulations; and reduce federal expenditures for disaster assistance and flood control.

While the Act provided for subsidized flood insurance for existing structures, the provision of flood insurance by FEMA became contingent on the adoption of floodplain regulations at the local level.

National Pollutant Discharge Elimination System (NPDES)

NPDES permits are required for discharges to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, oceans, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 *et seq.*).

The RWQCB issues these permits in lieu of direct issuance by the EPA, subject to review and approval by the EPA Regional Administrator (EPA Region 9). The terms of these NPDES permits implement pertinent provisions of the CWA and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the CWA's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also WDRs issued under the authority of the CWA.

NPDES permitting authority is administered by the SWRCB and its nine RWQCBs. The SWRCB has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the San Francisco Bay Region can be covered under these general permits, which are administered jointly by the SWRCB and RWQCB. The Planning Area is in a watershed administered by the San Francisco Bay RWQCB.

The SWRCB and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters. In 2003, smaller (less than 100,000 population) municipalities and unincorporated counties were required to obtain coverage under a statewide NPDES Municipal General Stormwater Permit (Phase II Permit) issued by the State Water Resources Control Board. In Marin County, the County and all Marin's municipalities, including Tiburon, are subject to the conditions of the regulations described in the current 2013 Phase II Permit. The Marin County Permittees are currently subject to National Pollutant Discharge Elimination System (NPDES) Permit No. CAS000004, issued by Order No. WQ 2018-0007-EXEC on March 13, 2019, which pertains to stormwater runoff discharge from storm drains and watercourses within their jurisdictions.

Individual projects in the Planning Area that disturb more than one acre would be required to obtain NPDES coverage under the California General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Construction Permit). The General Construction Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing BMPs the discharger would use to

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prevent and retain storm water runoff. The SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

Rivers and Harbors Appropriation Act of 1899

One of the country’s first environmental laws, this Act established a regulatory program to address activities that could affect navigation in Waters of the United States.

Water Pollution Control Act of 1972

The Water Pollution Control Act established a program to regulate activities that result in the discharge of pollutants to waters of the United States.

State

California Fish and Wildlife Code

The California Department of Fish and Wildlife (CDFW) protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Section 1600 to 1616 of the California Fish and Game Code. The California Fish and Game Code establishes that “an entity may not substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river stream, or lake” (Fish and Game Code Section 1602(a)) without notifying the CDFW, incorporating necessary mitigation and obtaining a streambed alteration agreement. The CDFW’s jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation canopy cover.

California Code of Regulations

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Department of Health Services. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminants levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

California Government Code

Relevant sections of the California Government Code are identified below.

Section 65302: Revised safety elements must include maps of any 200-year flood plains and levee protection zones within the Planning Area.

Section 65584.04: Any land having inadequate flood protection, as determined by FEMA or DWR, must be excluded from land identified as suitable for urban development within the Planning Area.

Section 8589.4: Commonly referred to as the Potential Flooding-Dam Inundation Act, requires owners of dams to prepare maps showing potential inundation areas in the event of dam failure. A dam failure inundation zone is different from a flood hazard zone under the NFIP. NFIP flood zones are areas along streams or coasts where storm flooding is possible from a 100-year flood. In contrast, a dam failure inundation zone is the area downstream from a dam that could be flooded in the event of dam failure due to an earthquake or other catastrophe. Dam failure inundation maps are reviewed and approved by the California Office of Emergency Services. Sellers of real estate within inundation zones are required to disclose this information to prospective buyers.

California Department of Health Services

The Department of Health Services, Division of Drinking Water and Environmental Management, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for Methyl tertiary-butyl ether and other oxygenates.

California Water Code

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a Water Quality Control Plan (Basin Plan) for its region. The regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

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State Water Resources Control Board (State Water Board) Storm Water Strategy

The Storm Water Strategy is founded on the results of the Storm Water Strategic Initiative, which served to direct the State Water Board's role in storm water resources management and evolve the Storm Water Program by: a) developing guiding principles to serve as the foundation of the storm water program; b) identifying issues that support or inhibit the program from aligning with the guiding principles; and c) proposing and prioritizing projects that the Water Boards could implement to address those issues.

The State Water Board staff created a strategy-based document called the Strategy to Optimize Management of Storm Water (STORMS). STORMS includes a program vision, missions, goals, objectives, projects, timelines, and consideration of the most effective integration of project outcomes into the Water Board's Storm Water Program.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) established a framework for sustainable, local groundwater management. SGMA requires groundwater-dependent regions to halt overdraft and bring basins into balanced levels of pumping and recharge. With passage of the SGMA, the Department of Water Resources launched the Sustainable Groundwater Management (SGM) Program to implement the law and provide ongoing support to local agencies around the state. The SGMA defines "sustainable groundwater management" and requires that a Groundwater Sustainability Plan be adopted for the most important groundwater basins in California as a means to empower local agencies to manage basins sustainably. The SGMA establishes basic requirements for the Groundwater Sustainability Plans as well as a timetable for the adoption of the plans.

Local

Water Quality Control Plan for the San Francisco Bay Basin

The Water Quality Control Plan (Basin Plan) for the San Francisco Bay Region includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met,

plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

San Francisco Bay Conservation and Development Commission (BCDC) San Francisco Bay Plan (Bay Plan)

The San Francisco Bay Conservation and Development Commission (BCDC) is a State planning and regulatory agency with regional authority over the San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh. BCDC was created in 1965 and is the nation's oldest coastal zone agency.

Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. State law requires sponsors of projects that propose to fill or extract materials from the Bay to apply for a BCDC permit. In addition to minimizing any fill required for an appropriate project and ensuring that the project is compatible with the conservation of Bay resources, BCDC is tasked with requiring maximum feasible public access within the Bay's 100-foot shoreline band. In addition, BCDC leads the Bay Area's ongoing multi-agency regional effort to address the impacts of rising sea level on shoreline communities and assets.

The San Francisco Bay Plan (Bay Plan) was completed and adopted by the BCDC in 1968 and has been updated regularly with the most recent revisions approved by BCDC in 2019. Essential parts of the Bay Plan include policies to guide future uses of the Bay and shoreline, and the maps that apply these policies to the present Bay and shoreline. The Bay Plan addresses the following matters as specifically required by the law:

1. The results of the Commission's detailed study of the Bay;
2. The comprehensive plan adopted by the Commission for the conservation of the water of San Francisco Bay and the development of its shoreline;
3. The Commission's recommendation of the appropriate agency to maintain and carry out the Bay Plan;
4. The Commission's estimate of the approximate amount of money that would be required to maintain and carry out the provisions of the Plan for the Bay;
5. Other information and recommendations the Commission deemed desirable.

The Bay Plan includes findings and policies related to hydrology/ water quality. The hydrology/ water quality section of the Bay Plan includes polices the implementation of programs for controlling pollution, including stormwater management plans, Total Maximum Daily Load implementation plans, construction site stormwater runoff and erosion, sediment controls, establishing best management practices, such as site planning or structural controls, new technologies, project siting criteria, and operating methods.

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Bay Area Stormwater Management Agencies Association Post-Construction Manual

The Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual provides low impact development (LID) guidelines for applicable projects in Marin, Sonoma, Napa, and Solano Counties. The manual is intended to ensure compliance with the requirements of Permit Provision E.12 of the National Pollutant Discharge Elimination System (NPDES) General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Phase II Small MS4 Permit) reissued by the California State Water Resources Control Board in 2013.

Marin County Flood Control and Water Conservation District

The purpose of the Marin County Flood Control and Water Conservation District (Flood Control District) is to reduce the risk of flooding for the protection of life and property while utilizing sustainable practices.⁴ The Flood Control District's core work is the operation and maintenance of flood facilities within eight flood control zones. Each zone addresses specific watershed flooding problems. The designated flood control zones do not cover the entire County and are mostly concentrated in the County's eastern urbanized corridor. Seven of the County's 14 major watersheds contain flood control zones, including: the Bolinas Lagoon; Gallinas Creek; Novato Creek; Richardson Bay; Ross Valley; Rush Creek; and Tomales Bay and Lagunitas watersheds.⁵ Watersheds with flood control zones have funding from ad-valorem taxes, fees and/or assessments; advisory boards; and projects and maintenance. The County's remaining watersheds do not have flood control zones.

Marin County Stormwater Pollution Prevention Program

Municipal stormwater discharges in Marin County are regulated under the statewide National Pollutant Discharge Elimination System (NPDES) General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems (Phase II Small MS4 Permit). Formed in 1993, the Marin Countywide Stormwater Pollution Prevention Program (MCSTOPPP) provides for the coordination and consistency of approaches between the County's local stormwater programs.⁶ MCSTOPPP is a joint effort of Marin's cities, towns and unincorporated areas. The goal is to prevent stormwater pollution; protect and enhance water quality in creeks and wetlands; preserve beneficial uses of local waterways; and comply with State and Federal regulations. Though the County and each of the eleven cities and towns carry out their own individual stormwater pollution prevention programs, each member agency funds the countywide MCSTOPPP. The MCSTOPPP staff implements permit compliance tasks, tracks stormwater regulations on behalf of the member agencies, and documents their efforts in annual reports. These reports include information on illegal

⁴ Marin County Flood Control and Water Conservation District, 2023. About. Available: <https://marinflooddistrict.org/about/>. Accessed: February 3, 2023.

⁵ Marin County Flood Control and Water Conservation District, 2023. Watersheds. Available: <https://marinflooddistrict.org/watersheds/>. Accessed: February 3, 2023.

⁶ Marin Countywide Stormwater Pollution Prevention Program (MCSTOPPP), 2023. About. Available: <https://mcstoppp.org/about/>. Accessed: February 2, 2023.

discharges, street cleaning efforts, creek maintenance, new development, and other issues of concern. Resources are also provided for construction projects, including the MCSTOPPP Erosion and Sediment Control Plan Applicant Package, which must be submitted to the applicable municipality for review and approval prior to the start of construction. Minimum control measures for small (less than one acre) construction projects are provided.⁷ Post-construction stormwater requirements are also provided at MCSTOPPP's website, which includes projects that create and/or replace more than 2,500 square feet of impervious area. While MCSTOPPP provides guidance for compliance with NPDES permitting, permit compliance is administered by the specific municipality in which the project is proposed.

Marin County Multi-Jurisdiction Local Hazard Mitigation Plan

Hazard mitigation is the use of long-term and short-term policies, programs, projects, and other activities to alleviate the death, injury, and property damage that can result from a disaster. Marin County and its partners developed the 2018 Multi-Jurisdictional Local Hazard Mitigation Plan (2018 LHMP) to assess risks posed by natural hazards and to develop a mitigation strategy for reducing the County's risks. The County prepared the 2018 LHMP in accordance with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). Additionally, the plan complies with federal and state hazard mitigation planning requirements to establish eligibility for funding under the FEMA grant programs. The 2018 LHMP replaced the County LHMP that was approved by FEMA on August 29, 2013 and serves as the current Local Hazard Mitigation Plan for all participating jurisdictions.

The Town is a participating jurisdiction of the 2018 LHMP, which includes jurisdiction-specific mitigation actions that are designed to reduce or eliminate losses resulting from natural hazards. The Town approved and adopted the 2018 LHMP on March 6, 2019. The 2018 LHMP identifies risks associated with earthquake, flood, fire, tsunami, landslide, and dam inundation events and assesses the vulnerability of the Town's structures and its transportation, communications, power, and water/sewage systems due to such events. The 2018 LHMP also includes an evaluation of the previous hazard mitigation plans to determine which actions have been completed or should be retained.

Town of Tiburon Municipal Code

Title IV, Chapter 13, Article II, *Technical Codes*, adopts various technical construction codes with modifications into the Municipal Code, including, but not limited to, the California Building Code. The California Building Code contains minimum building and structure standards for the protection of life, limb, health, property, safety and welfare of the general public.

⁷ Marin Countywide Stormwater Pollution Prevention Program (MCSTOPPP), 2023. Minimum Control Measures for Small Construction Projects. Available: <https://hx96b8.a2cdn1.secureserver.net/wp-content/uploads/2020/09/esc-measures-for-small-construction-projects.pdf>. Accessed: February 2, 2023.

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Title IV, Chapter 13D, *Flood Damage Prevention*, contains the Tiburon Flood Damage Prevention Ordinance. The Flood Damage Prevention Ordinance outlines specific requirements for new developments within floodplain areas that serve to minimize public and private losses due to flood conditions. In order to accomplish its purposes, the ordinance includes methods and provisions for:

1. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
2. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
3. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;
4. Controlling filling, grading, dredging and other development which may increase flood damage; and
5. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

Title IV, Chapter 13D, Article III, *Standards of Construction*, provides additional development standards required in all areas of special flood hazards, including floodways and coastal high hazard areas.

Title IV, Chapter 13E, *Water Efficient Landscape*, provides for water-efficient landscape requirements and monitoring of water usage for irrigation for certain new construction, remodel, and rehabilitation projects that include landscape and irrigation improvements, as mandated under State Government Code Section 65595(c). Chapter 13E adopts and incorporates the most current Marin Municipal Water District (Marin Water) Ordinance No. 430 (Water Conservation) and designates Marin Water to implement, enforce, and monitor its requirements. The ordinance contains provisions that include but are not limited to, the following:

1. The application and monitoring of a "maximum applied water allowance" that is established for applicable projects.
2. The review of required landscape and irrigation plans, specifications and supportive documents prepared for applicable projects for compliance with water-efficient landscape restrictions, including limitations on the type and amount of landscape materials and plant species.
3. The review, inspection and approval of landscape and irrigation that is installed for applicable projects to ensure compliance with the approved landscape and irrigation plans and specifications.
4. The post-installation monitoring of water usage for irrigation by applicable projects.

Title IV, Chapter 14A, *Drainage Areas*, establishes a planned local drainage facilities fund to defray the actual or estimated costs of constructing planned drainage facilities for the removal of surface and storm waters from local or neighborhood drainage areas. Section 14A-3, *Belveron Watershed*, designates a local drainage area, the Belveron Watershed, and establishes a drainage fee to be paid for development within the local drainage area.

Title V, Chapter 17, *Harbor and Waterways*, establishes additional standards and regulations related to zoning, parks and recreation and the obstruction, diverting, etc., of watercourses within the Town.

Title VI, Chapter 20A, *Urban Runoff Pollution Prevention*, contains the Town's Urban Runoff Pollution Prevention Ordinance. The ordinance requires that every development project that is subject to the development requirements in the Town's NPDES permit is required to also submit and implement a stormwater control plan (SCP) that meets the criteria in the most recent version of the Bay Area Stormwater Management Agencies (BASMAA) Post Construction Manual. The ordinance aims to protect and enhance the water quality of Tiburon's watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Clean Water Act, the Porter-Cologne Water Quality Control Act (California Water Code section 13000 *et seq.*), and the Phase II Stormwater Permit by:

1. Minimizing discharges other than storm runoff to storm drains or watercourses to the maximum extent practicable;
2. Responding to the discharge of spills, preventing and controlling the discharge of spills to storm drains or watercourses and prohibiting dumping or disposal of materials other than stormwater;
3. Reducing pollutants in stormwater discharges to the maximum extent practicable;
4. Requiring operators of construction sites, new or redeveloped land, and industrial and commercial facilities to install, implement, or maintain appropriate best management practices ("BMPs");
5. Requiring development projects to maintain or reduce the volume, velocity, peak flow rate and duration of runoff as compared to the pre-development stormwater runoff and preventing stormwater pollution whenever possible, through stormwater management controls and ensuring that these management controls are properly maintained; and
6. Authorizing the town to take the foregoing and all other actions specified by Section E.6.a of the Phase II Small Municipal Separate Storm Sewer System National Pollutant Discharge Elimination System Permit (Water Quality Order No. 2013-0001 – DWQ, General Permit No. CAS000004) and subsequent revisions and amendments thereto.

The Town's Urban Runoff Pollution Prevention Ordinance requires that development projects maintain or reduce the volume, velocity, peak flow rate and duration of runoff as compared to the pre-development stormwater runoff and preventing stormwater pollution whenever possible, through stormwater management controls and ensuring that these

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management controls are properly maintained. Practicable measures to reduce pollutants include, but are not limited to:

- Control of littering;
- Maintenance of parking lots and similar structures;
- Use of construction-phase BMPs, including erosion and sediment controls and pollution prevention practices;
 - The Town has the authority to review designs and proposals for construction activities to determine whether adequate BMPs will be installed, implemented, and maintained during construction and after final stabilization (post-construction). When required by the Phase II Stormwater Permit or by the authorized enforcement official, a project shall have an erosion and sediment control plan (ESCP) that addresses erosion and sediment control and pollution prevention during the construction phase as well as final stabilization control measures. For applicable projects, applicants must prepare the ESCP in accordance with the MCSTOPPP Erosion and Sediment Control Plan Applicant Package, and the ESCP must be submitted and approved by the authorized enforcement official. For projects subject to the State's General Construction Permit project applicants may submit a storm water pollution prevention plan (SWPPP) developed pursuant to the CGP in lieu of submitting an ESCP. Prior to and/or during construction, the authorized enforcement official may establish controls on the volume and rate of stormwater runoff from new developments and redevelopments as may be appropriate to minimize peak flows or total runoff volume, and to mimic the pre-development site hydrology. These controls may include limits on impervious area or provisions for detention and retention of runoff on site. The authorized enforcement official may also require, as a condition of project approval, permanent structural controls designed for the removal of sediment and other pollutants and for control on the volume and rate of stormwater runoff from the project's added or replaced impervious surfaces.
- Permanent stormwater controls for new development and redevelopment;
 - Where required by the Phase II Stormwater Permit Provision E.12, or where required by the nature and extent of a proposed project and where deemed appropriate by the agency, every applicant shall develop, submit and implement a stormwater control plan (SCP) in general accordance with the BASMAA Post Construction Manual, and the Phase II Stormwater Permit. The SCP requires the project to incorporate site design measures and/or treatment facilities that minimize imperviousness, minimize or detain stormwater, slows runoff rates, and reduces pollutants in post-development runoff.
- Notification of intent to comply with general permits; and
- Compliance with best management practices.

3.9.3 THRESHOLDS OF SIGNIFICANCE

According to CEQA Guidelines Appendix G, except as provided in Public Resources Code Section 21099, the proposed project will have a significant impact related to hydrology and water quality if it would :

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - result in substantial erosion or siltation on- or off-site;
 - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
 - create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
 - impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; and/or
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.9.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impact 3.6-1 Development facilitated by the Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Construction

Grading, excavation, removal of vegetation cover, and loading activities associated with future construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion impacts that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas.

In compliance with NPDES Permit regulations, the State of California requires that any construction activity disturbing one acre or more of soil comply with the General Construction Permit. The permit requires development and implementation of a SWPPP and monitoring plan, which must include erosion-control and sediment-control BMPs that would

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meet or exceed measures required by the General Construction Permit to control stormwater quality degradation due to potential construction-related pollutants. The MCSTOPP also provides minimum control measure guidelines for small (less than one acre) construction projects. In addition, the Town's Urban Runoff Pollution Prevention Ordinance requires the use of construction-phase BMPs, including erosion and sediment controls and pollution prevention practices. When required by the Phase II Stormwater Permit or by the authorized enforcement official, applicable projects would be required to prepare an ESCP that addresses erosion and sediment control and pollution prevention during the construction phase. Erosion control BMPs may include, but are not limited to, scheduling and timing of grading activities, timely revegetation of graded areas, the use of hydroseed and hydraulic mulches, and installation of erosion control blankets. Sediment control may include properly sized detention basins, dams, or filters to reduce entry of suspended sediment into the storm drain system and watercourses, and installation of construction entrances to prevent tracking of sediment onto adjacent streets. Pollution prevention practices may include designated washout areas or facilities, control of trash and recycled materials, tarping of materials stored on site and proper location of and maintenance of temporary sanitary facilities.

The General Plan 2040 sets policies and actions for build-out of the Town, but it does not envision or authorize any specific development project. Because of this, the site-specific details of potential future development projects are currently unknown and analysis of potential impacts of such projects is not feasible and would be speculative. However, each future project must include detailed project specific drainage plans that control storm water runoff and erosion, both during and after construction. The RWQCB would require a project-specific SWPPP to be prepared for each future project that disturbs an area one acre or larger. The SWPPPs would include project-specific best management measures that are designed to control drainage and erosion. The Town's Urban Runoff Pollution Prevention Ordinance would require the use of construction-phase BMPs, including erosion and sediment controls and pollution prevention practices.

Operation

New development and redevelopment under the proposed General Plan 2040 could introduce constituents into the storm water that are typically associated with urban runoff. These constituents include sediments, petroleum hydrocarbons, pesticides, fertilizers, and heavy metals such as lead, zinc, and copper. The amount and type of runoff generated by the various future projects could be greater than under existing conditions, due to increases in impervious surfaces. NPDES permit requirements and the Town's Municipal Code prevent illicit discharges into drains, waterways and wetlands.

The Town may require, as a condition of project approval, permanent controls designed to remove sediment and other pollutants and to mimic the pre-project site hydrology by controlling the flow rates and/or the volume of stormwater runoff from the project's added and/or replaced impervious surfaces. These controls may include limits on impervious area.

Pursuant to the Phase II Stormwater Permit and Town's Urban Runoff Pollution Prevention Ordinance, qualifying new development and redevelopment projects are required to prepare a SCP or similar demonstration of post-construction BMPs to mitigate downstream impacts to flooding and water quality. The SCP would require the project to incorporate site design measures and/or treatment facilities that minimize imperviousness, minimize or detain stormwater, slows runoff rates, and reduces pollutants in post-development runoff. Where required by the authorized enforcement official, as a condition precedent to the issuance of a building permit, project applicants are required to submit a preliminary stormwater facilities operation and maintenance plan (O&M plan). The approval of the O&M plan by the agency is required prior to final inspection and approval of building permit closure. The SCP must also include a statement accepting responsibility to maintain the stormwater treatment facilities until that responsibility is transferred to the project operator or owner or another responsible party.

The General Plan 2040 Conservation Chapter and Safety and Resilience Chapter include goals, policies, and programs to address water quality associated with development, as further described below.

The Marin County Flood Control District is responsible for regional flood control planning within the County. Provision of stormwater detention facilities as needed would reduce runoff rates and peak flows. General Plan 2040 Conservation Chapter and Safety and Resilience Chapter goals, policies, and programs aim to enhance stormwater quality and infiltration as well as ensure development projects are reviewed to identify potential stormwater and drainage impacts and require development to include measures to confirm off-site runoff is not increased beyond pre-development levels. Conservation Chapter Policy C-20 aims to maintain and enhance water quality to promote the continued environmental health of natural waterway habitats. Program C-g directs the Town to continue to be an active member agency of the MCSTOPPP to implement BMPs and to comply with federal and state water quality regulations to reduce pollution being conveyed through storm water systems to the Bay. Safety and Resilience Chapter Policy SR-15 ensures new development mitigates storm drainage impacts and potential increases in runoff through a combination of measures, including improvement of local storm drainage facilities. Program SR-dd utilizes on-site detention of stormwater runoff to ensure that post-development peak flow rates from a site resulting from both the two-year and 100-year design rainstorms are not increased by new subdivisions or other permitted development projects. Program SR-ff utilizes Stormwater Runoff Impact Fees to upgrade, enhance, and/or rehabilitate the Town's public storm drain system to offset the increased demand on the capacity, operation, and sustainability of the Town storm drain system. Program SR-gg requires project applicants for new development to prepare a hydraulic and geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff. In the event existing channel instabilities are noted, the applicant may either propose their own channel stabilization program or defer to the mitigations generated during the Town's environmental review. Any proposed stabilization measures shall anticipate any project-related changes to

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the drainageway flow regime. Program SR-hh evaluates potential measures to more sustainably manage stormwater and erosion and improve water quality associated with urban runoff. This includes improvements such as rain gardens and permeable pavement, which attenuate flooding downstream and provide ecological benefits.

Existing regulatory requirements that manage water quality include requirements to obtain approval from the RWQCB for NPDES permits, other discharge permits, SCPs, ESCPs, SWPPPs, and to implement BMPs. These regulatory requirements are intended to ensure that water quality does not degrade to levels that would violate water quality standards. Through implementation of the General Plan 2040 policies and programs, implementation of the Municipal Code requirements identified above, compliance with mandatory federal and State regulations, future development projects associated with implementation of the General Plan 2040 would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Therefore, the impact would be **less than significant**.

Mitigation Measures

None required.

Impact 3.6-2 Development facilitated by the Project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

There are no identified groundwater basins within the Planning Area, and the Planning Area is not considered a groundwater recharge area. The nearest groundwater basin to the Planning Area is the Ross Valley Groundwater Basin located approximately 0.5 miles northwest of Ring Mountain.

As discussed in detail in Section 3.15 of this DEIR, the Planning Area is served by the Marin Municipal Water District (Marin Water). As indicated in the Marin Water 2020 Urban Water Management Plan (UWMP), Marin Water's water supplies come from a combination of local surface water supplies, imported water from Sonoma County Water Agency, and recycled water.⁸ Marin Water does not pump groundwater and does not plan to use groundwater as a supply source in the future.

Future development and redevelopment projects in the Planning Area would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge in those areas. Infiltration rates vary depending on the overlying soil types. In general, sandy soils have higher infiltration rates and can contribute to significant amounts of ground water recharge; clay soils tend to have lower percolation potential; and impervious surfaces such as pavement significantly reduce infiltration capacity and increase surface water runoff.

⁸ EKI Environment and Water, Inc, 2021. 2020 Urban Water Management Plan for Marin Municipal Water District. Available: <https://www.marinwater.org/sites/default/files/2021-06/Draft%20MMWD%20UWMP%202020-1.pdf>. Accessed: February 3, 2023.

Projects located in urban areas would have less of an impact than projects involving the conversion of open lands and spaces. The Town evaluates individual projects as they are proposed to ensure that they would not result in a significant interference with recharge.

The General Plan 2040 Conservation Chapter includes goals, policies, and programs intended to reduce the risk of groundwater supply depletion, while encouraging groundwater recharge. Policy C-18 supports the efforts of Marin Water to conserve the use of water through enforcement of the Town's water conservation ordinance requiring implementation of water conservation measures. For development projects proposing impervious surface construction, storm drain system installation, and/or hillside stabilization, Program C-e requires project applicants to analyze the impacts of drainage pattern modifications on groundwater recharge and on downslope water wells and their yields. In the event impacts are likely, modifications to the proposed project, including possible downsizing, should be implemented to the extent feasible. Program C-f ensures continued implementation of the Town's water conservation ordinance through the review of new development proposals involving new landscaping. Policy C-19 directs the Town to coordinate planning activities with Marin Water to ensure that both the Town and Marin Water have the latest information with respect to land use and water supply planning.

Future development projects would be required to be consistent with the proposed General Plan 2040 and General Plan Land Use Map. The implementation of the policies and programs contained in the General Plan 2040 Conservation Chapter are intended to ensure that development in the Planning Area protects local groundwater resources through a continued effort to reduce water use, while also promoting groundwater recharge. Additionally, the Town does not pump groundwater and does not plan to use groundwater as a supply source in the future. Implementation of the General Plan 2040 policies and programs would further ensure that future development anticipated by the General Plan 2040 would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge, and the impact would be **less than significant**.

Mitigation Measures

None required.

Impact 3.6-3 **Development facilitated by the Project has the potential to substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows.**

Erosion and Siltation

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Implementation under the General Plan 2040 would result in new development projects which may increase the area of impervious surfaces and/or result in alteration of existing drainage patterns. Substantial erosion or siltation is known to result during construction and/or during the post-construction phase if erosion control measures are not used. Erosion or siltation can also occur in the post-construction phase if runoff is not captured and conveyed appropriately.

As stated above, future development under the General Plan 2040 would be subject to NPDES permit requirements that address the control of erosion and siltation. This includes the General Construction Permit, which requires a SWPPP and the effective implementation of erosion control measures for projects greater than one acre in size (or part of a larger plan of development). The MCSTOPP also provides minimum control measure guidelines for small (less than one acre) construction projects. In addition, the Town's Urban Runoff Pollution Prevention Ordinance requires the use of construction-phase BMPs, including erosion and sediment controls and pollution prevention practices. When required by the Phase II Stormwater Permit or by the authorized enforcement official, applicable projects would be required to prepare an ESCP that addresses erosion and sediment control and pollution prevention during the construction phase. Erosion control BMPs may include, but are not limited to, scheduling and timing of grading activities, timely revegetation of graded areas, the use of hydroseed and hydraulic mulches, and installation of erosion control blankets. Sediment control may include properly sized detention basins, dams, or filters to reduce entry of suspended sediment into the storm drain system and watercourses, and installation of construction entrances to prevent tracking of sediment onto adjacent streets. Pollution prevention practices may include designated washout areas or facilities, control of trash and recycled materials, tarping of materials stored on site and proper location of and maintenance of temporary sanitary facilities. Post-construction BMPs would also be implemented. Pursuant to the Phase II Stormwater Permit and Town's Urban Runoff Pollution Prevention Ordinance, qualifying new development and redevelopment projects are required to prepare a SCP or similar demonstration of post-construction BMPs to mitigate downstream impacts to flooding and water quality. The SCP would require the project to incorporate site design measures and/or treatment facilities that minimize imperviousness, minimize or detain stormwater, slows runoff rates, and reduces pollutants in post-development runoff.

Further, the General Plan 2040 Conservation and Safety and Resilience Chapters include goals, policies, and programs that address erosion and siltation from the addition of impervious surfaces and alteration of existing drainage patterns. For development projects proposing impervious surface construction, storm drain system installation, and/or hillside stabilization, Conservation Chapter Program C-e requires project applicants to analyze the impacts of drainage pattern modifications on groundwater recharge and on downslope water wells and their yields. In the event impacts are likely, modifications to the proposed project, including possible downsizing, should be implemented to the extent feasible. Program C-f ensures continued implementation of the Town's water conservation ordinance

through the review of new development proposals involving new landscaping. Safety and Resilience Chapter Program SR-hh evaluates potential measures to more sustainably manage stormwater and erosion and improve water quality associated with urban runoff. This includes improvements such as rain gardens and permeable pavement, which attenuate flooding downstream and provide ecological benefits. Through implementation of the General Plan 2040 policies and existing regulations, erosion/siltation impacts from changes to the existing drainage patterns and increasing impervious surfaces would be less than significant and no mitigation is required.

Surface Runoff

Future development under the General Plan 2040 has the potential to result in changes to the existing drainage patterns and could exceed the capacity of stormwater drainage systems and/or cause flooding on- or off-site of a project. Flooding can occur from an increase in impervious surfaces, which increases the volume and speed of runoff. When the volume and speed of runoff are increased, drainage facilities can be unable to handle the flows and capacity could be exceeded.

As previously described, the Marin County Flood Control District is responsible for regional flood control planning within the County. Provision of stormwater detention facilities as needed would reduce runoff rates and peak flows. As specified in the Town's Urban Runoff Pollution Prevention Ordinance and Phase II Stormwater Permit, qualifying new development and redevelopment projects are required to prepare a SCP or similar demonstration of post-construction BMPs to mitigate downstream impacts to flooding and water quality. The SCP would require the project to incorporate site design measures and/or treatment facilities that minimize imperviousness, minimize or detain stormwater, slows runoff rates, and reduces pollutants in post-development runoff.

The General Plan 2040 contains goals, policies, and programs to provide adequate stormwater infrastructure for flood control and to reduce run-off quantity. Conservation Chapter Policy C-9 requires open space buffers of at least 50 feet on each side of the top of the bank of perennial, intermittent, and ephemeral streams on properties less than five acres, and of at least 100 feet on each side of the top of the bank on properties greater than five acres, to minimize disturbance of natural vegetation and maintain the environmental and scenic attributes of the corridor. Where modification of corridors is required for flood control or crossings, such modification shall be made in an environmentally sensitive manner that enhances, replaces, or retains vegetation. Policy C-20 directs the Town to maintain or enhance water quality to promote the continued environmental health of natural waterway habitats. Program C-g directs the Town to continue to be an active member agency of the MCSTOPPP to implement best management practices and to comply with federal and state water quality regulations to reduce pollution being conveyed through storm water systems to the Bay. Safety and

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Resilience Chapter Policy SR-15 ensures new development mitigates storm drainage impacts and potential increases in runoff through a combination of measures, including improvement of local storm drainage facilities. Program SR-cc directs the Town to design drainage facilities within new subdivisions to accommodate a 100-year storm. Program SR-dd utilizes on-site detention of stormwater runoff to ensure that post-development peak flow rates from a site resulting from both the two-year and 100-year design rainstorms are not increased by new subdivisions or other permitted development projects. Program SR-ee directs the payment of fair-share improvements to existing stormwater drainage systems for subdivisions responsible for exceeding capacity. Program SR-ff utilizes Stormwater Runoff Impact Fees to upgrade, enhance, and/or rehabilitate the Town's public storm drain system to offset the increased demand on the capacity, operation, and sustainability of the Town storm drain system. Program SR-gg requires project applicants for new development to prepare a hydraulic and geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff. In the event existing channel instabilities are noted, the applicant may either propose their own channel stabilization program or defer to the mitigations generated during the Town's environmental review. Any proposed stabilization measures shall anticipate any project-related changes to the drainageway flow regime. Program SR-hh evaluates potential measures to more sustainably manage stormwater and erosion and improve water quality associated with urban runoff. This includes improvements such as rain gardens and permeable pavement, which attenuate flooding downstream and provide ecological benefits. Through implementation of the General Plan 2040 Plan goals, policies, and programs and existing federal, State, and local regulations discussed above, runoff would not exceed the capacity of drainage systems, provide substantial additional sources of polluted runoff, or cause flooding impacts from changes to the existing drainage patterns and increased impervious surfaces. Therefore, impacts would be less than significant and no mitigation is required.

Flood Flows

As described above and shown in Figure 3.9-2, FEMA Flood Zone Designations, several portions of the Planning Area are subject to the 100-year flood and 500-year FEMA flood zone. Based on FEMA mapping, coastal areas along the perimeter of the Tiburon Peninsula are generally within a mapped portion of the 100-year or 500-year FEMA flood zone.

The General Plan 2040 sets policies for buildout of the City, but does not envision or authorize any specific development project. The proposed Conservation Chapter Policy C-10 avoids construction on lands that are shown to be within the 100-year flood hazard zone as shown on the current FEMA Flood Rate Insurance Map. Policy C-11 directs the use of areas defined as floodplain for habitat and flood protection. The proposed Safety and Resilience Chapter Policy SR-10 is aimed at reducing the risk of loss of life, personal injury, and property

damage resulting from flooding by properly maintaining storm drainage systems, natural flood control channels, and waterways and regulating runoff from new construction and development projects. Policy SR-11 integrates flooding and sea level rise projections into policies and regulations to inform the public of the future hazard areas, assess and address potential impacts to future development, inform future planning and building requirements, plan for opportunity areas for adaptation, and inform funding and financing decisions about short- and long-term adaptation projects. Program SR-p directs the Town to prepare and update, at least every five years, a Flooding and Sea Level Rise Projection Map as a reference for town policies and regulations and as a publicly accessible tool for tracking flooding and sea level rise hazards. Program SR-r directs the Town to prepare and adopt an adaptation plan addressing increased flooding and sea level rise. Program SR-y require new development and/or construction, where feasible, to be outside Special Flood Hazard Areas. Program SR-t directs the Town to continue to comply with the federal National Flood Insurance Program by maintaining a flood management program and flood plain management regulations. Policy SR-14 ensures new development is resilient to flooding and sea level rise. Program SR-z requires structures constructed adjacent to areas subject to the 100-year tidal flood to be protected from destructive wave action. Program SR-aa requires new development, including substantial alterations, to consider and address increased flooding and sea level rise impacts and to integrate resilience and adaptation measures into project design as warranted. Program SR-bb directs the Town to study an amendment of the Town's Flood Damage Prevention Ordinance to establish a minimum finished floor elevation requirement of three feet above the FEMA 100-year flood elevation to protect new development against future sea level rise. Policy SR-15 ensures new development mitigates storm drainage impacts and potential increases in runoff through a combination of measures, including improvement of local storm drainage facilities. Program SR-cc directs the Town to design drainage facilities within new subdivisions to accommodate a 100-year storm. Program SR-dd utilizes on-site detention of stormwater runoff to ensure that post-development peak flow rates from a site resulting from both the two-year and 100-year design rainstorms are not increased by new subdivisions or other permitted development projects. Program SR-ee directs the payment of fair-share improvements to existing stormwater drainage systems for subdivisions responsible for exceeding capacity. Program SR-ff utilizes Stormwater Runoff Impact Fees to upgrade, enhance, and/or rehabilitate the Town's public storm drain system to offset the increased demand on the capacity, operation, and sustainability of the Town storm drain system. Program SR-gg requires project applicants for new development to prepare a hydraulic and geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff. In the event existing channel instabilities are noted, the applicant may either propose their own channel stabilization program or defer to the mitigations generated during the Town's environmental review. Any proposed stabilization measures shall anticipate any project-related changes to the drainageway flow regime. Program SR-hh evaluates potential measures to more sustainably manage stormwater and erosion and improve water quality associated with

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urban runoff. This includes improvements such as rain gardens and permeable pavement, which attenuate flooding downstream and provide ecological benefits.

As described above, the Tiburon Flood Damage Prevention Ordinance provides land use and development regulations to all land within flood-prone or flood-related erosion areas, including review of development permits to ensure adherence to federal, State, and local flood-related regulations as well as additional standards applicable to all areas of special flood hazards in the Town. Future development projects would be reviewed by the Town to determine if a project site is located within areas of special flood hazards and thus subject to additional standards set forth in Title IV, Chapter 13D, Article III. Additionally, construction of storm drainage improvements would occur as part of an overall development or infrastructure project, and would be considered in the environmental review associated with the specific project being proposed. With implementation of General Plan 2040 goals, policies, and programs and compliance with existing regulations, the General Plan 2040 would not impede or redirect flood flows; impacts would be **less than significant** and no mitigation is required.

Mitigation Measures

None required.

Impact 3.6-4 Development facilitated by the Project has the potential to risk release of pollutants due to project inundation in a flood hazard, tsunami, or seiche zone.

As described above and shown in Figure 3.9-2, FEMA Flood Zone Designations, several portions of the Planning Area are subject to the 100-year flood and 500-year FEMA flood zone. Based on FEMA mapping, coastal areas along the perimeter of the Tiburon Peninsula are generally within a mapped portion of the 100-year or 500-year FEMA flood zone. Should structures proposed under the General Plan 2040 become inundated during a future flood event, there is a risk of pollutants being released inadvertently into the environment.

Tsunamis and seiches are standing waves that occur in the ocean or relatively large, enclosed bodies of water that can follow seismic, landslide, and other events from local sources (California, Oregon, Washington coast) or distant sources (Pacific Rim, South American Coast, Alaska/Canadian coast). A tsunami is a series of waves in a water body caused by the displacement of a large volume of water, generally in an ocean or a large lake due to earthquakes, volcanic eruptions, and other underwater explosions. Seiches are changes or oscillations of water levels within a confined water body caused by fluctuation in the atmosphere, tidal currents, or earthquakes. The effect of this phenomenon is a standing wave that would occur when influenced by external causes. The Planning Area is located in close proximity to the San Francisco Bay and Richardson Bay (semi-confined water bodies), which could pose a significant risk from a seiche similar to that of a tsunami threat. Should structures proposed under the General Plan 2040 become inundated during a future

tsunami or seiche event, there is a risk of pollutants being released inadvertently into the environment.

Figure 3.9-3 identifies portions of the Planning Area located within a tsunami inundation zone. As previously mentioned, numerous residences, businesses, and yacht clubs on the Tiburon Peninsula are waterfront properties and are located within tsunami inundation areas. Specifically, all the residences adjacent to the Paradise Cay, Boardwalk Shopping Center, and the majority of the eastern coast are located within a tsunami inundation area. Additionally, many recreational areas such as beaches, shoreline park, Angel Island, Paradise Park, and the multiuse path or along the shoreline and are at risk from tsunamis.

The Tiburon Flood Damage Prevention Ordinance provides land use and development regulations to all land within flood-prone or flood-related erosion areas, including review of development permits to ensure adherence to federal, State, and local flood-related regulations as well as additional standards applicable to all areas of special flood hazards in the Town. Future development projects would be reviewed by the Town to determine if a project site is located within areas of special flood hazards, including floodways and coastal high hazard areas, and thus subject to additional standards set forth in Title IV, Chapter 13D, Article III. Further, the General Plan 2040 includes goals, policies, and programs to reduce the risk of flooding and ensure compliance with regulatory requirements. Conservation Chapter Policy C-10 avoids construction on lands that are shown to be within the 100-year flood hazard zone as shown on the current FEMA Flood Rate Insurance Map. Policy C-11 directs the use of areas defined as floodplain for habitat and flood protection. The proposed Safety and Resilience Chapter Policy SR-10 is aimed at reducing the risk of loss of life, personal injury, and property damage resulting from flooding by properly maintaining storm drainage systems, natural flood control channels, and waterways and regulating runoff from new construction and development projects. Policy SR-11 integrates flooding and sea level rise projections into policies and regulations to inform the public of the future hazard areas, assess and address potential impacts to future development, inform future planning and building requirements, plan for opportunity areas for adaptation, and inform funding and financing decisions about short- and long-term adaptation projects. Program SR-p directs the Town to prepare and update, at least every five years, a Flooding and Sea Level Rise Projection Map as a reference for town policies and regulations and as a publicly accessible tool for tracking flooding and sea level rise hazards. Program SR-r directs the Town to prepare and adopt an adaptation plan addressing increased flooding and sea level rise. Program SR-y require new development and/or construction, where feasible, to be outside Special Flood Hazard Areas. Program SR-t directs the Town to continue to comply with the federal National Flood Insurance Program by maintaining a flood management program and flood plain management regulations. Policy SR-14 ensures new development is resilient to flooding and sea level rise. Program SR-z requires structures constructed adjacent to areas subject to the 100-year tidal flood to be protected from destructive wave action. Program SR-aa requires new development, including substantial alterations, to consider and address increased flooding and sea level rise impacts and to integrate resilience and adaptation

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measures into project design as warranted. Program SR-bb directs the Town to study an amendment of the Town's Flood Damage Prevention Ordinance to establish a minimum finished floor elevation requirement of three feet above the FEMA 100-year flood elevation to protect new development against future sea level rise. Policy SR-15 ensures new development mitigates storm drainage impacts and potential increases in runoff through a combination of measures, including improvement of local storm drainage facilities. Program SR-cc directs the Town to design drainage facilities within new subdivisions to accommodate a 100-year storm. Program SR-dd utilizes on-site detention of stormwater runoff to ensure that post-development peak flow rates from a site resulting from both the two-year and 100-year design rainstorms are not increased by new subdivisions or other permitted development projects. Program SR-ee directs the payment of fair-share improvements to existing stormwater drainage systems for subdivisions responsible for exceeding capacity. Program SR-ff utilizes Stormwater Runoff Impact Fees to upgrade, enhance, and/or rehabilitate the Town's public storm drain system to offset the increased demand on the capacity, operation, and sustainability of the Town storm drain system. Program SR-gg requires project applicants for new development to prepare a hydraulic and geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff. In the event existing channel instabilities are noted, the applicant may either propose their own channel stabilization program or defer to the mitigations generated during the Town's environmental review. Any proposed stabilization measures shall anticipate any project-related changes to the drainageway flow regime. Program SR-hh evaluates potential measures to more sustainably manage stormwater and erosion and improve water quality associated with urban runoff. This includes improvements such as rain gardens and permeable pavement, which attenuate flooding downstream and provide ecological benefits.

Although existing flood impacts would remain present, the General Plan 2040 has been developed to include goals, policies, and programs that, when implemented, would reduce flood hazard throughout the Project Area. The policies include numerous requirements that would reduce the potential for General Plan 2040 implementation to result in increased impacts related to flooding and pollution runoff. The implementation of these policies and programs would ensure that implementation of the General Plan 2040 would have a **less-than-significant** impact relative to this environmental topic.

Mitigation Measures

None required.

Impact 3.6-5 **Development facilitated by the Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.**

As described above, the local water quality control plan (Basin Plan) is maintained by the San Francisco Bay RWQCB. The Basin Plan specifies the State's water quality standards (i.e.,

beneficial uses, water quality objectives, and implementation measures) and serves as the basis for the RWQCB's regulatory programs. When permittees and projects comply with the provisions of applicable NPDES permits and water quality permitting, they are consistent with the Basin Plan. Adherence to the Phase II Stormwater Permit, BASMAA Post-Construction Manual, and Tiburon Municipal Code would ensure that surface and groundwater quality are protected from erosion and pollution. As a result, site soils would not be adversely impacted during the construction and operation of future development projects anticipated under the General Plan 2040. Further, the General Plan 2040 includes policies and programs to protect watershed and recharge areas, implement NPDES requirements, and enforce said regulations, such as: Conservation Chapter Policy C-20, which aims to maintain and enhance water quality to promote the continued environmental health of natural waterway habitats; and Program C-g directs the Town to continue to be an active member agency of the MCSTOPPP to implement BMPs and to comply with federal and state water quality regulations to reduce pollution being conveyed through storm water systems to the Bay. Furthermore, future development within the Planning Area would be located within the Marin Water service area, which relies solely on surface water supply and recycled water. Groundwater is not currently used or planned to be used as a municipal water supply source by Marin Water, and future projects would not conflict with the sustainable management of the groundwater basins. Therefore, through implementation of existing regulations and the General Plan 2040 policies and actions, implementation of the General Plan 2040 would not conflict with or obstruct a water quality control plan. Impacts would be **less than significant**.

Mitigation Measures

None required.

Impact 3.6-6 Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to hydrology and water quality.

Cumulative hydrology and water quality impacts associated with implementation of the General Plan 2040 are analyzed based on development within the Planning Area and development served by facilities under the jurisdiction of the Marin County Flood Control and Water Conservation District. The General Plan 2040 does not propose site-specific development and would not significantly impact drainage courses and hydrologic flows throughout the Town.

Construction of the individual development projects allowed under the land use designations of the proposed General Plan 2040 has the potential to result in construction-related water quality impacts and operational-related impacts to local waterways, and cause flooding, erosion, or siltation from the alteration of drainage patterns. Individual projects would be evaluated on a project-by-project basis to ensure compliance with the General Plan

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2040 policies and programs, as well as federal, State, and local regulations to reduce hydrology and water quality impacts.

Subsequent development projects under the General Plan 2040 would result in new impervious surfaces and could increase stormwater runoff volumes; however, the General Plan 2040 would not appreciably add to the volume of impervious surfaces in the Planning Area. As individual projects are constructed, the General Plan 2040 policies and actions, as well as federal, State, and local regulations, would substantially reduce potential cumulative impacts. Considering the protection granted by local, State, and federal agencies and their permit and monitoring requirements, as discussed above, and with implementation of the policies and actions included within the General Plan 2040, the overall cumulative impact would not be significant. As a result, the General Plan 2040's incremental contribution to cumulative hydrology impacts would be less than cumulatively considerable, and the cumulative impact would be **less than significant**.

Mitigation Measures

None required.

Figure 3.9-1. Watersheds Map

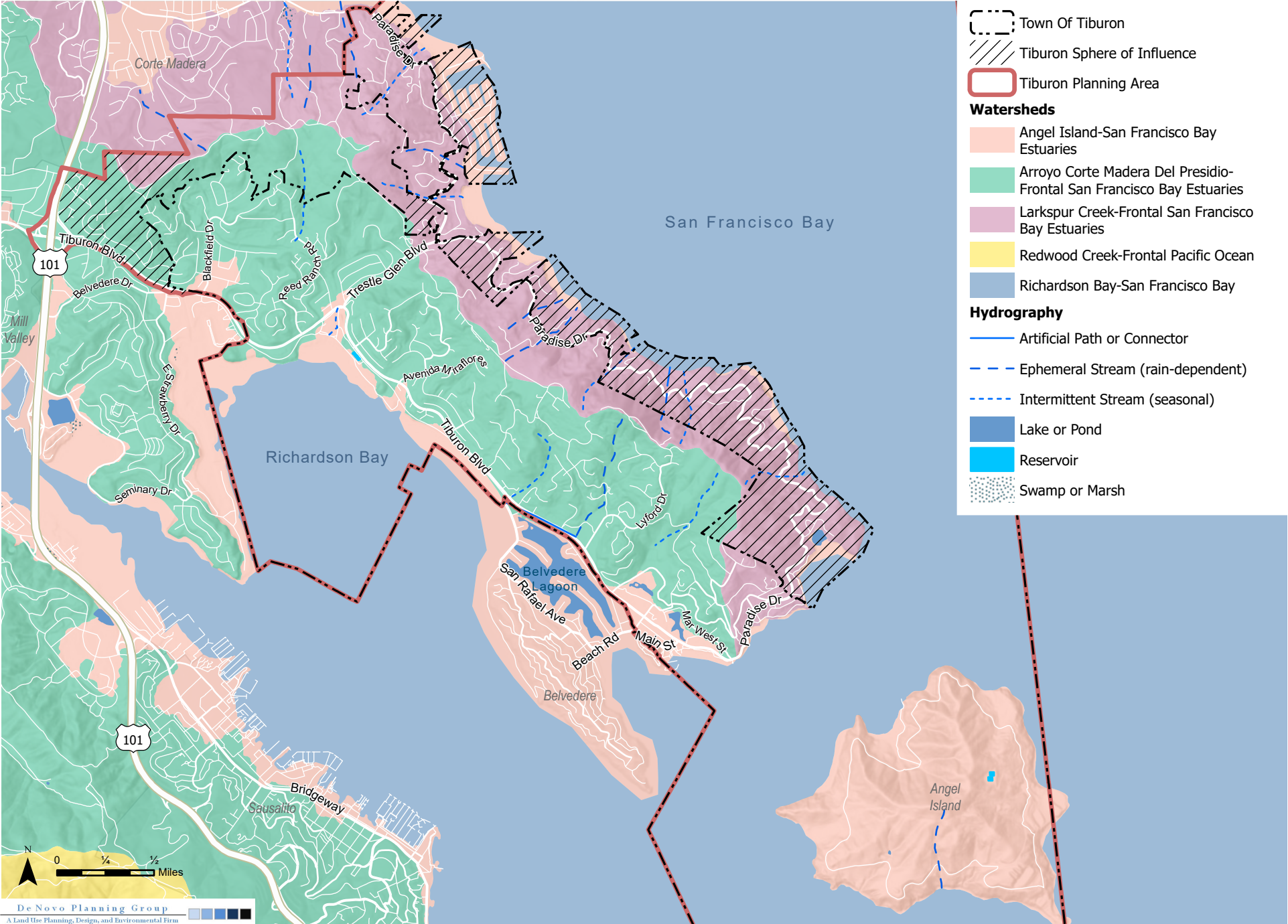


Figure 3.9-2. FEMA Flood Zone Designations

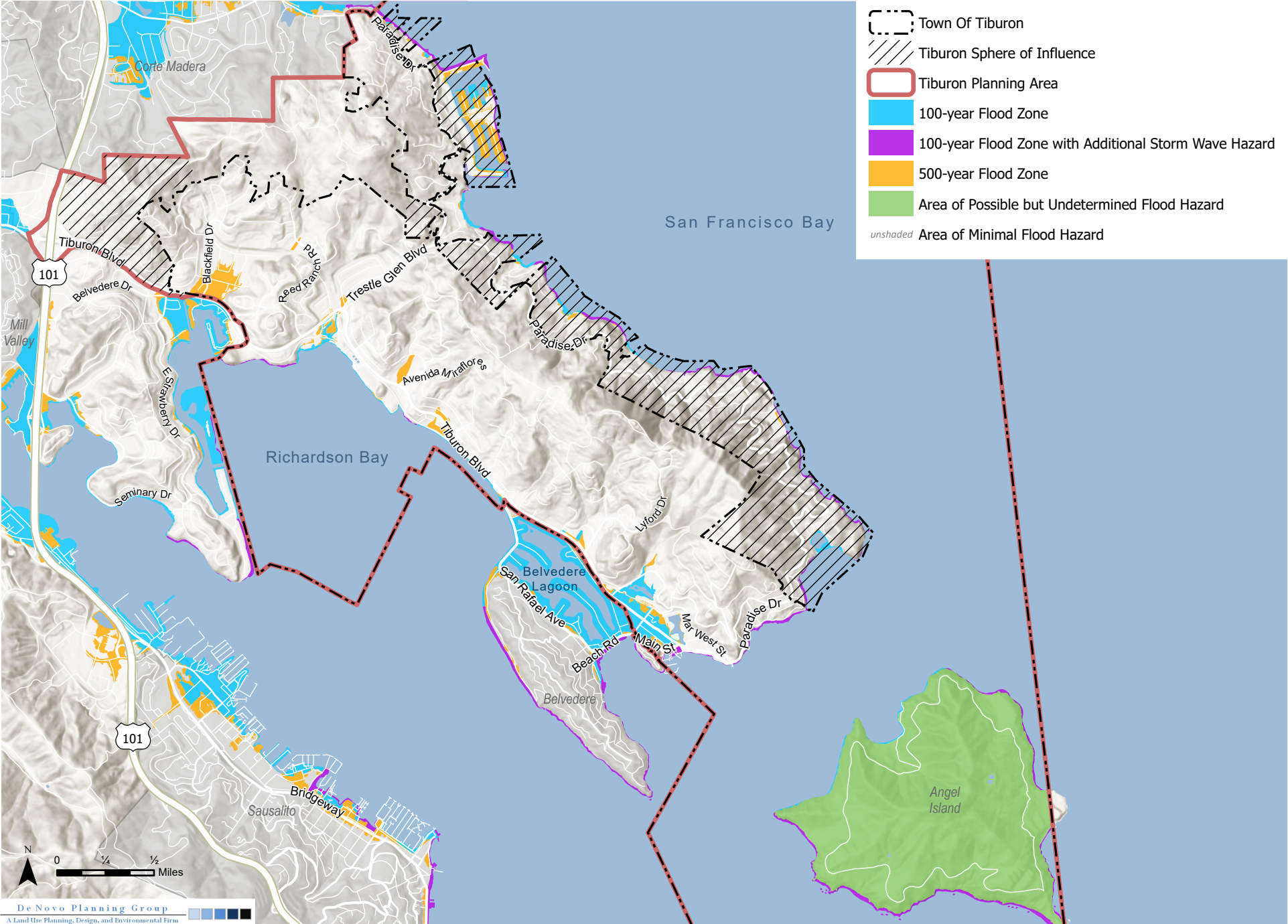
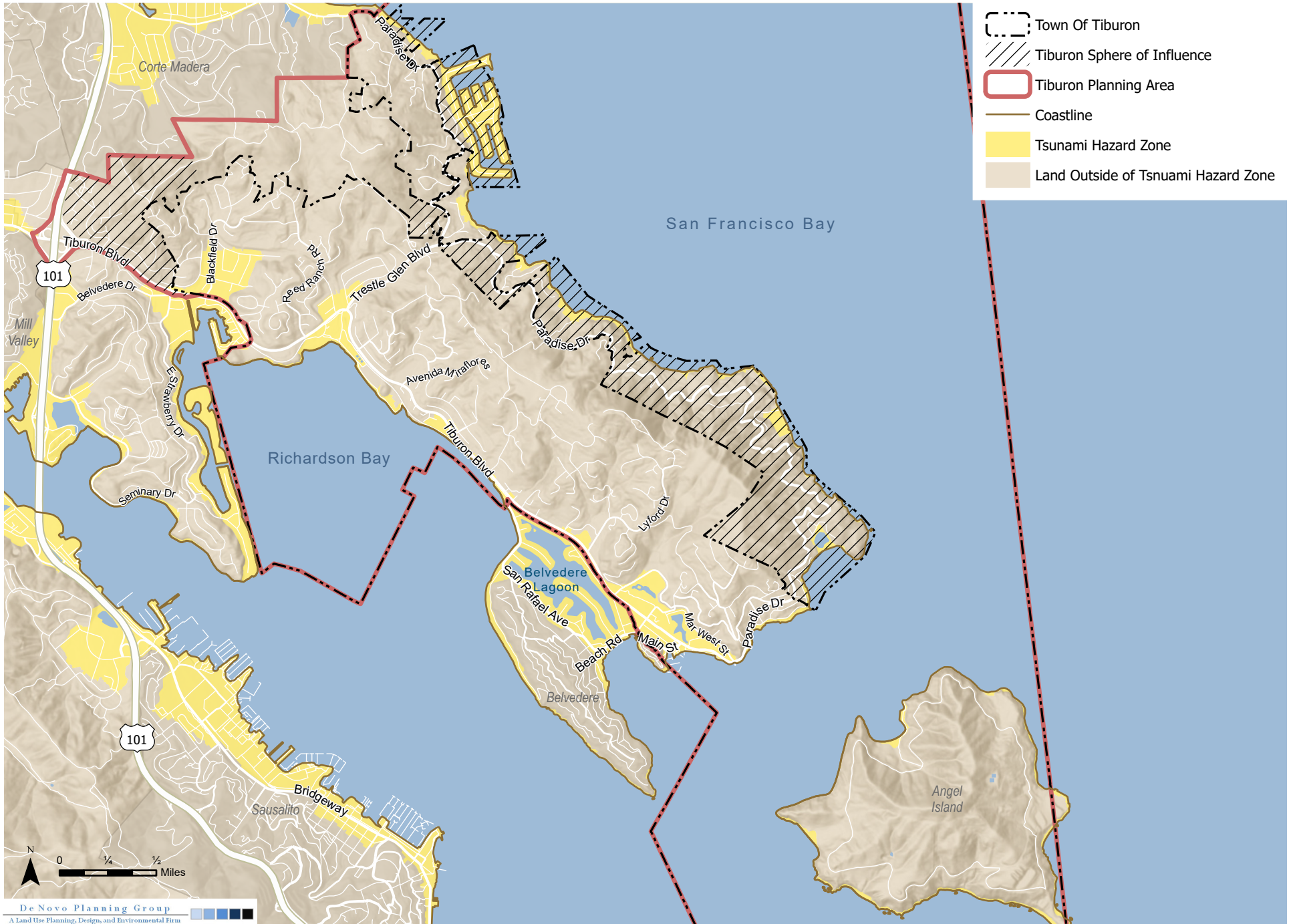


Figure 3.9-3. Tsunami Inundation Zones



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3.10 LAND USE AND PLANNING

This section of the Draft EIR (Draft EIR) describes the Planning Area related to land use and addresses the consistency of the General Plan with any land use plan, policy, or regulation, which has been adopted for the purpose of avoiding or mitigating an environmental effect. Future discretionary projects facilitated by the General Plan will be evaluated for project-specific impacts to land use at the time they are proposed.

General Plan policies associated with other specific environmental topics (aesthetics, air quality, biological resources, cultural and tribal cultural resources, energy, geology/soils, greenhouse gas (GHG) emissions, hazards, hydrology/water quality, noise, population and housing, public services and recreation, transportation, and utilities) are discussed in their relevant sections of this Draft EIR.

Key Terms

Town Limits: The Town limits include the area within the Town’s corporate boundary, over which the Town exercises land use authority and provides public services.

Sphere of Influence: A Sphere of Influence (SOI) is the probable physical boundary and service area of a local agency, as adopted by a Local Agency Formation Commission (LAFCO). An SOI includes both incorporated and unincorporated areas within which a Town or special district will have primary responsibility for the provision of public facilities and services.

Planning Area: For the purposes of the Tiburon General Plan Update, the Planning Area is defined as all lands within the Town limits and Tiburon SOI, as well as the Highway 101 Tiburon Boulevard/East Blithedale Avenue interchange west of the northwestern SOI boundary and the open space land to the north of the northern SOI boundary on Ring Mountain.

Figure 3.10-1 shows the existing Tiburon Town Limits, the adopted SOI, and the General Plan Planning Area.

3.10.1 EXISTING SETTING

Land Use

Table 3.10-1 summarizes the Town’s General Plan land use designations for areas within the Town limits, SOI, and Planning Area by acreage. Land use designations on the adopted General Plan Land Use Map, as amended through January 2021, are shown on Figure 3.10-1. A brief description of each of the adopted General Plan land use designations is provided below.

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TABLE 3.10-1: TOWN OF TIBURON LAND USE DESIGNATIONS IN TOWN LIMITS, SOI, AND PLANNING AREA

Land Use	Acreages			
	Town Limits	SOI	Planning Area (Other)	Planning Area Total
Low Density Residential	3.8	15.1	0.0	18.9
Medium Low Density Residential	264.3	75.6	0.0	339.9
Medium Density Residential	545.6	36.7	0.0	582.3
Medium High Density Residential	247.4	106.4	0.0	353.8
High Density Residential	51.8	7.9	0.0	59.7
Very High Density Residential	99.9	9.6	0.0	109.5
Planned Development Residential	130.0	313.1	0.0	443.1
Neighborhood Commercial	20.9	0.0	0.0	20.9
Shopping Commercial	0.0	3.3	0.0	3.3
Village Commercial	6.9	0.0	0.0	6.9
Office	1.4	0.0	0.0	1.4
Open Space	404.1	84.7	308.6	797.5
Public/Quasi-Public	810.7	41.4	0.0	852.1
Park	64.7	12.2	0.0	76.9
Marine	6,781.0	150.3	0.0	6,931.3
Right-of-Ways	0.2	0.0	0.0	0.2
Total	9,432.7	856.2	308.6	10,597.5
<i>Affordable Housing Overlay</i>	7.6	1.2	0.0	8.8

Sources: Town of Tiburon, 2021; De Novo Planning Group, 2021.

Low Density Residential – The Low Density Residential (L) designation is intended for single-family residential units built at a density of up to 0.5 units per acre. Land designated L is typically zoned Residential Planned Development (RPD), which is intended to protect and preserve open space land as a limited and valuable resource without depriving owners of a reasonable use of their property for residential purposes. The regulations of the zone are designed to ensure, to the extent feasible, the conservation of natural resources and the retention of land in its natural or near natural state in order to, among other things, assist in the containment of urban sprawl and protect the community from the hazards of fire, flood, seismic and other catastrophic activity, and to otherwise implement the goals and policies of the general plan.

Medium Low Density Residential – The Medium Low Density Residential (ML) designation is intended for single-family residential units built at a density of up to 1.1 units per acre. Land designated ML is typically zoned Residential Open-40,000 square feet (RO-1), which is intended to promote and encourage the maintenance of a suitable environment for low-density, single-family development on larger lots with a minimum lot size of 40,000 square feet.

Medium Density Residential – The Medium Density Residential (M) designation is intended for single-family residential units built at a density of up to 3.0 units per acre. Land designated

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M is typically zoned Residential Open-20,000 square feet (RO-2), which is intended to promote and encourage the maintenance of a suitable environment for low-density, single-family development on larger lots with a minimum lot size of 20,000 square feet.

Medium High Density Residential – The Medium High Density Residential (MH) designation is intended for single-family residential units built at a density of up to 4.4 units per acre. Land designated MH is typically zoned Single Family Residential (R-1), which is intended to promote and encourage the maintenance of a suitable environment for suburban family living on smaller single-family residential lots (minimum lot size of 10,000 square feet) in older developed areas of the town.

High Density Residential – The High Density Residential (H) designation is intended for two-family residential uses built at a density of up to 11.6 units per acre. Land designated H is typically zoned Two-Family Residential (R-2), which is intended to promote and encourage the establishment and maintenance of a suitable environment for suburban family living in areas appropriate by location and character for single-family and two-family dwellings on smaller lots (minimum lot size of 7,500 square feet or 3,750 square feet per dwelling).

Very High Density Residential – The Very High Density Residential (VH) designation is intended for two-family and multi-family residential developments built at a density of up to 12.4 units per acre. However, VHDR designations located within the Affordable Housing Overlay are limited to multi-family residential uses at a density of up to 18.4 units per acre (24.8 units per acre with density bonus). Land designated VH is typically zoned Multi-Family Residential (R-3) or Residential Multiple Planned (RMP). The R-3 zone is intended to promote and encourage the establishment and maintenance of a suitable environment for residence in areas appropriate by location and character for multifamily dwellings with a minimum lot size of 10,000 square feet or 3,500 square feet per dwelling unit. The RMP zone is intended to protect and preserve open space land as a limited and valuable resource without depriving owners of a reasonable use of their property for residential purposes and specific regulations are established by adopted master/precise plan, precise development plan, or condominium plan for development.

Planned Development Residential – The Planned Development Residential (PD-R) designation are reserved for properties that are generally undeveloped or underdeveloped and have the greatest site challenges for development. Site challenges for these properties range from natural constraints to development, such as steep slopes and the presence of landslide deposits or the likelihood of future slope instability, to the presence of a wide variety of land-based resources that are valued by the community, such as ridgelines, water and shoreline areas, wildlife and wildlife habitat, views, and trees and woodlands. Maximum densities for PD-R designations are considered by the Town to be achievable only if the applicants for development of these properties demonstrate compliance and consistency with policies of the General Plan, including policies of the Open Space & Conservation and Safety Elements.

Neighborhood Commercial – The Neighborhood Commercial (NC) designation typically allows, subject to specific zoning regulations, resident-serving commercial uses and offices, and

mixed (commercial/residential or office/residential) uses with tourist-oriented uses strongly discouraged. The maximum allowable FAR is 0.37 for land designated NC; however, NC land within the Affordable Housing Overlay has a maximum allowable FAR of 0.31 for the commercial component only.

Shopping Commercial – The Shopping Commercial (SC) designation typically allows, subject to specific zoning regulations, general retail and service uses, service stations and auto-related sales and service uses, and office uses. Land designated SC has a maximum allowable FAR of 0.5.

Village Commercial – The Village Commercial (VC) designation typically allows, subject to specific zoning regulations, resident-serving commercial and office uses, tourist-oriented uses, and mixed (commercial/residential or office/residential) uses. Land designated VC has a maximum allowable FAR of 0.28.

Office – The Office (O) designation is strictly limited to office uses with no retail components. Land designated O has a maximum allowable FAR of 1.0.

Open Space – The Open Space (OS) designation is for lands which are set aside for natural resource protection, public health and safety, scenic qualities, and for passive recreation (such as hiking trails). Land designated OS is for areas of the Planning Area that will remain undeveloped.

Public/Quasi-Public – The Public/Quasi-Public (P) designation typically allows educational facilities, governmental and quasi-public building or facilities, utility facilities, and similar facilities owned or operated by public/non-profit agencies. Land designated P has a maximum allowable FAR of 1.0.

Park – The Park designation is intended to allow the development for recreational purposes. Land designated P has a maximum allowable FAR of 0.1.

Marine – The Marine designation is intended to allow water-related activities subject to specific regulations contained within the Marine (M) zone classification of the zoning ordinance. Land designated Marine has a maximum allowable FAR of 0.1 for existing buildings and no new buildings area allowed.

Right-of-Way – The Right-of-Way (ROW) designation is intended to designate land dedicated for infrastructure, new roads, and/or improvements to existing transportation infrastructure.

Marin County General Plan

The County's General Plan establishes allowed land uses within the Town's SOI, the Planning Area, and the unincorporated areas surrounding the Town, SOI, and Planning Area. While

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the Town’s General Plan Land Use Map identifies planned land uses within the SOI and unincorporated Planning Area, Marin County has ultimate land use planning and project approval authority within the SOI and Planning Area unless the lands are annexed to the Town. The County’s land use designations for areas within the SOI and Planning Area are summarized in Table 3.10-2 and the County’s land use designations for the unincorporated area within the SOI, Planning Area, and around the Town are shown on Figure 3.10-2.

TABLE 3.10-2: MARIN COUNTY LAND USE DESIGNATIONS IN PLANNING AREA AND SOI

Land Use	Acreage	
	SOI	Planning Area (Other)
Single Family Residential	479.33	0.0
Multiple Family Residential	38.55	0.0
Planned Residential	296.11	0.0
Neighborhood Commercial/Mixed Use	1.19	0.0
Office Commercial/Mixed Use	2.92	0.0
Open Space	38.13	308.62
Total	856.23	308.62

Source: Marin County, 2021; De Novo Planning Group, 2021.

Land Use Patterns

When discussing land use, it is important to distinguish between planned land uses and existing land uses. The General Plan land use designations identify the long-term planned use of land but do not present a complete picture of existing land uses. The Marin County Assessor’s office maintains a database of existing land uses on individual parcels, which is used as the basis for property tax assessments. The acreages for each assessed land use within the Town, SOI, and Planning Area are summarized in Table 3.10-3 and depicted on Figure 3.10-3.

TABLE 3.10-3: ASSESSED LAND USES BY ACREAGE- TOWN OF TIBURON

Assessed Land Use	Acreage			
	Town Limits	SOI	Planning Area (Other)	Planning Area Total
Commercial				
Commercial – Improved	50.6	16.8	0.0	67.5
Commercial – Unimproved	8.8	0.0	0.0	8.8
<i>Commercial Sub-Total</i>	<i>59.4</i>	<i>16.8</i>	<i>0.0</i>	<i>76.3</i>
Residential				
Single Family Attached	16.9	1.40	0.0	18.3
Single-Residence – Improved	1,121.3	295.5	0.0	1,416.8
Single Residence – Unimproved	192.5	308.6	0.0	501.1
Multiple-Residential – Improved	78.0	55.9	0.0	133.9
Multiple-Residential – Unimproved	2.7	0.1	0.0	2.8
<i>Residential Sub-Total</i>	<i>1,411.4</i>	<i>661.5</i>	<i>0.0</i>	<i>2,072.9</i>

Assessed Land Use	Acreage			
	Town Limits	SOI	Planning Area (Other)	Planning Area Total
Industrial				
Industrial – Unimproved	10.7	0.0	0.0	10.7
<i>Industrial Sub-Total</i>	<i>10.7</i>	<i>0.0</i>	<i>0.0</i>	<i>10.7</i>
Open Space				
Open Space – Improved	0.1	0.0	0.0	0.1
<i>Open Space Sub-Total</i>	<i>0.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.1</i>
Non-Taxable / Miscellaneous				
Common Area	98.9	3.5	0.0	102.4
Valued by State Board of Equalization	0.4	0.0	0.0	0.4
Subject to Exemption – Improved	50.8	1.6	0.0	52.4
Subject to Exemption – Vacant	99.8	11.7	0.0	111.5
Tax Exempt	7,701.1	161.1	308.6	8,170.2
<i>Non-Taxable / Miscellaneous Sub-Total</i>	<i>7,951.0</i>	<i>177.9</i>	<i>308.6</i>	<i>8,437.5</i>
Total	9,432.7	856.2	308.6	10,597.5

Source: Marin County Assessor's Office, 2021; De Novo Planning Group, 2021.

Existing land uses refer to the existing built environment, which may be different from the land use or zoning designations applied to land for planning purposes. Existing land uses are based on data provided by the County Assessor and are described below.

Commercial

The predominant type of commercial land use, based on the percent of total acres, is improved commercial land, which accounts for 67.4 acres of the Planning Area (including the Town limits and SOI) while vacant commercial land accounts for 8.8 acres. As shown on Figure 3.10-3, the Town's commercial uses are located in and around the downtown, waterfront areas, and east of the Belvedere Lagoon, as well as along Tiburon Boulevard and Highway 131 near the Highway 101 interchange.

Residential

Residential uses in Tiburon include single family attached, single-family, and multiple-family developments.

Single Family Attached refers to parcels that contain attached single-family residential housing units on parcels. The Tiburon Planning Area contains 18.3 acres of *Single Family Attached* uses.

Single Residence refers to parcels that contain one housing unit per parcel. The Tiburon Planning Area contains 1,917.9 acres of *Single Residence* uses. Single family residential land uses are generally located throughout the Town, as shown on Figure 3.10-3. The majority of single family residential units are typical single family residences, with one residence located on one parcel.

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Multiple-Residential refers to parcels that contain more than one housing unit, including duplexes, triplexes, fourplexes, condominiums, townhomes, and apartment buildings. The Tiburon Planning Area contains 136.7 acres of *Multiple-Residential* uses, which accounts for 1.3 percent of the Planning Area. Multifamily uses are generally located near major roadways and commercial areas, as shown on Figure 3.10-3.

Industrial

Industrial uses accounts for only 0.1 percent of the Planning Area (10.7 acres). As shown on Figure 3.10-3, the industrial uses are located in and around the waterfront area in the northeast corner of the Planning Area on a parcel located on the San Francisco Bay within the Town limits.

Open Space

The open space category accounts for 0.13 acres of the Planning Area (including the Town limits and SOI).

Non-Taxable / Miscellaneous

The non-taxable / miscellaneous category includes residential and commercial common areas, tax exempt land, land subject to exemption, and land valued by the State Board of Equalization. Planning Area contains 8,437.5 acres of non-taxable uses. The large acreage of this category, relative to the other assessed use categories, is primarily due to the water areas in Richardson Bay and San Francisco Bay that are tax exempt. It is also noted that the only parcel in the Planning Area that is located outside of the Town and SOI limits is in this category (308.6 acres that are tax exempt).

Surrounding Land Uses

The land uses within the Cities of Belvedere and Corte Madera and unincorporated Marin County that surround the Town of Tiburon to the north, south, and west are described below.

City of Belvedere

Figure 3.10-4 shows the City of Belvedere land use map. As shown in the figure, the land uses adjacent southwest of the Tiburon Planning Area include Park/Public Facility, Medium Density Single Family, High Density Single Family, Medium Density Multi-Family, High Density Multi-Family, Commercial, and Private Recreation uses.

City of Corte Madera

Figure 3.10-5 shows the City of Corte Madera land use map. As shown in the figure, the land uses adjacent to the Tiburon Planning Area include Low Density Residential, Medium Density Residential, Open Residential, Hillside Residential, and Hillside Open Space uses.

Unincorporated Marin County

Figure 3.10-2 shows the land uses of the unincorporated Marin County within and outside of the Planning Area. As shown in the figure, the land uses adjacent to the Tiburon Planning

Area in the unincorporated County include Open Space, Single Family, Multi Family, Public Facility/Singe Family, General Commercial/Mixed Use, Office Commercial, and Office Commercial/Mixed Use.

3.10.2 REGULATORY SETTING

State

California General Plan Law

California Government Code Section 65300 *et seq.* requires all counties and cities in the State to prepare and maintain a General Plan for the long--term growth, development, and management of the land within the jurisdiction's planning boundaries. The General Plan acts as a "constitution" for development and is the city's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards and public improvement plans and projects, such as a Capital Improvement Program) are required by law to be consistent with the General Plan.

General Plans must address a broad range of topics, including, at a minimum, the following mandatory seven elements: land use, circulation, housing, conservation, open space, noise, and safety. At the discretion of each jurisdiction, the General Plan may combine these elements and may add optional elements relevant to the physical features of the jurisdiction.

The California Government Code also requires that a General Plan be comprehensive, internally consistent, and plan for the long term. Accordingly, the General Plan should be clearly written, easy to administer, and readily available to the public.

Regional Housing Needs Plan

California General Plan law requires each city and county to have land designated and zoned to accommodate a fair share of the regional housing need. The share is known as the Regional Housing Needs Allocation (RHNA). The Association of Bay Area Governments (ABAG) is the lead agency for developing the RHNA for the nine-county Bay Area region that includes Marin County and the Town of Tiburon. Tiburon's fair share of the 2023-2031 RHNA is summarized in Table 3.10-4.

The Town of Tiburon is not required to ensure that adequate development to accommodate the RHNA occurs; however, the Town must facilitate housing production by ensuring that land is available and that unnecessary development constraints have been removed. The Town's Housing Element, as well as the Land Use Map provides for the accommodation of the RHNA that has been assigned to Tiburon. As part of the region's planning efforts, ABAG and the Metropolitan Transportation Commission (MTC) must allocate housing units within the region consistent with the development pattern included in the Sustainable Communities Strategy (Plan Bay Area 2050).

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TABLE 3.10-4: 2023-2031 REGIONAL HOUSING NEEDS ALLOCATION

Very Low Income	Low Income	Moderate Income	Above Moderate Income	Total
193	110	93	243	639

Source: Association of Bay Area Governments Final Regional Housing Needs Allocation (RHNA) Plan: San Francisco Bay Area, 2023-2031.

Regional Transportation Plan/Sustainable Communities Strategy

MTC and the Association of Bay Area Governments (ABAG) adopted the Final Plan Bay Area 2050 in October 2012. After years of public discussion and technical work, the Final Plan Bay Area 2050 is an updated long-range Regional Transportation Plan and Sustainable Communities Strategy for the nine-county San Francisco Bay Area. The plan charts a course for transportation investment, land-use priorities, distribution of housing and jobs, and regional approaches to planning for equity and diversity and addressing climate adaptation..

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was developed to protect the quality of the environment and the health and safety of persons from adverse environmental effects. Discretionary projects are required to be reviewed consistent with the requirements of CEQA to determine if there is potential for the project to cause a significant adverse effect on the environment. Depending on the type of project and its potential effects, technical traffic, noise, air quality, biological resources, and geotechnical reports may be needed. If potential adverse effects can be mitigated to less than significant levels, a mitigated negative declaration may be adopted. If potentially adverse effects cannot be mitigated to less than significant levels, an environmental impact report is required. These documents have mandated content requirements and public review times.

Subdivision Code

A subdivision is any division of land for the purpose of sale, lease, or finance. The State of California Subdivision Map Act (Government Code Section 66410) regulates subdivisions throughout the state. The goals of the Subdivision Map Act are as follows:

- To encourage orderly community development by providing for the regulation and control of the design and improvement of a subdivision with proper consideration of its relationship to adjoining areas.
- To ensure that areas within the subdivision that are dedicated for public purposes will be properly improved by the subdivider so that they will not become an undue burden on the community.
- To protect the public and individual transferees from fraud and exploitation.

Regional

Association of Bay Area Governments and Metropolitan Transportation Commission Plan Bay Area 2050

Plan Bay Area 2050 was jointly adopted by MTC and ABAG) in October 2021 and is the region's Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS). Plan Bay Area 2050 is a long-range regional plan for the nine-county San Francisco Bay Area, encompassing housing, economic, transportation, and environmental strategies designed to make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges.

Plan Bay Area 2050 is composed of 35 integrated strategies across the four elements that provide a blueprint for how the Bay Area can accommodate future growth and make the region more equitable and resilient in the face of unexpected challenges and achieve regional GHG emissions reduction targets established by CARB, pursuant to SB 375.

In summary, Plan Bay Area 2050:

- Details housing and economic strategies (“land use”) to invest \$702 billion in expected revenues to accommodate 2.7 million new persons, 1.4 million new households, 1.5 million new forecasted housing units, and 1.4 million new jobs between 2015 and 2050;
- Details transportation strategies to invest \$579 billion in expected revenues from federal, State, regional, and local sources over the next 30 years;
- Details environmental strategies to invest \$102 billion in expected revenues to protect the region from at least two feet of future permanent sea level rise inundation, reduce climate emissions, and maintain and expand the region's parks and open space system; and
- Complies with Senate Bill (SB) 375, the State's SCS law, which requires integration of land use and transportation planning to reduce per-capita passenger vehicle GHG emissions by 2035 and provide adequate housing for the region's forecast of 2.7 million new persons and 1.4 million new households.

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC), established to both protect and direct development of the Bay and its shoreline, is a commission which regulates development along the waters of the Bay. Altogether, the Commission is charged with:

- Regulating all filling and dredging in San Francisco Bay (which includes San Pablo and Suisun Bays, sloughs and certain creeks and tributaries that are part of the Bay system, salt ponds and certain other areas that have been diked-off from the Bay);

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- Protecting the Suisun Marsh, the largest remaining wetland in California, by administering the Suisun Marsh Preservation Act in cooperation with local governments;
- Regulating new development within the first 100 feet inland from the Bay to ensure that maximum feasible public access to the Bay is provided;
- Minimizing pressure to fill the Bay by ensuring that the limited amount of shoreline area suitable for high priority water-oriented uses is reserved for ports, water-related industries, water-oriented recreation, airports, and wildlife areas.
- Pursuing an active planning program to study Bay issues to ensure that Commission plans and policies are based upon the best available current information.
- Leading regionwide adaptation planning in light of rising sea level;
- Administering the federal Coastal Zone Management Act within the San Francisco Bay segment of the California coastal zone to ensure that federal activities reflect Commission policies.
- Participating in the regionwide program to administer a Long Term Management Strategy (LTMS) to ensure appropriate dredging and dredged materials disposal in San Francisco Bay; and,
- Participating in California's oil spill prevention and response planning program.

San Francisco Bay Plan

The San Francisco Bay Plan (Bay Plan) guides BCDC's planning and actions for the area within its jurisdiction. The Bay Plan includes two primary parts: the policies to guide future uses of the Bay and shoreline, and the maps that apply these policies to the present Bay and shoreline. The Bay Plan addresses the following matters as specifically required by the law:

1. The results of the Commission's detailed study of the Bay;
2. The comprehensive plan adopted by BCDC for the conservation of the water of San Francisco Bay and the development of its shoreline;
3. BCDC's recommendation of the appropriate agency to maintain and carry out the Bay Plan;
4. BCDC's estimate of the approximate amount of money that would be required to maintain and carry out the provisions of the Plan for the Bay; and
5. Other information and recommendations BCDC deemed desirable.

BCDC has jurisdiction over five areas: the San Francisco Bay, a 100-foot shoreline band, salt ponds, managed wetlands, and certain waterways. The provisions of the Bay Plan pertaining to areas outside of the 100-foot shoreline band are advisory. In the Tiburon Planning Area, the Bay Plan applies to activities within San Francisco Bay and activities along the 100-foot shoreline band. The provisions of the Bay Plan pertaining to areas outside of the 100-foot shoreline band are advisory. There are no salt ponds, managed wetlands, or waterways under BCDC's jurisdiction in the Tiburon Planning Area.

Permit requirements are detailed in Title 7.2 of the California Government Code and Title 14, Division 5 of the California Code of Regulations. BCDC has the authority to approve projects with conditions that must be carried out as a part of the authorized project. According to BCDC's website, typical permit conditions include requirements to construct, guarantee, and maintain public access to the Bay, plan review requirements that must be met before construction can begin, and mitigation requirements to offset the adverse environmental impacts of proposed projects.

The Bay Plan establishes seven policies regulating future development to ensure conservation of the Bay's tidal resources and native species and specifically address placement of fill and sediment. The Tiburon Planning Area is located within the area addressed by Plan Map 4, which refers to the area as Central Bay North area. The Bay Plan establishes the following policies which apply to specific areas within the Planning Area:

30. Richardson Bay Special Area Plan - See Special Area Plan for detailed planning policies for the water area and shoreline north of a line drawn between Cavallo Point and Point Tiburon.
31. Angel Island State Park - Use only for camping, picnicking, water-oriented recreation. Access by boat only. Preserve boat slips and mooring buoys at Ayala Cove. No commercial uses except for convenience needs of park visitors. Preserve and interpret cultural, historical and natural features of the island. Protect harbor seal haul-out and pupping site where harbor seals rest, give birth and nurse their young. Projects allowed only if protective of harbor seals and other sensitive wildlife.
32. Romberg Tiburon Center for Environmental Studies - If and when not needed by San Francisco State University, acquire, and develop for park. Expansion of Romberg Tiburon Center should be compatible with park use. Romberg Tiburon Center lands outside of the shoreline band should be developed consistent with recreation policy 4-b. Provide public access through the site to the shoreline.

Richardson Bay Special Area Plan

Richardson Bay, situated in southern Marin County, provides a wide range of aquatic and wildlife habitats for abundant and diverse populations of fish and wildlife. Five local governments have jurisdiction over its waters and shoreline: Marin County and the cities/towns of Sausalito, Mill Valley, Tiburon, and Belvedere, as does the state BCDC. Marin County and the jurisdictions of Belvedere, Mill Valley, Sausalito, and Tiburon formed the Richardson Bay Regional Agency through a joint powers agreement to maintain and implement the provisions of the Richardson Bay Special Area Plan (RBSAP).

The RBSAP recommends uniform policies and regulations for each participating jurisdiction as the agency's specific policy for Richardson Bay and establish standards for development along the shores of Richardson Bay. Policies within the RBSAP related to land use and regulating future development include:

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Aquatic and Wildlife Resources Policies

2. Future shoreline developments adjacent to mud flats or tidal or diked marshes should provide a natural landscaped buffer area between the development and the shoreline. The buffer area should be a minimum of 20 to 40 feet wide, depending on the sensitivity of the wildlife and the density and intensity of development, and should be planted with native shrubs and trees such as coyote brush, toyon, and coast live oak.
5. Any development within Richardson Bay should avoid destruction of marshes, mud flats, shellfish beds, and eelgrass beds. If such losses are unavoidable, the project should be authorized only if the minimum amount of habitat disturbance necessary to accomplish the purpose of the project occurs and the habitat loss is mitigated to the fullest extent. Mitigation should be within Richardson Bay, preferably at the development site, or if that is not feasible, at a site identified in the Tidal Restoration and Marsh Enhancement section of the Special Area Plan.

Public Access, Views, and Vistas Policies

1. A continuous unified public access system should be provided around the entire periphery of Richardson Bay.
2. Maximum feasible public access to and along the Richardson Bay shoreline should be provided as part of each shoreline or water area development consistent with the project. Such areas would include continued development of the pedestrian promenade on the Bay side of existing buildings in downtown Tiburon. The access areas should be connected to existing adjacent public access areas, public park, and open space facilities, and public rights-of-ways; be related to the adjacent uses; and be designed, constructed, and maintained to indicate their public nature. If there is no public access on adjacent land, but could reasonably be expected to be provided in the future as part of a development, the public access design should provide for connection to the future adjacent access area. In cases where public access at the project site would be inconsistent because of public safety considerations or significant use conflicts access should be provided off-site, in nearby areas.

Special consideration should be given in the design of public access areas in marinas where houseboats and live-aboards will be moored to assure that the private residential use does not interfere with the public access use of the marina shoreline.

4. Public access areas should be landscaped and appropriate amenities such as seating, lighting, trash containers, drinking fountains, and restrooms should be provided where appropriate. These facilities should be maintained as part of the project and clear and visible signing of the public access area should be provided. Adequate public parking and access facilities for the handicapped should be provided for public use of the access area.
5. Pedestrian and bicycle paths should be separated wherever possible. Access paths for pedestrian use only should be a minimum of six feet in width, and paths designed

for bicycle use only should be a minimum of ten feet in width wherever such widths are feasible. Paths designed for joint pedestrian and bicycle use should be 13 feet in width wherever possible.

9. All local, regional, and state agencies should work together to provide new public access and parks, especially to link the existing shoreline parks and public access areas to the extent feasible without additional filling in the Bay or adversely affecting natural resources.
10. In all shoreline development, the siting and height of all buildings and placement of landscaping should maintain views and vistas of Richardson Bay, Mount Tamalpais and San Francisco through the project from major roadways, vista points, and the shoreline. All development should be subject to design review processes.
12. New shoreline development should be built in clusters, leaving open space around or through the buildings to provide views of the Bay. Areas designated as view corridors within these projects should not be blocked by parked cars, high vegetation or other obstructions that restrict Bay views. Building colors and materials should complement the natural setting.
13. Publicly owned lands which provide views or vistas of the Bay, such as streets, walkways, and rights-of-way, should be designated as view corridors.
12. Marin County and the cities abutting Richardson Bay participating in the implementation of the Richardson Bay Special Area Plan should, as part of their current and future planning procedures, identify locations affording or potentially affording views of Richardson Bay and San Francisco Bay and make provisions in their current and future planning and development processes to safeguard important existing and potential view corridors and vista points of the water from land and the land from the water, whenever such sites are proposed for development, redevelopment, alterations or additions. Planning departments of the County, cities, and BCDC should work jointly to identify short and long-range views and vista goals and a uniform implementation policy.

Marin County Local Agency Formation Commission

Marin LAFCo is a State-mandated local agency established to oversee the boundaries of cities and special districts and charged with the responsibilities of encouraging orderly development, discouraging urban sprawl, and preserving agricultural and open space lands. Marin LAFCo is a seven-member body with two County Members, one Public Member, two Special Districts Members, and two Cities/Town Members. There are also four alternate members. State law requires LAFCo's to consider agricultural land and open space preservation in all decisions related to expansion of urban development.

Marin County Airport Land-Use Commission

The Airport Land-Use Commission (ALUC) was established to provide for appropriate development of areas surrounding public airports in Marin County. It is intended to minimize

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the public's exposure to excessive noise and safety hazards, and to ensure that the approaches to airports are kept clear of structures that could pose an aviation safety hazard.

The Marin Airport Land Use Commission has adopted Comprehensive Airport Land Use Compatibility Plan (ALUCP) for the San Gness Field Airport. The Plan is intended to be used to safeguard the general welfare of the inhabitants within the vicinity of an airport.

The ALUCP regulates land use in three major areas: safety zones, noise zones, and height restrictions. It provides land use compatibility guidelines for lands near the airport, to avert potential safety problems and to ensure unhampered airport operations. Under California Government Code Section 65302.3(a), general plans must be consistent with any airport land use plan adopted pursuant to Public Utilities Code Section 21675. Lands within the Town of Tiburon Planning Area are not located within any of the airport influence areas identified in the ALUCP.

Marin County General Plan

Marin County adopted its General Plan (the Marin Countywide Plan) in November 2007 and has amended the plan from time to time. The most recent amendments to the Marin Countywide Plan include adoption of an updated Housing Element and Safety Element in January 2023. The County's General Plan provides a comprehensive set of goals, policies, and implementation measures to guide the County's growth.

The County's General Plan establishes allowed land uses within the unincorporated areas in the County, including the Town's SOI, the Planning Area, and the unincorporated areas surrounding the Town, SOI, and Planning Area.

Local

Tiburon General Plan

The Town's current General Plan was last comprehensively updated in 2006, and an update to the Housing Element was completed in 2016. During the preparation of the current General Plan, the community expressed a broad consensus that Tiburon is a unique and special place because:

- The Town possess some of the best views available anywhere in the world.
- The Town is, at heart, a small town with a village character, a residential refuge from the City of San Francisco and the more urbanized parts of Marin County.
- The Town has a vast network of open space, including most of the peninsula's backbone, the Tiburon Ridge, which provides a unique community resource that can be enjoyed by residents and visitors alike.

The intent of the current General Plan is to plan for the future while preserving these key characteristics of Tiburon. Land uses in Tiburon have been developed based on the Land Use Map, goals, and policies established by the Town's General Plan. The Town's General Plan includes broad goals that guide land use and planning decisions within the Town.

Tiburon Municipal Code

The Tiburon Municipal Code is the primary tool that implements the General Plan by regulating physical development and development standards in the Planning Area. The Municipal Code contains all ordinances for the Town, and identifies land use categories, site development regulations, and other general provisions that ensure consistency between the General Plan and proposed development projects. The Municipal Code contains all ordinances for the Town and is organized by Title, Chapter, and Section. The current Municipal Code is codified through Ordinance No. 597 N.S., passed May 18, 2022. (Supp. No. 33, 9-22).

Chapter 14 (Subdivisions) supplements and implements the State Subdivision Map Act and implements the goals and policies of the General Plan and any applicable specific plan.

Chapter 16 (Zoning) sets forth the Town's Zoning Ordinance. The zoning ordinance is adopted to protect and promote the public health, safety, and general welfare. More specifically, the zoning ordinance is adopted in order to achieve the following objectives:

- A. To provide a framework for the physical development of the town in such a manner as to preserve its essential residential character consistent with the general plan;
- B. To foster a harmonious, convenient, and workable relationship among land uses;
- C. To promote the stability of existing land uses that conform with the general plan and to protect them from inharmonious influences and harmful intrusions;
- D. To ensure that public and private lands ultimately are used for the purposes that are most appropriate and most beneficial to the town as a whole;
- E. To prevent excessive population densities and overcrowding of the land with structures;
- F. To promote a safe, effective traffic circulation and transportation management system;
- G. To require the provision of adequate off-street parking and loading facilities;
- H. To facilitate the appropriate location of community facilities;
- I. To permit office and commercial activities in appropriate locations in compliance with the general plan in order to strengthen the town's economic base and to provide services for the community;
- J. To preserve the natural beauty of the town's setting and to ensure conservation of its scenic, historic, recreational, and wildlife resources;
- K. To ensure that uses and structures enhance their sites and harmonize with the surrounding area;
- L. To ensure that new development will not overtax existing utilities systems or community facilities or services or, alternatively, that provision is made to

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supplement existing facilities or services where needed to accommodate new development;

M. To provide a framework for implementation of the town's adopted general plan elements; and

N. To preserve and enhance the quality of the human and natural environment.

Other Adopted Plans of the Town of Tiburon

- Bicycle Pedestrian Master Plan (2016)
- Climate Action Plan (2022)
- Open Space Resource Management Plan (2010)
- Marin County Multi-Jurisdiction Local Hazard Mitigation Plan (2018)

3.10.3 THRESHOLDS OF SIGNIFICANCE

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G, the General Plan will have a significant impact related to land use if it would:

- Physically divide an established community; or
- 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.

3.10.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to land use resulting from implementation of the General Plan are discussed below. The impact analysis is based on potential buildout as detailed in Chapter 2.0 (Project Description). Impacts related to land use are assessed using the significance criteria established by the CEQA Guidelines.

Impact LUP-1 Development facilitated by the General Plan would not physically divide an established community.

The physical division of an established community typically refers to the construction of a physical feature (such as a wall, interstate highway, or railroad tracks) or the removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. The General Plan does not contemplate or authorize any such physical changes to the community.

New development consistent with the General Plan would represent an incremental increase in new residential uses throughout the Town. General new development would be limited to vacant and/or underutilized existing parcels and would primarily occur in infill development locations. Development under the General Plan is expected to be primarily in developed

portions of the Town in areas where existing infrastructure (including highways and local roadways) are already in place.

The General Plan's Land Use Map along with policies and programs are intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth, or promote incompatible development or development that could physically divide a community. Therefore, population and housing growth associated with the proposed General Plan would result a **less than significant** impact related to this environmental topic.

Level of Significance before Mitigation

Less than Significant

Impact LUP-2 Implementation of the General Plan would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The General Plan was prepared in conformance with State laws and guidelines associated with the preparation of General Plans. A discussion of the General Plan's consistency with State regulations, plans, and policies associated with specific environmental issues (e.g., air quality, GHG emissions, transportation, water quality, etc.) is provided in the relevant sections of this Draft EIR. As discussed throughout this Draft EIR, the General Plan is found to be consistent with State plans, policies, and regulations. The State would continue to have authority over any State-owned lands in the vicinity of the Planning Area and the General Plan would not conflict with continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects. Similarly, BCDC would continue to have authority over lands under its jurisdiction and the General Plan would not conflict with continued application of State land use plans, policies, and regulations adopted to avoid or mitigate environmental effects.

The proposed General Plan accommodates future growth including new businesses, expansion of existing businesses, and new residential uses as described in detail in Chapter 2.0 (Project Description). The proposed General Plan is intended to accommodate the Town's fair share of statewide housing needs, as identified in the Final RHNA Plan and planned for in Plan Bay Area 2050.

The proposed General Plan includes policies and actions that minimize environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality effects. Chapters 3.1 through 3.16 and 4.0 provide a discussion of environmental effects associated with development allowed under the proposed General Plan. Each of these EIR chapters include relevant policies and action items that would minimize potential environmental impacts associated with growth, to the greatest extent feasible.

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With implementation of General Plan policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds, beyond those disclosed and analyzed throughout this EIR.

Applicable regional and local plans and regulations include Plan Bay Area 2050, Bay Area Air Quality Management District (BAAQMD) 2017 Clean Air Plan, Marin BayWAVE Plan, Tiburon's Climate Action Plan, San Francisco Bay Plan, San Francisco Bay Regional Water Quality Control Board's (RWQCB) Water Quality Control Plan (Basin Plan), Marin County Stormwater Pollution Prevention Program (MCSTOPPP) Stormwater Program, Marin County Integrated Waste Management Plan, Marin County Transportation Authority plans, and the Marin County General Plan. A discussion of the consistency with regional and local regulations, plans, and policies associated with specific environmental issues (e.g., air quality, GHG emissions, transportation, water quality, etc.) is provided in the relevant sections of this Draft EIR. As discussed throughout this Draft EIR, the General Plan was found to be consistent with regional and local plans, policies, and regulations.

As set forth by state law, the General Plan serves as the primary planning document for the Town and all subordinate documents and plans are required to be consistent with the General Plan. Subsequent development would be required to be consistent with the General Plan, including policies and programs adopted to address environmental impacts. These subsequent projects would be reviewed for consistency with the Town's development standards set forth in the Municipal Code and other relevant planning documents as part of the review process.

The General Plan includes the following goals, policies, and programs to support agency coordination related to land use issues and would support regional goals for population, housing, and the environment while promoting land use compatibility.

Goal LU-A

Manage growth and land use changes to preserve the health, safety, welfare, and natural beauty of the community.

Goal LU-B

Ensure that new development is sensitive to on-site and surrounding environmental resources and hazards and can be adequately served by public infrastructure.

Goal LU-C

Address regional issues, such as transportation, infrastructure, housing, and adaptation to climate change, in coordination with neighboring cities, the county, and other governmental entities.

Program LU-a Implementation of Land Use Map

Implement the Land Use Map (Figure LU-1) and associated Land Use Designations (Table LU-2) by approving new development and conservation projects consistent with the adopted land use definitions, densities, and intensities. Ensure consistency between the General Plan, Zoning Ordinance, and other land use regulations.

Program LU-b Allowable Land Uses

Use the Zoning Ordinance to specify uses allowed in each zoning district, consistent with Table LU-2.

Program LU-c Density and Intensity of Development

Allow development at any density or intensity within the range shown by the Land Use Map (Figure LU-1) and Land Use Designations (Table LU-2) provided applicable objectives, policies, and programs of all chapters of the General Plan are met.

Program LU-d Municipal Code Consistency

Revise the Zoning Map and the Municipal Code to reflect the goals, policies, densities, intensities, and land use designations of the General Plan.

Program LU-e Infrastructure Capacity

Analyze project impacts on infrastructure capacity and services as part of CEQA review and require mitigation measures as needed in consultation with provider agencies.

Program LU-g Public Infrastructure Planning

Coordinate growth projections and infrastructure planning with urban service providers such as Marin Municipal Water District and the sanitary districts to ensure sufficient capacity to serve existing and future development.

Policy LU-6 Residential Neighborhoods

Maintain and enhance the residential character of neighborhoods. Require that new development, remodels, and additions be of a scale, intensity and design that integrates with the immediate neighborhood and natural surroundings.

Policy LU-13 Coordinated Planning

Coordinate the Town's land use and zoning plans with the County of Marin, Strawberry Community, the City of Belvedere, Town of Corte Madera, LAFCO, and other agencies and jurisdictions to provide for more effective comprehensive planning.

Program LU-n LAFCO Planning Area

Encourage LAFCO to update and adopt Urban Service Area and annexation policies for the Tiburon Planning Area that are consistent with General Plan policies.

Program LU-o Development in the Sphere of Influence

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Work with the County of Marin to approve projects within the Tiburon Sphere of Influence that are consistent with the Town's policies and compatible with nearby land uses in Tiburon.

Policy LU-14 Angel Island

Encourage and support the State in the management of Angel Island State Park to protect the natural character and preserve the historic resources of the island.

The General Plan would not remove or directly conflict with local, regional, or state policies or measures that are intended for environmental protection, and the General Plan would promote consistency with other planning documents and program, and supports interagency coordination with area agencies. For these reasons, this impact would be ***less than significant***.

Level of Significance before Mitigation

Less than Significant

Impact LUP-3 Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to the potential to physically divide an established community.

This analysis evaluates whether the impacts of the Project, together with the impacts of cumulative development, could result in a cumulatively significant impact with respect to land use. This analysis then considers whether incremental contribution of impacts associated with the implementation of the General Plan would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance. The geographic context for the analysis of cumulative impacts related to land use includes the incorporated and unincorporated lands surrounding the Planning Area.

Cumulative development is likely to continue occurring in the surrounding Cities, and most of this development would take place in urbanized areas as in-fill development and not require significant land use changes that would create land use conflicts, nor would they divide existing communities.

The land uses allowed under the General Plan provide opportunities for cohesive new growth in vacant and underutilized existing parcels within developed areas. As discussed under Impacts LUP-1 implementation of the General Plan would not physically divide an established community

There is no significant cumulative impact associated with land use to the potential to physically divide an established community. Projects that could have the effect of physically dividing an established community—such as a major new road, highway, or similar infrastructure—tend to have a singular rather than cumulative impact. Additionally, the

population growth would be occurring primarily through infill development. Further, the General Plan does not approve or entitle any development and does not approve the construction or development of any new roadways, walls, bridges, major infrastructure, or other features that would divide existing neighborhoods within the cumulative analysis areas. As such, the General Plan update's contribution is considered **less than significant** and **less than cumulatively considerable**.

Level of Significance before Mitigation

Less than Significant / less than cumulatively considerable

Mitigation Measures

None Required

Impact LUP-4 Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

This analysis evaluates whether the impacts of the Housing Element, together with the impacts of cumulative development, could result in a cumulatively significant impact with respect to land use. This analysis then considers whether incremental contribution of impacts associated with the implementation of the General Plan would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance. The geographic context for the analysis of cumulative impacts related to land use includes the incorporated and unincorporated lands surrounding the Planning Area.

Impacts from plans and projects in the region that could conflict with existing plans, including habitat conservation plans, are generally not cumulative in nature. However, potential impacts related to population and housing can be cumulative in nature. Population growth, by itself, is not an environmental impact; however, the direct and indirect effects, such as housing and infrastructure needs that are related to population growth, can lead to physical environmental effects.

Cumulative development is likely to continue occurring in the surrounding unincorporated area and cities and towns in the region. However, most of this development would take place in urbanized areas as in-fill development and not require significant land use changes that would create land use conflicts. Further, the unincorporated lands adjacent to the Planning Area are subject to the land use plans, policies, and regulations of Marin County. As such, development within unincorporated Marin County is not likely to create significant land use conflicts.

Land use plans that regulate growth and have been adopted to avoid or mitigate an environmental effect, including plans adopted by other agencies such as Plan Bay Area 2050, the San Francisco Bay Plan, and Richardson Bay Special Area Plan, would continue to be

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implemented and applied. The General Plan, when considered along with cumulative growth, would not conflict with any of these land use plans.

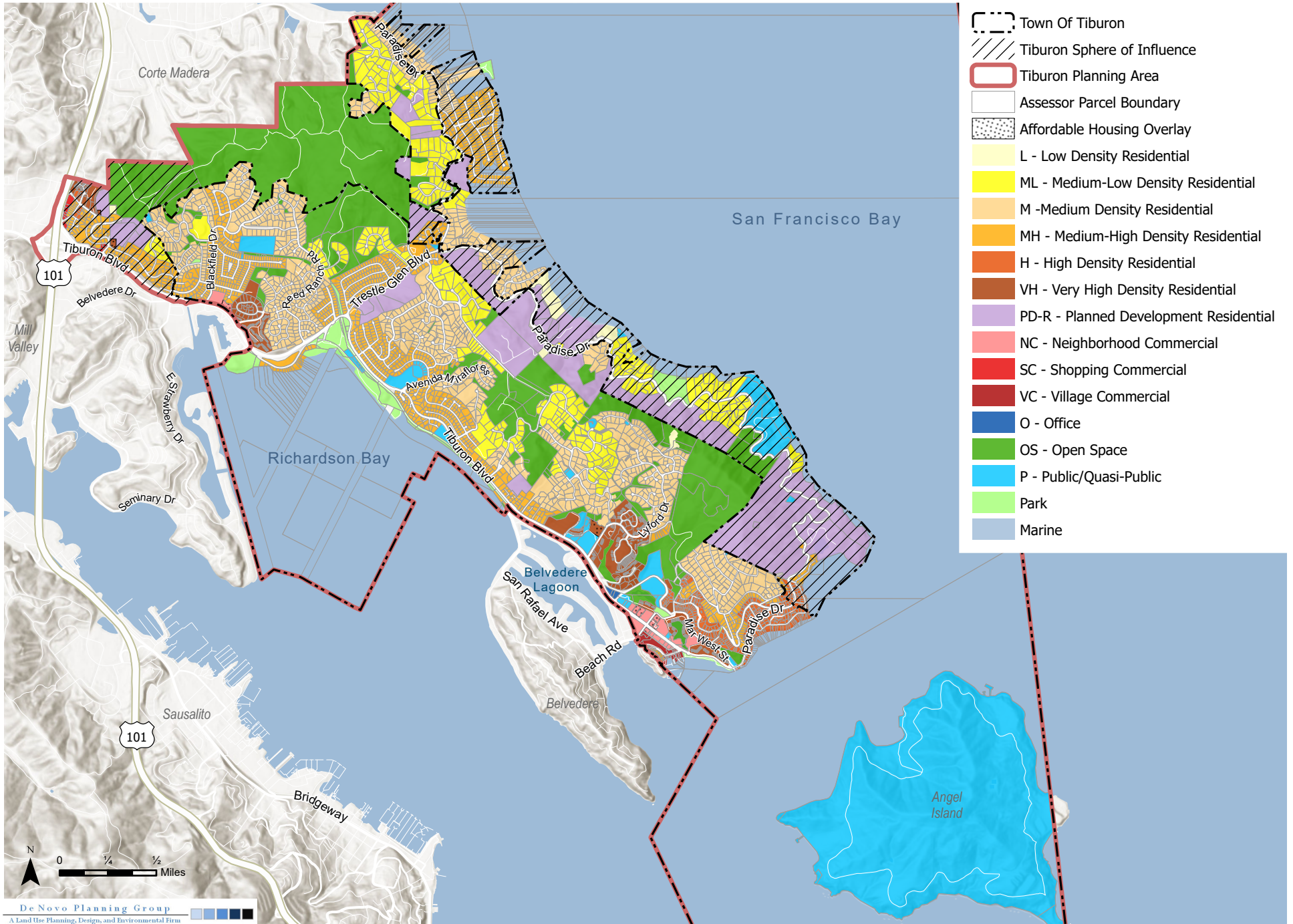
For these reasons cumulative impacts with respect to land use would be less than significant.

The land uses allowed under the General Plan provide opportunities for cohesive new growth in vacant and underutilized existing parcels within developed areas, as well as limited new development areas within the Planning Area to accommodate regional housing needs. As discussed under Impact LUP-2, implementation of the General Plan would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. As such, development anticipated under the Housing Element would not create substantial land use impacts. Further, the General Plan Update does not allow or entitle any development project. Accordingly, cumulative impacts with respect to land use would be considered ***less than significant*** and ***less than cumulatively considerable***.

Mitigation Measures

None Required

Figure 3.10-1. Existing General Plan Land Use Map



Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; Town of Tiburon. Map date: March 6, 2023.

Figure 3.10-2. Marin County General Plan Land Use Map

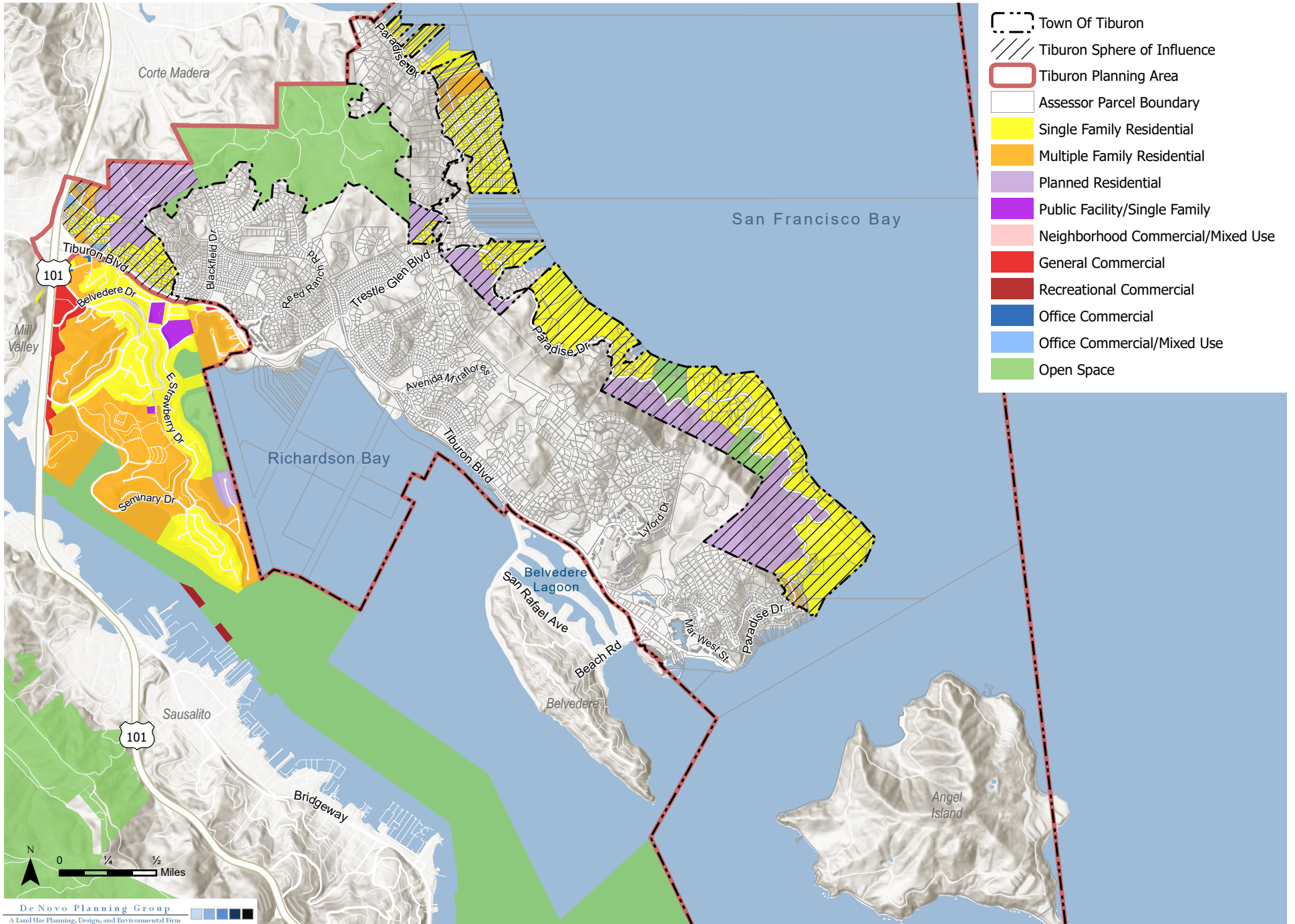


Figure 3.10-3. Assessed Uses

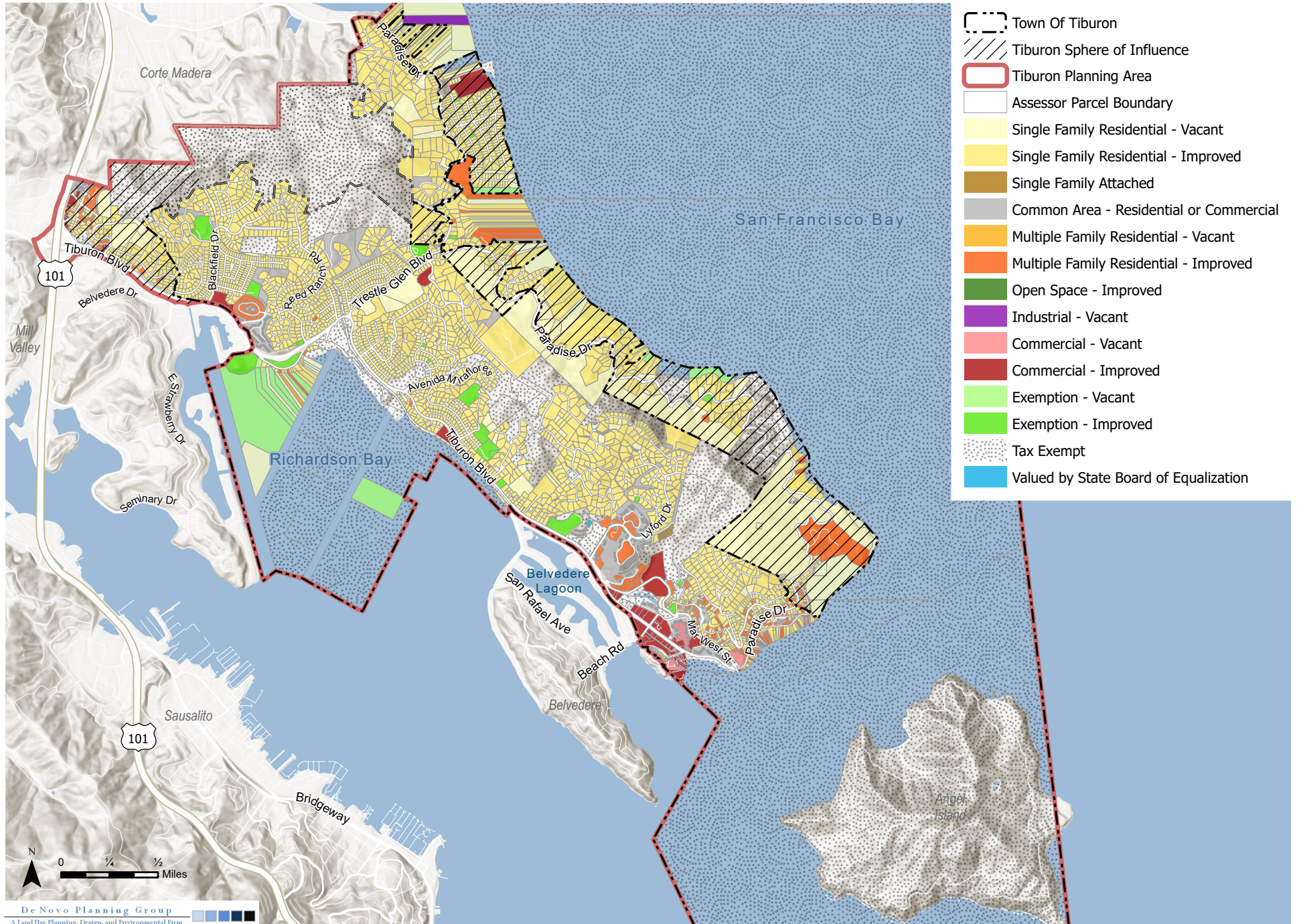


Figure 3.10-4. Belvedere General Plan Land Use Map

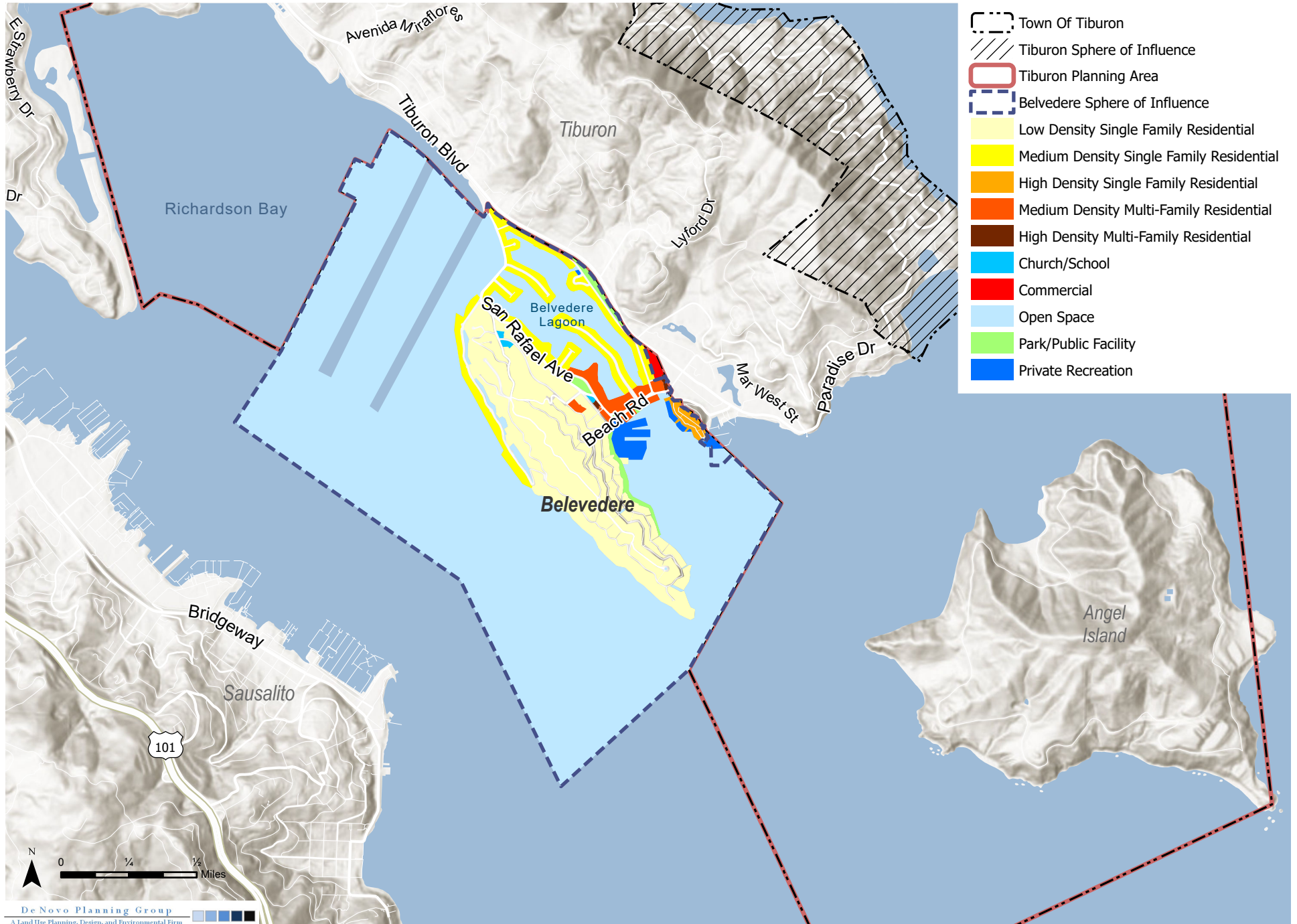
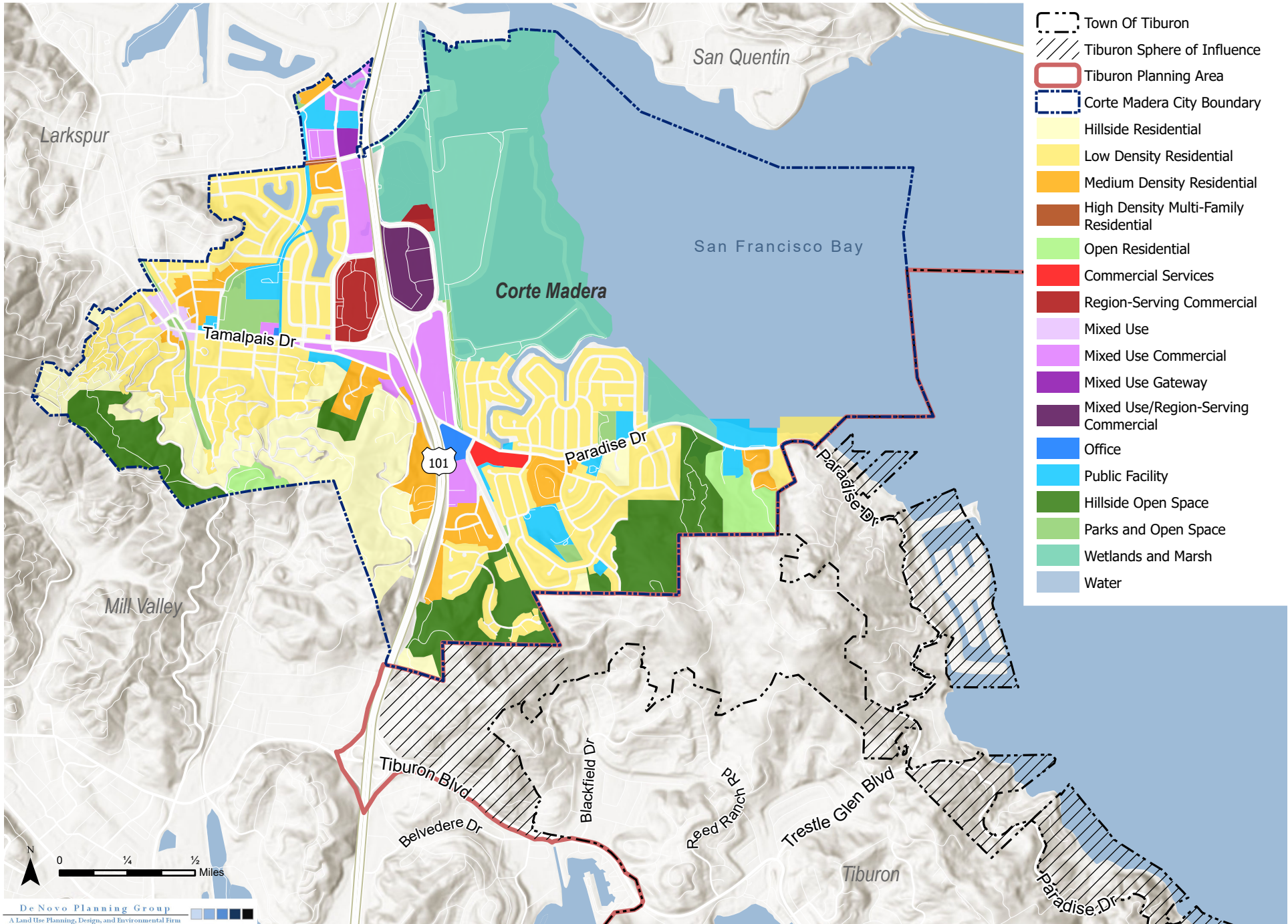


Figure 3.10-5. Corte Madera General Plan Land Use Map





3.11 NOISE

This Chapter of the Draft EIR describes the existing noise environment in the Tiburon Planning Area and evaluates impacts anticipated to occur from the implementation of the General Plan 2040. Future discretionary projects facilitated by the General Plan 2040 will be evaluated for project-specific impacts to noise at the time they are proposed.

The following resources were identified to inform and support this Chapter:

- California Department of Transportation, various technical manuals;
- Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

3.11.1 EXISTING SETTING

Key Terms

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared. All dB levels used in this report are A-weighted values, unless otherwise stated.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by + 5 dB and nighttime hours weighted by +10 dB. Typically, 1 dB higher than Ldn for transportation noise sources.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

<i>L_{eq}</i>	Equivalent or energy-averaged sound level.
<i>L_{max}</i>	The highest root-mean-square (RMS) sound level measured over a given period of time.
<i>L(n)</i>	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50 percent of the time during the one hour period.
<i>Loudness</i>	A subjective term for the sensation of the magnitude of sound.
<i>Noise</i>	Unwanted sound.
<i>SEL</i>	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event

Noise Fundamentals

Noise is defined as unwanted sound and is usually objectionable due to its disturbing or annoying nature. Environmental noise is a component of modern society and is produced by a variety of sources including automobiles, machinery, and people. Sounds that are considered desirable to some, may be considered objectionable to others.

Table 3.11-1 includes a list of terms used throughout this Chapter.

TABLE 3.11-1: DEFINITION OF ACOUSTICAL TERMS

NOISE DESCRIPTOR	DEFINITION
DECIBEL (DB)	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
FREQUENCY, HZ	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-WEIGHTED SOUND LEVEL (dBA)	The sound pressure level in dBs as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
EQUIVALENT NOISE LEVEL, L_{EQ}	The average A-weighted noise level during the measurement period.
L_{MAX}, L_{MIN}	The maximum and minimum A-weighted noise level during the measurement period.
L₀₁, L₁₀, L₅₀, L₉₀	The A-weighted noise levels that are exceeded 1 percent, 10 percent, 50 percent, and 90 percent of the time during the measurement period.
DAY/NIGHT NOISE LEVEL, L_{DN} OR DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 dB to levels measured in the night between 10:00 p.m. and 7:00 a.m.

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NOISE DESCRIPTOR	DEFINITION
COMMUNITY NOISE EQUIVALENT LEVEL (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 dB in the evening from 7:00 p.m. to 10:00 p.m. and after addition of 10 dB to sound levels measured in the night between 10:00 p.m. and 7:00 a.m.
AMBIENT NOISE LEVEL	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
INTRUSIVE	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Data Compiled by FCS 2020.

Characteristics of Sound

Amplitude

Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels (dB). The dB is a logarithmic unit that expresses the ratio of the sound pressure level being measured to a standard reference level. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. An increase of 10 dB represents an increase in acoustic energy of 10 times, where 20 dB is 100 times more intense, 30 dB is 1,000 times more intense, and so on. While there are several methods used to characterize sound, the A-weighted decibel (dBA) is most used as it gives greater weight to those frequencies which are audible to the human ear. For reference, a list of A-weighted noise levels associated with common noise sources are listed in Table 3.11-2. Ambient sounds generally range from 30 to 100 dBA. A change in sound of 3 dBA is considered the minimum change detectable to the human ear, where 5 dBA is detectable to most people in an exterior setting.

Frequency

Frequency is defined as the number of complete pressure fluctuations per second above and below atmospheric pressure and is measured in Hertz (Hz). Sound waves that are below 16 Hz and above 15,000 Hz are not typically perceptible to the human ear.

TABLE 3.11-2: TYPICAL NOISE LEVELS IN THE ENVIRONMENT

COMMON OUTDOOR ACTIVITIES	NOISE LEVEL DBA	COMMON INDOOR ACTIVITIES
	110 dBA	Rock concert
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck traveling at 50 mph at 50 feet		Household blender at 3 feet
	80 dBA	Garbage Disposal at 3 feet
Noisy urban area, daytime		
	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban area, daytime	50 dBA	Dishwasher running in the next room
Quiet urban area, nighttime	40 dBA	
Quiet suburban area, nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night
	20 dBA	Whispering at 5 feet
		Broadcast/recording studio
	10 dBA	Normal breathing
Threshold of hearing	0 dBA	Threshold of hearing

Source: Adapted From: California Department of Transportation (Caltrans) Technical Noise Supplement 2013, Table 2-5, page 2-20; Center for Hearing and Communication, Common Environmental Noise Levels.

Temporal Effects

Noise impacts are measured for both instantaneous events as well as noise measurements over an extended period. The longer the duration of sound, the more likely it is to be an annoyance or cause direct physical or environmental stress. The noise metric used to account for both duration and sound level is the equivalent noise level (L_{eq}). L_{eq}, as defined in Table 3.11-1, is the single steady A-weighted level that is equivalent to the amount of energy contained in the average noise level. Generally, L_{eq} is totaled over a one-hour period.

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The period in which noise occurs is also an important factor to consider as it relates to impacts on people since nighttime noise tends to disturb people more than daytime noise. The day-night average (L_{dn}) and the Community Noise Equivalent Level (CNEL) are noise metrics which account for the greater sensitivity to noise during the nighttime. With the L_{dn} metric, nighttime sensitivity is accounted for by adding 10 dB to the nighttime period (10:00 p.m. to 7:00 a.m.). The CNEL metric is identical to the L_{dn} , except that it also adds 5 dB to the evening period (7:00 p.m. to 10:00 p.m.). Since L_{dn} and CNEL levels typically do not differ by more than 1 dBA, they are often used interchangeably. This analysis has utilized the CNEL noise metric to analyze noise impacts.

Sound Propagation

Noise dissipates as distance from the source increases. The manner in which noise reduces with an increase in distance depends on geometric spreading, ground absorption, atmospheric impacts, and shielding by natural and man-made features. Sound produced by a point source travels uniformly away from the source in a spherical pattern and drops off at a rate of 6 dBA for each doubling of distance.

Psychological and Physiological Effects of Noise

Noise is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels can impact the entire human system. Noise exposure above 75 dBA increases body tensions, and thereby affects blood pressure, functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA could result in permanent hearing damage. Based on these known adverse effects of noise, the federal government, State of California, and local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Groundborne Vibration

Vibration is a trembling, quivering, or oscillating motion of the earth and is typically of a frequency that is felt rather than heard.

Types of Vibration

Vibration can be produced naturally, such as in the form of earthquakes, volcanic eruptions, sea waves, or landslides, or man-made such as from explosions, or the operation of heavy machinery or heavy vehicles such as trains. Both natural and man-made vibration may be continuous or transient. Vibration is transmitted through propagation. Propagation of earth borne vibrations is dependent upon the physical environment and is therefore complicated and difficult to predict. The following are three main types of vibration propagation:

- **Surface waves** travel along the ground's surface carrying most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water.

- **Compression waves**, also known as P waves, are body waves where particles are displaced parallel to the wave direction.
- **Shear waves**, also known as S waves, are body waves where particles are displaced perpendicular to the wave direction.

As vibration waves propagate from a source, the energy is spread over an increasing area reducing the energy level with increased distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance because of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Amplitude

Amplitude may be characterized in three ways: displacement, velocity, and acceleration. Particle displacement is a measure of the distance that a vibrated particle travels from its original position and for the purposes of soil displacement is typically measured in inches or millimeters. Particle Velocity is the rate of speed at which soil particles move in inches per second or millimeters per second. Particle acceleration is the rate of change in Velocity with respect to time and is measured in inches per second or millimeters per second. Typically, particle Velocity (measured in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration. Table 3.11-3 presents the human reaction to various levels of peak particle Velocity (PPV).

TABLE 3.11-3: HUMAN REACTION TO TYPICAL VIBRATION LEVELS

VIBRATION PPV (IN/SEC)	VIBRATION VELOCITY LEVEL (V _{dB})	HUMAN REACTION	EFFECT ON BUILDINGS
0.006-0.019	64-74	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	86	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	88	Level at which continuous vibration begins to annoy people	Virtually no risk of “architectural” (i.e., not structural) damage to normal buildings
0.20	94	Vibrations annoying to people in buildings	Threshold at which there is a risk to “architectural” damage to normal dwelling-houses with plastered walls and ceilings
0.40-0.60	100-104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause “architectural” damage and possibly minor structural damage

Source: California Department of Transportation (Caltrans). 2013. Transportation- and Construction-Induced Vibration Guidance Manual. June

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Frequency

Vibrations also vary in frequency which affects perception. Typical construction vibrations are between 10 to 30 Hz and usually occur at 15 Hz. Traffic vibrations exhibit a similar range of frequencies; however, due to their suspension systems, buses often generate frequencies around 3 Hz at high vehicle speeds. It is less common, but possible, to measure traffic frequencies above 30 Hz.

Existing Noise Sources

Boats and Ferry

Boat and ferry noise is created by engines, cavitation¹ from propellers, and activities associated with loading and unloading of vessels.

Aircraft

The California Division of Aeronautics is in charge of enforcing airport noise regulations for all airports within the state. The noise standards require that no residences, schools, hospitals or places of worship be within a Noise Impact Area. The Noise Impact Area is a line around an airport within which the noise level is at or exceeds 65 dB CNEL.

At the request of County of Marin, San Francisco International Airport has conducted noise measurements at Tiburon, Bolinas and Pt. Reyes to quantify aircraft overflight noise. The studies have shown that noise generated by individual jets reach maximum overflight noise levels of 45 to 70 dBA at these locations. The aircraft generated CNEL ranged from 19 to 44 dB in Tiburon.

Existing Traffic Noise Levels

The FHWA Highway Traffic Noise Prediction Model (FHWA-RD 77-108) was used to develop L_{dn} (24-hour average) noise contours for all highways and major roadways in the Planning Area. The model is based upon the CALVENO noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver and the acoustical characteristics of the site. The FHWA Model predicts hourly L_{eq} values for free-flowing traffic conditions, and is generally considered to be accurate within 1.5 dB. To predict L_{dn} values, it is necessary to determine the hourly distribution of traffic for a typical 24-hour period.

Existing traffic volumes were obtained from the traffic modeling performed for the Planning Area. Day/night traffic distributions were based upon continuous hourly noise measurement data and Saxelby Acoustics file data for similar roadways. Caltrans vehicle truck counts were obtained for SR-131. Using these data sources and the FHWA traffic noise prediction methodology, traffic noise levels were calculated for existing conditions. Table 3.11-4 shows the results of this analysis. Figure 3.11-2 show the town wide traffic noise contours.

¹ Cavitation is the forming of gas bubbles in a liquid, caused by changes in pressure.

TABLE 3.11-4: EXISTING ROADWAY NOISE CONTOURS

ROAD	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (DB, L _{DN})	DISTANCE – CENTERLINE TO 60 DBA NOISE CONTOUR, L _{DN} (FEET)
Tiburon Blvd	E of US 101/W of Frontage Rd	63.4	287
Tiburon Blvd	W of Blackfield Dr	69.6	329
Tiburon Blvd	W of Trestle Glen	68.0	274
Tiburon Blvd	E of Trestle Glen Blvd	69.3	208
Tiburon Blvd	W of Avenida Miraflores	67.0	191
Tiburon Blvd	W of Rock Hill Rd	67.6	193
Tiburon Blvd	W of Lyford Dr	58.7	122
Tiburon Blvd	W of Main St	62.3	85
Tiburon Blvd	E of Main St	55.9	70
Trestle Glen Blvd	N of Tiburon Blvd	59.2	71
Paradise Dr	E of Trestle Glen Blvd	53.5	18

*Notes: Distances to traffic noise contours are measured in feet from the centerlines of the roadways.
Source: TJKM, Caltrans, Saxelby Acoustics, 2023.*

Traffic noise levels are predicted at the sensitive residential receptors located at the closest typical setback distance along each Planning Area roadway segment. In some locations, sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the Planning Area roadway segments analyzed in this report.

The actual distances to noise level contours may vary from the distances predicted by the FHWA model due to roadway curvature, grade, shielding from local topography or structures, elevated roadways, or elevated receivers. The distances reported in Table 3.11-4 are generally considered to be conservative estimates of noise exposure along roadways in the Town of Tiburon.

Fixed Noise Sources

The production of noise is a result of many industrial processes, even when the best available noise control technology is applied. Noise exposures within industrial facilities are controlled by Federal and State employee health and safety regulations (OSHA and Cal-OSHA), but

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exterior noise levels may exceed locally acceptable standards. Commercial, recreational, and public service facility activities can also produce noise which affects adjacent sensitive land uses. These noise sources can be continuous and may contain tonal components which have the potential to annoy individuals who live nearby. In addition, noise generation from fixed noise sources may vary based upon climatic conditions, time of day, and existing ambient noise levels.

In Tiburon, fixed noise sources typically include parking lots, loading docks, parks, schools, and other commercial/retail use noise sources (HVAC, exhaust fans, etc.)

From a land use planning perspective, fixed-source noise control issues focus upon two goals:

1. To prevent the introduction of new noise-producing uses in noise-sensitive areas, and
2. To prevent encroachment of noise sensitive uses upon existing noise-producing facilities.

The first goal can be achieved by applying noise level performance standards to proposed new noise-producing uses. The second goal can be met by requiring that new noise-sensitive uses in near proximity to noise-producing facilities include mitigation measures that would ensure compliance with noise performance standards.

Fixed noise sources which are typically of concern include but are not limited to the following:

- HVAC Systems
- Pump Stations
- Steam Valves
- Generators
- Air Compressors
- Conveyor Systems
- Pile Drivers
- Drill Rigs
- Welders
- Outdoor Speakers
- Chippers
- Loading Docks
- Cooling Towers/Evaporative Condensers
- Lift Stations
- Steam Turbines
- Fans
- Heavy Equipment
- Transformers
- Grinders
- Gas or Diesel Motors
- Cutting Equipment
- Blowers
- Cutting Equipment
- Amplified Music and Voice

The types of uses which may typically produce the noise sources described above include, but are not limited to: wood processing facilities, pump stations, industrial/agricultural facilities, trucking operations, tire shops, auto maintenance shops, metal fabricating shops, shopping centers, drive-up windows, car washes, loading docks, public works projects, batch plants, bottling and canning plants, recycling centers, electric generating stations, race tracks, landfills, sand and gravel operations, and special events such as concerts and athletic fields.

Typical noise levels associated with various types of stationary noise sources are shown in Table 3.11-5.

TABLE 3.11-5: TYPICAL STATIONARY SOURCE NOISE LEVELS

USE	NOISE LEVEL AT 100 FEET, LEQ 1	DISTANCE TO NOISE CONTOURS, FEET			
		50 DB LEQ (NO SHIELDING)	45 DB LEQ (NO SHIELDING)	50 DB LEQ (WITH 5 DB SHIELDING)	45 DB LEQ (WITH 5 DB SHIELDING)
AUTO BODY SHOP	56 dB	200	355	112	200
AUTO REPAIR (LIGHT)	53 dB	141	251	79	141
BUSY PARKING LOT	54 dB	158	281	89	158
CABINET SHOP	62 dB	398	708	224	398
CAR WASH	63 dB	446	792	251	446
COOLING TOWER	69 dB	889	1,581	500	889
LOADING DOCK	66 dB	596	1,059	335	596
LUMBER YARD	68 dB	794	1,413	447	794
MAINTENANCE YARD	68 dB	794	1,413	447	794
OUTDOOR MUSIC VENUE	90 dB	10,000	17,783	5,623	10,000
PAINT BOOTH EXHAUST	61 dB	355	631	200	355
SCHOOL PLAYGROUND / NEIGHBORHOOD PARK	54 dB	158	281	89	158
SKATE PARK	60 dB	316	562	178	316
TRUCK CIRCULATION	48 dB	84	149	47	84
VENDOR DELIVERIES	58 dB	251	446	141	251

¹ Analysis assumes a source-receiver distance of approximately 100 feet, no shielding, and flat topography. Actual noise levels will vary depending on site conditions and intensity of the use. This information is intended as a general rule only, and is not suitable for final site-specific noise studies.

Source: j.c. brennan & associates, Inc. 2017.

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Community Noise Survey

A community noise survey was conducted to document ambient noise levels at various locations throughout the town. Short-term noise measurements were conducted at nine locations throughout the town on December 9th, 2020. In addition, five continuous 24-hour noise monitoring sites were also conducted to record day-night statistical noise level trends from December 9th to 10th, 2020. The data collected included the hourly average (L_{eq}), median (L_{50}), and the maximum level (L_{max}) during the measurement period. Noise monitoring sites and the measured noise levels at each site are summarized in Table 3.11-6 and Table 3.11-7.

TABLE 3.11-6: EXISTING CONTINUOUS 24-HOUR AMBIENT NOISE MONITORING RESULTS

SITE	LOCATION	LDN (DBA)	MEASURED HOURLY NOISE LEVELS, DBA LOW-HIGH (AVERAGE)					
			DAYTIME (7:00 AM - 10:00 PM)			NIGHTTIME (10:00 PM - 7:00 AM)		
			LEQ	L50	LMAX	LEQ	L50	LMAX
LT-1	HIGHWAY 131 AT LYFORD DRIVE	69	69	62	84	59	37	78
LT-2	WATER TREATMENT CENTER EAST	64	63	61	77	55	48	75
LT-3	WATER TREATMENT CENTER WEST - BY GENERATOR	54	53	52	63	46	43	60
LT-4	TRESTLE GLEN BOULEVARD	59	59	51	77	48	31	65
LT-5	HIGHWAY AT NUGGET MARKET	68	68	66	79	59	47	74

Source: Saxelby Acoustics, 2020.

TABLE 3.11-7: EXISTING SHORT-TERM COMMUNITY NOISE MONITORING RESULTS

SITE	LOCATION	TIME ¹	MEASURED SOUND LEVEL, DB			NOTES
			LEQ	L50	LMAX	
ST-1	VISTAZO STREET WEST	11:50 a.m.	43	43	50	Secondary noise sources from ambient nature, vehicle traffic and neighborhood construction sounds.
ST-2	INTERSECTION AT BEACH ROAD AND TIBURON BLVD	12:18 p.m.	63	60	76	Primary noise source is traffic on Tiburon Blvd and secondary noise source is traffic on Beach Rd and some construction noises.
ST-3	MAR WEST STREET	12:41 p.m.	58	47	74	Primary noise source is vehicle traffic on Mar W St. Secondary noise source is light construction noises.
ST-4	LYFORD DRIVE AT REED ELEMENTARY SCHOOL	1:02 p.m.	62	54	78	Primary noise source is vehicle traffic on Lyford Dr. Secondary noise source is from Reed Elementary School.
ST-5	ROCK HILL DRIVE	2:24 p.m.	56	51	69	Primary noise source is Highway 131/Tiburon Blvd. Secondary noise source is from traffic on Rock Hill Drive.
ST-6	AVENIDA MIRAFLORES AT DEL MAR MIDDLE SCHOOL	2:43 p.m.	52	48	66	Primary noise source is traffic on Avenida Miraflores. Secondary noise source is from Del Mar Middle School.
ST-7	TRESTLE GLEN BOULEVARD	3:15 p.m.	65	60	79	Primary noise source is traffic on Trestle Glen Blvd. Secondary noise source is from traffic on Turtle Rocks Court.
ST-8	REED RANCH ROAD	3:25 p.m.	61	48	75	Primary noise source is traffic on Reed Ranch Road. Secondary noise source is traffic on Highway 131/Tiburon Blvd.
ST-9	BLACKFIELD DRIVE	3:51 p.m.	61	55	72	Primary noise source is traffic on Blackfield Drive. Secondary noise source is from traffic on Cecelia Way.

¹ - All Community Noise Measurement Sites have test durations of 10:00 minutes.
Source: Saxelby Acoustics, 2020.

Community noise monitoring equipment included Larson Davis Laboratories (LDL) Model 812, 820, and 831 precision integrating sound level meters equipped with LDL ½" microphones. The measurement systems were calibrated using an LDL Model CAL200 acoustical calibrator before and after testing. The measurement equipment meets all of the pertinent requirements of the American National Standards Institute (ANSI) for Type 1 (precision) sound level meters.

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The results of the community noise survey shown in Tables 3.11-6 and 3.11-7 indicate that existing transportation noise sources were the major contributor of noise observed during daytime hours, especially during vehicle passbys.

3.11.2 REGULATORY SETTING

Federal

United States Department of Transportation

The United States Department of Transportation (USDOT) is a federal department responsible for maintaining and developing the nation's transportation and infrastructure. The Federal Aviation Administration (FAA), FHWA, Federal Railroad Administration (FRA), and Federal Transit Administration (FTA) address specific areas of the transportation network and have regulatory authority related to noise impacts.

The FAA has prepared guidelines for acceptable noise exposure in its Federal Aviation Regulations Part 150 Noise Compatibility Planning program for airports. The program aims to balance the operational needs of airports while also considering impacts on surrounding communities. The purpose of the program is to reduce noise impacts on existing incompatible land uses and prevent the introduction of new incompatible land uses in areas impacted by aircraft noise. The program establishes standard noise methodologies and metrics, identifies land uses normally compatible with various levels of airport noise, and provides for voluntary development and submission of noise exposure maps and noise compatibility programs by airport operators.

Through regulations in 23 Code of Federal Regulations Part 772, the FHWA, FRA, and FTA have established recommendations to conduct thorough noise and vibration assessments for any highway, high-speed railroad, or mass transit project that would be constructed proximate to residential areas. These recommendations apply to projects that are federally funded or that require federal review.

United States Department of Housing and Urban Development

New residential developments that qualify for United States Department of Housing and Urban Development (HUD) financing and are proposed in high noise areas (exceeding 65 dBA L_{dn}) are required to incorporate noise attenuation features to maintain acceptable interior noise levels. Attenuation requirements are intended to achieve a level of 45 dBA L_{dn} or less. It is assumed that standard construction will provide sufficient attenuation to achieve this goal if the exterior noise level is 65 dBA L_{dn} or less. Approvals in a "normally unacceptable noise zone" (exceeding 65 dBA but not exceeding 75 dBA) require a minimum of 5 dBA additional noise attenuation if the L_{dn} is greater than 65 dBA, but not exceeding 70 dBA. A minimum of 10 dBA additional noise attenuation is required if the L_{dn} is greater than 70 dBA but does not exceed 75 dBA.

United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) has determined that over a 24-hour period, a L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior noise levels remain at or below a L_{eq} of 55 dBA and interior levels at or below 45 dBA. Although these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA has set 55 dBA L_{dn} as the basic goal for residential environments. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of achieving a goal of 55 dBA L_{dn} , have generally agreed on the 65 dBA L_{dn} level as being appropriate for residential uses. At 65 dBA L_{dn} activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can be realistically achieved.

State

California Government Code Section 65302(f)

California Government Code Section 65302(f) requires that all General Plans include a Noise Element to address noise problems in the community. The State Office of Planning and Research has established guidelines for the content of the Noise Element. A noise element shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control and shall analyze and quantify to the extent practicable current and projected noise levels for all the following sources:

- Highways and freeways.
- Primary arterials and major local streets.
- Passenger and freight on-line railroad operations and ground rapid transit systems.
- Commercial, general aviation, heliport, and military airport operations, aircraft flyovers, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.
- Local industrial plants, including, but not limited to, railroad classification yards.
- Other stationary ground noise sources identified by local agencies as contributing to the community noise environment.

State of California Code of Regulations

The State's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, California Building Standards Code (CBC). These noise standards are applied to new construction in California for interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise

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sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

California Department of Transportation Vibration Guidance

Construction vibration is regulated in accordance with standards established by the Transportation and Construction-Induced Vibration Guidance Manual, issued by the California Department of Transportation (Caltrans). Transient sources create a single, isolated vibration event, such as blasting or drop-ball impacts. Continuous/frequent intermittent sources include multiple impacts from pile drivers, the use of vibratory compaction equipment, and other construction equipment that creates vibration other than in single events. Table 3.11-8 provides guidelines for vibration damage potential to existing structures and Table 3.11-9 provides guidelines for vibration annoyance potential criteria.

TABLE 3.11-8: GROUND BORNE VIBRATION EXPOSURE STANDARDS

STRUCTURE AND CONDITION	MAXIMUM PPV (INCHES/SECOND)	
	TRANSIENT SOURCES	CONTINUOUS/FREQUENT INTERMITTENT SOURCES
Extremely fragile historic building, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and older residential structures with plaster walls and ceilings	0.50	0.25
New residential structures with gypsum board walls and ceilings	1.00	0.50
Modern commercial and industrial buildings	2.00	0.50

Source: California Department of Transportation. 2004.

TABLE 3.11-9: GROUNDBORNE VIBRATION ANNOYANCE POTENTIAL CRITERIA

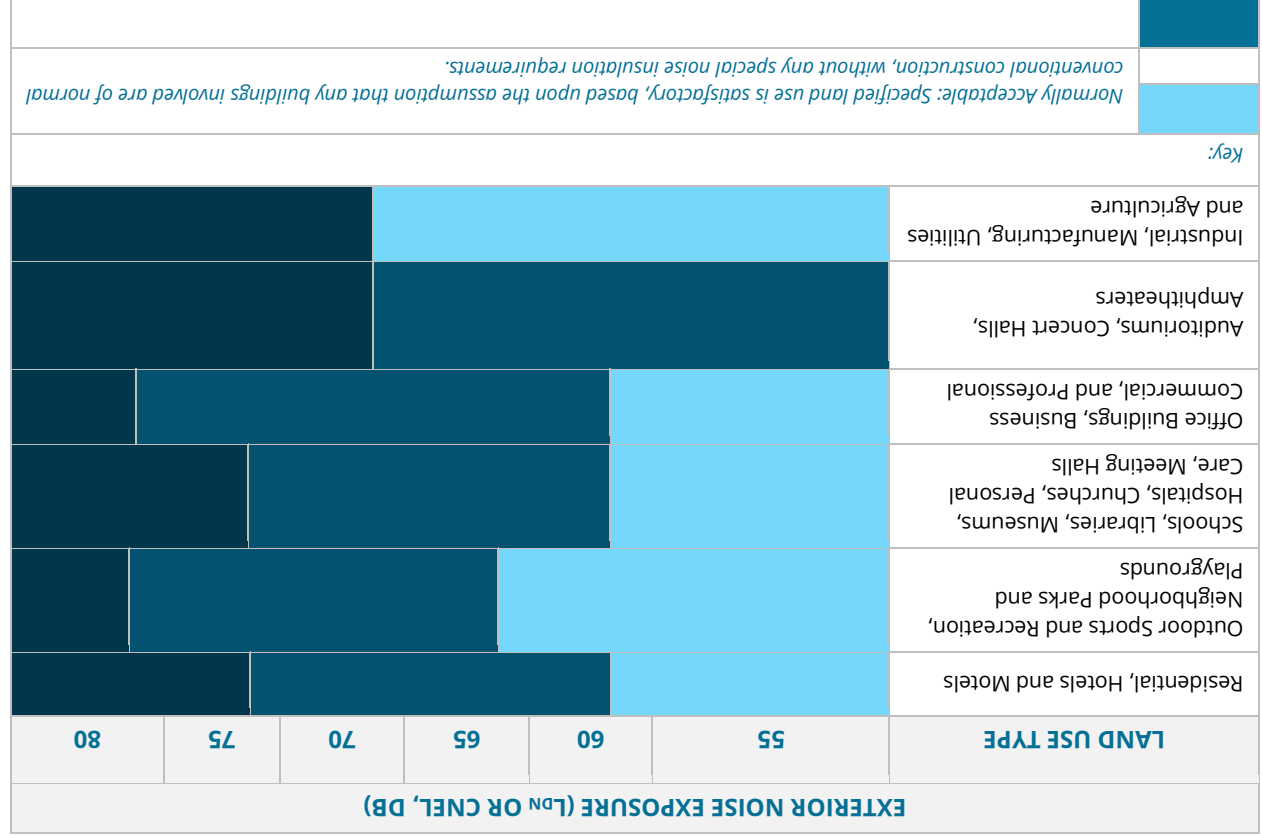
MAXIMUM PPV (INCHES/SECOND)	HUMAN RESPONSE	
	TRANSIENT SOURCES	CONTINUOUS/FREQUENT INTERMITTENT SOURCES
0.01	0.04	Barely perceptible
0.04	0.25	Distinctly perceptible
0.10	0.9	Strongly perceptible
0.4	2.0	Severe

Source: California Department of Transportation, 2004.

California Noise Land Use Compatibility Matrix

The State Department of Health Services, Office of Noise Control establishes compatibility of land uses relative to existing and future ambient noise levels. Appendix D of the State of California General Plan Guidelines, prepared by the Governor's Office of Planning and Research and reproduced below as 10, identifies noise level acceptability for each land use type from 'normally acceptable', to 'clearly unacceptable'. 'Normally acceptable' indicates new standard construction can occur with no special noise reduction requirements.

TABLE 3.11-10: PROPOSED LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



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EXTERIOR NOISE EXPOSURE (L _{DN} OR C _{NEL} , DB)						
LAND USE TYPE	55	60	65	70	75	80
	<i>Conditionally Acceptable: Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.</i>					
	<i>Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.</i>					

Local

Tiburon General Plan

The Town of Tiburon 2020 General Plan Noise Element establishes goals and policies, as well as criteria for evaluating the compatibility of individual land uses with respect to noise exposure.

Town of Tiburon Noise Element:

Goals

- N-A: To ensure that residential areas are quiet and that noise levels in public and commercial areas remain within acceptable limits.
- N-B: To eliminate or reduce unnecessary, excessive and offensive noises from all sources.
- N-C: To minimize the exposure of community residents to noise through the careful placement of land uses that may cause noise impacts.
- N-D: To minimize current noise impacts from Tiburon Boulevard and other high-volume roads on adjacent land uses that are sensitive to noise.

Policies

- N-1: The Town shall use the Noise and Land Use Compatibility Guidelines contained herein to determine where noise levels in the community are acceptable or unacceptable.
- N-2: The Town should use the Noise and Land Use Compatibility Guidelines to determine acceptable uses, and to require noise attenuation methods in noise-impacted areas.
- N-3: Environmental reviews (environmental impact reports, initial studies/negative declarations) of projects within the Tiburon Planning Area will be required to, where appropriate, include an acoustical analysis of the project's potential to cause a noise impact.

- N-4: If the projected noise environment for a project exceeds the standards identified in the Noise and Land Use Guidelines, the Town shall require an acoustical analysis so that noise mitigation measures can be incorporated into the project design.
- N-5: Motorized recreational vehicles (including trail motorcycles) shall be prohibited in off-road areas in the Tiburon Planning Area.
- N-6: Hours of use of recreation and commercial facilities should be regulated to minimize offensive noise to ensure compatibility between such facilities and nearby residential areas.
- N-7: Noise walls, sound walls or any form of solid barrier shall be aesthetically compatible with the surrounding neighborhood.
- N-8: The Town, in conjunction with the County of Marin and other cities and towns, shall attempt to reduce aircraft noise over the Tiburon Planning Area by working with the appropriate regulatory agencies.
- N-9: New projects in Downtown shall, through site and building design and the use of the best available building technology, minimize the potential noise conflicts between commercial and residential uses, on mixed-use and adjacent residential properties.
- N-10: Standard quiet construction methods shall be used where feasible and when construction activities take place within 500 feet of noise sensitive areas.

Implementing Programs for Noise

- N-a: The Town should periodically assess the noise environment to identify noise sources that should be regulated to reduce excessive or offensive noise.
- N-b: The Town should contact the appropriate regulatory agencies to ensure that they are aware of the Town's policy discouraging aircraft flyovers of the Tiburon Planning Area.

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
Land Use Category	Community Noise Exposure, Ldn or CNEL, in dB						
	55	60	65	70	75	80	85
Residential (interior noise levels not to exceed 45 dBA Ldn)	Diagonal lines	Diagonal lines	Light gray	Light gray	Dark gray	Dark gray	Dark gray
Transient Lodging, Motels, Hotels	Diagonal lines	Diagonal lines	Light gray	Light gray	Dark gray	Dark gray	Dark gray
Schools, Libraries, Churches, Hospitals, Nursing Homes	Diagonal lines	Diagonal lines	Light gray	Light gray	Dark gray	Dark gray	Dark gray
Auditoriums, Concert Halls, Amphitheaters	Light gray	Light gray	Light gray	Light gray	Dark gray	Dark gray	Dark gray
Sports Arenas, Outdoor Spectator Sports	Light gray	Light gray	Light gray	Light gray	Dark gray	Dark gray	Dark gray
Playgrounds, Neighborhood Parks, Tennis Courts, Outdoor Recreation	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Dark gray	Dark gray	Dark gray
Water Recreation, Riding Stables, Golf Courses, Cemeteries	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Dark gray	Dark gray	Dark gray
Office Buildings, Business, Commercial & Professional	Diagonal lines	Diagonal lines	Diagonal lines	Light gray	Light gray	Dark gray	Dark gray
Industrial, Manufacturing, Utilities, Agriculture	Diagonal lines	Diagonal lines	Diagonal lines	Diagonal lines	Light gray	Dark gray	Dark gray
	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.						
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.						
	Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.						
	Clearly Unacceptable: New construction or development clearly should not be undertaken.						

EXHIBIT 3.11-1: TOWN OF TIBURON GENERAL PLAN NOISE AND LAND USE COMPATIBILITY GUIDELINES

3.11.3 IMPACTS AND MITIGATION MEASURES

Thresholds of Significance

Consistent with Appendix G of the CEQA Guidelines, the project will have a significant impact related to noise if it will result in:

- a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b. Generate excessive groundborne vibration or groundborne noise levels?
- c. For a project located within the vicinity of a private airstrip or 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, would the project expose people residing or working in the project area to excessive noise levels?

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions.

TRANSPORTATION NOISE INCREASE CRITERIA

Table 3.11-12 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn} .

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TABLE 3.11-12: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, L _{DN}	INCREASE REQUIRED FOR SIGNIFICANT IMPACT
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON)

Based on Table 3.11-12 data, an increase in the traffic noise level of 1.5 dB or more would be significant where the pre-project noise level exceeds 65 dB L_{dn}. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 75 dB L_{dn}. The rationale for the Table 3.11-12 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

NON-TRANSPORTATION NOISE INCREASE CRITERIA

Stationary and Non-Transportation Noise Sources - A significant impact will occur if the project results in an exceedance of the noise level standards contained in the Noise and Land Use Compatibility Guidelines of the General Plan Noise Element, or the project will result in an increase in ambient noise levels by more than 3 dB, whichever is greater.

Vibration Standards

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The Town does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities and railroad operations are addressed as potential noise impacts associated with project implementation.

Human and structural response to different vibration levels is influenced by several factors, including ground type, distance between source and receptor, duration, and the number of

perceived vibration events. Table 3.11-13 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle Velocity in inches per second (in/sec p.p.v).

TABLE 3.11-13: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN./SEC.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic but would cause "architectural" damage and possibly minor structural damage.

Source: Caltrans. Transportation Related Earthborn Vibrations. TAV-02-01-R9601 February 20, 2002.

Construction activities may generate perceptible vibration when heavy equipment or impact tools (e.g., jackhammers, hoe rams, pile drivers) are used. Construction activities often include demolition of existing structures, excavation, site preparation work, foundation work, and new building framing and finishing.

For structural damage, the California Department of Transportation uses a vibration limit of 0.5 inches/second, peak particle velocity (in/sec, PPV) for buildings structurally sound and designed to modern engineering standards.

Table 3.11-14 presents typical vibration levels that could be expected from construction equipment at a distance of 25-100 feet. The highest levels of vibration typically occur from pile driving operations. Pile driving vibrations are typically below 0.5 in/sec, PPV at distances of 50 feet or more.

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TABLE 3.11-14: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	P.P.V. @ 25 FEET (INCHES/SECOND)	P.P.V. @ 50 FEET (INCHES/SECOND)	P.P.V. @ 75 FEET (INCHES/SECOND)	P.P.V. @ 100 FEET (INCHES/SECOND)
PILE DRIVE (IMPACT)	0.644	0.226	0.124	0.080
PILE DRIVE (SONIC)	0.170	0.060	0.033	0.021
LARGE BULLDOZER	0.089	0.031	0.017	0.011
LOADED TRUCKS	0.076	0.027	0.015	0.010
SMALL BULLDOZER	0.003	0.001	0.000	0.000
AUGER/DRILL RIGS	0.089	0.031	0.017	0.011
JACKHAMMER	0.035	0.012	0.006	0.004
VIBRATORY HAMMER	0.070	0.025	0.0135	0.009
VIBRATORY COMPACTOR/ROLLER	0.210	0.074	0.040	0.026

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006

Impact 3.11-1 General Plan 2040 implementation may result in exposure to significant traffic noise sources (Less-Than-Significant)

The traffic noise contours with buildout of the General Plan 2040 were calculated through use of the FHWA-RD-77-108 model and the traffic volumes provided in the Tiburon General Plan 2040 EIR traffic report. Table 3.11-15, shows each roadway segment's noise level at the closest noise sensitive receptors as well as the distance to the 60 dBA L_{dn} noise contour.

TABLE 3.11-15: GENERAL PLAN 2040 BUILDOUT ROADWAY NOISE CONTOURS

ROAD	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (DB, L _{DN})	DISTANCE - CENTERLINE TO 60 DBA NOISE CONTOUR, L _{DN} (FEET)
Tiburon Blvd	E of US 101/W of Frontage Rd	63.4	287
Tiburon Blvd	W of Blackfield Dr	69.6	329
Tiburon Blvd	W of Trestle Glen	68.0	274
Tiburon Blvd	E of Trestle Glen Blvd	69.3	208
Tiburon Blvd	W of Avenida Miraflores	67.0	191
Tiburon Blvd	W of Rock Hill Rd	67.6	193
Tiburon Blvd	W of Lyford Dr	58.7	122

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ROAD	SEGMENT	NOISE LEVEL AT CLOSEST RECEPTORS (DB, L _{DN})	DISTANCE - CENTERLINE TO 60 DBA NOISE CONTOUR, L _{DN} (FEET)
Tiburon Blvd	W of Main St	62.3	85
Tiburon Blvd	E of Main St	55.9	70
Trestle Glen Blvd	N of Tiburon Blvd	59.2	71
Paradise Dr	E of Trestle Glen Blvd	53.5	18

*Notes: Distances to traffic noise contours are measured in feet from the centerlines of the roadways.
Source: TJKM, Caltrans, Saxelby Acoustics., 2023.*

The General Plan 2040's traffic noise impacts have been analyzed for the Baseline and the with General Plan 2040 Buildout conditions. Table 3.11-16 presents a comparison between the Without General Plan Buildout and the With General Plan 2040 Buildout scenarios, and the FHWA model printouts are provided in Appendix E.

TABLE 3.11-16: GENERAL PLAN 2040 BUILDOUT TRAFFIC NOISE CONTRIBUTIONS

ROADWAY	SEGMENT	DBA L _{DN} AT 50 FEET			INCREASE THRESHOLD
		BASELINE	WITH GENERAL PLAN BUILDOUT	CHANGE	
TIBURON BLVD	E of US 101/W of Frontage Rd	63.4	63.7	0.3	>3 dBA
TIBURON BLVD	W of Blackfield Dr	69.6	70.0	0.4	>1.5 dBA
TIBURON BLVD	W of Trestle Glen	68.0	68.5	0.5	>1.5 dBA
TIBURON BLVD	E of Trestle Glen Blvd	69.3	69.7	0.4	>1.5 dBA
TIBURON BLVD	W of Avenida Miraflores	67.0	67.5	0.5	>1.5 dBA
TIBURON BLVD	W of Rock Hill Rd	67.6	68.1	0.5	>1.5 dBA
TIBURON BLVD	W of Lyford Dr	58.7	59.2	0.5	>5 dBA
TIBURON BLVD	W of Main St	62.3	62.7	0.4	>3 dBA
TIBURON BLVD	E of Main St	55.9	56.4	0.5	>5 dBA
TRESTLE GLEN BLVD	N of Tiburon Blvd	59.2	60.2	1.0	>5 dBA
PARADISE DR	E of Trestle Glen Blvd	53.5	54.3	0.8	>5 dBA

Source: TJKM, Saxelby Acoustics 2023.

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Table 3.11-16 shows that at General Plan 2040 Buildout, noise generated by traffic along study area roadway segments would be expected to increase by 0.3 to 1.0 dBA Ldn above the baseline conditions. Table 3.11-16 also shows that the General Plan 2040's permanent roadway noise increases to the nearby sensitive receptors from the generation of additional vehicular traffic would not exceed any of the thresholds detailed above. Therefore, impacts associated with the General Plan 2040 would be ***less than significant***.

Level of Significance before Mitigation

Therefore, implementation of the General Plan 2040 would not result in a temporary or permanent increase in ambient noise levels above established standards and will have a ***less than significant*** impact.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.11-2 **Development facilitated by the General Plan 2040 would not generate excessive groundborne vibration or groundborne noise levels.**

Groundborne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of groundborne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Construction activities and the operation of heavy trucks, buses and trains can produce vibration that may be felt by adjacent uses. New development under the General Plan 2040 could result in up to 916 new residential units, and a reduction of 129,682 square feet commercial uses within the Tiburon Planning Area. The Town contains several historic structures that have been identified in Figure DT-3 of the General Plan 2040 and have the potential of being damaged from exposure to substantial vibration levels. The short-term and long-term groundborne vibration impacts associated with construction and operations are discussed separately below.

Construction-Related Vibration

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings in the vicinity of the construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels to slight damage at the highest levels. Table 3.11-17 gives approximate vibration levels from various construction equipment. The data in Table 3.11-12 provides a reasonable estimate for a wide range of soil conditions.

TABLE 3.11-17: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

EQUIPMENT	PPV (INCHES/SECOND)	APPROXIMATE VIBRATION LEVEL AT 25 FEET
PILE DRIVER (IMPACT)	1.518 (upper range)	112
	0.644 (typical)	104
PILE DRIVER (SONIC)	0.734 (upper range)	105
	0.170 (typical)	93
CLAM SHOVEL DROP (SLURRY WALL)	0.202	94
HYDROMILL (SLURRY WALL)	0.008 (in soil)	66
	0.017 (in rock)	75
VIBRATORY ROLLER	0.210	94
HOE RAM	0.089	87
LARGE BULLDOZER	0.089	87
CAISSON DRILL	0.089	87
LOADED TRUCKS	0.076	86
JACKHAMMER	0.035	79
SMALL BULLDOZER	0.003	58

Source: Federal Transit Administration. 2018.

Since the Town does not have a quantitative vibration standard in the General Plan 2040 or Tiburon Municipal Code, this analysis has utilized guidance provided by Caltrans, which identifies a standard for historical structures of 0.12 inch per second PPV for transient sources (see Table 3.11-5). As shown in Table 3.11-17, potential vibration levels from representative construction equipment that occur in close proximity to an existing historic structure, could potentially damage the structure.

Since development facilitated by the General Plan 2040 may result in construction activities that occur immediately adjacent to existing historical structures, there is a possibility that vibration from construction equipment would exceed the 0.12 inch per second PPV threshold. Therefore, groundborne vibration impacts from construction activities could result in a **significant impact**.

The General Plan 2040 includes Policy N-6 which requires that potential vibration from demolition and construction projects is considered and measures are taken to mitigate potential impacts.

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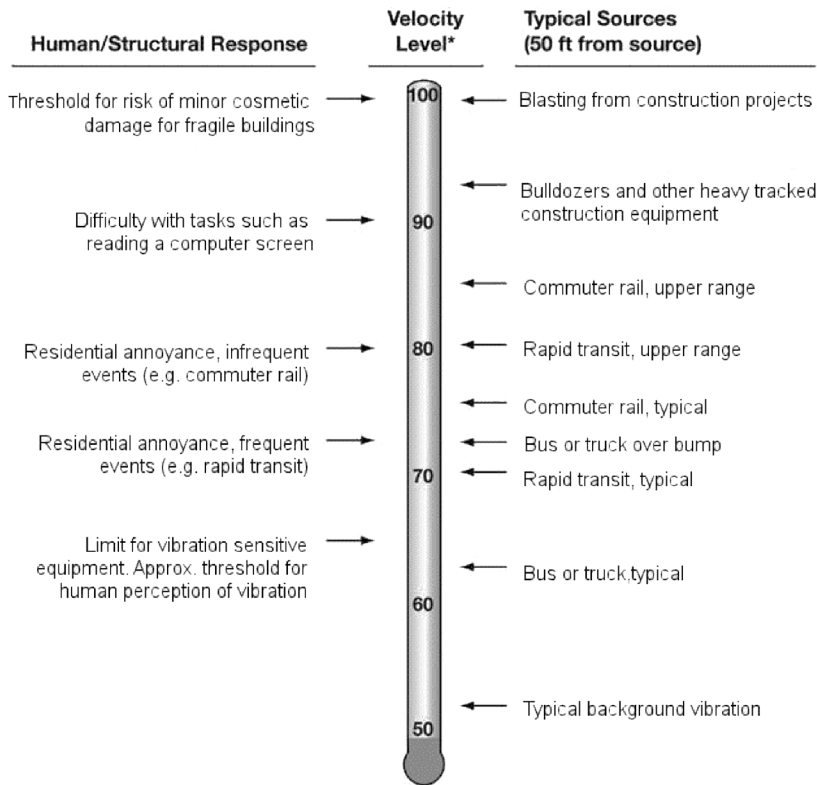
Projects that have the potential to impact historical structures during construction activities include those that will either: (1) conduct pile driving within 150 feet; or (2) utilize mobile construction equipment within 50 feet of any existing structure with sensitive receptors. As shown in Table 3.11-12, there are alternative types of pile drivers, such as sonic pile drivers that are capable of performing pile driving functions at much lower vibration levels. Table 3.11-12, also shows that there are similar pieces of earthmoving equipment, that while may not be as efficient, such as using a small dozer in place of large dozer, can be used to reduce vibration levels in vibration sensitive areas. This is considered a potentially significant impact. Mitigation Measure 3.11-2 is added to reinforce the requirements of Program HS-3.6.1. Therefore, with implementation of Mitigation Measure 3.11-2 and Program HS-3.6.1, construction-related vibration impacts would not expose persons to excessive vibration and will have a ***less than significant*** impact.

Operation-Related Vibration

The primary source of vibration created from on-going operation of development facilitated by the General Plan 2040 would be from additional vehicle and truck trips on the Town roadways. Since, the Town does not have a quantitative vibration standard in the General Plan 2040 or Tiburon Municipal Code, this analysis has utilized guidance provided by Caltrans in Table 3.11-5 for historical structures of 0.12 inch per second PPV for transient sources.

The FTA Transit Noise and Vibration Impact Assessment Manual includes typical levels of groundborne vibration from various sources. As shown in Exhibit 3.11-1, the threshold for human perception of vibration is below many source levels including transportation and construction sources. Other factors impacting groundborne vibration from transportation sources include the condition of the roadbed, vehicle speed, suspension, and wheel condition and type.

EXHIBIT 3.11-2: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



* RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second

As detailed in Exhibit 3.11-2, a bus or truck over a bump may create a vibration level as high as 72 VdB (0.015 inch per second PPV), with typical bus and truck vibration in the range of 62 VdB (0.005 inch per second PPV). Both the typical and maximum vibration levels created from a bus or truck operating on a Town roadway would be within the Caltrans threshold for historical structures of 0.12 inch per second PPV for transient sources. As such, any operational vibration impacts from increased vehicle traffic are expected to be less than significant. While development envisioned by General Plan 2040 would result in an incremental increase in development in the Planning Area, future development would be required to comply with requirements of the General Plan 2040. Therefore, operation-related vibration impacts would not expose persons to excessive vibration and impacts will be **less than significant**.

Level of Significance before Mitigation

Potentially Significant

Mitigation Measures

MM 3.11-2 Construction Vibration. Prior to issuance of grading permits for any project that is located within 150 feet of a historic structure that is depicted in Figure DT-3 of the

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General Plan and, if construction activities will require either: (1) pile driving within 150 feet; or (2) utilization of mobile construction equipment within 50 feet of the historic structure, the property owner/developer shall retain an acoustical engineer to prepare a vibration plan for Town review and approval. The vibration plan shall determine the vibration levels created by construction activities at the historic structure. If necessary, the vibration plan shall require the developer to implement specific measures to reduce the vibration levels to meet Caltrans thresholds.

Level of Significance after Mitigation

Less than Significant

Impact 3.11-3 Implementation of the General Plan 2040 would not result in cumulatively substantial increases in ambient noise levels and vibration in excess of standards established by the local general plan, noise ordinance, or applicable standards of other agencies.

The geographic context for the analysis of cumulative impacts related to noise includes the incorporated and unincorporated lands comprising the Tiburon Planning Area. This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, could result in a cumulatively significant impact related to noise, or result in a cumulatively significant impact related to noise. This analysis then considers whether the incremental contribution of the impacts associated with the implementation of the General Plan 2040 would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance.

Cumulative development would be required to comply with the design review regulations directing the siting, design, and insulation of new development and all applicable noise policies to ensure that noise impacts are less than significant. In addition, construction noise and vibration are typically localized and temporary in nature. For these reasons, cumulative impacts to noise would be ***less than significant***.

Moreover, the Project's incremental contribution to less than significant cumulative impacts would not be significant. As discussed above, development resulting from buildout of the General Plan 2040 is largely located at infill locations and will be subject to policies and programs to reduce noise impacts. . As the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town of Tiburon for compliance with the policies and programs of the General Plan 2040 related to noise. Consistency with the Town's Municipal Code, which implements the Town's General Plan 2040, would be required during the design review process to ensure that projects comply with all policies designed to reduce noise impacts to below a level of significance. Accordingly, development consistent with the General Plan 2040 would result in development that would be compatible with the noise environments in which they are located. Therefore, the scope and scale of the construction and other activities envisioned

by the General Plan 2040 will not contribute to a cumulative noise impact. Moreover, the General Plan 2040 policies and programs will result in additional noise and vibration reduction requirements than what would occur without adoption of the General Plan 2040. Therefore, the General Plan's contribution to cumulative impacts would be considered ***less than significant***.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Figure 3.11-1. Existing Noise Contours

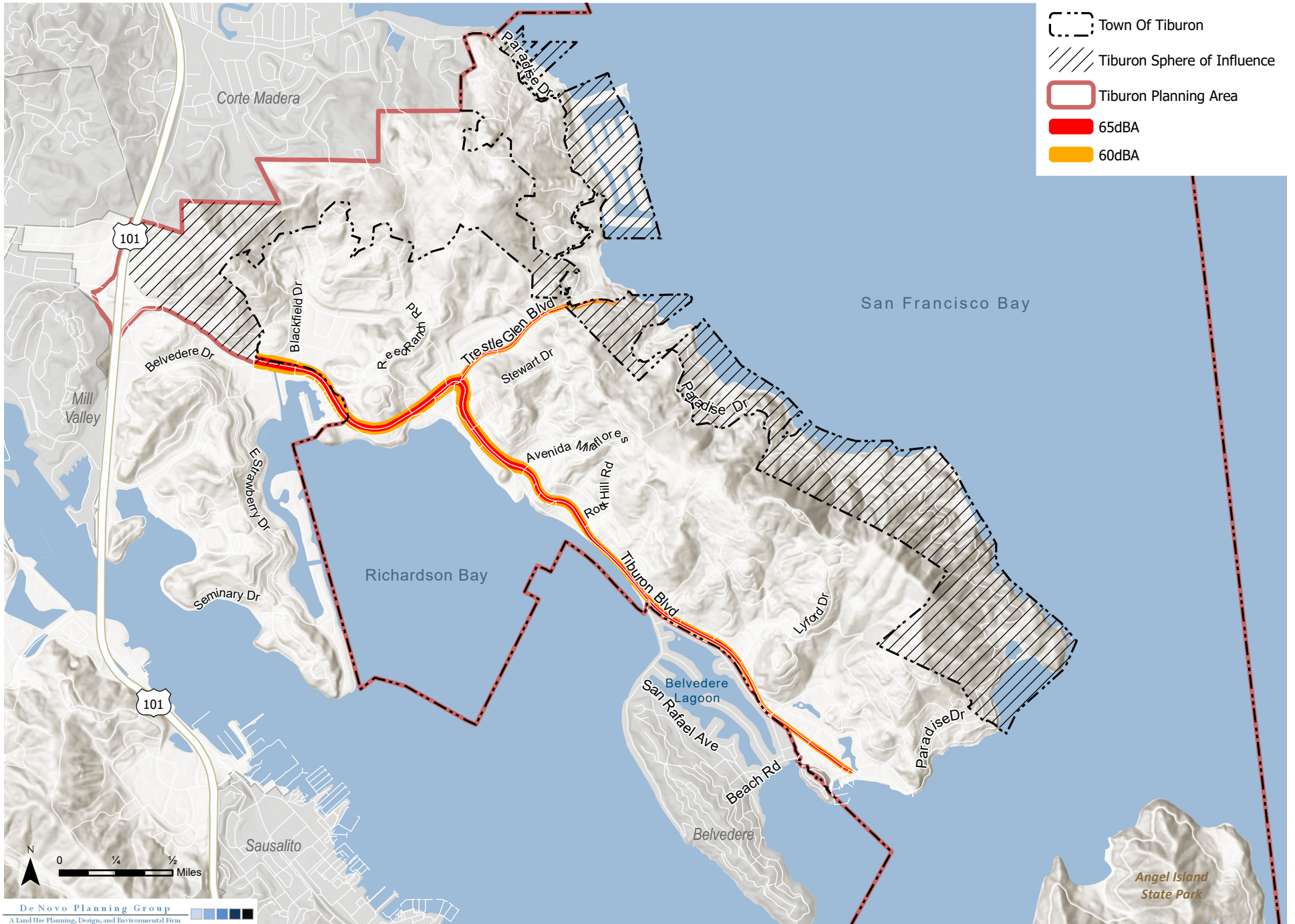
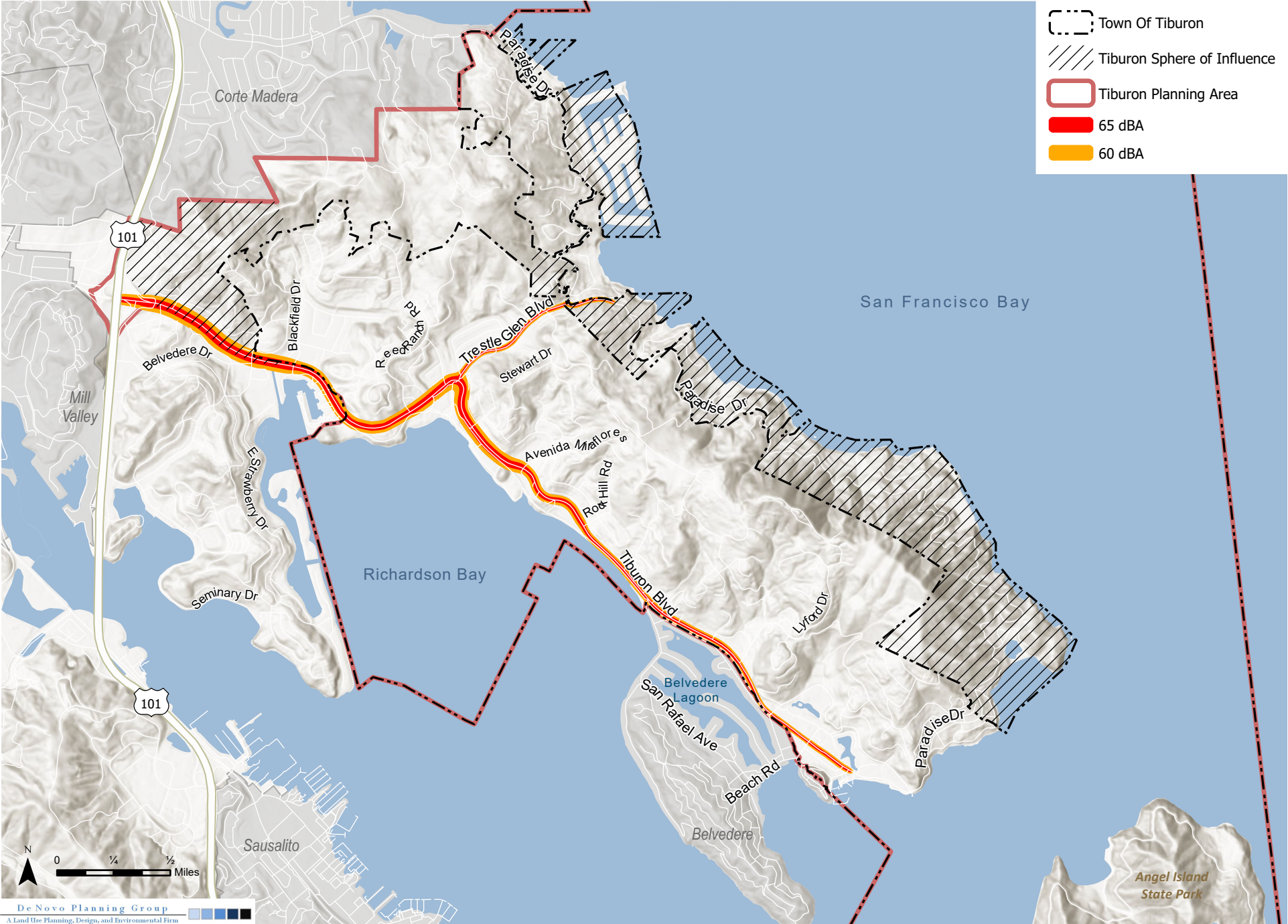


Figure 3.11-2. Future Noise Contours





3.12 POPULATION AND HOUSING

This section of the Draft Environmental Impact Report (Draft EIR) describes the existing population and housing characteristics in the Planning Area and evaluates the potential environmental consequences from development that could occur by adopting and implementing the General Plan 2040 (Project). Future discretionary projects facilitated by the General Plan 2040 will be evaluated for project-specific impacts to population, housing, and employment at the time they are proposed.

Information in this section is based on information provided by the following reference materials:

- Final Regional Housing Needs Allocation (RHNA) Plan: San Francisco Bay Area, 2023-2031, Association of Bay Area Governments, adopted December 2021;
- Plan Bay Area 2050, Association of Bay Area Governments, Metropolitan Transportation Commission, adopted October 2021.
- Plan Bay Area 2050, Marin County Factsheet, no date;
- Town of Tiburon 2015-2023 Housing Element, adopted August 20, 2014;
- E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2019, California Department of Finance, May 2019; and
- E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2020-2021, California Department of Finance, May 2021; and
- E-8 Historical Population and Housing Estimates for Cities, Counties, and the State, 2000-2010, California Department of Finance, November 2012.

3.12.1 EXISTING SETTING

Population and Households

Table 3.12-1 summarizes the population and household data for Tiburon and Marin County from 1980 through 2020.

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TABLE 3.12-1: POPULATION AND HOUSEHOLD GROWTH

	1980	1990	2000	2010	2020	1980-2000 CHANGE	2000-2020 CHANGE	AVG. ANNUAL CHANGE
TIBURON								
POPULATION	6,685	7,532	8,666	8,962	9,540	29.6%	10.0%	0.89%
HOUSEHOLDS	2,628	3,253	3,712	3,729	3,893	41.2%	4.9%	0.98%
PERSONS PER HOUSEHOLD	2.52	2.30	2.31	2.39	2.44	-8.3%	5.5%	-0.08%
MARIN COUNTY								
POPULATION	222,568	230,096	247,289	252,409	260,831	11.1%	5.5%	0.40%
HOUSEHOLDS	88,702	95,233	100,650	103,210	104,975	13.5%	4.3%	0.42%
PERSONS PER HOUSEHOLD	2.43	2.33	2.34	2.36	2.40	-3.7%	2.5%	-0.03%

Source: Bay Area Census; U.S. Census QuickFacts; California DOF, Report E-5, 2020.

The area which currently contains the Town of Tiburon began to grow with the establishment of a railroad line in 1884 between Tiburon Point and San Rafael with a ferry connection to San Francisco, which brought a number of commercial and industrial industries to the peninsula. In the 1940s, World War II brought more people to Tiburon due to the presence of the Navy; however, the major development and expansion of Tiburon did not get under way until after the end of the war.

In the 1950s, Tiburon began its evolution as a bedroom suburb of San Francisco with the population increasing to a little more than 2,000 residents and residential and commercial development heavily increasing. In the 1960s, development continued into the hills and adjacent to existing developments and the population increased to a little more 3,000 residents. Additionally, the Town was officially incorporated in June. By 1970, the Town had developed the majority of land and the population almost doubled in size with the US Census Bureau recording a population of 6,209.¹

From 1980 to 2000, the Town's population increased by 29.6 percent from 6,685 to 8,666 persons. During the 2000s and 2010s, Tiburon experienced a population growth increasing by approximately 10 percent from 8,666 in 2000 to 9,540 in 2020 while Marin County's total population increased by approximately 5.5 percent from 247,289 in 2000 to 260,831 in 2020. Between 1980 and 2020, Tiburon's population growth rate averages 0.89 percent per year, while that of Marin County was about half with an average of 0.4 percent per year.

Prior to the 2000s, households in Tiburon increased at a higher rate than the population. Households increased by approximately 41.2 percent between 1980 and 2000 (compared to 29.6 percent for the population); however, during the 2000s and 2010s households in Tiburon increased by about half the rate of the population. Between 2000 and 2020,

¹ Bay Area Census. Town of Tiburon 1970 – 1990 Decennial Census Data. Available at: <http://www.bayareacensus.ca.gov/cities/Tiburon70.htm>

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households in Tiburon increased by 4.9 percent while the population increased by 10 percent. The sharp decrease in the overall growth of households in Tiburon is highlighted by the lack of developable land for new households to occupy. As shown in Figure 4, very little development has occurred between 2000 to 2019 when compared to the development between 1980 to 1999.

Over the years, the average household size has fluctuated over time with a high of 2.52 in 1980 followed by a low of 2.30 in 1990. In recent years, household size has increased slightly with an average of 2.39 persons per household in 2010 and 2.44 persons per household in 2020.

Housing

As shown in Table 3.12-2, the number of housing units in Tiburon has increased at rates lower than the population. In 2020, there were 4,049 housing units in the Town. From 2000 to 2010, housing units increased from 3,893 to 4,025, an approximately 3.4 percent increase.

TABLE 3.12-2: HOUSING UNITS

JURISDICTION	YEAR			2000-2010 CHANGE	2010-2020 CHANGE	AVERAGE ANNUAL CHANGE
	2000	2010	2020			
TIBURON	3,893	4,025	4,049	3.4%	0.6%	0.2%
MARIN COUNTY	104,990	111,214	112,516	5.9%	1.2%	0.3%

Source: Bay Area Census; U.S. DOF, Report E-5, 2020.

The U.S. Census Bureau defines a “household” as all persons living in a single housing unit, whether or not they are related. One person living alone is considered a household, as is a group of unrelated people living in a single housing unit. The U.S. Census Bureau defines “family” as related persons living within a single housing unit.²

Household Size

Small households (one to two persons/household) commonly reside in units with zero to two bedrooms; family households (three to four persons/household) normally reside in units with three to four bedrooms. Large households (five or more persons/household) typically reside in units with four or more bedrooms. However, the number of units in relation to the household size may also reflect preference and economics. Many small households obtain larger units, and some large households live in small units for economic reasons.

Over the years, the average household size has fluctuated over time with a high of 2.52 in 1980 followed by a low of 2.30 in 1990. In recent years, household size has increased slightly

² United States Census Bureau. 2019. Subject Definitions. August 7. Website: <https://www.census.gov/programs-surveys/cps/technical-documentation/subject-definitions.html>. Accessed March 1, 2023.

with an average of 2.39 persons per household in 2010 and 2.44 persons per household in 2020.

Employment

Tiburon is near regional employment centers and major transportation thoroughfares. Two types of employment data are described below: total jobs within the community; and employed residents, including the number of residents of working age who actively participate in the civilian labor force. A comparison of these data can indicate commute patterns (i.e., whether significant out-commuting or in-commuting occurs).

The civilian labor force includes those who are employed (except in the armed forces) and those who are unemployed but actively seeking employment. Those who have never held a job, stopped looking for work, or have been unemployed for a long period of time are not considered to be in the labor force.

Total Jobs

In the Town, the top industries in 2021 as tabulated by the U.S. Census were professional, scientific, and management, and administrative and waste management services.³ The town has limited opportunities for extensive employment growth because there are few remaining vacant parcels in the Planning Area.

Table 3.12-3 shows job growth in Tiburon and the County from 2002 to 2019. The number of jobs in Tiburon decreased from 1,536 in 2002 to 1,363 in 2019, representing a 11.3 percent decrease. The County grew from 105,571 jobs in 2002 to 113,255 jobs in 2019, representing a 7.3 percent increase. From 2002 to 2019, Tiburon’s number of jobs comprised an average of approximately 1.3 percent of the County’s total jobs.⁴

TABLE 3.12-3: JOBS 2002 – 2019

JURISDICTION	YEAR			2002–2019 CHANGE
	2002	2010	2019	
TIBURON	1,536	1,244	1,363	-11.3%
MARIN COUNTY	105,571	101,475	113,255	7.3%
TIBURON SHARE OF COUNTY	1.5%	1.2%	1.2%	1.3%

Sources: United States Census Bureau. 2019. OnTheMap Version 6.7.

³ United States Census Bureau, Center for Economic Studies. 2021. American Community Survey: DP03 – Selected Economic Characteristics. Website: <https://data.census.gov/table?q=Tiburon+town,+California&t=Employment&y=2021&tid=ACSDP5Y2021.DP03>. Accessed March 2, 2023.

⁴ United States Census Bureau, Center for Economic Studies. 2019. OnTheMap Version 6.7: Work Area Profile Analysis. August 29. Website: <https://onthemap.ces.census.gov/>. Accessed March 2, 2023.

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Employed Residents

Table 3.12-4 shows employment growth in Tiburon from 2010 to 2022, and in the County from 2000 to 2022. Employed residents in Tiburon totaled 3,537 in 2010 and grew to 3,982 in 2022. Employed residents in the County fell from 140,700 in 2000 to 126,500 in 2022, representing a 10.1 percent decrease. However, employment grew 11.5 percent in the County from 2010 to 2022. During this same period, the number of employed residents in Tiburon comprised an average of approximately 3.0 percent of the County’s total employed residents. Note that employment in the County dropped from 2000 to 2010 as a result of the recession that lasted from 2007 to 2009.

TABLE 3.12-4: EMPLOYMENT 2000 – 2022

JURISDICTION	YEAR			2010-2022 CHANGE
	2000	2010	2022	
TIBURON	N/A	3,537	3,982	12.6%
MARIN COUNTY	140,700	122,100	126,500	3.6%
TIBURON SHARE OF COUNTY	N/A	2.9%	3.1%	3.0%

Source: California Employment Development Department (EDD). 2019. Local Area Unemployment Statistics. December 1.

Jobs to Housing Ratio

The jobs-to-housing ratio is used to evaluate whether a community has an adequate number of jobs available to provide employment for residents seeking employment. The jobs-to-housing ratio can be useful in understanding interconnections among housing affordability, traffic flows, congestion, and air quality within a city and larger region.

However, the jobs-to-housing ratio is best analyzed at the sub-regional or regional level due to the tendency of people to commute to jobs outside of their community. A jobs-to-housing ratio of 1.5 takes into account residents who do not participate in the labor force (e.g., those who are retired, disabled, or students) and indicates that a community has an adequate number of jobs to meet its residents’ demand for employment.

Jobs to Employed Resident Ratio

Another helpful indicator is the relationship between the number of jobs provided to the number of employed residents within a community. An ideal jobs-to-employed residents’ ratio is 1.0, which implies that there is a job in the community for every employable resident. A jobs-to-employed residents’ ratio greater than 1.0 indicates that the community provides more jobs than it has employable residents. In this situation, the community is likely to experience traffic congestion associated with employees travelling to jobs from outside the area, as well as intensified pressure for additional residential development to house the labor force. A jobs-to-employed residents’ ratio of less than 1.0 indicates that a community has fewer jobs than employable residents, and that many residents would need to commute

outside of the community for employment. The resulting commuting patterns can also lead to traffic congestion and affect both local and regional air quality.

Table 3.12-6 shows the jobs-to-housing ratio as well as the jobs-to-employed residents' ratio in Tiburon and the County from 2000 to 2019. Tiburon's average jobs-to-housing ratio from 2000 to 2019 was 0.47. The Town's jobs-to-employed residents ratio for the same period was approximately 0.46, which indicates that the town has fewer jobs than employed residents, and that many people commute out of the town for employment and that there is enough housing for the labor force.

The County's average jobs-to-housing ratio from 2000 to 2019 was approximately 1.0, which indicates that there are a relatively adequate number of jobs in the County to meet its residents' demand for employment. The County's average jobs-to-employed residents' ratio for the same time period was 0.8, which indicates that there are not enough jobs in the County for every employable resident.

TABLE 3.12-1: JOBS HOUSING COMPARISONS

	YEAR		
	2000	2010	2019
TIBURON			
HOUSING UNITS	3,893	4,025	4,189
JOB	2,004 ^a	1,734	1,941
EMPLOYED RESIDENTS	4,294	3,537	4,464
JOBS-TO-HOUSING RATIO	0.5	0.4	0.5
JOBS-TO-EMPLOYED RESIDENTS	0.5	0.5	0.4
MARIN COUNTY			
HOUSING UNITS	104,990	111,214	112,394
JOB	105,571 ^a	101,475	113,755
EMPLOYED RESIDENTS	140,700	122,100	137,900
JOBS-TO-HOUSING RATIO	1.0	0.9	1.0
JOBS-TO-EMPLOYED RESIDENTS	0.8	0.8	0.8

Notes:

^a 2002 Value

Sources: California Department of Finance. 2019; California Employment Development Department. 2019; United States Census Bureau. 2000, 2019; United States Census Bureau. 2019. OnTheMap Version 6.7.

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Future Housing Needs

In December 2021, the Association of Bay Area Governments (ABAG) established the Regional Housing Needs Allocation (RHNA) for each town, city, and county within its jurisdiction for 2023-2031 through adoption of the Final Regional Housing Needs Allocation (RHNA) Plan. Tiburon received an allocation of 639 units.

Projections

ABAG plans for regional growth through the Plan Bay Area process. While Plan Bay Area 2050 does not address growth at the Town-level, it does project that Countywide households will increase from approximately 109,000 in 2015 to 146,000 in 2050, an increase of 35%. Plan Bay Area 2050 anticipates declining employment in the area, with Countywide employment decreasing from 136,000 to 118,000 (-13%).

3.12.2 REGULATORY SETTING

State

State Housing Element Statutes

State housing element statutes (Government Code Sections 65580-65589.9) mandate that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law recognizes that for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems that provide opportunities for, and do not unduly constrain, housing development. As a result, State housing policy rests largely upon the effective implementation of local general plans and in particular, housing elements. Additionally, Government Code Section 65588 dictates that housing elements must be updated at least once every eight years. The Town's General Plan Housing Element is described under the Local Subsection below.

Senate Bill 375

Senate Bill (SB) 375, adopted in October 2008, calls upon each of California's Metropolitan Planning Organizations (MPOs) to develop an integrated transportation, land use, and housing plan known as a Sustainable Communities Strategy (SCS). This SCS must demonstrate how the region will reduce greenhouse gas emissions through long-range planning. It also requires the Regional Housing Needs Allocation, which anticipates housing need for local jurisdictions, to conform to the SCS, which is an opportunity to advocate for increased access to and distribution of affordable housing across the region.

2019 Housing Bills

Governor Gavin Newsom signed 18 bills in October 2019 to address the Statewide housing crisis.⁵ The Bills incentivize affordable housing, make ADUs easier to build, and streamline permitting and approvals to address the California housing crisis. The Governor signed SB 113 by the Committee on Budget and Fiscal Review, which will enable the transfer of \$331 million in State funds to the National Mortgage Special Deposit Fund, and establishes the Legislature's intent to create a trust to manage these funds to provide an ongoing source of funding for borrower relief and legal aid to vulnerable homeowners and renters.

The Governor signed the following bills to remove barriers and boost housing production:

- SB 330 by Senator Nancy Skinner (D-Berkeley) establishes the Housing Crisis Act of 2019, which will accelerate housing production in California by streamlining permitting and approval processes, ensuring no net loss in zoning capacity and limiting fees after projects are approved.
- AB 1763 by Assembly Member David Chiu (D-San Francisco) creates more affordable housing by giving 100 percent affordable housing developments an enhanced density bonus to encourage development.
- AB 116 by Assembly Member Philip Ting (D-San Francisco) removes the requirement for Enhanced Infrastructure Financing Districts to receive voter approval prior to issuing bonds.
- AB 1485 by Assembly Member Buffy Wicks (D-Oakland) will build on existing environmental streamlining law and encourage moderate-income housing production.
- AB 1255 by Assembly Member Robert Rivas (D-Hollister) requires cities and counties to report to the State an inventory of its surplus lands in urbanized areas. The Bill then requires the State to include this information in a digitized inventory of State surplus land sites.
- AB 1486 by Assembly Member Philip Ting (D-San Francisco) expands Surplus Land Act requirements for local agencies, requires local governments to include specified information relating to surplus lands in their housing elements and annual progress reports, and requires the State Department of Housing and Community Development to establish a database of surplus lands, as specified.
- SB 6 by Senator Jim Beall (D-San Jose) requires the State to create a public inventory of local sites suitable for residential development, along with State surplus lands.
- SB 751 by Senator Susan Rubio (D-Baldwin Park) creates the San Gabriel Valley Regional Housing Trust to finance affordable housing projects for homeless and low-income populations and address the homelessness crisis in the region.

⁵ Office of Governor Gavin Newsom, Governor Gavin Newsom Signs 18 Bills to Boost Housing Production. October 9, 2019. Website: <https://www.gov.ca.gov/2019/10/09/governor-gavin-newsom-signs-18-bills-to-boost-housing-production/>. Accessed May 23, 2020.

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- AB 1483 by Assembly Member Tim Grayson (D-Concord) requires local jurisdictions to publicly share information about zoning ordinances, development standards, fees, exactions, and affordability requirements. The Bill also requires the Department of Housing and Community Development to develop and update a 10-year housing data strategy.
- AB 1010 by Assembly Member Eduardo Garcia (D-Coachella) will allow duly constituted governing bodies of a Native American reservation or Rancheria to become eligible applicants to participate in affordable housing programs.
- AB 1743 by Assembly Member Richard Bloom (D-Santa Monica) expands the properties that are exempt from community facility district taxes to include properties that qualify for the property tax welfare exemption, and limits the ability of local agencies to reject housing projects because they qualify for the exemption.
- SB 196 by Senator Jim Beall (D-San Jose) enacts a new welfare exemption from property tax for property owned by a Community Land Trust and makes other changes regarding property tax assessments of property subject to contracts with Community Land Trusts.

The construction of ADUs can also help cities meet their housing goals and increase the State's affordable housing supply. The Governor signed the following Bills to eliminate barriers to building ADUs:

- AB 68 by Assembly Member Philip Ting (D-San Francisco) makes major changes to facilitate the development of more ADUs and address barriers to building. The Bill reduces barriers to ADU approval and construction, which will increase production of these low-cost, energy-efficient units and add to California's affordable housing supply.
- AB 881 by Assembly Member Richard Bloom (D-Santa Monica) removes impediments to ADU construction by restricting local jurisdictions' permitting criteria, clarifying that ADUs must receive streamlined approval if constructed in existing garages, and eliminating local agencies' ability to require owner-occupancy for 5 years.
- AB 587 by Assembly Member Laura Friedman (D-Glendale) provides a narrow exemption for affordable housing organizations to sell deed-restricted land to eligible low-income homeowners.
- SB 13 by Senator Bob Wieckowski (D-Fremont) creates a tiered fee structure that charges ADUs more fairly based on their size and location. The Bill also addresses other barriers by lowering the application approval timeframe, thereby creating an avenue to get unpermitted ADUs up to code, and enhancing an enforcement mechanism allowing the State to ensure that localities are following ADU statute.
- AB 671 by Assembly Member Laura Friedman (D-Glendale) requires local governments' housing plans to encourage affordable ADU rentals and requires the State to develop a list of State grants and financial incentives for affordable ADUs.

Regional

Regional Housing Needs Plan

A Regional Housing Needs Plan is required under California Government Code Section 65584 to enable regions to address housing issues and meet housing needs based on future growth projections for the area. The State determines the number of total housing units needed for each region. ABAG allocates housing needs among cities and counties in the nine-county ABAG region for each jurisdiction to use in drafting its housing element. The allocation comes after projection modeling based on current general plan policies, land use designations, and zoning. The allocations are based on “smart growth” assumptions in the modeling and aim to shift development patterns from historical trends (suburban sprawl) toward a better jobs/housing balance, increased preservation of open space, and development of mixed-use, transit-accessible areas. The regional housing need allocations are based on an analysis of the available housing stock and vacancy rate in each community, any existing unmet needs for housing, the projected growth in the number of households (population growth and household formation rate), the local and regional distribution of income, and the need for housing generated by local job growth.

ABAG adopted the Final RHNA Plan for 2023 through 2031 in December 2021 and the State Department of Housing and Community Development approved the plan in January 2022.

Plan Bay Area 2050

ABAG is the official comprehensive planning agency for the San Francisco Bay region, which is composed of the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma, and contains 101 jurisdictions. In October 2021, ABAG and the Metropolitan Transportation Commission (MTC), which is the region’s MPO, jointly adopted Plan Bay Area 2050, an integrated housing, economy, transportation and environment strategy through 2050 that meets the requirements of SB 375.⁶ Working in collaboration with towns, cities, and counties, Plan Bay Area 2050 advances initiatives to expand housing and transportation choices, promote equity, create healthier communities, adapt to a changing climate, and build a stronger regional economy while accommodating anticipated growth in the Bay Area region. Plan Bay Area 2050 was developed to accommodate the Bay Area RHNA.

To achieve the ABAG and MTC sustainable vision for the Bay Area and advance equity throughout the region, future growth and development scenarios referred to as “Futures” were developed for the Plan Bay Area 2050 effort. Each Future varied in terms of economic vibrancy, population growth rates, severity of natural hazards like sea level rise and earthquakes, and adoption rates for telecommuting or autonomous vehicles, among other forces. The 35 strategies included in Plan Bay Area 2050 proved effective across multiple Futures or respond to challenges that remained unaddressed after the conclusion of the

⁶ Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2017. Plan Bay Area 2040. July 26.

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Horizon effort. To best capture the impacts of these strategies and the financial capacity available to implement them, updated growth assumptions were developed for Plan Bay Area 2050. The revised Final Regional Growth Forecast anticipated 146,000 households and 118,000 jobs in Marin County in 2050, with 50,000 households and 40,000 jobs located in the Southern Marin subarea that includes Tiburon.

Local

Tiburon General Plan

The existing General Plan includes policies that assist in reducing or avoiding impacts related to population and housing. These policies can be found in the Land Use Element and the Housing Element of the existing General Plan 2020.

Tiburon Municipal Code

The Tiburon Municipal Code includes several provisions to address the location and design of new housing units. Section 16-52.100 regulates ADUs and junior ADUs and Section 16-25.020 addresses site plan and senior architectural review.

3.12.3 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the proposed project would have a significant impact related to population and housing if it would:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

3.12.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to a substantial increase in or displacement of population and housing resulting from implementation of the General Plan 2040 are discussed below.

Impact 3.12-1 **Development facilitated by the General Plan would not induce substantial unplanned population growth either directly or indirectly (for example, through extension of roads or other infrastructure) and would not displace a substantial number of people requiring the construction of new housing. This impact is less than significant.**

The General Plan 2040 does not propose specific policies, programs or development that would lead to unplanned population growth. To the contrary, the fundamental purpose of the General Plan 2040 is to appropriately plan for future growth within the town. The General Plan 2040 accommodates increases in new residential and employment uses, with a focus

on accommodating growth in the Downtown area. The potential growth in both residential and non-residential uses is primarily infill development that would occur within the fabric of already developed areas throughout the Town.

As described in Section 2.0, Project Description, full buildout under the General Plan 2040 would represent an incremental increase of 916 units, which would result in a population increase of approximately 2,235 based on 2.44 persons per household in 2020 at buildout. This would be a population increase of 23% at buildout.

As discussed previously, ABAG projects that from 2015 through 2050, Marin County households will increase by 38,000 housing units (or approximately 91,200 persons based on the County average household size of 2.40 persons in 2020). Further, ABAG allocated 639 housing units to Tiburon to accommodate its share of planned housing growth from 2023 through 2031. Accordingly, the General Plan 2040 accommodates Tiburon's share of the regional growth, including accommodating the shorter-term growth anticipated from 2023 through 2031 as well as longer term growth anticipated by Plan Bay Area 2050. The population and housing growth that would result from the General Plan 2040 would not exceed growth planned for the region.

The land uses allowed under the proposed General Plan 2040 provide opportunities for cohesive new growth in the Planning Area, and would not induce substantial unplanned population growth. The proposed General Plan 2040 does not include any new roadways, infrastructure, or other features that would induce substantial unplanned population growth. Moreover, with implementation of General Plan 2040 policies and implementation measures intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under the proposed General Plan 2040, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds.

The General Plan 2040 identifies areas for future residential development and includes a range of policies and programs would not induce substantial unplanned population growth either directly or indirectly. General Plan 2040 policies and programs ensure that new development is consistent with the General Plan 2040 and that infrastructure is planned consistent with the growth envisioned by the General Plan 2040. Program LU-1c requires projects to be consistent with the land use map, land use definitions, densities, and intensities. Program LU-1c allows land use densities and intensities within the range shown by the land use map and land use designations. Program LU-g addresses coordinating growth projections and infrastructure planning with urban service providers to ensure sufficient capacity to serve existing and future development.

Based on the Land Use Map and the Housing Element Inventory of Residential Sites, the majority of locations identified for growth are infill lots in the Downtown that have existing commercial and non-residential uses. In addition, residential sites are identified for potential to accommodate additional housing units.

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Development envisioned by the General Plan 2040 would not result in the need to construction new replacement housing elsewhere as the General Plan 2040 envisions intensification and additional housing on sites with capacity for additional development. The Housing Element includes policies and programs to preserve the existing housing stock and address the potential for displacement. Policy H-C1 supports housing conservation and rehabilitation, Policy H-C3 ensures that affordable housing provided through government subsidies and deed restrictions remains affordable, H-C6 provides for reconstruction of existing housing that is damaged or destroyed by a disaster, H-C7 prohibits and regulates the conversion of residential units to other uses to the extent permitted by law, Program H-aa addresses tenant protection strategies, including exploring rent stabilization, a rental registry, relocation assistance, right to purchase, right to return, and tenant bill of rights, to reduce the potential for displacement.

The General Plan 2040 would preserve existing housing and would not convert residential areas to other uses. Therefore, the General Plan 2040 would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

The fundamental purpose of the General Plan 2040 is to plan for the Town's future growth. It would not directly or indirectly induce unplanned growth and it does not authorize any development that would displace residents and require the construction of new housing. Additionally, future development would be required to comply with requirements of the General Plan 2040 and Tiburon Municipal Code protecting against substantial unplanned growth and displacement of existing residential uses. Therefore, there would be a ***less than significant impact***.

Mitigation Measures

None Required

Impact 3.12-2 Development facilitated by the General Plan would not cumulatively induce substantial unplanned population growth either directly or indirectly and would not cumulatively displace a substantial number of people requiring the construction of new housing. This impact is less than significant.

The geographic context for analysis of cumulative impacts related to population and housing includes Marin County. This analysis evaluates whether impacts of the General Plan 2040, together with impacts of cumulative development, would result in a cumulatively significant impact with respect to population and housing. This analysis then considers whether incremental contribution of the impacts associated with implementation of the General Plan 2040 would be significant. Both conditions must apply for cumulative effects to rise to the level of significance.

Cumulative development anticipated in the region may result in impacts to residents and housing, including substantial population growth, housing construction, and displacement. Subsequent projects implemented under the Town's General Plan 2040 would be required

to be consistent with the policies and programs of the General Plan 2040, including those described under Impact 3.12-1.

As described above, ABAG projects that population of Marin County will increase from approximately 35% to 109,000 in 2015 to 146,000 in 2050, an increase of approximately 91,200 people based on the County average household size of 2.40 persons. The General Plan 2040 anticipates the Town to increase by about 916 housing units or 2,235 people at buildout, representing a 23% increase in population. This increase in population would result in a rate of increase within the planned countywide rate. The limited number of remaining available sites to accommodate additional housing and population growth within the Town indicates that much of the planned regional growth will continue to occur in other parts of the region.

The general plans and other planning documents prepared by the adjacent cities and counties would be required to develop a land use plan that would accommodate their fair share of forecasted population growth, including each jurisdiction's RHNA, similar to Tiburon's General Plan 2040. Consistent with State law, these planning documents would be required to include provide adequate housing to accommodate forecasted numbers of people within the jurisdiction, and displaced persons and housing, if any, would be replaced primarily within the jurisdiction. Because cumulative projects would comply with all applicable land use plans to provide adequate development within a jurisdiction, a significant cumulative impact would not occur.

As described under Impact 3.12-1, the General Plan 2040 would not result in substantial unplanned population growth either directly or indirectly and would not displace a substantial number of people requiring construction of new housing. Therefore, adoption of the General Plan 2040 would not result in any policies or physical improvements that would result in direct or indirect or cumulative impacts to regional growth or result in substantial displacement of people or the need to construct additional housing and therefore would not contribute to a cumulative impact.

Therefore, cumulative impacts would be ***less than significant*** and the General Plan 2040 would not have a cumulatively considerable contribution to cumulative population and housing impacts.

Mitigation Measures

None Required

3.13 PUBLIC SERVICES AND RECREATION

This section of the Draft EIR (Draft EIR) describes the existing fire protection services, police services, schools, and libraries and the environmental effects of implementation of the General Plan 2040 (Project). This section also includes an overview of existing parks, recreational facilities, and open space areas and identifies potential impacts to town parks and recreational facilities, County parks, national parks, and open space areas from implementation of the General Plan 2040. Future discretionary projects facilitated by the General Plan 2040 will be evaluated for project-specific impacts to public services and recreation at the time they are proposed.

See Section 3.16, Wildfire, for a complete description of existing wildfire conditions in the Planning Area, regulatory framework, and an evaluation of the possible impacts related to wildfire that could result from implementation of the General Plan 2040. Figures related to wildfire risk are also contained within Section 3.16, Wildfire.

The following resources were used to inform and support this section:

- Town of Tiburon General Plan;
- Town of Tiburon General Plan EIR;
- Town of Tiburon Parks Division;
- Southern Marin Fire Protection District Ordinance;
- 2016 Marin County Community Wildfire Protection Plan;
- 2016 Southern Marin Fire Protection District Deployment Analysis.
- Marin County Fire Department Strategic Plan 2017-2020;
- California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zone Maps; and
- Golden Gate National Recreation Area Fire Management Plan.

3.13.1 EXISTING SETTING

Fire Protection Services

Fire protection and emergency medical services in Tiburon are provided by the Tiburon Fire Protection District (TFPD) and the Southern Marin Fire Protection District (SMFPD). As shown on **Figure 3.13-1**, the TFPD serves approximately 75 percent of the Planning Area while the SMFPD provides fire-related services to approximately 25 percent of residents located in the northwest corner of the Planning Area.

The TFPD's current response time goal is to maintain an overall response time of 8 minutes or less, 90 percent of the time. Under normal conditions, there are six full time professional emergency responders that can be deployed for an emergency within the boundaries of the District. As shown in Table 3.13-1, the TFPD's average response time excluding mutual aid is

below 8 minutes for all incident types; however, TFPD's average response time when mutual aid is included exceeds 8 minutes for fire, hazardous materials, and severe weather/natural disaster incidents. According to the TFPD Comprehensive Annual Financial Report Fiscal Year 2019-2020, 72 percent of all the calls in the fiscal year were responded to in under 8 minutes and 61 percent were responded to in under 7 minutes.

The Insurance Service Office (ISO), an advisory organization, classifies fire service in communities from 1 to 10, indicating the general adequacy of coverage. Communities with the best systems for water distribution, fire department facilities, equipment and personnel and fire alarms and communications, receive a rating of 1. The TFPD has been awarded a Public Protection Classification (PPC) Class of 1 by the ISO, putting the TFPD among the top 0.3 percent of communities nationwide.¹

Tiburon Fire Protection District

As previously stated, the TFPD was established in April of 1941 and provides structural fire and emergency medical response services to the Town of Tiburon, the City of Belvedere, and unincorporated residential and wildland areas on the peninsula, as well as parts of the San Francisco Bay to Angel Island State Park. Within the boundaries of TFPD are large single-family homes, multi-family residential complexes, numerous small businesses, public facilities, open space, and trails.²

The TFPD provides a full range of services to the Tiburon peninsula, including:

- Community Risk Reduction Bureau – Code enforcement, plan reviews, annual business inspections, and summer defensible space program for homeowners;
- Public Education – Fire and burn prevention programs in schools, CPR, First Aid, and Community Disaster Preparedness classes;
- Emergency Medical Services;
- Fire Protection;
- Hazardous Materials Response;
- Fire Investigation; and
- Participation in Marin County and California Mutual Aid System.

As of June 30, 2020, TFPD has thirty-two employees (24 career safety, 3 administrative personnel, 2 prevention personnel and 3 firefighter trainees) staffing two stations, which include structure engines, wildland engines and support units. The Fire Chief oversees the general operations of the District in accordance with the policy direction of the Board of Directors. The Fire Chief is supported by a Deputy Fire Marshal, a Finance Officer, an

¹ Tiburon Fire Protection District. 2020 Comprehensive Annual Financial Report. Available at: <https://www.tiburonfire.org/wp-content/uploads/2020/12/CAFR-2020.pdf> [page xi]

² Tiburon Fire Protection District. 2020 Comprehensive Annual Financial Report. Available at: <https://www.tiburonfire.org/wp-content/uploads/2020/12/CAFR-2020.pdf>

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Executive Assistant, and three Battalion Chiefs, each serving as the District’s Training, Logistics, or Operations Officers (TFPD, 2020).

The TFPD is a member of the Southern Marin Emergency Medical Paramedic System Joint Powers Authority, which provides emergency medical care and paramedic services to southern Marin County through a joint effort with five other member agencies. Currently, the TFPD has a total of eight paramedics with one paramedic at both stations 24/7. If needed, additional ambulances, paramedics or rescue services are requested through the Countywide Mutual Aid System.³ Additionally, the TFPD is a member of the Marin Emergency Radio Authority (MERA) which is a countywide public safety and emergency radio system that allows emergency response agencies to communicate effectively with each other.

The TFPD owns, operates, and maintains two fire stations with one concurrently used as its administrative building within the Tiburon Planning Area (Fire Station 10 and 11). TFPD fire station locations within Tiburon are shown in Figure 3.13-1. Each fire station has personnel covering three shifts over a 24-hour period. Incident call types include fire, overpressure rupture, rescue/emergency medical response, hazardous materials/condition, service calls, good intention calls, false alarm, severe weather/natural disaster, and other calls. Table 3.13-1 identifies the total number of incidents and average response time of TFPD per incident.

TABLE 3.13-1: TIBURON FIRE PROTECTION DISTRICT – EMERGENCY RESPONSE BY INCIDENT TYPE

INCIDENT TYPE	NUMBER OF CALLS	AVERAGE RESPONSE TIME (EXCLUDES MUTUAL AID)	AVERAGE RESPONSE TIME (INCLUDES MUTUAL AID)
Fire	58	6:09	8:57
Overpressure/Rupture	3	5:21	2:48
Rescue/EMS Call	1,597	5:17	7:20
Hazardous Materials/Condition	49	5:38	7:31
Service Call	261	5:28	5:35
Good Intent	51	5:20	5:27
False Alarm	200	5:54	5:58
Severe Weather/Natural Disaster	2	12:28	12:28
Other Types of Incidents	3	3:28	3:28
Total Calls	2,224	--	--

SOURCE: Tiburon Fire Protection District Comprehensive Annual Financial Report Fiscal Year 2019-2020

The Insurance Service Office (ISO), an advisory organization, classifies fire service in communities from 1 to 10, indicating the general adequacy of coverage. Communities with the best systems for water distribution, fire department facilities, equipment and personnel and fire alarms and communications, receive a rating of 1. The TFPD has been awarded a

³ Tiburon Fire Protection District. 2022 Comprehensive Annual Financial Report. Available at: <https://www.tiburonfire.org/wp-content/uploads/2023/01/ACFR-2022.pdf>

Public Protection Classification (PPC) Class of 1 by the ISO, putting the TFPD among the top 0.3 percent of communities nationwide.⁴

TFPD Fire Stations

Fire Station 10 is located at 4301 Paradise Drive in Tiburon and provides emergency medical and fire protection/suppression services to Tiburon and surrounding unincorporated areas along Paradise Drive. Fire Station 10 contains a variety of apparatuses that serve the community ranging from support vehicles to paramedic trucks, including one Type 1 Fire Engine, one ambulance, one reserve ambulance, and one 4x4 utility pickup truck.

Fire Station 11 is located at 1679 Tiburon Boulevard in Tiburon and provides emergency medical and fire protection/suppression services to Belvedere, Tiburon, and unincorporated areas within the Tiburon Planning Area. Fire Station 11 serves as an alternate Emergency Operations Center (EOC) location for the Town of Tiburon and the City of Belvedere. During a major emergency or disaster, the EOC provides a central location of authority and information with face-to-face coordination among personnel. Fire Station 11 also contains a variety of apparatuses that serve the community ranging from support vehicles to paramedic trucks, including one Reserve Type 1 Engine, one Type 3 Engine, one Type 3 Reserve Engine, 1 Medium-Duty Rescue Unit, one B/C Command Vehicle, one Prevention Vehicle, one Fire Chief SUV, one Utility 4x4 Pickup Truck, and one Staff Car.

Southern Marin Fire Protection District

As previously stated, the SMFPD is an independent fire district that provides fire protection and emergency medical services to the City of Sausalito, Tamalpais Valley, Homestead Valley, Almonte, Alto Bowl, Strawberry, the western 1/4 of the Town of Tiburon (Bel Aire/Blackfield/Reed Heights), and the National Park areas of Fort Baker and the Marin Headlands.⁵ The SMFPD divides their operational service area into three zones: Zone 1 (City of Sausalito, Golden Gate National Recreation Area Headlands) served by Southern Marin Fire Station 1, Zone 4 (Tamalpais Valley and Homestead Valley) served by Southern Marin Fire Station 4, and Zone 9 (Alto/Strawberry/Tiburon Area) served by Southern Marin Fire Station 9. Each of these zones are protected by one type I engine with each of the zones cross-staffing at least one specialty piece of equipment such as a Rescue, Fire Boat, and Ladder Truck.

The SMFPD has 63.5 full time employees including a Fire Chief, a Deputy Fire Chief, a Fire Marshal, 2 Battalion Chiefs, 9 Fire Captains, 13 Paramedic Engineers, 5 Firefighter Paramedics, 16 Firefighter Engineers, 4 Firefighters, 1 HR Manager, 1 Finance Manager, 1 Payroll Specialist, 1 Communications Coordinator, 1 IT Coordinator, 1 Administrative Aide, 3 (2 full-time and 2 part-time) Fire Inspectors, 1 Fire Prevention Specialist, and 1 Vegetation

⁴ Tiburon Fire Protection District. 2022 Comprehensive Annual Financial Report. Available at: <https://www.tiburonfire.org/wp-content/uploads/2022/01/ACFR-2022.pdf> [page xii]

⁵ Southern Marin Fire Protection District. 2022. Final Budget Fiscal Year 2022/2023. Available at: <https://www.smfd.org/our-district/finance/financials-budget>

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Management Specialist.⁶ The SMFPD operates out of three stations with a minimum staffing of 15 personnel on duty at all times, as well as an administrative office where administrative and prevention staff are organized. Incident call types include fire, overpressure rupture, rescue/emergency medical response, hazardous materials/condition, service calls, good intention calls, false alarm, severe weather/natural disaster, and other calls. Table 3.13-2 identifies the total number of calls per incident in the SMFPD service area.

TABLE 3.13-2: SOUTHERN MARIN FIRE PROTECTION DISTRICT – TOTAL INCIDENTS

INCIDENT TYPE	NUMBER OF CALLS	PERCENT OF TOTAL
Fire	70	1.58%
Overpressure Rupture, Explosion – No Fire	2	0.05%
Rescue and Emergency Medical Service	2,581	58.42%
Hazardous Materials/Condition (No Fire)	170	3.85%
Service Call	484	10.96%
Good Intent Call	730	16.52%
False Alarm/False Call	361	8.17%
Severe Weather/Natural Disaster	17	0.38%
Other/Special Incident Type	14	0.32%
Total Calls	4,429	100%

SOURCE: Southern Marin Fire Protection District Preliminary Budget Fiscal Year 2020/2021

In 2016, the SMFPD conducted a Fire and Emergency Medical Services Deployment Analysis to assist in setting service delivery objectives according to National Fire Protection Association (NFPA) Standard 1710. One recommendation included adoption of deployment measure policies. These policies addressed distribution of fire stations, multiple-unit effective response force for serious emergencies, hazardous materials responses, and technical rescue.⁷ Each policy contained the following standards:

1. **Distribution of Fire Stations** – First-due unit arrives within 9 minutes and 30 seconds of receipt of call 90 percent of the time.
2. **Effective Response Force** – Minimum response of one ladder truck, four engines, one medic unit, and one Battalion Chief arrive within 11 minutes and 30 seconds from receipt of 9-1-1 call 90 percent of the time.
3. **Hazardous Materials Response** – First unit’s travel time is 6 minutes or less 90 percent of the time.

⁶ Southern Marin Fire Protection District. District Overview. Available at: <https://www.smfd.org/our-district/district-overview>

⁷ Southern Marin Fire Protection District 2016 Fire and Emergency Medical Services Deployment Analysis. Available at: <https://www.southernmarinfire.org/admin/document-library/file/deployment-analysis/Vol%201%20-%20So%20Marin%20FPD%20Executive%20Summary%20Final%20%2809-22-16%29.pdf>

4. **Technical Rescue** – First unit arrives in 8 minutes or less 90 percent of the time and initiates rescue within a total response time of 11 minutes and 30 seconds, 90 percent of the time.

In 2017, 2018, and 2019, the SMFPD met these standards 100 percent of the time.⁸ Additionally, according to the findings of the SMFPD's 2016 Fire and Emergency Medical Services Deployment Analysis, the current locations for the SMFPD's fire engines and stations are adequate to meet the needs of the District and relocating or adding a fire station in the service area is not necessary or a cost-effective investment. However, the study did recommend that the SMFPD focus on reducing crew turnout times to fall consistently below 2 minutes. Compliance reports for 2017-2019 show that the SMFPD has achieved this objective.

As previously stated, ISO routinely conducts assessments of each fire agency in the United States, with a goal to re-assess fire agencies once every five years. In 2016, the District received the findings from the ISO, which awarded them a PPC Class of 1 putting the SMFPD among the top 0.3 percent of communities nationwide.

SMFPD Fire Stations

Southern Marin Fire Station #9 is located at 308 Reed Boulevard in Mill Valley and provides emergency medical and fire protection/suppression services to the Strawberry area, the Alto Bowl, and the northwestern corner of Tiburon Planning Area. The Southern Marin Fire Station #9 serves as the Battalion Chief offices and contains a variety of apparatus that serve the community ranging from support vehicles to paramedic trucks, including an Engine, Paramedic Medium Rescue, and a California RTF Swift Water Rescue Unit. Five personnel operate from this station.

Southern Marin Fire Station #1 is located at 333 Johnson Street in downtown Sausalito and primarily provides emergency medical and fire protection/suppression services to the City of Sausalito, Golden Gate National Recreation Area, and unincorporated Marin County. The Southern Marin Fire Station #1 contains a variety of apparatus that serve the community ranging from support vehicles to paramedic trucks, including an Engine, a Paramedic Ambulance, and our Dive Tender Unit. The crews there cross-staff the Fireboat, an Inflatable Rescue Boat, and are members of the Dive Team. Five personnel operate from this station daily.

Southern Marin Fire Station #4 is located at 309 Poplar Avenue in Mill Valley provides emergency medical and fire protection/suppression services to the unincorporated Tamalpais Valley and Homestead Valley communities in Marin County. The Southern Marin Fire Station #4 contains a variety of apparatus that serve the community ranging from support vehicles to paramedic trucks, including a Type 1 (all risk) Engine, a Type 3 (Wildland)

⁸ City of Sausalito. 2020. City of Sausalito Revised General Plan EIR [page 3.13-4].

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Engine, Ladder Truck, and a Paramedic Ambulance. Five personnel operate from this station daily.

Police Protection Services

The Tiburon Police Department (TPD) is responsible for providing law enforcement services in the Town, including patrol, administration, support personnel, investigations, training, parking enforcement and crime prevention program. The TPD is located at 1155 Tiburon Boulevard, as shown on **Figure 3.13-2**.

Similar to other cities and towns, the TPD relies on the Marin Sheriff's Office for search and rescue services and long-term holding facilities and County Animal Control for animal service. Additionally, the TPD also contracts with the Sheriff's Office for dispatch services. The TPD's 2020/21 budget is approximately \$3.75 million.

Organization

The TPD consists of two divisions: The Department Services Division and the Police/Emergency Operation Center Facility Division.⁹ In total, the TPD consists of 17 full time employees, including 13 sworn members and four civilian personnel, who are supported by four part-time Reserve Police Officers and volunteers. In addition to the Chief, the team is comprised of four Sergeants, eight Police Officers, one Emergency Services Coordinator, and three Police Service Aides.¹⁰ The TPD's 13 sworn police officers served approximately 8,956 Tiburon Residents¹¹ in 2022, or approximately 1 sworn officer for every 688 residents. It is noted that Tiburon plans to double spending toward infrastructure, expand the police force and formally reorganize Town Hall under a \$22.92-million budget proposal as officials remain optimistic about the town's continued recovery from the economic impacts of the pandemic.¹²

Department Services Division

The Department Services Division includes patrol, administration, support personnel, investigations, training, parking enforcement and crime prevention program. TPD coordinates with other Town departments, government agencies and has developed a partnership with the community in planning and implementing safe school programs, neighborhood and business awareness, safe pedestrian and traffic flow on Tiburon's streets and emergency preparedness programs. TPD promotes community-oriented policing and understands that it is the community itself that can best say what it needs from its Police

⁹ Town of Tiburon. 2022. Municipal Budget Fiscal Year 2022-23. [page 45]

¹⁰ Town of Tiburon. December 2020. Chief of Police Job Announcement Brochure. [page 5]

¹¹ California Department of Finance. May 2022. E-5 Report

¹² The Ark Newspaper. June 7, 2022. "Tiburon set to expand police, double spending on infrastructure". Available at: <https://www.thearknewspaper.com/single-post/tiburon-set-to-expand-police-double-spending-on-infrastructure#:~:text=The%20preliminary%20fiscal%202023%20budget,for%20a%20surplus%20of%20%2450%2C783.>

Department and the Police and the community must work together to accomplish jointly set goals through cooperative efforts. Table 3.13-3 identifies miscellaneous statistics for the Department Services Division, including the total number of parking tickets, traffic violations, and calls for service from 2020 to 2022.

TABLE 3.13-3: TOTAL CALLS FOR SERVICE - TIBURON POLICE DEPARTMENT

	2020	2021	2022
Parking Tickets	1,444	1,249	1,104
Traffic Violations/Stops	69	109	142
Calls for Service	10,238	11,012	11,394

SOURCE: Tiburon Police Department Criminal/Incident Statistics 2020, 2021, 2022

The Department Services Division also is responsible for ensuring the safety of our community who use Tiburon roadways by enforcing both the California Vehicle Code (CVC) and the Tiburon Municipal Code. Table 3.13-4 identifies the traffic collision/accident statistics in the TPD service area for 2018 and 2019 (most recent reporting years).

TABLE 3.13-4: TIBURON POLICE DEPARTMENT TRAFFIC UNIT STATISTICS

TRAFFIC COLLISION STATISTICS	2018	2019	% CHANGE
Non-Injury Accidents	19	20	5.3%
Injury Accidents	9	13	44.4%
Fatality Traffic Accidents	0	0	--
Hit and Run – Non-Injury	9	0	-100.0%
Hit and Run – Injury	1	9	800.0%
DUI Injury/Fatality	0	0	--
Total Number of Accidents	38	42	10.5%
Total Persons Injured	11	13	18.2%

SOURCE: Tiburon Police Department Criminal/Incident Statistics 2019

Police/Emergency Operation Center Facility Division

The Police/Emergency Operation Center Facility Division serves as the primary Emergency Operations Center for the entire Tiburon Peninsula. Belvedere contributes 12.5 percent of the funds needed to maintain this function.

FBI Crime Statistics

The FBI Uniformed Crime Reporting (UCR) Program encompasses approximately 14,000 law enforcement agencies nationwide. Participating agencies voluntarily provide crime data to the Department of Justice to generate a standardized and reliable set of crime statistics. The Tiburon Police Department is committed to providing accurate crime statistics to the DOJ and maintains criminal/incident statistics for each year which contains a breakdown of the total amount of Part 1 and Part 2 crimes occurred within the service area each year. By FBI definition, Part 1 Crime is comprised of the following violent and property crimes: Murder, Rape, Robbery, Aggravated Assault, Burglary, Larceny, Vehicle Theft and Arson. Part 2 crimes are less serious in nature and are tracked, however, only arrest information for these crimes

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is reported to the Federal Bureau of Investigations. Table 3.13-5 identifies the total Part 1 crimes in the Tiburon Planning Area.

TABLE 3.13-5: TIBURON PART 1 CRIME STATISTICS (2020-2022)

CATEGORY/CRIME	2020	2021	2022
Homicide	0	0	0
Rape	0	3	2
Robbery	1	1	0
Assault/Battery	10	6	4
Domestic Violence	7	6	7
Assaulting Police	0	0	0
Subtotal Violent Crimes	18	16	13
Burglary	12	15	15
Motor Vehicle Theft	2	4	5
Larceny	60	39	46
Arson	0	3	1
Subtotal Property Crimes	74	61	67
Total Part 1 Crimes	92	77	80

SOURCE: Tiburon Police Department Criminal/Incident Statistics 2020, 2021, 2022

As shown in Table 3.13-5, total Part 1 Crimes reported has slightly decreased by approximately 13.0 percent from 92 in 2020 to 80 in 2022. The majority of Part 1 Crimes committed in Tiburon consist of property crimes with an average of 48 larceny and 14 burglary crimes reported each year between 2020 to 2022. Violent crimes in Tiburon typically make up only 14 to 20 percent of the total Part I Crimes reported with an average of 7 assault/battery charges and 7 domestic violence crimes reported each year between 2020 to 2022. From 2020 to 2022, Tiburon experienced an 9.5 percent decrease in total property crimes from 74 in 2020 to 67 in 2022.

Table 3.13-6 identifies the total Part 2 crimes, as reported by the TPD Criminal/Incident Statistic Reports for 2020 to 2022.

As shown in Table 3.13-6, total Part 2 Crimes reported has decreased by approximately 23.9 percent from 113 crimes reported in 2020 to 86 in 2022. The most common Part 2 Crimes reported in Tiburon each year are miscellaneous CVC violations, fraud, vandalism, identity theft, miscellaneous misdemeanors, and DUIs.

TABLE 3.13-6: TIBURON PART 2 CRIME STATISTICS (2020-2022)

CATEGORY/CRIME	2020	2021	2022
Child Abuse/Neglect	0	1	0
Defraud Innkeeper	2	0	0
Disturbing the Peace	1	1	3
Forgery	1	1	0
Fraudulent Documents/Checks	1	0	0
Fraud	12	23	13
Harassment/Harassing Calls	0	0	1
Identity Theft	6	12	12
Indecent Exposure	1	0	1
Public Intoxication	2	4	5
Juvenile Problem	0	0	0
Narcotics Violation	8	3	4
Prowler	1	0	0
Sex Offenses	4	0	3
Threats	4	0	3
Town Ordinances	1	1	1
Trespassing	0	0	3
Vandalism	15	13	11
Warrants	7	13	3
Weapons	0	0	1
DUI	4	8	10
Driving on a Suspended License	6	0	2
Miscellaneous Misdemeanor	12	2	7
Miscellaneous Felony	0	1	1
Miscellaneous CVC Violation	25	39	15
Total Part 2 Crimes	113	99	86

SOURCE: Tiburon Police Department Criminal/Incident Statistics 2020, 2021, 2022

Schools

The Town of Tiburon is served by the Reed Union School District (RUSD) and the Tamalpais Union High School District (TUSD).

Reed Union School District

As previously stated, the RUSD is an elementary district serving the southern Marin communities of Belvedere, Tiburon, and a portion of east Corte Madera. Its three school sites are located in Tiburon, including Reed Elementary School (Kindergarten – Second Grade); Bel Aire Elementary School (Third Grade – Fifth Grade); and Del Mar Middle School (Sixth Grade – Eighth Grade). Table 3.13-7 shows the student enrollment at the RUSD schools during the 2018-201 through 2020-2021 school years and Figure 3.13-2 shows the locations of the RUSD schools.

TABLE 3.13-7: RUSD STUDENT ENROLLMENT

SCHOOL	2018 – 2019	2019 – 2020	2020-2021
Reed Elementary School	363	330	310
Bel Aire Elementary School	459	429	396
Del Mar Middle School	540	543	410
Total RUSD Enrollment	1,362	1,320	1,116

SOURCES: RUSD School Accountability Report Card, 2020, 2021; DataQuest, 2022

RUSD schools share the services of a psychologist, a speech and language therapist, an information services coordinator and assistant, part-time aides for limited English-speaking students, a part-time school nurse, and a district health specialist. Instructional aides provide assistance in the elementary classrooms at Reed and Bel Aire Elementary Schools. Each school is assigned a Special Education Resource Specialist, art, music, and P.E. teachers, as well as a technology facilitator. Bel Aire and Reed Elementary Schools have Reading Specialists to oversee intervention literacy programs and work collaboratively with the Resource Teachers in the Learning Center to provide services for all students in need. Additionally, Spanish is taught in Grades 3-8 and parent-paid school bus transportation is available to and from all three sites.

Once students graduate from Del Mar Middle School, RUSD graduates attend high school in the Tamalpais Union High School District, as well as private schools in Marin County and San Francisco.

Tamalpais Union High School District

As previously stated, the TUHSD provides 9-12 education to 19 different communities in southern Marin County, including the Town of Tiburon. The TUHSD operates three comprehensive high schools (Tamalpais, Redwood, and Sir Francis Drake) and two continuation high schools (San Andreas and Tamiscal). Redwood High School serves the Town residents, which is located at 395 Doherty Drive in Larkspur.

Redwood High School

Redwood High School is a 57-acre campus which has 74 classrooms, 5 portable buildings, a student center (multipurpose room), a library, an administration building, two gym buildings, a theater, an arts/technology building, swimming pool, and athletics fields. The original campus was built in 1960. Redwood High School recently modernization improvements from 2003 through 2007. Table 3.13-8 shows the student enrollment at Redwood High School during the 2018-2019 and 2019-2020 school years.

TABLE 3.13-8: REDWOOD HIGH SCHOOL STUDENT ENROLLMENT

GRADE LEVEL	2018 – 2019 STUDENT ENROLLMENT	2019 – 2020 STUDENT ENROLLMENT	2020-2021 STUDENT ENROLLMENT
Grade 9	543	522	507
Grade 10	497	534	512
Grade 11	441	468	508
Grade 12	447	423	459
Total	1,928	1,947	1,986

SOURCES: Redwood High School Accountability Report Card, 2020 and 2021; DataQuest, 2022

Public Library

The Belvedere – Tiburon Library is owned and operated by the Belvedere-Tiburon Library Agency and is a branch of the Marin County Library system. The existing 10,500 square foot (11,990 square feet including a mechanical mezzanine area) Belvedere – Tiburon Library opened up in 1997 and is located at 1501 Tiburon Boulevard in Tiburon.¹³ As of January 2021, the Belvedere – Tiburon Library had over 107,800 items in its collection.¹⁴ The library offers a variety of programming for all ages particularly children, teens, and senior citizens. Additionally, the library houses adult and children's Spanish language materials, and bilingual staff are on hand. The library contains items in a variety of formats, including book, e-books, large print books, audiobooks, DVDs, blue-ray discs, video cassettes, streaming videos, magazines and journals, newspapers, and music CDs. Access to the internet is also available.

In June 2010, the Town of Tiburon released a Draft Environmental Impact Report (EIR) for the expansion of the Belvedere – Tiburon Library. The project expanded the existing Belvedere-Tiburon Public Library through the construction of a two-story addition. The existing 10,500 square foot (sf) Library (11,990 sf including a mechanical mezzanine area) was expanded to 28,500 sf (29,990 sf including the mechanical mezzanine area) in floor area. The project also included lighting and landscaping improvements, including the installation of a Town Plaza and Zelinsky Promenade/Garden Plaza extending from Tiburon Boulevard to Zelinsky Park, restoration of the existing Zelinsky Park area, landscaping, installation of a Story Time Area and Staff Patio, and 52 new parking spaces.¹⁵ The Tiburon Town Council approved the

¹³ Town of Tiburon. 2010. Belvedere – Tiburon Library Expansion Project Draft Environmental Impact Report [page II-1].

¹⁴ MARINet. 2021. MARINet Library Database. Available at: https://marinet.bibliocommons.com/v2/search?custom_edit=false&query=branch%3A%22Belvedere+Tiburon%22&searchType=bl&suppress=true.

¹⁵ Town of Tiburon. 2010. Belvedere – Tiburon Library Expansion Project Draft Environmental Impact Report [page II-1].

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Belvedere – Tiburon Library Expansion project at its August 1, 2012 meeting.¹⁶ The expansion was completed in 2022.

Other Municipal Services

The Town of Tiburon municipal services includes the Administration & Finance Department, Building Department, Community Development Department, Police Department, Public Works Department, and Town Clerk.

Town Administration is comprised of a series of support-related activities and functions, and includes the offices of the Town Manager, Town Attorney, and Town Clerk. The Administrative Services division is responsible for management oversight of Town departments, financial management of Town resources, business license administration, payroll and personnel administration, risk management, records management, and coordination of Town activities and service delivery systems to ensure that Town services are provided efficiently.

The Building Division ensures that construction in the Town is compliant with adopted technical construction codes, in conformance with accepted building practices, and consistent with the Town's adopted policies and regulations. The Building Division issues permits, conducts regular building permit inspections, performs plan check reviews for construction applications, conducts residential resale inspections, and performs code enforcement for areas under its purview.

The Planning Division of the Community Development Department is responsible for managing the physical development of the Town in an orderly manner in accordance with the Tiburon General Plan, Zoning Ordinance, Municipal Code, and Town policies and regulations. The Planning Division reviews and processes a wide variety of planning, zoning, subdivision, and other permits and performs code enforcement functions for areas in its purview.

The Department of Public Works is responsible for the maintenance and improvement of all public infrastructure owned and managed by the Town of Tiburon. In addition to normal maintenance operations, we are a key agency in responding to emergencies involving our infrastructure as well as weather related events and other disasters that have the potential for adverse impacts to public health or the environment.

The Town Clerk's Office prepares and maintains the Town's legislative actions and proceedings, assures compliance with open meeting laws, conducts local elections, and provides day-to-day administrative support to the Town and the Town Council.

¹⁶ Belvedere – Tiburon Library. 2021 Belvedere – Tiburon Library Expansion. Available at: <https://www.beltibrary.org/about-us/library-expansion>.

Tiburon Public Parks

The Parks Maintenance Division of the Tiburon Public Works Department maintains the Town's 10 parks (covering nearly 70 acres) as well as the multi-use path and the landscaped medians throughout Town.¹⁷ The primary source of funding for park maintenance comes from the Cypress Hollow Special Tax Assessment District, developer impact fees, and the General Fund. The Town currently maintains a park standard of five acres per 1,000 residents. The Town's 10 parks include community parks, mini-parks, and specialty facilities. In addition to the Town's 10 parks, two regional parks are located within the Tiburon Planning Area in unincorporated Marin County, which are maintained by the Marin County Parks and Open Space Department.¹⁸

Community Parks

Community parks are developed primarily to meet the recreational needs of a large portion of the town. Community parks range in size according to purpose, and often feature one-of-a-kind community facilities or natural resources. For example, the Richardson Bay Lineal Park offers a multi-use path and amenities along the bay waterfront and open space/natural preservation areas, while Point Tiburon Shoreline Park features the Elephant Rock Fishing Pier and amenities along the bay waterfront. Community parks may also contain a greater variety of recreational facilities, such as swimming pools, community centers, public rest rooms, bocce ball and horseshoe areas, trails, athletic fields, and pond fishing. Community parks located in the Tiburon Planning Area include the:

- Richardson Bay Lineal Park, which includes:
 - Blackie's Pasture;
 - McKegney Green;
 - South of Knoll Park;
 - Multi-Use Path; and
 - Cypress Grove Garden Park;
- Point Tiburon Shoreline Park, which includes:
 - Elephant Rock Fishing Pier;
- Reed Park; and
- Town Hall Park.

Mini-Parks

Mini-parks primarily serve a small portion of the town, usually within one-half mile radius of the park. Mini-parks are generally oriented toward the recreational needs of children and youth. For example, Cypress Hollow Park provides playground equipment while the Bel Aire Play Area is an unimproved green area for residents of the Bel Aire neighborhood to play. All

¹⁷ Town of Tiburon. 2022. Municipal Budget Fiscal Year 2022-2023. [page 54].

¹⁸ Marin County Parks and Open Space Department. 2008. Strategic Plan.

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of the Town's mini-parks are located near collector streets in residential neighborhoods. Mini-parks in the Tiburon Planning Area include the:

- Belveron Mini-Park;
- Bel Aire Play Area;
- Cypress Hollow Park; and
- Zelinsky Park.

Specialty Facility

Specialty Facility primarily provide for specific recreational activities, such as the Teather Park Tennis Courts, which provides tennis court facilities for public use. The only specialty facility located in the Tiburon Planning Area is the Teather Park Tennis Courts.

Regional Parks

The Planning Area also consists of several regional recreational areas and county park facilities, which includes both water-based, and passive recreational opportunities. For example, Tiburon Uplands Nature Preserve in unincorporated Marin County offers a hike through to Old Saint Hilary's Open Space Preserve and bay views from the higher elevations while the Paradise Beach Park provides fishing opportunities, a canoe/kayak launch, and spacious lawns and shady trees to enjoy panoramic views across the water to the East Bay.¹⁹

Tiburon Park Facilities

As shown in Table 3.13-9, the Planning Area consists of 94.1 acres of parkland. Of the 94.1 acres of parkland within the Planning Area, the Town currently manages approximately 56.7 acres. With an approximate population of 8,956 residents²⁰ in 2022, the Town's parkland totals approximately 10.5 acres of Town parkland per 1000 residents (excluding the County's 18.6-acre Paradise Beach Park and 18.8-acre Tiburon Uplands Nature Preserve within the Planning Area). The location of parks within the Tiburon Planning Area is shown on Figure 3.13-2. Table 3.13-9 summarizes the park facilities within the Planning Area by acreage.

TABLE 3.13-9: SUMMARY OF LOCAL PARK FACILITIES IN THE PLANNING AREA

PARK NAME	ACRES	PARK TYPES
Richardson Bay Lineal Park		CP
Blackie's Pasture	15.5	CP
McKegney Green	11.6	CP
South of Knoll Park and Playground	6.5	CP
Multi-Use Path	11.3	CP
Cypress Grove Garden Park	0.1	CP

¹⁹ Marin County Parks and Open Space Department. Parks & Preserves Location List. Available at: <https://www.marincountyparks.org/parkspreserves/sip-location-list>.

²⁰ California Department of Finance. May 2022. E-5 Report.

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PARK NAME	ACRES	PARK TYPES
Pt. Tiburon Shoreline Park	2.3	CP
Elephant Rock Fishing Pier	-	CP
Reed Park	1.5	CP
Town Hall Park	1.8	CP
Belveron Mini Park	2.1	MP
Bel Aire Play Area	0.5	MP
Cypress Hollow Park	0.5	MP
Zelinsky Park	1.5	MP
Teather Park Tennis Courts	1.5	SP
Paradise Beach Park	18.6	RP
Tiburon Uplands Nature Preserve	18.8	RP
Total	94.1	--
<i>NOTES:</i>		
<i>CP = Community Park, MP = Mini-Park, SP = Special Park, RP = Regional Park</i>		
<i>SOURCES: MarinMaps, 2021; De Novo Planning Group 2021</i>		

Angel Island

In addition to the parks on the Tiburon Peninsula, 726 of the 740 acres of Angel Island State Park are within the incorporated Town of Tiburon; the remaining 14 acres are located in the City and County of San Francisco. This historic park offers peninsula residents and visitors unique opportunities for hiking, biking, camping, and boating in San Francisco Bay. The Ranch provides popular youth summer camps on Angel Island. Approximately 200,000 people visit Angel Island annually, almost all of them arriving by ferry.

Belvedere – Tiburon Recreation Department (The Ranch)

The Town administers its recreation programs by way of a joint powers agreement (JPA) with the City of Belvedere. In 2013, the title of the JPA was changed to The Ranch. The Ranch offers a wide array of programs, providing classes and activities for toddlers through older adults. Approximately 70 percent of programming is for children, including the after-school academy program and summer camps. Special events, adult programs and other programs comprise approximately 30 percent of the programming. The Community Opinion Survey found that nearly half of the residents (47 percent) reported their households had attended a The Ranch program, class, or event.²¹

Dairy Knoll serves as the local community center owned and operated by The Ranch, which is utilized for recreational programming. Additionally, The Ranch has facility use agreements for programming at multiple locations throughout Tiburon, including Reed Elementary

²¹ Town of Tiburon. 2011. Tiburon Peninsula Recreation Needs and Existing Condition Assessment Study [page 16].

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School, Bel Aire Elementary School, Del Mar Middle School, Angel Island State Park, Paradise Park, Landmarks Art and Garden Center, and Tiburon Baptist Church.²²

Dairy Knoll

The Ranch at Dairy Knoll is located at 600 Ned’s Way in Tiburon and serves as the local community center owned and operated by The Ranch (formerly the Belvedere – Tiburon Recreation Department). The purpose of The Ranch at Dairy Knoll is to provide quality recreational and educational programs that inspire and enrich the lives of children and adults in the community while maintaining a self-supporting agency. This facility can accommodate up to 147 people in three separate private meeting rooms or one great room totaling 2,310 square feet. This site includes a spacious outdoor patio and picnic areas, ideal for team building activities or outdoor dining. This site can also accommodate bounce houses and children’s entertainers.

Commercial/Private Recreation Facilities

In addition to public park facilities, the Planning Area is home to four commercial/private recreation facilities. These are private facilities that require membership for access and use. Neither the Town nor The Ranch has any role in influencing the recreational amenities or programs offered by these private facilities. Table 3.13-10 summarizes the commercial/private recreation facilities within the Planning Area and the recreational amenities provided.

TABLE 3.13-10: COMMERCIAL RECREATION FACILITIES

COMMERCIAL RECREATION FACILITY	RECREATIONAL AMENITIES
Corinthian Yacht Club	Boat members slips plus guest slips
Tiburon Peninsula Club	10 tennis courts, three swimming pools, fitness center
Belvedere Tennis Club	7 tennis courts, pool
Tiburon Yacht Club/Paradise Cay Yacht Harbor	Boat slips and Clubhouse

SOURCE: Town of Tiburon Parks and Recreation Element

Open Space Areas

Open space and preservation of the natural environment are valued and defining characteristics of the Tiburon Peninsula. The Tiburon Peninsula consists of over 800 acres of protected and publicly owned open space land. Additionally, on the Peninsula, there are approximately 115 acres of private open space protected from development through easement or another legal instrument. These open space areas are generally not open to public use.²³ As shown in Table 3.13-11, approximately 769 acres of open space land is

²² Marin County LAFCO. 2020. Tiburon Peninsula Municipal Services Review. [page 42]

²³ Town of Tiburon. 2011. Tiburon Peninsula Recreation Needs and Existing Condition Assessment Study [page 23-24]

located within the Planning Area. Figure 3.13-2 shows the location of open space areas within the Tiburon Planning Area and Table 3.13-11 summarizes the open space areas by acreage.

TABLE 3.13-11: SUMMARY OF LOCAL PARK FACILITIES

OPEN SPACE AREA	ACRES
Hamon (Rock & Tree) Open Space	10.5
Mt. Tiburon Subdivision Open Space	12.3
Hilarita Project Open Space	2.8
Cibrian Subdivision Open Space	3.8
Ring Mountain ¹	389.1
La Cresta Open Space	65.3
Del Madera Subdivision Open Space	29.2
Miraflores Subdivision Open Space	17.2
Mateo Drive Subdivision Open Space	2.8
Town Hall Area Open Space	2.0
Eavey Open Space	21.3
El Marinero Subdivision Open Space	9.3
Reed School District Open Space	11.8
Atkinson Open Space	59.7
Highlands Subdivision Open Space	3.1
Old Saint Hilary's ¹	123.9
Pt. Tiburon Marsh Open Space	5.1
Total	769.1
<i>NOTE:</i>	
1) County of Marin Facility	
SOURCES: MarinMaps GIS, 2021; De Novo Planning Group 2021	

3.13.2 REGULATORY SETTING

Federal

National Fire Protection Association Standard 1710

The NFPA released NFPA 1710 (Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments), originally in 2001. The standard specifies minimum criteria addressing effectiveness and efficiency of public fire agencies. One element recommends that agencies establish service delivery objectives and specific time objectives. There is no national standard for response times, and NFPA 1710 recognizes the need to support communities in setting measurable outputs (response times) and outcomes (service delivery objectives).

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State

California Emergency Plan

The California Emergency Plan describes how response to natural or human-caused emergencies occurs in California. The Emergency Plan is a requirement of the California Emergency Services Act, and describes methods for conducting emergency operations, the process for rendering mutual aid, emergency services of government agencies, how resources are mobilized, how the public is informed, and how continuity of government is maintained during emergency. The Emergency Plan further describes hazard mitigation (actions to reduce risk), as well as preparedness and recovery from disasters.

Preparing for and responding to wildland fire incidents is one part of this plan. The California Fire Service Task Force on Climate Impacts was established in July 2014. The Task Force is comprised of members from local, State, and federal jurisdictions, and continues to build upon the State's Blue Ribbon Fire Commission that was initially established following the 2003 wildfires, the most devastating of which was the Cedar Fire in San Diego. The objectives of the Task Force are to review the past Blue Ribbon Fire Commission recommendations and action plan, validate, and prioritize items that remain outstanding, and evaluate the most current climate threats, science, studies, and recommendations. The Task Force will also, as necessary, develop new or updated recommendations related to wildfire preparedness and mitigation needed to successfully adapt to California's changing climate, aligning actions and recommendations with the State's climate adaptation strategy and related efforts.

California Occupational Safety and Health Administration

In accordance with California Code of Regulations Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

Emergency Response/Evacuation Plans

The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with

SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

California Fire Protection Code

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. Topics addressed in the Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and many other general and specialized fire safety requirements for new existing buildings and premises.

International Fire Code

The International Fire Code (2015) with the State of California Amendments contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the California Fire Code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Fire Code contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

NFPA 1710

The NFPA 1710 Standards are applicable to urban areas and where staffing is comprised of career Firefighters. According to these guidelines, a career fire department needs to respond within six minutes, 90 percent of the time with a response time measured from the 911 call to the time of arrival of the first responder.

The standards are divided as follows:

- Dispatch time of one minute or less for at least 90 percent of the alarms
- Turnout time of one minute or less for EMS calls (80 seconds for fire and special operations response)
- Fire response travel time of four minutes or less for the arrival of the first arriving engine company at a fire incident and eight minutes or less travel time for the deployment of an initial full alarm assignment at a fire incident

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- Eight minutes or less travel time for the arrival of an advanced life support (ALS) (4 minutes or less if provided by the fire department)

California Building Standards Code

The State of California provided a minimum standard for building design through the 2019 California Building Standards Code (CBC), which is in Part 2 of Title 24 of the California Code of Regulations. The 2019 CBC is based on the 2018 International Building Code but has been modified for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local city and County building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all new high-rise buildings and residential buildings; the establishment of fire resistance standards for fire doors, building material; and particular types of construction.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 *et seq.* of the California Health and Safety Code. This includes regulations for building standards (as also set forth in the CBC), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

California Code of Regulations

Title 5, Section 14002 *et seq.* governs school facility design.

Title 8, Section 6150-6184 of the California Code of Regulations establishes general fire safety standards. The standards range from fire hose size requirements to the design of automatic sprinklers.

Title 14, Section 1270 *et seq.* of the California Code of Regulations establishes minimum standards for a variety of wildfire preparedness and prevention regulations.

Title 19 Section 1.00 *et seq.* of the California Code of Regulations, establishes the “Regulations of the State Fire Marshall” which includes a variety of emergency fire response, fire prevention and construction and construction materials standards.

California State Assembly Bill 2926—School Facilities Act of 1986

In 1986, Assembly Bill (AB) 2926, entitled the School Facilities Act of 1986, was enacted by the State of California and added to the California Government Code (GOV § 65995). It authorizes school districts to collect development fees, based on demonstrated need, and generate revenue for school districts for capital acquisitions and improvements. It also established that the maximum fees (adjustable for inflation) which may be collected under this, and any other school fee authorization are \$1.50 per square foot (\$1.50/square foot) of residential development and \$0.25/square foot of commercial and industrial space.

AB 2926 was expanded and revised in 1987 through the passage of AB 1600, which added Section 66000 *et seq.* of the Government Code. Under this statute, payment of statutory fees

by developers serves as total mitigation under the California Environmental Quality Act (CEQA) to satisfy the impact of development on school facilities. However, subsequent legislative actions have alternatively expanded and contracted the limits placed on school fees by AB 2926.

California Senate Bill 50

As part of the further refinement of the legislation enacted under AB 2926, the passage of SB 50 in 1998 defined the Needs Analysis process in Government Code Sections 65995.5–65998. Under the provisions of SB 50, school districts may collect fees to offset the costs associated with increasing school capacity because of development. The fees (referred to as Level One fees) are assessed based upon the proposed square footage of residential, commercial/industrial, and/or parking structure uses. Level Two fees require the developer to provide one-half of the costs of accommodating students in new schools, while the State would provide the other half. Level Three fees require the developer to pay the full cost of accommodating the students in new schools and would be implemented at the time the funds available from Proposition 1A (approved by the voters in 1998) are expended. School districts must demonstrate to the State their long-term facilities need and costs based on long-term population growth to qualify for this source of funding. However, voter approval of Proposition 55 on March 2, 2004, precludes the imposition of the Level Three fees for the foreseeable future. Therefore, once qualified, districts may impose only Level Two fees, as calculated according to SB 50.

California Government Code, Section 65995(b), and Education Code Section 17620

SB 50 amended California Government Code Section 65995, which contains limitations on Education Code Section 17620, the statute that authorizes school districts to assess development fees within school district boundaries. Government Code Section 65995(b)(3) requires the maximum square footage assessment for development to be increased every 2 years, according to inflation adjustments.

Mitigation Fee Act (California Government Code 66000-66008)

Enacted as AB 1600, the Mitigation Fee Act requires a local agency establishing, increasing, or imposing an impact fee as a condition of development to identify the purpose of the fee and the use to which the fee is to be put. The agency must also demonstrate a reasonable relationship between the fee and the purpose for which it is charged, and between the fee and the type of development plan on which it is to be levied. The Act came into force on January 1, 1989.

The Mello-Roos Communities Facilities Act of 1982

The Mello-Roos Community Facilities Act, Government Code Section 53311 *et seq.*, provides an alternative method of financing certain public capital facilities and services through a special property tax. This state law empowers local agencies to establish Community Facilities Districts to levy special taxes for facilities for public infrastructure such as roads,

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schools, and libraries. The creation of a Mello-Roos District requires the approval of two-thirds of the voters.

Quimby Act (California Government Code Section 66477)

The 1975 Quimby Act (GOV § 66477), authorizes cities and counties to adopt ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for operation and maintenance of park facilities. A 1982 amendment (AB 1600) requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or parkland and the type of development project upon which the fee is imposed. Cities with a high ratio of park space to residents can set a standard of up to 5 acres per thousand persons for new development. Cities with a lower ratio can only require the provision of up to 3 acres of park space per thousand people. The calculation of a city's park space to population ratio is based on a comparison of the population count of the last federal census to the amount of city-owned parkland.

Regional

Tiburon Fire Protection District

The TFPD was established in April of 1941 and is an autonomous Special District as defined under the Fire Protection District Law of 1987, Health and Safety Code, Section 13800, of the State of California. A five-member Board of Directors, elected by their constituents and each serving a four-year term, governs the TFPD. The TFPD service area encompasses approximately 5.5 square miles, providing structural fire and emergency medical response to the Town, the City of Belvedere, and unincorporated residential and wildland areas on the peninsula, as well as parts of the San Francisco Bay to Angel Island State Park.

TFPD Ordinance No. 131

In November 2022, the TFPD adopted Ordinance No. 131 adopting the 2022 California Fire Code. The 2022 California Fire Code, which consists of certain portions of the 2021 edition of the International Fire Code as amended by the California Building Standards Commission, and Appendix A of the 2021 edition of the International Wildland-Urban Interface Code as adopted and amended herein, shall be enforced by the Fire Prevention Bureau of the TFPD, and shall be operated under the supervision of the Chief of the TFPD.

Southern Marin Fire Protection District

The SMFPD is an independent fire district as defined in the California Administrative Code, (Fire Protection District Law of 1987 - Health & Safety Code Section 13800, et seq.) and provides fire protection and emergency medical services to the northwestern corner of the Tiburon Planning Area. The SMFPD was created in 1999 by Marin County LAFCO with the consolidation of the Alto-Richardson Bay Fire Protection District and the Tamalpais Fire Protection District. In June 2012, the City of Sausalito was also annexed into the SMFPD by a vote of the citizens of Sausalito, and, more recently, the SMFPD signed a Shared Services

Agreement in January 2020 with the City of Mill Valley, which consolidated the mid and upper management teams of both organizations into a single team with a single Fire Chief serving both agencies.

SMFPD Ordinance No. 2022/2023-01

The SMFPD Ordinance adopts the 2022 California Fire Code and Appendix A of the 2021 International Wildland-Urban Interface Code. The Ordinance contains amendments to the California Fire Code and includes requirements for Wildland-Urban Interface fire areas to address the local climatic, geographic, and topographic conditions that impact fire prevention efforts, and the frequency, spread, acceleration, intensity, and size of fire involving buildings in the community. Some of the requirements are related to hazardous vegetation and fuel management, defensible space, fire flow requirements for buildings, fire hydrant locations and distribution, and minimum widths and clearances for fire access roads. The Ordinance was approved by the SMFPD Board of Supervisors in September 2022.

Southern Marin Emergency Medical Paramedic System

Southern Marin Emergency Medical Paramedic System (SMEMPS) was established in October 1980 to better serve the Emergency Medical Service (EMS) needs of residents and visitors in southern Marin County. Prior to 1980, EMS delivery was provided by firefighters that were certified as Emergency Medical Technicians. Realizing that a better system was possible, the local jurisdictions came together and formed a Joint Powers Authority. The intent was to create a system that would provide paramedic service to the community and, on average, SMEMPS serves an average of 2,650 patients each year. The member agencies currently include the SMFPD, TFPD, City of Belvedere, City of Mill Valley, City of Sausalito, and the County of Marin.

RUSD Local Control and Accountability Plan 2021-22

The LCAP is a three-year plan, updated annually, and a tool for local educational agencies to set goals, plan actions, and leverage resources to meet those goals to improve student outcomes. The 2021-22 LCAP is the latest Plan released by the RUSD.

Marin County Open Space

The Marin County Open Space District is a non-profit organization that manages over 16,000 acres of parks and open space. The Marin County Open Space District services include operations and maintenance of open space and trails, research projects, oversee capital improvement projects, and provide educational events for the public.

Marin County Community Wildfire Protection Plan

The Marin County Community Wildfire Protection Plan (CWPP), adopted in 2016, is an advisory document prepared by FIREsafe Marin in collaboration with stakeholder agencies pursuant to the Healthy Forests Restoration Act. The CWPP is a countywide strategic plan with action items to reduce fire hazard in the County, especially in areas of concern, which mostly fall within Marin's WUI boundary. The CWPP assists in protecting human life and

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reducing property loss from wildfire throughout Marin County. The CWPP describes wildfire risk, hazard, and recommendations for improving wildfire preparedness at the County level, achieving the following:

- Outlines community characteristics that relate to wildfire risk and hazard including climate, weather, vegetation, and population.
- Describes the fire environment, including the description of the County WUI and regional weather.
- Assesses wildfire hazard and risk at the County level.
- Describes existing and proposed community outreach that is integral to improving wildfire preparedness.
- Identifies mitigation strategies that could be applied to address wildfire hazard and risk.
- Describes the CWPP as a living document to be updated periodically.

The CWPP is accompanied by appendices that address specific areas and projects by agency to meet strategic goals. The lists of projects include past, current, and/or planned projects from the 2015 Marin Unit Fire Plan and are intended to provide a starting point for identifying and prioritizing a more complete, countywide list of future fuel reduction and outreach projects. The projects identified within the Tiburon Planning Area include:

- Ring Mountain: fire road/ridge access
- Old St. Hilary's Open Space: fuel reduction, defensible space
- Middle Ridge Open Space: fuel reduction
- Blackies Pasture: fuel reduction
- Chipper/Veg Removal Events: community fuel reduction

Local

Tiburon General Plan

The existing General Plan includes goals, policies, and implementation measures that assist in reducing or avoiding impacts to public services, parks, and recreational facilities. These goals, policies, and implementation measures are found in the Safety Element and Parks and Recreation Element.

Tiburon Municipal Code

Chapter 18 Parks, Open Space and Recreational Lands. This chapter of the Tiburon Municipal Code regulates and governs the use, operation, control and maintenance of those parks, open spaces, and recreational lands under the control of the town.

Chapter 14B Public Facilities Development Fees. This chapter of the Tiburon Municipal Code outlines the development fees that are needed to finance public facilities to ensure that each

new development, development project, or construction project contributes its fair share of the costs of public facility improvements.

3.13.3 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G, the proposed project will have a significant impact related to public services, parks, or recreational facilities if it would:

- Result in substantial adverse physical impacts associated with the provisions of new or physically altered government facilities, and/or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
 - Fire Protection
 - Police Protection
 - Schools
 - Other public facilities
- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

3.13.4 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

This analysis identifies potential impacts to fire protection, police protection, schools, parks, and recreational facilities based on development anticipated from buildout of the General Plan 2040. Impacts to public services, parks, and recreational facilities were assessed using the significance criteria established by the CEQA Guidelines, as well as State, and local plans, regulations, and ordinances.

The provision of recreational facilities and ability to fund their installation and maintenance is provided for at a statewide level under the Quimby Act, a regulation allowing cities to require dedication of land or payment of fees for parks and recreation as a condition of tentative or parcel map approval.

Impact PSR-1	Development facilitated by the General Plan would not result in the provision of or need for new or physically altered fire protection facilities, police protection facilities, school facilities, and library facilities, the construction or operation of which could cause significant environmental impacts.
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Development accommodated under the General Plan 2040 would result in an incremental increase in new residential, commercial, mixed uses, and community uses. As described in

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Chapter 2.0, Project Description, full buildout of the General Plan, including the development anticipated in the General Plan 2040, would yield up to 923 residential units, including 174 single-family residential units, 477 mixed use residential units, 190 very-high density residential units, 10 Main Street residential units, and 72 ADUs. Assuming an average household size of 2.40, a total of approximately 2,215 persons could be accommodated at buildout of the General Plan 2040.

Residential and non-residential development and growth in the town under the General Plan 2040 would incrementally increase demand for public services, including fire protection, law enforcement, schools, libraries, and other public and governmental services. (Parks and other recreational facilities are discussed under Impact PSR-2.) As the demand for services increases, there may be a need to increase staffing and equipment to maintain acceptable service ratios, response times, and other performance standards. However, based on the anticipated population growth from the General Plan 2040 comprising 24.6 percent of the town's current population,²⁴ the construction of new or expanded fire protection, police protection, school, library, or other municipal service facilities would not be required.

The General Plan 2040 includes a range of policies and programs to ensure that public services are provided in a timely fashion, are adequately funded, are coordinated between the town and appropriate service agency, and that new development funds its fair share of services. The General Plan 2040 includes policies to ensure that fire protection and law enforcement services keep pace with new development and that school, library, and governmental services are adequately planned and provided. Future development in accordance with the General Plan 2040 would be subject to these General Plan 2040 policy requirements.

Fire Protection Services

The pattern and amount of development envisioned by the General Plan 2040 would not result in a significant impact to fire protections services. The anticipated population growth from the General Plan 2040 would be 24.6 percent of the town's current population and would not necessitate the construction of new or expanded fire protection facilities. The TFPD's current response time goal is to maintain an overall response time of 8 minutes or less, 90 percent of the time. Under normal conditions, there are six full time professional emergency responders that can be deployed for an emergency within the boundaries of the District. As shown in Table 3.13-1, the TFPD's average response time excluding mutual aid is below 8 minutes for all incident types; however, TFPD's average response time when mutual aid is included exceeds 8 minutes for fire, hazardous materials, and severe weather/natural

²⁴ According to the California Department of Finance (E-5 Population and Housing Estimates for Cities, Counties, and the State, 2020-2022), the Town of Tiburon has a current (January 2022) population of 8,956 persons, with an average household size of 2.40. The proposed General Plan Update could accommodate up to 923 residential units. Therefore, the projected additional residential population that could result from the proposed project would be 2,215 persons (which is a 24.7 percent increase over the existing population).

disaster incidents. According to the TFPD Comprehensive Annual Financial Report Fiscal Year 2019-2020, 72 percent of all the calls in the fiscal year were responded to in under 8 minutes and 61 percent were responded to in under 7 minutes.

As noted previously, in 2016, the SMFPD conducted a Fire and Emergency Medical Services Deployment Analysis to assist in setting service delivery objectives according to National Fire Protection Association (NFPA) Standard 1710. One recommendation included adoption of deployment measure policies. These policies addressed distribution of fire stations, multiple-unit effective response force for serious emergencies, hazardous materials responses, and technical rescue.²⁵ Each policy contained the following standards:

1. **Distribution of Fire Stations** – First-due unit arrives within 9 minutes and 30 seconds of receipt of call 90 percent of the time.
2. **Effective Response Force** – Minimum response of one ladder truck, four engines, one medic unit, and one Battalion Chief arrive within 11 minutes and 30 seconds from receipt of 9-1-1 call 90 percent of the time.
3. **Hazardous Materials Response** – First unit’s travel time is 6 minutes or less 90 percent of the time.
4. **Technical Rescue** – First unit arrives in 8 minutes or less 90 percent of the time and initiates rescue within a total response time of 11 minutes and 30 seconds, 90 percent of the time.

In 2017, 2018, and 2019, the SMFPD met these standards 100 percent of the time.²⁶ Additionally, according to the findings of the SMFPD’s 2016 Fire and Emergency Medical Services Deployment Analysis, the current locations for the SMFPD’s fire engines and stations are adequate to meet the needs of the District and relocating or adding a fire station in the service area is not necessary or a cost-effective investment. However, the study did recommend that the SMFPD focus on reducing crew turnout times to fall consistently below 2 minutes. Compliance reports for 2017-2019 show that the SMFPD has achieved this objective.

As previously stated, ISO routinely conducts assessments of each fire agency in the United States, with a goal to re-assess fire agencies once every five years. In 2016, the District received the findings from the ISO, which awarded them a PPC Class of 1 putting the SMFPD among the top 0.3 percent of communities nationwide.

²⁵ Southern Marin Fire Protection District 2016 Fire and Emergency Medical Services Deployment Analysis. Available at: <https://www.southernmarinfire.org/admin/document-library/file/deployment-analysis/Vol%201%20-%20So%20Marin%20FPD%20Executive%20Summary%20Final%20%2809-22-16%29.pdf>.

²⁶ City of Sausalito. 2020. City of Sausalito Revised General Plan EIR [page 3.13-4].

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Furthermore, the increased property taxes from development facilitated by the General Plan 2040 would result in additional funding being available to the TFPD and SMFD to accommodate future growth.

Police Services

The pattern and amount of development envisioned by the General Plan 2040 would not result in a significant impact to police services. The anticipated population growth from the General Plan 2040 would be 24.6 percent of the town's current population and would not necessitate the construction of new or expanded police facilities. The TPD provides police services to the Town of Tiburon. Similar to other cities and towns, the TPD relies on the Marin Sheriff's Office for search and rescue services and long-term holding facilities and County Animal Control for animal service. The Department Services Division includes patrol, administration, support personnel, investigations, training, parking enforcement and crime prevention program. TPD coordinates with other Town departments, government agencies and has developed a partnership with the community in planning and implementing safe school programs, neighborhood and business awareness, safe pedestrian and traffic flow on Tiburon's streets and emergency preparedness programs. TPD promotes community-oriented policing and understands that it is the community itself that can best say what it needs from its Police Department and the Police, and the community must work together to accomplish jointly set goals through cooperative efforts. Additionally, the TPD also contracts with the Sheriff's Office for dispatch services. The TPD's 2020/21 budget is approximately \$3.75 million.

As noted previously, Tiburon plans to double spending toward infrastructure, expand the police force and formally reorganize Town Hall under a \$22.92-million budget proposal as officials remain optimistic about the town's continued recovery from the economic impacts of the pandemic.²⁷

School Facilities

The pattern and amount of development envisioned by the General Plan 2040 will not result in a significant impact to school facilities, as new development provides impact mitigation fees of offset the impacts to school facilities. The anticipated population growth from the General Plan 2040 would be 24.6 percent of the town's current population and would not necessitate the construction of new or expanded school facilities. The California State Legislature, under SB 50, has determined that payment of school impact fees provides full and complete mitigation for impacts to school facilities. All development facilitated by the General Plan 2040 would be required to pay the school impact fees adopted by each school

²⁷ The Ark Newspaper. June 7, 2022. "Tiburon set to expand police, double spending on infrastructure". Available at: <https://www.thearknewspaper.com/single-post/tiburon-set-to-expand-police-double-spending-on-infrastructure#:~:text=The%20preliminary%20fiscal%202023%20budget,for%20a%20surplus%20of%20%2450%2C783.>

district, and this requirement is considered to fully mitigate the impacts of the General Plan 2040 on school facilities.

Library Services

The pattern and amount of development envisioned by the General Plan 2040 would not result in a significant impact on library services. Although the project would increase the population in the town, the estimated new residents would represent 24.6 percent of the existing population. Additionally, the Belvedere-Tiburon Library was renovated and expanded in 2019-2021 to accommodate future growth in the town as well as provide more services to residents. Therefore, development anticipated under the General Plan 2040 would not be expected to result in the need for new or expanded library facilities or services.

Other Municipal Services

The pattern and amount of development envisioned by the General Plan 2040 would not result in a significant impact to other municipal services. The anticipated population growth from the General Plan 2040 would be 24.6 percent of the town's current population. As a result, the budgets for the Administration & Finance Department, Building Department, Community Development Department, Police Department, Public Works Department, and Town Clerk are expected to be minimally impacted. Further, the allocation of other municipal services is determined annually by the Town Council based upon local needs and resources. Since the General Plan 2040 assumes that any additional development would be primarily infill in nature (i.e., replacing existing development and building on existing vacant parcels), impacts to other municipal services is not expected to be significant. For the same reasons, the General Plan 2040 would not result in the need for new or expanded other municipal service facilities.

Conclusion

In conclusion, no new construction of or expansion to fire protection, police protection, library, school, or other municipal service facilities is anticipated under the General Plan 2040. Development envisioned by the General Plan 2040 would result in an incremental increase in the demand for public services in the Planning Area, and as demand for services increases, there may be a need to increase staffing and equipment to maintain acceptable service ratios, response times, and other performance standards. However, based on the anticipated population growth from the General Plan 2040 comprising 24.6 percent of the town's current population, the construction of new or expanded fire protection, police protection, school, library, or other municipal service facilities would not be required.

As the Town receives development applications for subsequent development under the General Plan 2040, those applications will be reviewed by the Town for compliance with the policies and programs of the General Plan 2040 to ensure that that fire protection and police protection services keep pace with new development and that school, library, and other municipal services are adequately planned and provided. Therefore, impacts related to public services would be ***less than significant***.

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Mitigation Measures

None required.

Impact PSR-2	Implementation of the General Plan would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur, or be accelerated.
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The Town has adopted a Quimby Act ratio. Policy PR-1 of the existing General Plan 2040 includes the following parkland dedication standard: Sufficient park land and recreational facilities shall be maintained over time. A ratio of 5.0 acres of park land per 1,000 persons is established for the Planning Area pursuant to the Quimby Act.

As shown in Table 3.13-9, the Planning Area consists of 94.1 acres of parkland. Of the 94.1 acres of parkland within the Planning Area, the Town currently manages approximately 56.7 acres. With an approximate population of 8,956 residents²⁸ in 2022, the Town's parkland totals approximately 10.5 acres of Town parkland per 1000 residents. It is noted that this ratio excludes the County's 18.6-acre Paradise Beach Park, the 18.8-acre Tiburon Uplands Nature Preserve, and the Angel Island State Park within and adjacent to the Planning Area. These additional open space and open space amenities supplement the Town's parks.

New development accommodated under the General Plan 2040 would result in an incremental increase in new residential and non-residential uses. As described in Chapter 2.0, Project Description, throughout its planning horizon the General Plan 2040 is expected to accommodate approximately 923 new residential dwelling units within the Planning Area. This new growth would increase the town's population by approximately 2,215 residents. Some of these new employees are expected to be residents of the Planning Area. This new growth would incrementally increase demand for parks and other recreational facilities in the Planning Area. At buildout of the General Plan 2040, assuming all future development occurs, town population is projected to be approximately 11,171.

The anticipated population growth from the General Plan 2040 would be 24.6 percent of the Town's current population. As discussed below, the Town has ample park space and currently exceeds the recommended ratio of 5 acres per 1,000 residents. This population growth would not substantially increase existing use of park facilities, nor cause or accelerate their deterioration.

Moreover, the General Plan 2040 includes policies and programs that protect parks and recreational facilities, and future development in accordance with the General Plan 2040 would be subject to these policies and programs. Policy OS-4 requires the permanent protection of public or private open space. Under this policy, publicly owned open space land should not be sold and should only be traded in exchange for open space which

²⁸ California Department of Finance. May 2022. E-5 Report

provides improved trail connections, resource protection, or other public benefits. Policy OS-32 aims to maintain sufficient park land and recreational facilities over time. Program OS-j requires the town to work with the Belvedere-Tiburon Recreation Department and the City of Belvedere to consider the long- and short-term need for additional parklands, sporting facilities, picnic facilities, play areas, or programs to meet the community's recreational programming and facilities needs. Policy OS-33 requires the town to continue to require new parkland dedication and/or collection of in-lieu fees during the development review process. A ratio of 5.0 acres of park land per 1,000 persons is established for the Planning Area pursuant to the Quimby Act. Policy OS-34 requires the town to continue to use park funds and any future in-lieu fees for improvement of existing and future parks and for parkland acquisition purposes. Policy OS-35 requires the town to pursue federal, state, county, and other funds to assist in the maintenance, improvement, and acquisition of existing and/or future park facilities.

The Town would be able to provide approximately 8.4 acres of parkland per 1,000 residents at buildout of the General Plan 2040. When natural open space areas are factored in, the Town would continue to exceed the recommended ratio of 5 acres per 1,000 residents.

In conclusion, development envisioned by the General Plan 2040 could result in an incremental increase in new development. However, given the incremental increase in residential growth anticipated during the buildout of the General Plan 2040, such population growth would not result in a significant acceleration in deterioration of parkland facilities. Furthermore, compliance with the General Plan 2040 policies and programs and adherence to the Tiburon Municipal Code would ensure that future developments provide their fair share of maintenance and upkeep to town parks. Impacts would be ***less than significant***.

Applicable Proposed General Plan Policies and Implementation Actions

Open Space, Parks, and Recreation Element

Policy OS-4 Retention of Publicly Owned Open Space

Permanently protect public or private open space. Publicly owned open space land should not be sold and should only be traded in exchange for open space which provides improved trail connections, resource protection, or other public benefits.

Policy OS-32 Maintain Sufficient Park Facilities

Maintain sufficient park land and recreational facilities over time.

Program OS-j Coordinate Park and Recreation Planning

Work with the Belvedere-Tiburon Recreation Department and the City of Belvedere to consider the long- and short-term need for additional parklands, sporting facilities, picnic facilities, play areas, or programs to meet the community's recreational programming and facilities needs.

Policy OS-33 Parkland Dedication

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Continue to require new parkland dedication and/or collection of in-lieu fees during the development review process. A ratio of 5.0 acres of park land per 1,000 persons is established for the Planning Area pursuant to the Quimby Act.

Policy OS-34 Use of Park Funds

Continue to use park funds and any future in-lieu fees for improvement of existing and future parks and for parkland acquisition purposes.

Policy OS-35 Pursue Outside Funding

Pursue federal, state, county, and other funds to assist in the maintenance, improvement, and acquisition of existing and/or future park facilities.

Mitigation Measures

None required.

Impact PSR-3 Implementation of the General Plan would include or require the construction or expansion of parks and other recreational facilities, which might have an adverse physical effect on the environment.

To maintain existing parks and recreational facilities within the Planning Area, the General Plan 2040 contains policies and programs that require maintenance and expansion of park, open space, and recreational facilities as well as recreational programs. For example, Policy OS-32 aims to maintain sufficient park land and recreational facilities over time. Program OS-j requires the Town to work with the Belvedere-Tiburon Recreation Department and the City of Belvedere to consider the long- and short-term need for additional parklands, sporting facilities, picnic facilities, play areas, or programs to meet the community's recreational programming and facilities needs. Additionally, Program OS-k directs the Town to consider development of a community pool, community center/gymnasium, a dog park, and bocce courts if sites and funding become available, as well as consider acquisition of the Richardson Bay Sanitary District site for recreational use if it becomes available. Policy OS-33 directs the Town to prepare a Parks Master Plan to guide the use, development, and management of park facilities. As such, development facilitated by the General Plan 2040 could include the construction of new or expanded parks and other recreational facilities in conjunction with development of various housing sites throughout the Planning Area.

There could be environmental impacts associated with the construction of new or expanded parks and other recreational facilities. It is not possible to identify the timing or relative specifics of these improvements is unknown at this time and it would be premature to consider these projects on a project-specific level as part of the Draft EIR for the General Plan 2040, as these projects have not yet been sited or designed and other key project components that would influence potential environmental impacts have not yet been determined. Accordingly, it would be inappropriate and speculative under CEQA to conduct a project-specific analysis in this Draft EIR. As the town proceeds with the construction of

new or expanded parks and other recreational facilities, including the public improvements identified in the General Plan, 2040 those projects will be reviewed by the Town for compliance with the policies and programs of the General Plan 2040 as well as the Municipal Code, which implements the General Plan 2040, related to physical effects these projects may have on the environment. Likewise, as the Town receives development applications for subsequent development under the General Plan 2040 that includes new or expanded parks and other recreational facilities, those future discretionary actions would be evaluated for project-specific environmental effects at the time they are proposed. Therefore, the physical effects on the environment from the construction of new or expanded parks and other recreational facilities would be **less than significant**.

Applicable Proposed General Plan Policies and Implementation Actions

Open Space, Parks, and Recreation Element

Program OS-k Future Recreation Facilities

Consider development of a community pool, community center/gymnasium, a dog park, and bocce courts if sites and funding become available. Consider acquisition of the Richardson Bay Sanitary District site for recreational use if it becomes available.

Policy OS-33 Parkland Dedication

Continue to require new parkland dedication and/or collection of in-lieu fees during the development review process. A ratio of 5.0 acres of park land per 1,000 persons is established for the Planning Area pursuant to the Quimby Act.

Mitigation Measures

None required.

Impact PSR-4 **Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to fire protection facilities, police protection facilities, school facilities, library facilities, parks, and recreational facilities.**

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development, would result in a cumulatively significant impact with respect to fire protection facilities, police protection facilities, school facilities, library facilities, parks, or recreational facilities.

Cumulative development with unincorporated Marin County is identified in the Marin Countywide Plan Update Final EIR. Cumulative development would be required to comply with design review regulations and policies in local and regional plans, including the Marin Countywide Plan and Marin County Development Code to ensure that impacts are less than significant. Cumulative projects within unincorporated Marin County would be required to comply with applicable Marin Countywide Plan policies and programs and adhere to

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development and design standards in the Marin County Municipal Code For these reasons, cumulative impacts to public services and recreation would be ***less than significant***.

Fire Protection Services

The geographic context for the analysis of cumulative impacts related to fire protection services includes the TFPD and SMFD service areas, which comprises the Town of Tiburon, the City of Belvedere, unincorporated residential and wildland areas on the peninsula, as parts of the San Francisco Bay to Angel Island State Park, City of Sausalito, Tamalpais Valley, Homestead Valley, Almonte, Alto Bowl, Strawberry, the western 1/4 of the Town of Tiburon (Bel Aire/Blackfield/Reed Heights), and the National Park areas of Fort Baker and the Marin Headlands. A significant cumulative environmental impact would result if this cumulative growth exceeded the ability of the TFPD and SMFD to adequately serve their service area, thereby requiring construction of new facilities or modification of existing facilities. All cumulative projects within the TFPD and SMFD service area would be required to comply with relevant town ordinances, city ordinances and General Plan 2040 policies that address fire protection services. Therefore, cumulative impacts would be ***less than significant***.

Moreover, the General Plan 2040's incremental contribution to less than significant cumulative impacts would not be significant. As discussed under Impact PSR-1, implementation of the General Plan 2040 would not create a need for new or physically altered facilities for the TFPD and SMFD to provide fire protection services to its service area. Furthermore, the increased property taxes from development facilitated by the General Plan 2040, as well as the cumulative development projects, would result in additional funding being available to the TFPD and SMFD to allow for future growth.

As previously discussed, development facilitated by the General Plan 2040 would be required to comply with the policies and programs in the General Plan 2040 as well as the Tiburon Municipal Code, to ensure that fire protection services are adequate as future development is proposed. All cumulative projects within the TFPD and SMFD service areas would be required to comply with the relevant town ordinances, city ordinances, and General Plan 2040 policies that address fire protection services. Therefore, impacts of the General Plan 2040 on fire protection services are not cumulatively considerable and the cumulative impact would be ***less than significant***.

Police Protection Facilities

The geographic context for the analysis of cumulative impacts related to police protection facilities includes the TPD service area, which comprises the Town. Since police protection services in Tiburon are provided by the Department, changes and growth anticipated under the General Plan 2040 would not have any cumulative impact beyond Tiburon's SOI. A significant cumulative environmental impact would result if this cumulative growth exceeded the ability of the Department to adequately serve their service area, thereby requiring construction of new facilities or modification of existing facilities. All cumulative projects within the Department service area would be required to comply with town ordinances and

other policies that address police protection services. Therefore, cumulative impacts would be **less than significant**.

The General Plan 2040's incremental contribution to less than significant cumulative impacts would not be significant. As discussed under Impact PSR-1, implementation of the General Plan 2040 would not create a need for new or physically altered facilities for the Department to provide police protection services to its service area.

As previously discussed, development facilitated by the General Plan 2040 would be required to comply with the policies and programs in the General Plan 2040 as well as the Municipal Code, to ensure that police protection services are adequate as future development is proposed. Therefore, impacts of the General Plan 2040 on police protection services are not cumulatively considerable and the cumulative impact would be **less than significant**.

School Facilities

The geographic context for the analysis of cumulative impacts related to school facilities includes the TUSD service area, RUSD service area, and private schools that serve Tiburon and surrounding cities. Regional growth resulting from past, present, and reasonably foreseeable projects would result in increased demand for additional school facilities within all three public school districts serving the Town of Tiburon. Like development in Tiburon, the schools are expected to receive development impact fees from cumulative development within other jurisdictions. The payment of school impact fees would ensure that school facilities can accommodate future students. Therefore, cumulative impacts would be **less than significant**.

Development envisioned by the General Plan 2040 would contribute to an incremental cumulative increase in the demand for school facilities within the two school districts serving the town. The General Plan 2040's incremental contribution to less than significant cumulative impacts would not be significant. As discussed under Impact PSR-1, all development facilitated by the General Plan 2040 will be required to pay the school impact fees adopted by each school district, and this requirement is considered to fully mitigate the impacts of the General Plan 2040 on school facilities.

Therefore, impacts of the General Plan 2040 on school facilities are not cumulatively considerable and the cumulative impact would be **less than significant**.

Library Facilities

The geographic context for analysis of cumulative impacts to library facilities includes the Tiburon Library. A significant cumulative environmental impact would result if cumulative growth exceeded the ability of the Belvedere-Tiburon Library to adequately serve people within their service area, thereby requiring construction of new facilities or modification of existing facilities. All cumulative projects would be required to comply with town ordinances and other policies that address library facilities and services. Therefore, cumulative impacts would be **less than significant**.

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The General Plan 2040's incremental contribution to less than significant cumulative impacts would not be significant. At buildout, development envisioned by the General Plan 2040 would result in a population increase of 24.6 percent, which would not significantly increase demand for library services. Additionally, the Belvedere-Tiburon Library was renovated and expanded in 2019-2021 to accommodate future growth in the Town as well as provide more services to residents. For these reasons, impacts of the General Plan 2040 on library facilities are not cumulatively considerable and the cumulative impact would be ***less than significant***.

Other Municipal Services

The geographic context for analysis of cumulative impacts to other municipal services is the Town and SOI. Development envisioned by the General Plan 2040 would contribute to an incremental cumulative increase in the demand for other municipal services. All cumulative projects would be required to comply with Town ordinances other policies that address municipal services. Therefore, cumulative impacts would be ***less than significant***. The General Plan 2040's incremental contribution to the less than significant cumulative impacts would not be significant. At buildout, the anticipated population growth from the General Plan 2040 is 24.6 percent of the Town 's current population. The allocation of other municipal services is determined annually by the Town Council based upon local needs and resources. As a result, the cumulative impact on the Town budget is expected to be minor. For these reasons, impacts of the General Plan 2040 on other municipal services are not cumulatively considerable and the cumulative impact would be ***less than significant***.

Parks and Recreational Facilities

The geographic context for the analysis of cumulative impacts of parks and recreational facilities includes those located within the town boundary. A significant cumulative environmental impact would result if this cumulative growth resulted in an increase in the use of existing parks and recreational facilities, such that substantial physical deterioration of the parks or recreational facilities would occur, be accelerated, to require the construction of new parks and recreational facilities or modification of existing parks and recreational facilities. All cumulative projects would be required to comply with Town ordinances and General Plan 2040 policies that address parks and recreational facilities, such as paying park in-lieu fees and maintaining adequate parkland ratios. Therefore, cumulative impacts to parks and recreational facilities would be ***less than significant***. The General Plan 2040's incremental contribution to the less than significant cumulative impacts would not be significant. As discussed under Impact PSR-2, implementation of the General Plan 2040 would not increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated. As discussed under Impact PSR-3, the construction or expansion of parks and other recreational facilities are not expected to result in an adverse physical effect on the environment. As such, development anticipated under the General Plan 2040 would not create substantial impacts related to parks and other recreational facilities.

Further, potential future impacts to Tiburon parks and recreational facilities would be further reduced through the contribution of property taxes to ensure facilities at these locations are adequately maintained and sufficient to accommodate growth associated with cumulative development. Therefore, impacts of the General Plan 2040 on parks and other recreational facilities are not cumulatively considerable and the cumulative impact would be ***less than significant***.

In conclusion, implementation of the General Plan 2040 is not expected to result in the need for new or expanded fire protection facilities, police protection facilities, school facilities, library facilities, other municipal service facilities, parks, or recreational facilities. If future requests for land use amendments cause the need for new facilities, development of such facilities would be located within the planning area analyzed in this Draft EIR. The General Plan 2040 includes policies and programs that are specifically designed to reduce or avoid environmental impacts of construction, including construction of public facilities. The policies related to each environmental topic area are shown throughout this Draft EIR. There are no additional significant impacts related to construction of public service, recreational or park facilities beyond the construction impacts that are analyzed throughout this Draft EIR. As appropriate, future facility construction plans would be subject to project-level CEQA analysis and additional feasible mitigation, if appropriate. Therefore, there would be no significant adverse physical cumulative environmental effects associated with construction and operation of new fire protection facilities, police protection facilities, school facilities, library facilities, other municipal service facilities, parks or recreational facilities, and this impact is considered ***less than significant***.

Mitigation Measures

None required.

Figure 3.13-1. Fire Districts

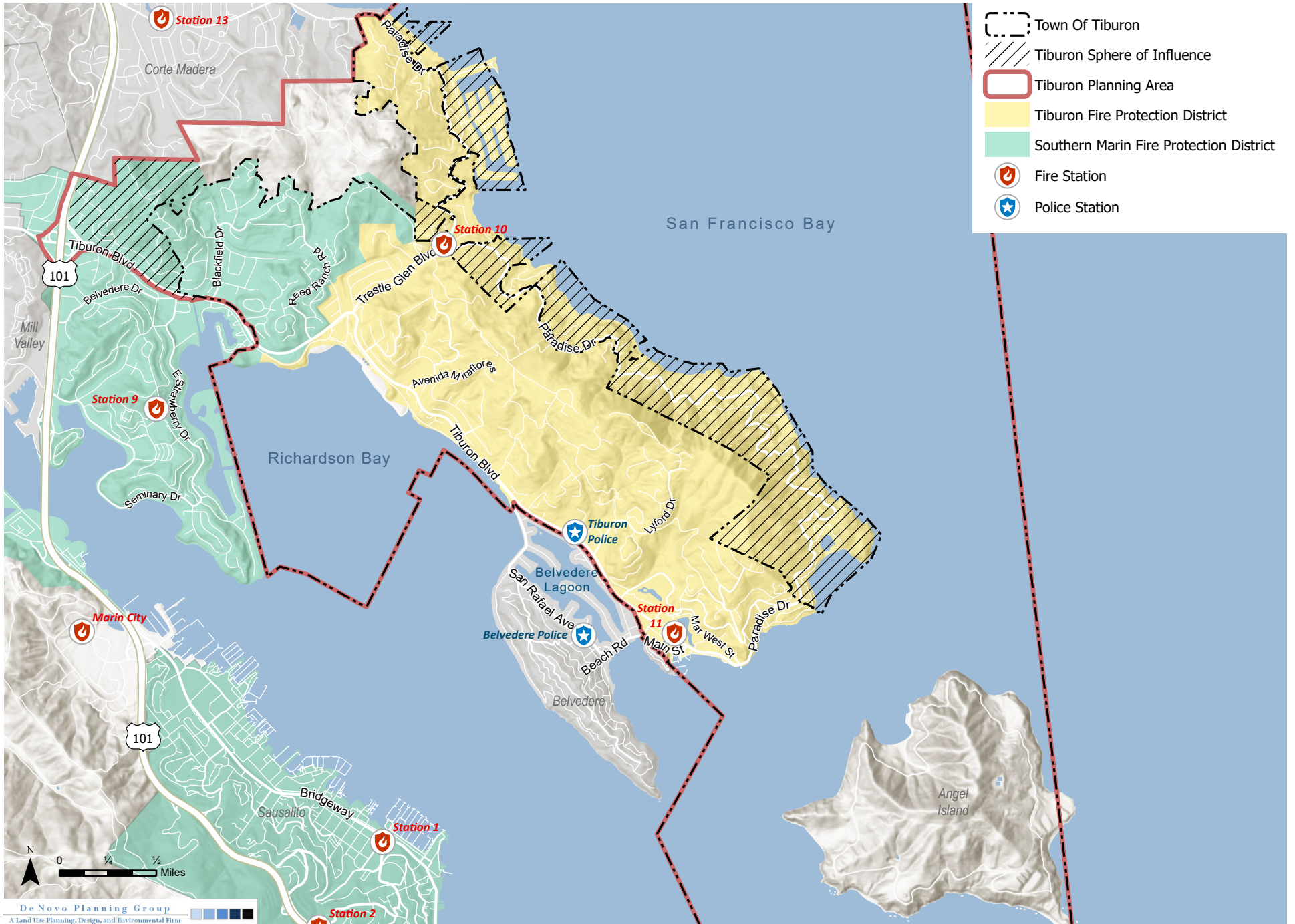
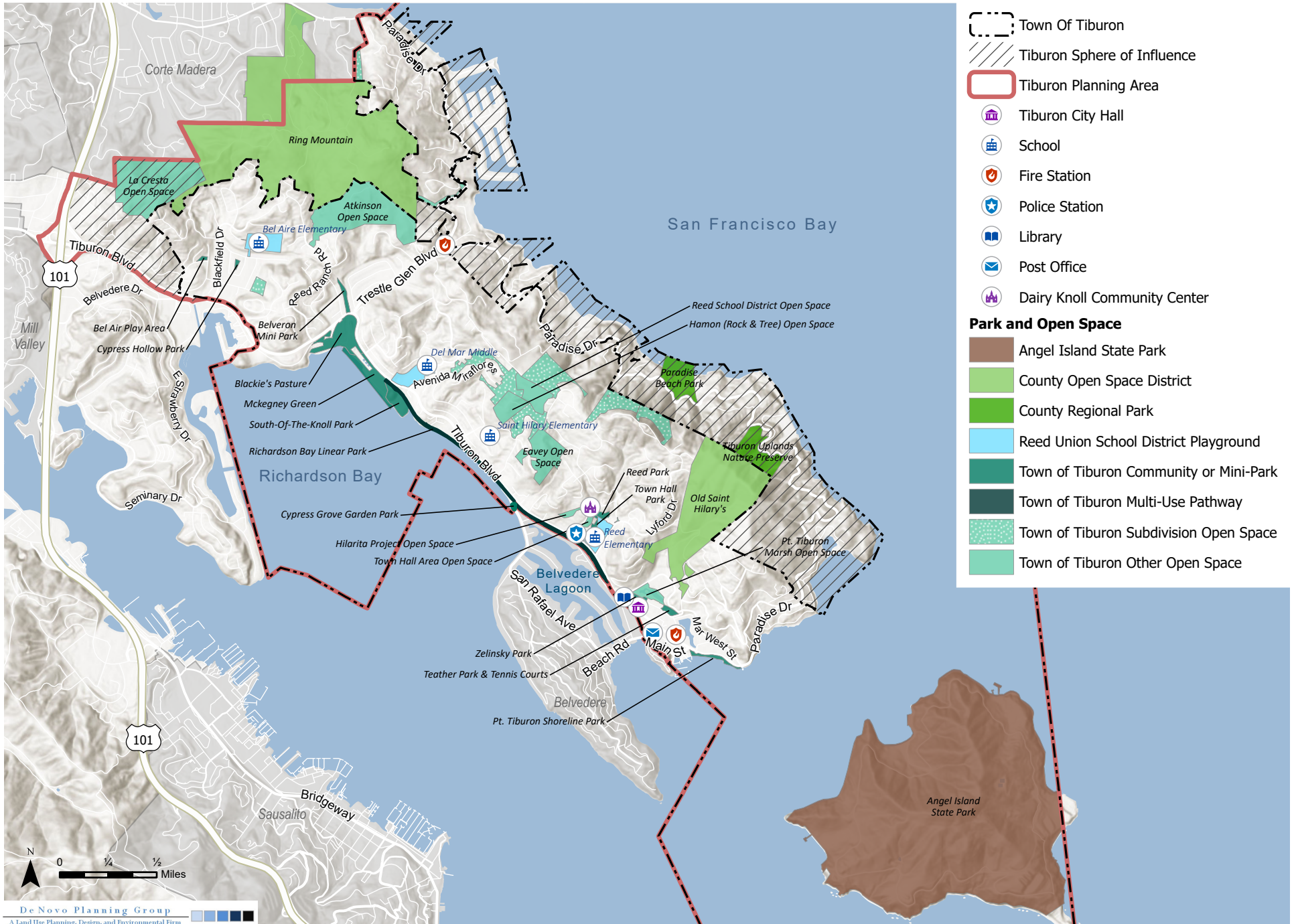


Figure 3.13-2. Public Safety, Parks, and Community Services





3.14 TRANSPORTATION

This section of the Draft EIR (Draft EIR) describes the regulatory framework and existing conditions in the Town related to transportation and evaluates the potential impacts on the local and regional circulation system that would result from implementation of the General Plan 2040. This section includes an analysis of the potential for the General Plan 2040 to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities; conflict with or be inconsistent with California Environmental Quality Act (CEQA) Guidelines Section 15064.3, subdivision (b); increase hazards due to a design feature; or interfere with emergency access. The analysis was conducted in accordance with the standards and methodologies set forth by the Town. It provides a level of detail appropriate for a program-level EIR. Future discretionary projects facilitated by the General Plan 2040 will be evaluated for project-specific impacts to transportation at the time they are proposed.

This section is based on analysis conducted by GHD including information described in the Tiburon General Plan 2040 Existing Conditions Report.

3.14.1 EXISTING SETTING

Located eight miles north of San Francisco, Tiburon is placed in the heart of the San Francisco Bay Area. The Tiburon Peninsula is accessible by ferry from downtown San Francisco, by road from Highway 101 and Highway 131 (Tiburon Boulevard), and by bicycle through San Francisco Bay Trail. Apart from San Francisco, the other nearby major cities include Sausalito, Corte Madera, and San Rafael. Coordination among the regional transportation agencies is crucial for the continuous growth through higher connectivity and multiple transportation options of the Town. **Figure 3.14-1** shows the major regional transportation facilities.

Due to its unique geography, the Tiburon Peninsula provides various challenges and opportunities for transportation. The challenges are largely due to the relative isolation that results from being an elongated peninsula and from topography that is dominated by relatively steep hillsides.

Travel Modes to Work

Tiburon has double the rate of people that use public transportation including the ferry service (18.1 percent) for their journey to work as compared to the Marin County transit trips, according to the American Community Survey (ACS) 5-year estimates from 2015-19.

Fifty-four-point-six percent (54.6%) of workers drove alone to work which is fairly low as compared to countywide (64.1 percent) and statewide (73.5 percent) averages. Tiburon also has a higher rate of residents working at home (14.9 percent during the 2015-19 period that

predates the COVID-19 pandemic), more than double the Bay Area and statewide averages prior to 2020.

On the other hand, the percentage of employed persons who walked to work is only 1.6 percent, lower than the averages for Marin County (3.4 percent) and the Bay Area (3.5 percent). Reasons behind low walking trips might be because of the town’s hilly terrain, limited provision of sidewalks, and longer distances between the destinations. Further analysis has shown a decline in walking and bicycling trips from 2016 onwards (Data USA, n.d.). It should be noted that this data does not include recreational walking and bicycling trips. The journey to work commute characteristics data is presented in **Table 3.14-1**.

TABLE 3.14-1: WORK COMMUTE CHARACTERISTICS

Jurisdiction	Town of Tiburon		Marin County		Bay Area (9 County Region)		State of California	
Employed persons ¹	4,344		130,747		4,119,405		19,078,101	
Mode Split	Number	% ²	Number	%	Number	%	Number	%
Drove Alone	2,327	54.6%	82,136	64.1%	2,522,264	65.1%	13,767,903	73.5%
Carpool	365	8.6%	10,537	8.2%	374,868	9.7%	1,841,273	9.8%
Public Transit	773	18.1%	12,346	9.6%	522,092	11.1%	970,901	5.2%
Walk	69	1.6%	4,399	3.4%	147,157	3.5%	479,751	2.6%
Other	92	2.2%	2,813	2.2%	143,493	3.3%	482,036	2.6%
Worked at Home	635	14.9%	15,930	12.4%	258,172	7.3%	1,188,387	6.3%
¹ POPULATION INCLUDES 16 YEARS OF AGE OR OLDER ² PERCENTAGES ARE ROUNDED OFF TO THE NEAREST INTEGER SOURCE: U.S. CENSUS BUREAU, 2015-2019 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES.								

Since the COVID-19 pandemic, the travel characteristics across all modes of transportation have been significantly impacted. During the lockdown in April 2020, passenger car travel was reduced by as much as three-fourths in some cities and towns as compared to the same period in 2019. However, it did regress through the end of 2020 (Ewoldsen, 2020).

Many cities took this opportunity to create a network of slow streets by closing traffic to encourage and facilitate more walking and biking, including a slow streets program on Main Street in Tiburon that was implemented through October 2021. Concerning active transportation, a cycling boom has been underway across the nation (Eco-Counter, 2021). In addition, interest and sales in electric bicycles (e-bikes) has been growing rapidly and is expected to continue to grow, with an extended range that increases the viability of bicycling for longer trips, and in areas with hilly terrain such as Tiburon, and can enhance transit access. Bicycle counts conducted in May 2020 found that approximately four to five percent of bicycles on a popular Marin County bicycle path consisted of e-bikes (Transportation Authority of Marin, September 2020).

Public transportation saw a sharp decline in ridership during the pandemic. The social distancing requirements impacted the transit fleet capacity and service intervals.

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Telecommuting and e-commerce grew during the pandemic resulting in the rise of “zoomtowns” (Fox, 2020). Although research is still ongoing, it is anticipated that some of this trend is likely to continue post-COVID, including higher rates of working from home.

Place of Work

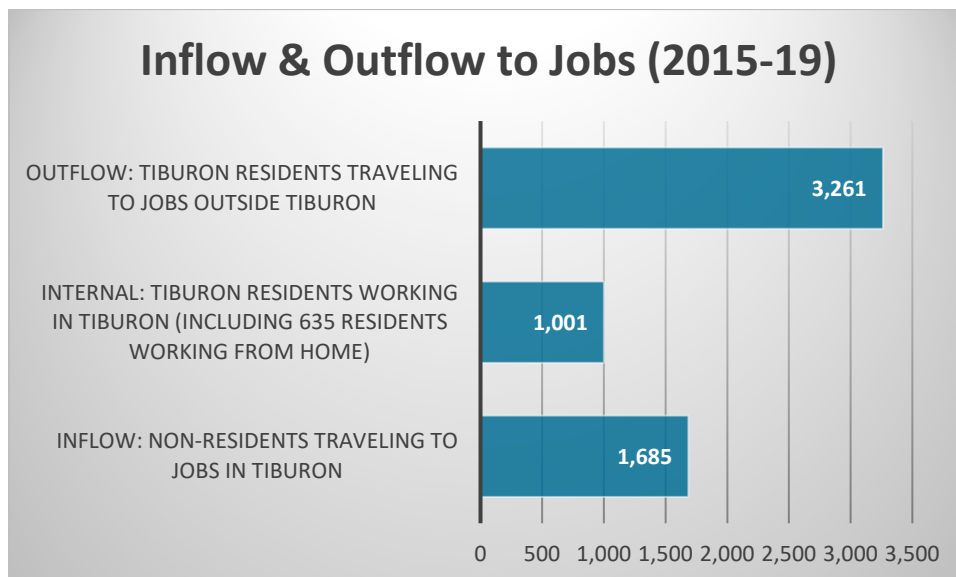
As shown in **Table 3.14-2**, a large number of residents in Tiburon and Marin County travel outside their place of residence for work based on ACS survey data from 2015-19. As shown, 3,260 Tiburon residents commuted to other jurisdictions for work, while 1,001 Tiburon residents worked in Tiburon (including 635 residents that worked from home as indicated on Table 3.14-1). **Chart 3.14-1** summarizes inflow and outflow characteristics of work trips to/from and within Tiburon, showing that approximately 1,685 non-residents commuted to jobs in Tiburon based on 2018 employment data.

TABLE 3.14-2: PLACE OF WORK

Residence	Tiburon		Marin County		Bay Area (9 County Region)*		California	
	Number	%	Number	%	Number	%	Number	%
Worked in Place of Residence	1,001	23%	36,791	31%	2,642,859	71%	14,514,622	83%
Worked Outside Place of Residence	3,260	77%	83,811	69%	1,079,553	29%	10,957,928	17%
Worked Outside State of Residence	0	0%	0	0%	14,371	0.4%	82,071	1%

* 2013-17 ACS 5 YEAR ESTIMATES
 SOURCE: U.S. CENSUS BUREAU, 2015-2019 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES.

CHART 3.14-1: INFLOW & OUTFLOW OF TRAVEL TO WORK



SOURCE: U.S. CENSUS BUREAU, OUTFLOW & INTERNAL DATA FROM 2015-19 AMERICAN COMMUNITY SURVEY (SEE TABLE 2 ABOVE); INFLOW DATA FROM U.S. CENSUS BUREAU, CENTER FOR ECONOMIC STUDIES, LONGITUDINAL EMPLOYER-HOUSEHOLD DYNAMICS (LEHD), 2018

Travel Time to Work

The mean travel time to work for Tiburon residents is 32 minutes, similar to the Marin Countywide and Bay Area average as shown **Table 3.14-3**. However, 58 percent of the work trips for the town are more than 45 minutes long with only five percent trips less than 15 mins.

TABLE 3.14-2: MEAN TRAVEL TIME TO WORK

Jurisdiction	Tiburon	Marin County	Bay Area (9 County Region)	California
Mean Travel Time to Work (in minutes)	32.2	32.6	32.3	30.7

SOURCE: U.S. CENSUS BUREAU, 2013-2017 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES.

Vehicle Miles Traveled (VMT)

A common indicator used to quantify the amount of motor vehicle use attributable to a specified area is vehicle miles traveled (VMT). One VMT is defined as any type of motor vehicle being driven one mile. Many factors affect VMT including the average distance residents travel to work, school, and shopping, as well as the proportion of trips that are made by non-automobile modes. Areas that have a diverse land use mix and adequate facilities for non-automobile modes, including transit, walking and bicycling, tend to generate lower VMT than auto-oriented suburban areas more distant from metropolitan centers.

The Transportation Authority of Marin (TAM) has developed an activity-based travel demand model, the TAM Demand Model (TAMDM) that provide estimates of VMT for trips beginning or ending in Marin County with a base year of 2015.

Table 3.14-4 shows the existing (2015) town wide rates of VMT per Capita for Tiburon residents, and VMT per Employee for jobs located in Tiburon, according to the TAMDM.

TABLE 3.14-3: VEHICLE MILES TRAVELED (VMT) ESTIMATE FOR TIBURON

Population Segment	2015	
	Residents/ Workers	VMT Per Capita/ Employee
VMT Per Capita (Tiburon residents)	9,180	15.9
VMT Per Employee (jobs in Tiburon)	3,075	24.3

SOURCE: TRANSPORTATION AUTHORITY OF MARIN, TRAVEL DEMAND MODEL (TAMDM)

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3.14.2 STREET NETWORK

Street Classifications

This section describes the physical characteristics of Tiburon’s street network. The General Plan Mobility Chapter identifies a functional classification system for each street type. A map of Tiburon’s street network is shown on **Figure 3.14-2**. The existing street classifications are defined as follows, further described on **Table 3.14-5**:

- **Arterials:** A street carrying the traffic of local and collector streets to and from freeways and other major streets, with controlled intersections and generally providing direct access to properties. Safe pedestrian and bicycle facilities, where feasible and appropriate, should be provided along arterials.
- **Collector:** A street for automobile traffic moving between arterial and local streets, generally providing direct access to properties. Safe pedestrian and bicycle facilities should be provided along the collectors where feasible and appropriate.
- **Local Streets:** A street providing direct access to properties and designed to discourage through traffic. Dedicated bicycle and pedestrian facilities, even if feasible, may not be necessary if traffic speeds are slow enough to comfortably share the roadway space.

Table 3.14-6 and **Table 3.14-7** summarizes the street network based on functional classification miles and ownership.

TABLE 3.14-4: ROADWAY CLASSIFICATIONS & STREET DESIGN CHARACTERISTICS

Type	Function	Examples	Traffic Lanes
Freeway	Connects regional activity centers	U.S. 101	> 4
Major Arterial	Connects major local activity centers; also connects arterials with freeways	Tiburon Blvd., from U.S. 101 to Trestle Glen	4
Minor Arterial	Connect major arterial with collector and local streets.	Tiburon Blvd., from Trestle Glen to Main St.; Trestle Glen Blvd.	2 – 4
Collector	Collects traffic from local streets and channels it to arterial streets.	Blackfield Dr., Reed Ranch Rd., Lyford Dr., Stewart Dr.	2
Local	Serve adjacent residential and commercial property.	Gilmartin Dr., Cecilia Way, Main St., Mountain View Dr., Mt. Tiburon Rd., Juno Rd.	2

SOURCE: TIBURON GENERAL PLAN, 2016

TABLE 3.14-5: STREET NETWORK MILES BY CLASSIFICATION

Street Class	Tiburon (Miles)	Planning Area (Miles)
Freeways and Expressways	0	0
Major Arterial	0.6	1.2
Minor Arterial	3.1	3.1
Collector	5.2	11.3
Local Streets ¹	47.0	55.3
Total	56.0	71.0

SOURCE: MARIN COUNTY GIS PORTAL, 2020

TABLE 3.14-6: STREET OWNERSHIP INFORMATION

Ownership	Tiburon (Miles)	Planning Area (Miles)
Town of Tiburon	52.9	52.9
Caltrans	3.1	3.72
Others (Marin County, Corte Madera)	0	14.38
Total	56.0	71.0

SOURCE: MARIN COUNTY GIS PORTAL, 2020

State Route 131 (Tiburon Blvd)

Caltrans operates and maintains the only state route in Tiburon, SR 131 (Tiburon Blvd). SR 131 is a two to four-lane east-west arterial that carries between 10,000 and 42,000 vehicles per day. It is the only dedicated truck route in the Town. SR 131 is a divided four-lane road from US 101 to Reed Ranch Rd, where it becomes an undivided two-lane road through the rest of the Town. SR 131 primarily provides connection to collector and local streets, as well as some commercial/retail land uses. SR 131 connects to US 101, which provides regional access to the rest of Marin County, Sonoma County, and San Francisco.

3.14.3 TRAFFIC VOLUMES

Daily (24-hour) motor vehicle traffic volumes on key street segments are summarized below on Table 3.14-8 and on Figure 3.14-9. It should be noted that volumes are from prior years, as new counts could not be collected in 2020 or 2021 due to the COVID-19 pandemic that reduced travel. Traffic volumes are below capacity on most segments.

TABLE 3.14-7: DAILY TRAFFIC VOLUMES, NUMBER OF LANES & POSTED SPEED LIMIT COMPARISON

Roadway	2005	2014	Percent change (2005-14)	2017*	Number of through Lanes	Posted Speed Limit
Tiburon Blvd, west of Redwood Highway Frontage Rd near US 101	41,000	42,100	+3%	48,300	4	35
Tiburon Blvd, west of Blackfield Dr	32,000	30,150	-6%	32,100	4	45
Tiburon Blvd, east of Reed Ranch Road	26,000	26,887	+3%	24,400	4	40
Tiburon Blvd, south of Trestle Glen Blvd	23,100	22,522	-3%		2	40
Tiburon Blvd, north of Avenida Miraflores	-	19,800	N/A		2	40
Tiburon Blvd, north of Rock Hill Dr	19,800	17,950	-9%	20,000	2	40
Tiburon Blvd, north of Lyford Dr	16,000	13,850	-13%		2	35
Tiburon Blvd, south of Beach Rd	7,600	10,400	+37%		2	30
Tiburon Blvd, north of Main St			N/A	6,000	2	30
Trestle Glen Blvd, east of Tiburon Blvd	-	6,225	N/A		2	35
Paradise Dr, east of Trestle Glen Blvd	-	1,535	N/A		2	25

SOURCE: 2017* - FROM CALTRANS- [HTTPS://DOT.CA.GOV/PROGRAMS/TRAFFIC-OPERATIONS/CENSUS/TRAFFIC-VOLUMES/2017](https://dot.ca.gov/PROGRAMS/TRAFFIC-OPERATIONS/CENSUS/TRAFFIC-VOLUMES/2017)

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TIBURON GENERAL PLAN, 2016

Public Transportation System

Public transportation in Tiburon is provided by Marin Transit, Golden Gate Transit/Ferry, and Angel Island/Tiburon Ferry. All transit services are operating with reduced services at the time of writing due to the COVID-19 pandemic, so where possible, pre-pandemic services are presented along with current services. **Table 3.14-9** lists current public transportation services as of time of writing (Winter 2021).

Marin Transit

Marin Transit is the agency responsible for local transit service within Marin County, including Tiburon. The agency operates local transit services and contracts with other operators for three types of fixed route services within the county: large bus fixed route, shuttle, and rural service. Marin Transit also operates paratransit and dial-a-ride service within Marin County.

Currently, there is only one fixed route service within Tiburon: Route 219, which operates along Tiburon Blvd between downtown Tiburon, Belvedere, and US-101 at Seminary Dr Bus Pad in Mill Valley, where connections can be made to regional routes. The route also serves residential neighborhoods in Tiburon on a limited basis during weekdays, however this has been temporarily suspended. The route operates 7-days a week with 30-45 min headways. On weekdays the operating hours are 6:38am-8:53pm and on Weekends/Holidays they are 8:06am-7:58pm. Pre-pandemic, this route operated on a similar schedule, with the exception of inclusion of service to residential areas in Tiburon.

Pre-pandemic, Marin Transit operated school routes on weekdays directly before and after typical school hours. Two of these routes served Tiburon: Route 113 and Route 119. Route 113 made AM trips and 1-2 PM trips, beginning in Paradise Cay and serving East Corte Madera before ending at Redwood High School in Larkspur. Route 119 made 2 AM trips and 1-2 PM trips, beginning at Main St/Tiburon Blvd and making stops in Belvedere and along Tiburon Blvd before ending at Redwood High School in Larkspur. It is expected that both routes will resume post-pandemic once in-person school instruction resumes.

Golden Gate Transit

Golden Gate Transit operates transit services between Marin County and Sonoma, San Francisco, and Contra Costa Counties. It is one of three operating divisions of the Golden Gate Bridge, Highway, and Transportation District. The agency operates two inter-county bus services: Transbay Basic Service, and Transbay Commute Service. Prior to the pandemic, one commute bus route was operated between Tiburon and San Francisco with two AM trips and one PM trip.

Golden Gate Ferry

The Golden Gate Bridge, Highway, and Transportation District operate ferry services between Marin County and San Francisco via conventional and high-speed ferries. Service is provided between the Tiburon Ferry Terminal (located in downtown Tiburon) and the San Francisco Ferry Building Gate B, Monday-Friday. Current service as of January 2022 includes three AM and two PM trips outbound to San Francisco, and two AM and three PM trips inbound to Tiburon. It should be noted that ferry schedules are updated quarterly and vary by season. More crossings are typically offered in the summer than in winter to account for increased tourist traffic.

Since December 13, 2021, Golden Gate Ferry also operates daily service between the San Francisco Ferry Building and Angel Island, with five daily roundtrips from Monday to Friday, and four daily roundtrips on Saturday and Sunday.

Angel Island/Tiburon Ferry

The Angel Island/Tiburon Ferry operates recreational ferry service between Angel Island and downtown Tiburon. Service varies by season and in general more crossings are offered in the summer to account for increased tourist traffic. At the time of writing (Winter 2021), three crossings to Angel Island and four crossings to Tiburon were being offered on weekends; however, service is not being offered at all times during the winter due to the pandemic. Pre-pandemic, service was offered on one-to-two-hour headways, depending on the time of year. Service was offered at one-hour headways on weekends from April to October, and on one-to-two-hour headways from November to March. No service was offered on weekdays during the winter except by reservation.

Pilot Late Night Ferry Service Program

A pilot late-night and weekend service is proposed between San Francisco and Tiburon with partial funding from the Town preliminarily approved in October 2021. The service would operate on Thursday through Saturday evenings. The Town would subsidize up to 80% of the estimated cost during the first two years of the program. The remaining 20% would be collected from businesses that benefit from the service.

Additionally, the Golden Gate Bridge Highway & Transportation District resumed direct commuter ferry service between Tiburon and San Francisco in December 2021, just ahead of the town's pilot program for weekend and evening runs.¹ Effective January 2, 2023, the commuter runs start at 6:50 a.m. from Tiburon and arrive in San Francisco at 7:20 a.m. The last trip to Tiburon leaves San Francisco at 6:40 p.m. and arrives in Tiburon at 7:20 p.m.²

¹ Golden Gate Ferry resumes Tiburon-to-SF run. Marin Independent Journal. December 14, 2021. Available at: <https://www.marinij.com/2022/01/03/golden-gate-ferry-resumes-tiburon-to-sf-run/>. Accessed March 9, 2023.

² Source: <https://www.goldengate.org/ferry/route-schedule/tiburon-san-francisco/?backurl=%2Fferry%2Fschedules-maps%2F>.

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Marin Access Paratransit

Marin Access Paratransit offers pre-scheduled bus transportation for persons with disabilities in Marin County. Service is offered within ¾ mile of fixed route Marin Transit routes and covers portions of Tiburon. Service is provided to paratransit eligible individuals on an on-demand basis, during regular Marin Transit operating hours.

TABLE 3.14-8: PUBLIC TRANSPORTATION SERVICES IN TIBURON (AS OF JANUARY 2022)

Service Provider	Route	Description	Frequency
Marin Transit	Route 219 Tiburon-Strawberry bus	Downtown Tiburon to/from Strawberry (Redwood Highway Frontage Road & DeSilva Island Drive)	30 to 45-minute headways
Golden Gate Ferry	Tiburon-San Francisco Ferry Building	Tiburon Ferry Terminal to/from San Francisco Ferry Building	7 daily roundtrips (weekdays), 4 daily roundtrips (Saturday/Sunday)
Angel Island Tiburon Ferry	Tiburon-Angel Island	Tiburon Ferry Terminal to/from Angel Island	Varies
Marin Access Paratransit	N/A	On-Demand within ¾ mile of Marin Transit fixed-route service	Varies

SOURCE: MARIN TRANSIT, GOLDEN GATE TRANSIT, ANGEL ISLAND-TIBURON FERRY, MARCH 2023.

Active Transportation

Like many other small towns in the nation, Tiburon has a compact center well-suited for walking and bicycle trips. The active transportation network is designed for a range of ages, abilities, incomes, and skill levels. It is designed for people to move independently within their community—such as families walking to the nearby school—and also to experience the landscape between communities, for travel, recreation, or in the context of bicycle tourism (Federal Highway Administration, 2016). The following section describes the bicycle and pedestrian network for Town.

Bicycle Facilities

One of the underlying goals of statewide “complete streets” requirements is that all modes of travel, including bicycles, should be adequately accommodated on most streets, not just streets that are designated as bikeways. Therefore, the provision of travel accommodations may occur throughout the town’s transportation network. Designated bikeways are routes where an additional level of bicycle accommodation is to be provided. There are four classifications of designated bikeway facilities in California, as defined by the California Department of Transportation (Caltrans):

- Multi-Use Paths (Class I Bikeways).** A path physically separated from motor vehicle traffic by an open space or barrier, and either: within a highway right-of-way or within an independent right-of-way used by bicyclists, pedestrians, joggers, skater, and other non-motorized travelers. Because the availability of uninterrupted rights-of-way is limited, this type of facility may be difficult to locate and more expensive to build relative to other types of bicycle and pedestrian facilities, but less expensive compared to building new roadways. The 2.6-mile Old Rail Trail connects Richardson Bay from Blackie’s Pasture,

Downtown Tiburon and Shoreline Park. The Old Rail Trail is in close proximity to schools, shopping areas, parks, and public facilities.

- **Bicycle Lanes (Class II Bikeways).** A portion of a roadway that has been set aside by striping and pavement markings for the preferential or exclusive use of bicyclists. Bicycle lanes are intended to promote an orderly flow of bicycle and vehicle traffic. This type of facility is established by using the appropriate striping, legends, and signs. Buffered bicycle lanes are further enhanced by providing a designated buffer space, typically with pavement markings, between the bicycle lane and adjacent on-street parking or motor vehicle lane. Buffered bicycle lanes provide greater separation between bicyclists and motorists and/or avoid the door zone adjacent to parked cars.
- **Bicycle Routes (Class III Bikeways).** Class III bicycle routes are facilities where bicyclists share travel lanes with motor vehicle traffic. Bike routes must be of benefit to the bicyclist and offer a higher degree of service than adjacent streets. They provide for specific bicycle demand and may be used to connect discontinuous segments of bicycle lane streets. They are often located on local residential streets. Presently, the town has 2.8 miles of class III bikeways on Paradise Drive.
 - *Bicycle Boulevard.* In addition, many cities have installed an enhanced type of Class III Bicycle Route, referred to as a “Bicycle Boulevard.” Bicycle Boulevards are generally installed on relatively low-volume streets and often include elements to facilitate bicycle travel, such as reorienting stop signs to reduce delays to cyclists, and/or discouraging use by motorists making through trips, such as through inclusion of traffic calming measures.
- **Separated Bikeway (Class IV Bikeways).** A Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and adjacent vehicle traffic. The physical separation may include flexible posts, grade separation, inflexible physical barriers or on-street parking. Separated bikeways generally operate in the same direction as vehicle traffic on the same side of the roadway. However, two-way separation bikeways can also be used, usually in lower speed environments. Presently, there are no class IV bikeways in Tiburon. However, Tiburon Boulevard between US-101 and Blackfield / Greenwood Cove Drive could be the potential location for class IV bikeways.

Figure 3.14-4 shows the existing and planned bikeway network for the Tiburon. The existing bicycle facilities follow “Paradise Loop” which runs along Tiburon Boulevard and Paradise Drive and forms the primary bicycle transportation and recreation spine of the Tiburon Peninsula. **Table 3.14-10** shows the existing and proposed length of bikeways by class.

TABLE 3.14-9: BIKEWAY NETWORK MILES

Type OF Bikeway	Bikeway Class	Existing (Miles)	Proposed (Miles)
Multi-use Paths	I	2.72	0.0
Bicycle Lanes	II	0.72	1.61
Bicycle Routes	III	2.84	0.97

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Separated Bikeways	IV	0.00	0.03
Total	--	6.13	2.61

SOURCE: TIBURON BICYCLE AND PEDESTRIAN MASTER PLAN, 2016

Walking Conditions

Sidewalk, Path & Crosswalk Network

In addition to the Old Rail Trail, Tiburon has a variety of pedestrian facilities consisting of sidewalks, crosswalks, stairways, and walkways. A number of these facilities are more or less developed, consisting of historic stairways and unpaved or narrow footpaths (Town of Tiburon, 2016). Examples of high-use pedestrian areas include the downtown area and crossings of Tiburon Boulevard to access destinations such as schools, the post office, and library. In addition, a walkway extends along a segment of Mar West Street to the Tiburon Peninsula Club.

Figure 3.14-5 provides a map showing pedestrian constraints and gaps in the walking network. It is evident that the northern portion of the town lacks dedicated pedestrian facilities. In the southern portion of the town, Rock Hill Road from Tiburon Boulevard to St. Hilary Middle School could be another potential segment for sidewalk addition.

Transportation Safety

Collision history from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS), University of California, Berkeley's Transportation Injury Mapping System (TIMS) were obtained for five years (2015-2019) to determine existing motor vehicle collision trends. The locations of the motor vehicle collisions are shown in **Figure 3.14-6**. As shown in **Table 3.14-11**, there were a total of 58 reported collisions during the years from 2015 to 2019. **Figure 3.14-7** depicts the type of reported collision by location.

- There were no fatal collisions reported for the specified time frame.
- On average, one serious injury and four visible injury collisions are reported annually.
- Severe injuries occurred in five percent of all the collisions and the major cause of such collisions is unsafe speed.
- Rear end collisions were the most common occurring collision type (33%), followed by Broadside collisions (14%).
- The two most common primary collision factors were unsafe speed (36%) and automobile right-of-way (15%)

Bicyclists and motorcyclists were involved in 19 percent and 16 percent of collisions resulting injuries. As shown in **Table 3.14-12**, just three injury collisions involved pedestrians, while 11 involved bicyclists, and nine involved motorcyclists.

TABLE 3.14-10: REPORTED COLLISIONS BY CRASH SEVERITY (2015-19)

Crash Severity	Total Crashes
Fatal	0
Severe Injury	3
Visible Injury	20
Complaint of Pain	35
Total	58

SOURCE: TIMS, 2021

TABLE 3.14-11 FATAL AND INJURY COLLISIONS BY MODE OF TRAVEL (2015-19)

Road Users Involved	Fatal	Severe Injury	Visible Injury	Complaint Of Pain	Total
Pedestrian - Vehicle	0	0	3	0	3
Bicycle - Vehicle	0	0	5	6	11
Motorcycle - Vehicle	0	0	4	5	9
Other Motor Vehicle Collisions	0	3	8	24	35
Total	0	3	20	35	58

SOURCE: TIMS, 2021

Bicycle and Pedestrian Collisions

The locations of reported bicycle and pedestrian collisions are shown in **Figure 3.14-8**. As shown, bicycles or pedestrians were involved in approximately 24 percent of reported collisions. The majority of collisions involving bicycles or pedestrians were Vehicle-Bicycle collisions, accounting for approximately 19 percent of total collisions.

Bicycle and pedestrian collisions occurred mainly along Tiburon Boulevard and Paradise Drive. Four bicycle and pedestrian collisions occurred near the intersection of Cecilia Way and Paradise Drive. The other major hotspot for bicycle and pedestrian collision is near the Shoreline Park.

Alternative Fuel Vehicles

With incentives from government, more Californians are moving towards cleaner alternative energy sources for their vehicles as a way to reduce their impact on the natural environment. As one of the largest producers of pollution, the automobile and transportation industries

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are rapidly responding to this shift toward alternative fuel sources for vehicles. Marin County has the 2nd highest per capita EV ownership of any county in the California, and with 58 charging stations and 201 charging ports, there are more EV charging stations than gas stations in Marin County (Transportation Authority of Marin, 2018). TAM has funded the two charging stations in Tiburon. Additional infrastructure deployment will be essential to for the success of alternative fuel vehicles. **Figure 3.14-10** shows the location of existing hydrogen and electric vehicle charging stations.

3.14.4 REGULATORY SETTING

Federal

The U.S. Department of Transportation (DOT) is the umbrella agency for all federal transportation policies and regulations. The DOT's stated goals are to keep the traveling public safe, increase national mobility, and support the national economy through the transportation system. The DOT oversees several agencies that administer federal statutes for various branches of transportation, including:

- The National Highway Traffic Safety Administration, which is responsible for motor vehicle and highway transportation safety standards and regulations
- The Federal Highway Administration, which is responsible for laws pertaining to commercial freight and the maintenance and preservation of interstate highways, tunnels, and bridges
- The Federal Motor Carrier Safety Administration, which is responsible for safety regulation laws for large commercial vehicles
- The Federal Railroad Administration, which is responsible for regulating the safety and development of the U.S. railroad system
- The Federal Transit Administration, which provides financial and technical assistance to local public transportation systems

These agencies support state and local governments in the design, construction, and maintenance of transportation systems through various programs and projects³ (Transportation Law).

State

California Department of Transportation

The California Department of Transportation (Caltrans) is charged with managing and maintaining the State's highway system. Caltrans directly manages more than 50,000 lane miles of State and federal highways, as well as over 12,000 highway bridges; permits more

³ For more information: <https://www.fhwa.dot.gov/federalaid/projects.cfm>

than 400 public-use airports; and operates three of the top five Amtrak intercity rail services.⁴ Caltrans' Strategic Plan 2020-2024 identifies six primary goals: Safety First, Cultivate Excellence, Enhance and Connect the Multimodal Transportation Network, Strengthen Stewardship and Drive Efficiency, Lead Climate Action, and Advance Equity and Livability in All Communities.⁵ Within the Tiburon Planning Area, Caltrans maintains Highway 101.

Caltrans Deputy Directive 64-R1: Complete Streets-Integrating the Transportation System

In 2001, Caltrans adopted Deputy Directive 64: a policy directive related to non-motorized travel throughout the state. In October 2008, Deputy Directive 64 was strengthened to reflect changing priorities and challenges. Deputy Directive 64-R1 states:

The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. Providing safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Department's mission/vision: "Improving Mobility across California.

Successful long-term implementation of this policy is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas (GHG) emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

Caltrans Director's Policy 22: Director's Policy on Context Sensitive Solutions

Director's Policy 22, a policy regarding the use of "Context Sensitive Solutions" on all State highways, was adopted by Caltrans in November of 2001. The policy reads:

The Department uses "Context Sensitive Solutions" as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders.

⁴ California Department of Transportation (Caltrans). Caltrans Strategic Management Plan 2015-2020. Website: <https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/caltrans-strategic-mgmt-plan-033015-a11y.pdf>. Accessed February 28, 2023.

⁵ California Department of Transportation (Caltrans). Caltrans Strategic Plan 2020-2024. Website: <https://dot.ca.gov/-/media/dot-media/programs/risk-strategic-management/documents/sp-2020-16p-web-a11y.pdf>. Accessed February 28, 2023.

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The context of all projects and activities is a key factor in reaching decisions. Context is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.

The policy recognizes that “in towns and cities across California, the State highway may be the only through street or may function as a local street,” that “these communities desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods,” and that “communities want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality.” The policy acknowledges that addressing these needs will assure that transportation solutions meet more than just traffic and operational objectives.

Complete Streets Act

On September 30, 2008, Governor Schwarzenegger signed into law Assembly Bill (AB) 1358, the California Complete Streets Act of 2008. As of January 2011, AB 1358 requires any substantive revision of the circulation element of a city or county’s general plan to identify how it will safely accommodate the circulation of all users of the roadway including pedestrians, bicyclists, children, seniors, individuals with disabilities, and transit riders, as well as motorists. A “Complete Street” is one that provides safe and convenient travel in a manner that is suitable to the local context.

Senate Bill 743

On September 27, 2013, California Governor Jerry Brown signed Senate Bill (SB) 743 into law, which changes the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 required the Governor’s Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to using level of service (LOS) for evaluating transportation impacts. Particularly within areas served by transit, those alternative criteria must “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” (Public Resources Code [PRC] Section 21099(b)(1).)

In addition, SB 743 adds Public Resources Code Section 21099, which provides that “aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.” A transit priority area is defined as an area within 0.5 mile of an existing or planned major transit stop. Public Resources Code Section 21064.3 defines a major transit stop as a “site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon commute periods.”

Vehicle Miles Traveled

Following the enactment of SB 743, the OPR identified Vehicle Miles Traveled (VMT) as the new metric to analyze transportation impacts.

In December 2018, the OPR recommended changes to the CEQA Guidelines that were adopted and described in new Section 15064.3, codifying the new VMT requirement and setting forth criteria for evaluating transportation impacts using VMT. Under Section 15064.3, VMT analysis is mandatory for all projects effective July 1, 2020. (Subd. (c).) A project's effect on automobile delay (e.g., LOS) no longer constitutes a significant environmental impact. (Subd. (a).)

Under CEQA Guidelines Section 15064.3, a lead agency has discretion to choose the most appropriate methodology for evaluating VMT, including whether to evaluate it qualitatively or quantitatively, and whether to express the change in absolute terms, per capita, per household, or in any other measure. (Subd. (b)(4).) The lead agency may use a model to estimate a project's VMT, and it may revise the model's estimates to reflect professional judgment based on substantial evidence. Any estimates and assumptions, and any revisions to model outputs, should be documented and explained in the CEQA document. If existing models and methods are not available to estimate VMT for the particular project being considered, the lead agency may analyze VMT qualitatively. (Subd. (b)(3).) A qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. Additionally, land use projects within one-half mile of an existing major transit stop or a stop along an existing high-quality transit corridor are presumed to cause less than significant transportation impacts. (Subd. (b)(1).) Projects that decrease VMT in the project area compared to existing conditions should be presumed to have a less-than-significant transportation impact.

In December 2018, the OPR released a revised Technical Advisory, which provides advice and recommendations regarding the assessment of VMT, thresholds of significance, and mitigation measures.⁶ Key recommendations described in the OPR guidelines include:

- Land use development near transit or in VMT-efficient areas should be presumed to cause a less-than-significant transportation impact.
- Transit, active transportation, and rehabilitation projects that do not add motor vehicle capacity should also be presumed to cause a less-than-significant impact.
- Consistent with CEQA requirements that grants discretion to cities to identify locally applicable impact thresholds: OPR's guidelines do not require a specific methodology for measuring VMT and identifying impact thresholds, but instead defer to local jurisdictions to identify methodologies and thresholds applicable to each local setting.

⁶ Governor's Office of Planning and Research (OPR). 2018. Technical Advisory: On Evaluating Transportation Impacts in CEQA.

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- The OPR guidelines describe recommended methodologies for local agencies to consider when updating their transportation impact thresholds.
- OPR recommends that VMT be quantified on a “per capita” (per resident) basis for residential projects, and on a “per employee” for office development. OPR recommends that VMT impact thresholds for residential and employment uses be based on comparing “projects” under CEQA with area-wide averages, with project impacts evaluated under a “per capita” or “per employee” methodology considered potentially significant if project VMT exceeds the selected threshold. Establishing VMT impact thresholds that are 15 percent below existing rates has been suggested, but not required, in order to help meet statewide greenhouse gas (GHG) reduction goals. Cities and towns can choose whether to base their VMT impacts thresholds on regional, countywide, or sub-regional averages (while citywide or town-wide averages can also be utilized for residential VMT thresholds).
- For retail projects, OPR recommends that VMT be evaluated based on the “net change” in VMT (not a rate) since retail projects typically redistribute traffic within a market area rather than resulting in net new VMT (thus a net increase in VMT could be considered potentially significant).
- OPR provides several recommendations for mixed-use projects, including evaluating each use separately or evaluating mixed-use projects based on the appropriate methodology for the predominant land use.

Caltrans - Context Sensitive Street Design

Caltrans promotes “*Context Sensitive Solutions*” as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders. Context sensitive solutions meet transportation goals in harmony with community goals and natural environments. They require careful, imaginative, and early planning, and continuous community involvement.

Regional

Plan Bay Area 2050

The Association of Bay Area Governments (ABAG) is the official comprehensive planning agency for the San Francisco Bay region, which is composed of the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma, and also contains Highway 101 jurisdictions. The Regional Transportation Plan and Sustainable Community Strategy (RTP/SCS) for the San Francisco Bay Area, named Plan Bay Area 2050 was jointly produced and adopted by the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) on October 21, 2021. Plan Bay Area 2050

is the strategic update to Plan Bay Area 2040, and it connects the elements of housing, the economy, transportation and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. It is a roadmap to help Bay Area cities and counties preserve the character of our diverse communities while adapting to the challenges of future population.⁷

Local agencies seeking funding through MTC's One Bay Area Grant (OBAG) Program are expected to show compliance with Complete Streets policies. MTC via OBAG is a potentially major source for transportation funding. MTC will embark on a third OBAG cycle beginning in 2022 in order to advance Plan Bay Area 2050. Meeting eligibility requirements would allow the Town to apply for Local Street and roads preservation, safe routes to schools, pedestrians and bicycle improvements, and transportation for livable community funds.

Under Plan Bay Area 2050's strategies, just under half of all Bay Area households would live within one half-mile of frequent transit by 2050, with this share increasing to over 70% for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from over 50% in 2015 to 36% in 2050. GHG emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19% reduction in per-capita emissions by 2035 — but only if all strategies are implemented.

Throughout Plan Bay Area 2050, Growth Geographies are geographic areas used to guide where future growth in housing and jobs would be focused under the plan's strategies over the next 30 years. These geographies are identified for growth either by local jurisdictions or because of their proximity to transit or access to opportunity. The four types of Growth Geographies analyzed in Plan Bay Area 2050 are: Priority Development Areas (PDAs), Priority Production Areas (PPAs), Transit-Rich Areas (TRAs), and High-Resource Areas (HRAs).⁸ Tiburon contains a Transit-Rich and High-Resource Area on the southern portion of the Town.⁹

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area, including Marin County. It also functions as the federally mandated Metropolitan Planning Organization (MPO) for the region. It is responsible for regularly updating the Regional Transportation Plan (RTP), a

⁷ Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2021. Plan Bay Area 2050. May 26.

⁸ Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2021. Plan Bay Area 2050. May 26. Page 18.

⁹ Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2021. Plan Bay Area 2050. May 26. Page 19.

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comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

As stated in Section 3.7, Greenhouse Gas Emissions, SB 375 was adopted as the means for achieving regional transportation related GHG targets. Among the requirements of SB 375 is the creation of a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the RTP must be consistent with one other, including action items and financing decisions. MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission. Plan Bay Area 2050 is the current RTP.

The MTC has established its policy on Complete Streets in the Bay Area. The policy states that projects funded all, or in part, with regional funds (e.g., federal, State Transportation Improvement Program, and bridge tolls) must consider the accommodation of bicycle and pedestrian facilities, as described in Caltrans Deputy Directive 64. These recommendations do not replace locally adopted policies regarding transportation planning, design, and construction. Instead, these recommendations facilitate the accommodation of pedestrians, including wheelchair users, and bicyclists into all projects where bicycle and pedestrian travel is consistent with current adopted regional and local plans.

Transportation Authority of Marin

The MTC requires the local transportation authority, in this case the TAM, to establish transportation plans that are incorporated into the larger RTP. In Marin County, the TAM is also the Congestion Management Agency tasked with preparing a comprehensive transportation improvement program among local jurisdictions that describes the strategies to reduce traffic congestion and improve land use decision-making.

TAM is required to prepare, update, and monitor the Congestion Management Program (CMP). The CMP consists of monitoring, performance measurement, and a capital improvement plan for roadways, bicycle and pedestrian facilities, and transit services. As required by State legislation, TAM maintains a travel demand model to forecast proposed changes to the transportation network. The 2019 CMP Update includes a Transportation Demand Management (TDM) element that outlines projects and strategies that promote alternate modes of transportation and thereby help reduce traffic congestion and improve air quality, as required by the State of California Government Code Section 65089(b) Subsection (3).¹⁰ Local governments have an opportunity to ensure that TDM measures are adequately factored into this decision making process as they review new development proposals and make key decisions on planning and zoning matters. Local governments may also choose to support (through resolution or other means) regional TDM measures, including carpool lanes and ridesharing facilities and programs, which could be implemented by other agencies, such as the TAM or MTC.

¹⁰ Transportation Authority of Marin (TAM). 2019. 2019 Congestion Management Plan Update, page 32.

Marin County Congestion Management

The Transportation Authority of Marin (TAM) is the Congestion Management Agency (CMA) for Marin County and funds transportation projects that improve mobility, reduce congestion, and provide a transportation system with more options countywide. TAM is responsible for developing expenditure plans for voter-approved local sales tax measures, such as Measure AA and Measure B. The agency coordinates a variety of projects among the County's local agencies (including Tiburon) as well as regional and state partners, including highways, sidewalks, Safe Routes to School, bicycle lanes, transit, and alternative commute options.

TAM, as the county's CMA, also maintains a Congestion Management Program (CMP) as required by the California Government Code 65089. TAM is also required to monitor the implementation of all elements of the CMP and prepare a monitoring report every other year. This report fulfills the biennial monitoring task as required by the State. The CMP includes LOS monitoring of freeways and major arterials, the performance of multi-modal transportation options, such as transit and bicycle/pedestrian, discussion of Transportation Demand Management, Land Use Analysis program, the role of the Travel Demand Model, and a 7-year Capital Improvement Program.

As part of the CMP monitoring requirements, TAM bi-annually monitors LOS on 10 freeway segments and 17 arterial segments in Marin County. Should a segment fall below the established LOS standard for that segment, the jurisdiction in which the segment is located is required to participate in the preparation, adoption, and implementation of a deficiency plan to improve the LOS. Each Marin County jurisdiction, including Tiburon, is additionally required by the CMP to participate in the Land Use Analysis program, under which the impacts of land use decisions on the regional transportation system are analyzed and if necessary, mitigated.

There are no CMP segments within Town limits; however, one segment borders it and is a major connector into Tiburon: SR-131 (Tiburon Blvd) from US-101 to Strawberry Dr. In the most recent monitoring cycle to date (2018), Tiburon Blvd operated at LOS A in both the AM and PM peak period. TAM also monitors bicycle/pedestrian activity at two locations within Town limits each bi-annual monitoring cycle: Tiburon Blvd at Main St, and Tiburon Bike Path at Blackie's Pasture.

Marin County Unincorporated Bicycle and Pedestrian Master Plan

The Marin County Unincorporated Area Bicycle and Pedestrian Master Plan, 2018 is an update to the 2008 plan conducted an in-depth needs analysis identifying areas of concerns in the unincorporated region of the County. The plan proposes various projects such as Class II bikeway on Tiburon Boulevard connecting US Highway 101 with Tiburon Town Limits and Class I between Strawberry Drive and Greenwood Cove Drive. Furthermore, it recommends the addition of bike lanes on US Highway 101 and Tiburon Blvd Interchange based on the results of the study conducted by TAM.

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Golden Gate Bridge, Highway and Transportation District

The Golden Gate Bridge, Highway and Transportation District operates the Golden Gate Bridge and two public transit systems: Golden Gate Transit buses and the Golden Gate Ferry. Several Golden Gate Transit routes connect Tiburon with regional centers, including destinations within Marin and in San Francisco. The Golden Gate Ferry provides service between the Town and San Francisco.

Marin County Transit District

The MCTD provides local transit service within Marin County. Although MCTD has responsibility for local services, it does not own any buses or facilities and does not employ its own drivers. Instead, MCTD contracts with other providers, including Golden Gate Transit and Whistlestop Wheels, for local bus and paratransit services.

Local

2020 General Plan

The Circulation Element is provided in Chapter 5 of the 2020 General Plan most recently updated on February 3, 2016. This element addresses walkability, transit access, and “complete streets”:

Tiburon Bicycle and Pedestrian Plan

The Town adopted the Tiburon Bicycle and Pedestrian Plan in 2016 that focuses on bicycle and pedestrian facilities such as sidewalks, paths, bike lanes, and bike routes. The following goals were adopted as part of the plan.

- Goal 1 - Increased Bicycle and Pedestrian Access: Expand bicycle and pedestrian facilities and provide increased access to neighborhood areas, employment centers, shopping areas, schools, and recreational sites.
- Goal 2 - Bicycle Transportation: Make travel by bicycle an integral part of daily life in Tiburon by implementing and maintaining a bikeway network, providing end-of-trip facilities, improving bicycle/transit integration, encouraging bicycle use, and making bicycling safer and more convenient.
- Goal 3 - Pedestrian Transportation: Encourage walking as a daily form of transportation in Tiburon by completing a pedestrian network that services short trips and transit, improving the quality of the pedestrian environment, and increasing safety, convenience, and access opportunities for all users.

Connections from residential areas to schools and from the town to Strawberry, Mill Valley, and Corte Madera still present significant obstacles to bicyclists. The Bicycle and Pedestrian Plan specifies the addition of 2.61 miles of bikeways within the Town limits mainly focusing on Tiburon Blvd, Trestle Glen Blvd, and Paradise Dr., and pedestrian crossing improvements

on Tiburon Blvd. Furthermore, the plan includes a few trail projects such as Tiburon Ridge Trail and Las Lomas Trail.

Tiburon Complete Streets Policy

The Town adopted a Complete Streets Policy that expresses its commitment to creating and maintaining “Complete Streets” which are defined as comprehensive, integrated transportation network with infrastructure and design that allows safe and convenient travel along and across streets for all users, including pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, seniors, children, youth, and families, among others.

Tiburon Climate Action Plan 2030

The transportation sector is one of the largest sources of GHG emissions. Hence, it is important to understand the impact of transportation on climate change. To reduce GHG emission from the transportation sector, the following actions were recommended as part of the Tiburon Climate Action Plan 2030:

LCT-C1: Zero Emission Vehicles. Take actions that will result in at least 45% of registered passenger vehicles in Tiburon and Marin County to be zero emission vehicles (ZEVs), including plug-in electric vehicles (EVs) and hydrogen fuel cell electric vehicles, by 2030. Actions include:

1. Support development of a countywide EV plan that can be adopted by all Marin jurisdictions that identifies strategies to accelerate EV adoption. The plan should identify the number and type of chargers needed in each jurisdiction to achieve a minimum 45% ZEV penetration target; potential locations for public, workplace, and multi-family charging; best practices for charging station siting, installation, and signage; and model code language and guides for permit streamlining and charging infrastructure requirements.
2. Work with PG&E, MCE, Transportation Authority of Marin, and other entities to identify and develop multifamily and workplace charging sites.
 - a. Conduct outreach to multifamily HOA associations and facilitate meetings with EV charging supply providers.
 - b. Relax development standards to facilitate installation of EV chargers.
 - c. Assist in applying for available grant funding and rebates.
 - d. Contribute funding for grid infrastructure upgrades as needed.
3. Pursue opportunities to expand the Town’s EV charging network by identifying suitable Level 2 and Level 3 DC fast charging locations and considering innovative programs, such as streetlight and curbside charging to serve those who do not have access to home charging.
 - a. Develop a private-public partnership and install Level 3 fast chargers at public locations, such as Blackie’s Pasture, sufficient to service near-term resident

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- and visitor demand with expansion plans to service a projected Marin County population of 90,000 EVs in 2030.
 - b. Assist in applying for available grant funding and rebates.
 - c. Contribute funding for grid infrastructure upgrades as needed.
4. Encourage and facilitate installation of Level 3 fast chargers in the Downtown as commercial properties are redeveloped.
 - a. Facilitate meetings with property owners, developers, and EV charging equipment providers as new development is proposed.
 - b. Provide concessions on development standards as needed to facilitate installation of fast chargers.
 - c. Allow EV fast charging spaces to count towards the parking requirement for residential and commercial uses.
 - d. Allow advertising to be delivered at EV chargers.
 - e. Assist in applying for available grant funding and rebates.
 - f. Contribute funding for grid infrastructure upgrades as needed.
 - g. Develop Level 3 fast chargers sufficient to service a projected Marin County population of 90,000 EVs by 2030.
 5. Provide directional signage to public EV chargers on local streets and, as appropriate, from state highways.
 6. Work with the Transportation Authority of Marin (TAM), MCE, the California Energy Commission (CEC) and other entities to provide technical assistance and incentives, such as rebates, for multi-family and workplace charging sites.
 7. Participate in a countywide effort by MCE, Pacific Gas & Electric (PG&E), and others to provide rebates for new or used electric vehicles.
 8. As the Town's Green Building Ordinance is updated, require new and remodeled single-family, multi-family and commercial projects to install electrical service, add conduits and chargers, as appropriate, for potential electric vehicle use beyond state standards.
 - a. Require all new multifamily development to provide one EV-ready parking space per unit and additional EV fast chargers that are accessible to the public.
 9. Participate in regional efforts and grant programs to encourage widespread availability of EV charging stations.
 10. Participate in and provide funding for programs to promote EV adoption, including "Drive an EV" events and other media and outreach campaigns.
 11. Encourage or require, as practicable, ride hailing and delivery service companies to utilize zero emission vehicles.
 12. Promote adoption of electric bicycles, scooters, and motorcycles.

LCT-C2: Bicycling and Micromobility. Encourage bicycling and micromobility as an alternative to vehicular travel.

1. Promote bicycling and micromobility, including electric bicycles, scooters, and skateboards, through outreach channels and partner agencies.

2. Require new, remodeled, and expanded commercial, mixed use, and multifamily development to provide secure parking for electric bicycles.
3. Provide secure electric bicycle parking at Town parks and buildings.
4. Encourage schools, the library, and shopping centers to provide secure electric bicycle parking.
5. Establish and maintain a system of bicycle facilities that are consistent with the Tiburon Bicycle and Pedestrian Master Plan and “complete streets” policies.
6. Implement the Tiburon Bicycle and Pedestrian Master Plan’s recommendations to support and expand bicycling.
7. Update the Tiburon Bicycle and Pedestrian Master Plan to support the use of e-bikes, electric scooters, and electric skateboards, including easily accessible charging stations for them.

LCT-C3: Walking. Encourage walking as an alternative to vehicle use.

1. Establish and maintain a system of pedestrian facilities that are consistent with the Tiburon Bicycle and Pedestrian Master Plan and “complete streets” policies.
2. Implement the Tiburon Bicycle and Pedestrian Master Plan’s recommendations to support and expand walking.

LCT-C4: Safe Routes to School. Continue to support the Safe Routes to School Program and strive to increase bicycling, walking, carpooling (especially in a ZEV), and taking public transit to school.

1. Work with TAM and other organizations to promote school and student participation.
2. Identify issues associated with unsafe bicycle and pedestrian facilities between neighborhoods and schools, apply for Safe Routes to School grants, and execute plans to improve pedestrian and bicycle facilities.

LCT-C5: Public Transit. Support and promote public transit by taking the following actions:

1. Work with Marin Transit and Golden Gate Transit to maximize ridership through expansion and/or improvement of transit and ferry routes, schedules, and services.
2. Support a “Yellow School Bus” program and student use of regular transit to reduce school traffic.
3. Encourage transit providers, including school buses, to use renewable diesel as a transition fuel and to purchase electric buses whenever replacing existing buses.

LCT-C6: Employee Trip Reduction. Reduce vehicle miles traveled commuting to work through the following actions:

1. Work with the TAM, the Metropolitan Transportation Commission, and the Bay Area Air Quality Management District (BAAQMD) to promote transportation demand programs to local employers, including rideshare matching programs, vanpool incentive programs, emergency ride home programs, telecommuting, transit use

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discounts and subsidies, showers and changing facilities, bicycle racks and lockers, and other incentives to use transportation other than single occupant vehicles.

2. Embark on a behavior change and educational campaign to encourage employees to reduce vehicle trips.
3. Work with TAM on promoting countywide transportation demand management programs to encourage trip reduction throughout the county.

LCT-C7: Vehicle Idling. Encourage drivers and autonomous vehicles to limit vehicle idling through public outreach and engagement campaigns.

LCT-C8: Smart Growth Development. Promote land use and development policies that prioritize infill housing and mixed-use development near commercial services and transit facilities. Achieve multifamily housing development on housing opportunity sites identified in the Town's Housing Element 2023-2031 and apply existing inclusionary requirements for units affordable to lower-income households as applicable.

LCT-C9: Zero Emission Landscape and Small Off-Road Equipment. Adopt an ordinance to require the use of zero emission landscape and small off-road equipment instead of gasoline and diesel-powered equipment in all residential and commercial areas. 15 Equipment includes leaf blowers and vacuums, hedge trimmers, edgers, brush cutters, chainsaws, lawn mowers, chain saws (under 45 cc), pressure washers, and portable generators.

1. Provide information on available rebates, such as the California Air Resources Board's Clean Off-Road Equipment Voucher Incentive Project for small business and sole proprietary landscape professionals.
2. Consider offering an incentive for businesses to use zero emission landscape equipment such as a rebate on equipment purchases or discount on business license fees.
3. Explore building code modifications to support zero emission landscape equipment.

LCT-M1: Zero Emission Town Vehicles. Purchase or lease zero-emission vehicles for the Town fleet whenever feasible and when not, the most fuel-efficient models available. Achieve a 100% electric light duty vehicle fleet by 2030.

LCT-M2: Low Carbon Fuels. Use low-carbon fuel such as renewable diesel as a transition fuel in the Town's fleet and encourage the Town's service providers and joint powers agencies to do the same until vehicles are replaced with zero-emission vehicles.

LCT-M3: Town Employee Commute. Provide Town employees with incentives and/or reduce barriers to drive electric vehicles and use alternatives to single occupant auto commuting, such as discounted EV charging, transit and e-bike discounts and subsidies, secure bicycle facilities, showers and changing facilities, ridesharing services, vanpools, emergency ride home service, flexible schedules, and telecommuting when practicable.

LCT-M4: Municipal Zero Emission Landscape Equipment and Small Off-Road Engines. Replace all gas-powered leaf blowers, mowers, brush cutters, hedgers, saws, and other

landscape equipment and small off-road engines, including generators and pressure washers, with zero emission equipment.

3.14.5 THRESHOLDS OF SIGNIFICANCE

CEQA Guidelines Appendix G

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access.

VMT Significance Threshold and Methodology

CEQA Guidelines Section 15064.3, subdivision (b) requires an evaluation of a project's transportation impacts based on VMT. VMT refers to the amount and distance of automobile travel attributable to a project.

CEQA gives the lead agency discretion in selecting an appropriate methodology and significance threshold for VMT impacts. A lead agency may conduct either a qualitative or quantitative analysis of VMT impacts. CEQA Guidelines and OPR Guidance recommend that, if possible, lead agencies conduct a quantitative analysis based on transportation models. However, where existing models or methods are not available, the lead agency may instead prepare a qualitative analysis. CEQA Guidelines note that for many projects, a qualitative analysis of construction traffic may be appropriate.

The use of VMT as a performance measure allows for the evaluation of traffic impacts associated with GHG emissions. It can be measured as a total or on a *per-capita* basis and can be used to estimate fuel consumption by motor vehicles for distances traveled. Increase in VMT for gasoline-powered vehicles would cause an increase in the GHG emissions from vehicles making these trips.

Guidance from the OPR states that using a travel forecasting model is preferred because a travel model would account for both 'project generated VMT' and the 'project effect on VMT', which would include the effect of the project in redistributing VMT within a region.

TAM developed the Transportation Authority of Marin Demand Model (TAMDM), a tour-based assessment of travel behavior that produces VMT estimates for travel to, from or within Marin County, including Tiburon.

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The OPR provides recommendations for evaluating land use plans. From the OPR December 2018 “Technical Advisory on Evaluating Transportation Impacts in CEQA” OPR states that as with projects, agencies should analyze VMT outcomes of land use plans across the full area over which the plan may substantively affect travel patterns, including beyond the boundary of the plan or jurisdiction’s geography. A general plan may have a significant impact on transportation if proposed new residential, office or retail land uses would in aggregate exceed the respective thresholds set by either the lead agency or the OPR’s recommended significance thresholds.

The lead agency has discretion in determining an appropriate methodology for evaluating a project’s VMT, including whether to express the change in absolute terms, per capita, or another measure, as long as assumptions are documented. However, the OPR recommends setting land use project VMT thresholds at fifteen percent below existing VMT per capita based on regional or city VMT per capita for residential projects, or 15 percent below regional VMT per Employee averages for employment projects. Another approach is for the lead agency to develop their own jurisdiction specific VMT thresholds. Since the Town has not set significance thresholds for acceptable versus unacceptable levels of VMT for CEQA analysis; therefore, this analysis is based on the OPR recommended threshold of 15 percent below existing regional per capita VMT for Marin County.

The significance threshold defines what constitutes an acceptable level of VMT and what requires mitigation measures to reduce VMT. Thresholds should be consistent with key transportation planning documents such as Plan Bay Area 2050, which contains regional and local projections of VMT growth associated with expected changes in population, employment, and the regional transportation network. Additional VMT reduction may be achieved at the project level through TDM strategies and active transportation network expansion which are not fully accounted for in regional level travel forecasting models.

3.14.6 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to transportation resulting from implementation of the General Plan 2040 are discussed below. As of July 1, 2020, State law provides that vehicle delay is not a significant environmental impact under CEQA. Accordingly, LOS, traffic volumes, and auto delay are no longer appropriate metrics to evaluate transportation impacts. Rather, State law establishes VMT as the appropriate metric for transportation analysis. Accordingly, this Draft EIR focuses upon conflicts with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, without regard to LOS.

Impact 3.14-1 Implementation of General Plan 2040 would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Implementation of the General Plan 2040 would not conflict with any program, plan, ordinance, or policy addressing the circulation system. The General Plan 2040 is the “constitution” for all future development within the town, and the Mobility Chapter establishes the Town’s relevant programs, plans, ordinances, and policies.

The General Plan 2040 has been developed within the framework provided by several regulations and documents that help shape or interact with the goals, objectives, policies, and programs of the General Plan 2040, including the Bay Area region’s Regional Transportation Plan, Plan Bay Area 2050. Plan Bay Area 2050 includes seven goals and 13 performance targets covering three broad areas: the environment, equity and the economy. Transportation-related performance targets include: (1) Increase non-auto mode share; (2) Reduce vehicle operating and maintenance costs due to pavement conditions; and (3) Reduce per-rider transit delay due to aged infrastructure. Implementation of the General Plan 2040 is in compliance with the programs and policies set by Plan Bay Area 2050.

Additionally, as detailed below, the General Plan 2040 will continue and strengthen the Town’s existing programs, plans, ordinances, and policies, including those related to transit, roadway, bicycle, and pedestrian facilities. Future development within the town will be required to comply with these provisions of the General Plan 2040 and related provisions of the Tiburon Municipal Code. Implementation of the General Plan 2040 will also be consistent with transit plans adopted by other regional agencies and State law regarding circulation and roadway requirements. Therefore, there will be **no impact**.

Roadway

The General Plan 2040 would continue and strengthen the Town’s existing programs, plans, ordinances, and policies addressing roadways, and it would be consistent with the Complete Streets Act.

The Mobility Chapter seeks to reduce emissions and minimize traffic congestion and promote alternative modes of transportation, such as walking and bicycling. In order to achieve this, the Mobility Chapter includes policies and programs to improve public transit, pedestrian and bicycle facilities, and parking and transportation demand management programs.

Goal M-A identifies the need to provide a multimodal transportation system that supports the vision, goals, and objectives of the Town and is effectively planned, funded, operated, and maintained. Specific policies identified for the roadway network that supports this objective include Policy M-3, to prioritize the maintenance and operation of the existing transportation network over major expansions to the transportation network. Policy M-4 identifies transportation network improvements over the next 20 years that the Town will

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undertake to enable the roadway system to operate safely and efficiently while accommodating future growth consistent with the General Plan 2040. Goal M-B seeks to increase multimodal accessibility throughout the Tiburon Planning Area with an emphasis on improved walking, bicycling, and transit modes. Policies M-5 and M-6 focus on creating an integrated, multimodal transportation system that improves the attractiveness of walking, bicycling, and riding transit, with an additional focus on facilitating multimodal access to major facilities and destinations.

In compliance with these goals and policies, the Mobility Chapter seeks to use a mixture of strategies to increase access to multimodal transportation choices, reduce vehicle miles traveled, reduce congestion, and enhance mobility.

Under the Complete Streets Act, general plans of California cities are required to include planning for complete streets—that is, streets that meet the needs of all users of the roadway, including pedestrians, bicyclists, users of public transit, motorists, children, the elderly, and the disabled.

The Mobility Chapter of the General Plan 2040 contains a number of goals and policies that contribute towards the provision of a circulation network that is consistent with the Complete Streets Act. Policy M-1 tasks the Town with preserving and managing rights-of-way consistent with the goal to provide Complete Streets and the Town's goals for preserving residential quality of life and aesthetics. Policy M-7 would eliminate "gaps" in bikeways and pedestrian networks where feasible and appropriate. Policy M-10 would have the Town work to ensure adequate connections to transit stations by identifying, prioritizing, and seeking funding to plan and construct roadway, bikeway, and pedestrian improvements within 1/2 mile of existing and planned transit stations, emphasizing the development of complete streets. Goal M-D furthers the complete streets concept by creating a context-sensitive street and roadway system that provides safe access to all users between activity centers within the Planning Area and to destinations across the San Francisco Bay Area, including places of employment, shopping, and recreation. Policy M-23 requires the Town to accommodate all users through roadway design, while Program M-g requires the Town to implement complete streets goals and policies. Policy M-25 requires the Town to identify streets that can be made more "complete" through a reduction in the width of travel lanes, with consideration for emergency vehicle operations. The Town shall consider including new bikeways, sidewalks, and on-street parking on these streets by re-arranging and/or re-allocating how the available space within the public right of way is utilized.

There would be no conflict between the General Plan 2040 and existing programs, plans, ordinances, and policies addressing roadways. Future development in the town will be required to comply with the General Plan 2040. Therefore, there would be ***no impact***.

Bicycle and Pedestrian Facilities

The General Plan 2040 would continue and strengthen existing programs, plans, ordinances, and policies to support bicycle and pedestrian facilities. These include the prioritization of multimodal systems, maintenance a network of complete streets to provide safe mobility access for all users, implementing additional complete streets improvements as appropriate for the communities in which they are proposed, developing and maintaining local and regional bicycle networks, and promoting pedestrian and bicycle safety when infrastructure improvements are made.

In particular, the General Plan 2040 includes a range of policies and programs to ensure that bicycle and pedestrian facilities are maintained, improved, and expanded. Goal M-I requires the Town to design, construct, and maintain a universally accessible, safe, convenient, integrated, and well-connected bicycle and pedestrian system that promotes biking and walking. Bicycle facilities, programs, and services shall be provided, and other transportation and land use policies shall be implemented as necessary to achieve increased bicycle and walking use. Policy M-36 seeks to make traveling to and from schools by walking or biking safer, while Policy M-37 targets the installation of countdown style pedestrian signals to increase pedestrian safety. Policy M-38 seeks to connect pedestrian paths, trails and bicycle lanes in Tiburon with other paths and trails where practical. Policy M-39 requires new public and commercial projects to install bike facilities, including bike racks. Policy M-40 requires the establishment of pedestrian routes, particularly for school children, for all neighborhoods where feasible and appropriate; designing pedestrian-oriented streets to provide a pleasant environment for walking and other desirable uses of public space, including such elements as shade trees, plantings, and wayfinding signage where appropriate; and include safe crossings on pedestrian routes at major intersections.

Existing and proposed bicycle and pedestrian facilities are shown on Exhibit 3.14-2 and Exhibit 3.14-3.

The General Plan 2040 would continue and further strengthen existing policies, plans, and programs regarding bicycle and pedestrian facilities and would not decrease the performance or safety of such facilities. Further, the General Plan 2040 includes goals and policies aimed at facilitating bicycling and walking. Future development would be required to comply with the General Plan 2040. Accordingly, the General Plan 2040 would not conflict with a program, plan, ordinance, or policy related to bicycle and pedestrian facilities. There would be ***no impact***.

Transit Facilities

Consistent with the Complete Streets Act, the General Plan 2040 contains goals, policies and programs that would promote the use of public transit and improve public transit service for existing and future populations through the Town's own initiatives and through cooperation with the public transit providers who serve Tiburon.

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Development and growth in the town under the General Plan 2040 would result in an incremental increase in the demand for transit service, including bus and ferry transit. Golden Gate Transit and Marin Transit provide bus service throughout the Planning Area. The Golden Gate Bridge, Highway, and Transportation District operates ferry service between Marin County and San Francisco via conventional and high-speed ferries. Service is provided between the Tiburon Ferry Terminal (located in downtown Tiburon) and the San Francisco Ferry Building Gate B, Monday-Friday. The Angel Island/Tiburon Ferry operates recreational ferry service between Angel Island and downtown Tiburon.

Accordingly, Goal M-J promotes an integrated transportation system, including the preservation and enhancement of transit as an essential component of a multimodal transportation system, in order that residents and visitors may efficiently, conveniently, and safely connect to, and transfer between, different transportation modes. Policy M-46 requires the Town to work with Golden Gate Transit and Marin Transit to increase service levels for buses in the planning area when feasible and ensure that bus service provides accessibility and mobility for all Tiburon residents, workers, and visitors. The Town shall continue to identify additional strategies to encourage residents, workers, and visitors to ride buses for trips to, from, and within the Planning Area. Policies M-48, M-49, and M-50 would provide additional transit facilities such as bus shelters, seating at bus stops, and development of new bus stops, all in an effort to enhance transit ridership. Policy M-52 seeks to ensure that ferry service remains a viable commuter and recreational travel option; this may be accomplished by several strategies including helping to coordinate between service providers or encouraging the expansion of ferry service. Policy M-53 would support the use of water taxi services, which provide on demand boat trips to destinations across the Bay Area, as an alternative to driving for recreational and commuting trips when ferry service is not available.

In 2018, Marin County voters approved Measure AA, the Marin County Transportation Sales Tax Renewal Expenditure Plan, which extended the 0.5 cent transportation sales tax for an additional 20 years, through 2039. Fifty-five percent of Measure AA funding is distributed towards funding four categories of service, including the provision of efficient and effective local bus service to reduce congestion and meet community needs, enhanced bus services to schools, and specialized services for seniors and people with disabilities. As such, some of the Measure AA funding would provide more efficient bus service throughout the Tiburon Planning Area.

The Golden Gate Bridge, Highway and Transportation District prepares a Short-Range Transit Plan (SRTP) every 2 years and serves as a blueprint for transit services. The most recent SRTP covers fiscal years 2022-23 to 2027-28.¹¹ The SRTP establishes a set of set of goals and objectives for its transit services; most are established internally while some are required by MTC. The success of each goal and objective is measured through a series of performance

¹¹ Golden Gate Bridge Highway and Transportation District, Short-Range Transit Plan, Fiscal Years 2022/23 – 2027/28. December 2022..

measures that should meet specific standards. The SRTP is the principal means by which these goals and objectives are created and modified. The goals of the plan include: (1) Provide reliable, safe, and effective regional transit services, and (2) Improve transit system performance. The SRTP also includes a CIP to support the replacement and rehabilitation of equipment and facilities. Lastly, the SRTP includes an operations plan and budget to ensure that Golden Gate Transit bus service and Golden Gate Ferry are provided in accordance with the plan. The operations plan includes a framework for considering service changes and identifies future service changes. As such, as development and growth occur under the proposed General Plan 2040, increased demand for transit service will be reviewed every 2 years under the SRTP to ensure that Tiburon continues to be adequately served by transit facilities.

In conclusion, development envisioned by the General Plan 2040 could result in an incremental increase in new development, which could result in an increased demand for transit service, including bus and ferry transit. The General Plan 2040 includes goals and policies aimed at encouraging increased use of public transit, both for existing and future residents, workers and visitors. Accordingly, the General Plan 2040 would not conflict with a program, plan, ordinance, or policy related to public transit facilities. Additionally, with the use of Measure AA funding for local bus service, as well as the Golden Gate Bridge, Highway and Transportation District's preparation of a SRTP every 2 years to review transit services and transit system performance, development facilitated by the General Plan 2040 would not conflict with a program, plan, ordinance, or policy related to transit facilities. There would be **no impact**.

Level of Significance before Mitigation

No Impact

Mitigation Measures

None Required

Impact 3.14-2 Development facilitated by the General Plan 2040 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b).

CEQA Guidelines Section 15064.3 requires an analysis of transportation impacts based on VMT. The following analysis considers the VMT impacts of General Plan 2040 buildout. CEQA Guidelines Section 15064.3, subdivision (b), gives local agencies discretion to select the most appropriate methodologies and significance thresholds for evaluating VMT, including whether to evaluate it qualitatively or quantitatively, and whether to express the change in absolute terms, per capita, per household, or in any other measure. (Subd. (b)(4).)

The Town has not adopted numeric significance thresholds for VMT. Therefore, this analysis is based on OPR guidance, which recommends setting land use project VMT thresholds for residential development at fifteen percent below baseline VMT per capita for the city or region. According to the TAMDM, the baseline (year 2015) regional average for Marin County

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is 15.8 VMT per capita. Therefore, the VMT impact threshold for this analysis is 13.4 VMT per capita (85 percent of the baseline rate).

To provide a quantitative VMT evaluation, the Town used TAMDM model data under 2040 conditions to estimate the VMT that would be generated by anticipated development under General Plan 2040 buildout, which would total up to 923 dwelling units. Based on this analysis: existing and projected future VMT per capita rates are shown in Table 3.14-13. As shown, development under the General Plan 2040 would generate 14.1 VMT per capita, more than 10 percent lower than the baseline countywide rate but higher than the impact threshold of 13.4 VMT per capita.

TABLE 3.14-12 : VMT PER CAPITA

	Population	Home-Based VMT	VMT Per Capita
Tiburon (2015 baseline)	9,180	146,199	15.9
Marin County (2015 baseline)	259,376	4,091,987	15.8
Impact threshold (85% of Marin County baseline)			13.4
Growth From General Plan 2040	2,199 ¹	31,005	14.1
Exceed VMT Threshold?			Yes
<small>1. 2.38 persons per dwelling unit x 923 dwelling units SOURCE: GHD, 2023; De Novo Planning Group, 2023</small>			

The key factors resulting in the VMT per capita rate exceeding the threshold are:

- Residential development on sites located outside of downtown Tiburon would generate VMT per capita at rates exceeding the impact threshold. This includes potential single-family residential development at multiple sites outside of downtown Tiburon, and potential multi-family resident development on a site bordering Paradise Drive.
- By contrast, residential development on sites in downtown Tiburon would generate VMT per capita at rates below the impact threshold. This reflects the proximity of those sites to shopping, transit and other commercial uses, as well as proximity to transit including ferry service. Development in mixed-use downtown areas generate lower rates of VMT.

The Mobility Chapter of the General Plan 2040 contains a number of policies and programs that assist in reducing VMT. For example, Goal M-N states that to support statewide and regional efforts to reduce greenhouse gas emissions, the Town shall strive to ensure that rates of VMT are below regional averages on a “per resident” and “per employee” basis. To achieve that goal, Policy M-65 would have the Town support and prioritize land uses and transportation provisions that help reduce VMT. The Town would consider the effect of planned circulation improvements on VMT when updating the Town’s capital improvement program, per Policy M-66. The Town will support car sharing and bicycle sharing opportunities in Downtown Tiburon as required by Policy M-67. Goal M-B seeks to increase

multimodal accessibility throughout the Tiburon Planning Area with an emphasis on improved walking, bicycling, and transit modes, while Policy M-5 would strive to achieve an integrated, multimodal transportation system that improves the attractiveness of walking, bicycling, and riding transit. This would increase travel choices and aid in achieving a more balanced transportation system, thereby reducing air pollution and GHG emissions and VMT. Policy M-57 requires the Town to coordinate with the Transportation Authority of Marin to encourage employers to work together to identify programs that provide incentives for employees to use alternative transportation modes, including carpools. Program M-m requires the Town to support transportation demand management (TDM) programs and measures, including promoting the 511 Rideshare program to employers and employees as a resource for exploring ways to reduce traffic and parking congestion.

Although the General Plan 2040 includes goals, policies, and programs that may reduce VMT, the General Plan 2040's residential development would generate VMT per Capita at a rate that would exceed the threshold of 15 percent below the regional average. Therefore, the impact is **potentially significant**.

Level of Significance before Mitigation

Potentially Significant

Mitigation Measures

MM 3.14-2: *When the Town receives an application for a project located outside of Downtown Tiburon and subject to CEQA, it shall apply the "Screening Thresholds for Land Use Projects" set forth in OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA. If the project would exceed the screening thresholds, or other evidence demonstrates a potentially significant VMT impact, the Town shall require the applicant to prepare a quantitative, project-level VMT analysis. If the analysis shows that the project would exceed the applicable numeric threshold of significance, the Town shall require the applicant to prepare and submit a VMT Reduction Plan for Town review and approval. The VMT Reduction Plan shall incorporate mandatory measures sufficient to reduce project VMT below the applicable numeric threshold of significance. The VMT Reduction Plan may include, without limitation, a TDM program; pedestrian, bicycle, or transit network improvements; car sharing or ride sharing programs; transit subsidies; telecommuting or alternative work schedules; and/or any other measures sufficient to reduce VMT below the applicable threshold.*

Mitigation Measure 3.14-2 requires applicants for projects subject to CEQA that are located outside of Downtown Tiburon to prepare a quantitative project-specific VMT analysis. If that analysis shows that the project will exceed the numeric threshold of significance, Mitigation Measure 3.14-2 will further require the applicant to prepare a VMT Reduction Plan for Town review and approval. The VMT Reduction Plan must include specific measures demonstrating

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that VMT will be reduced below the numeric level of significance, which shall be considered a performance standard.

However, since most of the residential development outside of Downtown Tiburon would consist of single-family residential development and accessory dwelling units (ADUs) and may include projects subject to a ministerial, streamlined review process, much development outside of Downtown Tiburon may not be subject to CEQA. Therefore, Mitigation Measure 3.14-2 would have limited use. In addition: most successful TDM programs focus on employment sites (not residences), while TDM and VMT reduction programs focusing on residential development are challenging to implement and monitor. Therefore, it is unlikely that VMT Reduction Plans or other similar measures would be effective in significantly lowering the VMT rates for residential development on sites located outside of Downtown Tiburon.

Therefore, even with implementation of Mitigation Measure 3.14-2, the General Plan 2040 would exceed the applicable VMT threshold and would therefore conflict or be inconsistent with Section 15064.3, and impacts would be ***significant and unavoidable***.

Level of Significance after Mitigation

Significant and unavoidable.

Impact 3.14-3 Development facilitated by the General Plan 2040 would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Development anticipated by the General Plan 2040 could result in an incremental increase in new residential, commercial, and industrial uses. The General Plan 2040 would retain the existing roadway patterns and does not propose any new major roadways or other physical features that would substantially increase hazards or incompatible uses. Furthermore, development under the General Plan 2040 would be located on sites either developed and/or underutilized, and/or in close proximity to existing residential, commercial, and industrial uses.

The majority of development under the General Plan 2040 is expected to be located on developed lots in areas where existing infrastructure (including highways and local roadways) are already in place. An incremental increase in development could occur within the Planning Area which may require the installation of new infrastructure, such as roads; however, any new infrastructure would be limited to serving new development. As such, the General Plan 2040 does not propose any significant changes to land use patterns or the roadway network such that new roadways would substantially increase hazards due to a geometric design feature. Proposed development, land use activities, and roadway network improvements that occur pursuant to the General Plan 2040 would be reviewed for compliance with State and local requirements of site distance, and similar issues, as relevant. As such, development facilitated by the General Plan 2040 would not substantially increase

hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) and impacts would be ***less than significant***.

Level of Significance before Mitigation

Less than Significant

Mitigation Measures

None Required

Impact 3.14-4 Implementation of the General Plan 2040 would not result in inadequate emergency access.

Development anticipated by the General Plan 2040 could result in an incremental increase in new residential and commercial uses. The General Plan 2040 would retain the existing roadway patterns and does not propose any new major roadways or other physical features that would result in inadequate emergency access. Further, development under the General Plan 2040 would be located on sites either developed and/or underutilized and are not expected to inhibit emergency access. An incremental increase in development could occur within the Planning Area, which may require the installation of new infrastructure, such as roads and fire access roads; however, any new infrastructure would be limited to serving new development and would be reviewed by the Town to ensure adequate emergency access is provided.

The General Plan 2040 includes policies and programs to ensure that adequate emergency access is provided and maintained. Policy M-2 requires the Town to prioritize emergency service needs when developing transportation plans and making transportation network changes. Policy M-25 looks to develop complete streets, but, all new street configurations shall provide for adequate emergency vehicle operation.

In conclusion, development facilitated by the General Plan 2040 does not propose any significant changes to land use patterns or the roadway network such that potential impairments to emergency access would be created (road closures, road narrowing, new roadways with steep grades, etc.). Proposed development and land use activities that occur pursuant to the General Plan 2040 would be reviewed for compliance with State and local requirements for emergency access by the Town. For example, buildings 30 feet in height or higher would need to provide a minimum of two access points suitable for fire apparatus. Development under the General Plan 2040 would utilize the existing street and transit network for travel to and from each development site. As such, development and land use activities contemplated by the General Plan 2040 would not result in inadequate emergency access. Impacts would be ***less than significant***.

Level of Significance before Mitigation

Less than Significant

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Mitigation Measures

None Required

Impact 3.14-5 Development facilitated by the General Plan 2040, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to transportation.

This analysis evaluates whether the impacts of the General Plan 2040, together with the impacts of cumulative development in adjacent jurisdictions, could result in a cumulatively significant impact with respect to transportation. This analysis then considers whether the incremental contribution of the impacts associated with the implementation of the General Plan 2040 would be significant. Both conditions must apply in order for a project's cumulative effects to rise to the level of a significant impact. The geographic context for this analysis includes the Tiburon Planning Area, Belvedere, and adjacent unincorporated areas.

The cumulative impact analysis is based on each of the impact items described above (Impacts 3.14-1 to 3.14-4):

- Cumulative development in adjacent jurisdictions would not cause a conflict between the General Plan 2040 and an adopted transportation program, plan, ordinance, or policy (Impact 3.14-1).
- Cumulative development in adjacent jurisdictions would not cause additional VMT impacts attributable to the General Plan 2040 beyond the impact already identified as significant and unavoidable in Impact 3.14-2. The anticipated rate of 14.1 VMT per capita generated by the General Plan 2040 is anticipated to help reduce the countywide rate of VMT per capita (15.8 VMT per capita under Baseline conditions, and 15.0 VMT per Capita forecasted under 2040 conditions).
- Cumulative development in adjacent jurisdictions would not result in safety hazards on street segments within Tiburon or its planning area (Impact 3.14-3).
- Cumulative development in adjacent jurisdictions is not anticipated to result in inadequate emergency access to Tiburon (Impact 3.14-4), since such development would not result in physical changes to the facilities providing emergency access to Tiburon.

In addition to the above: cumulative projects would be required to comply with County and local ordinances and General Plan 2040 policies that address potential impacts related to transportation. However, while development under the General Plan 2040 would result in VMT lower than the countywide rate of VMT, the General Plan 2040 would result in VMT that exceeds the threshold of significance based on countywide baseline VMT. For these reasons, cumulative impacts with respect to transportation and traffic would be ***significant and unavoidable***.

Level of Significance before Mitigation

Significant and Unavoidable

Mitigation Measures

As discussed under Impact 3.14-2, there is the potential for ministerial approval of projects that would not be subject to mitigation measures, including Mitigation Measure 3.14-2. Therefore, even with implementation of Mitigation Measure 3.14-2, the General Plan 2040 would exceed the applicable VMT threshold and would therefore conflict or be inconsistent with Section 15064.3. Therefore, General Plan 2040 would have a ***cumulatively considerable*** contribution to this ***significant and unavoidable*** impact.

Level of Significance after Mitigation

Significant and unavoidable and cumulatively considerable.

Figure 3.14-1. Regional Transportation Setting

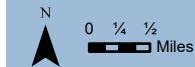
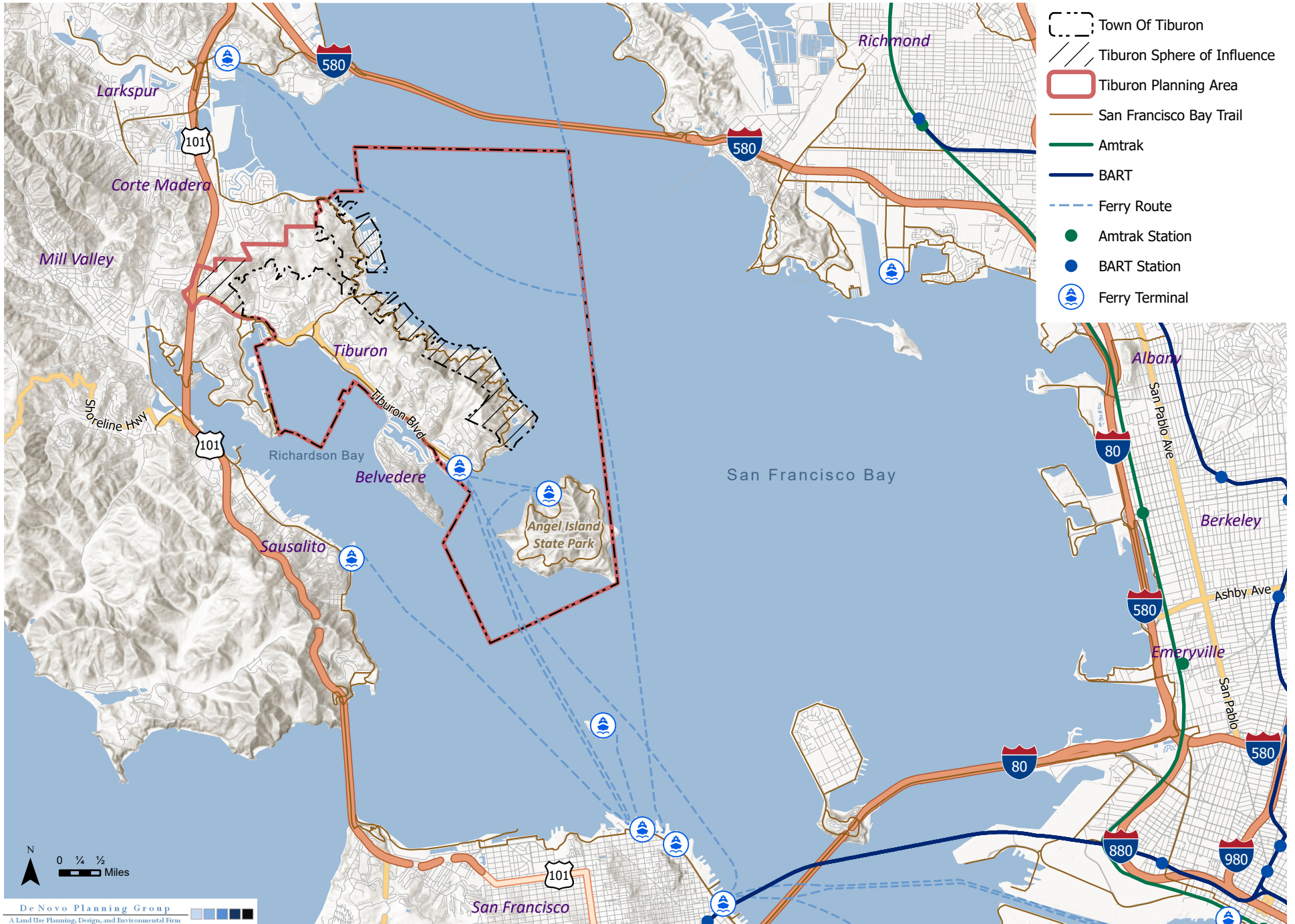


Figure 3.14-2. Street Network

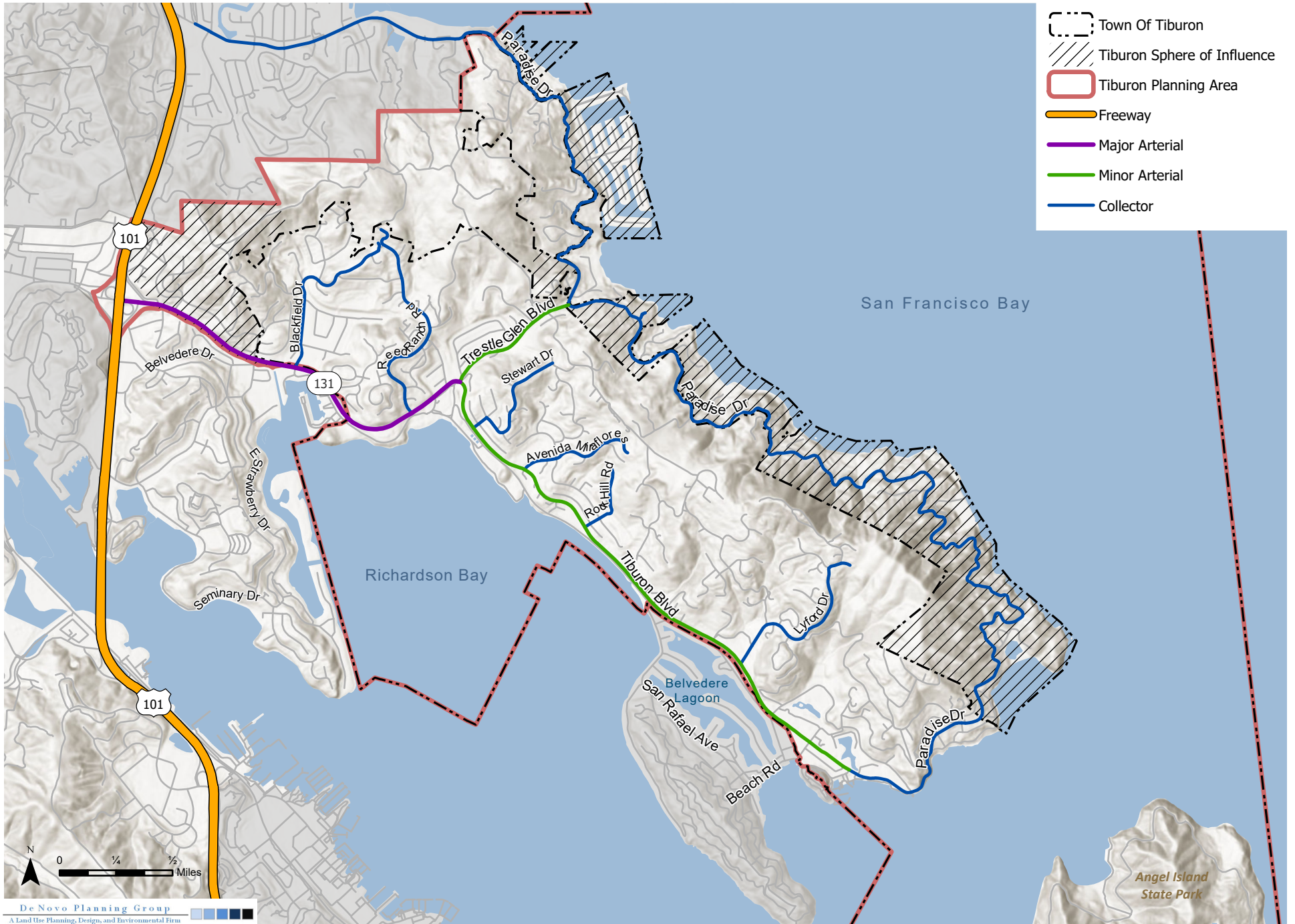


Figure 3.14-3. Transit Routes

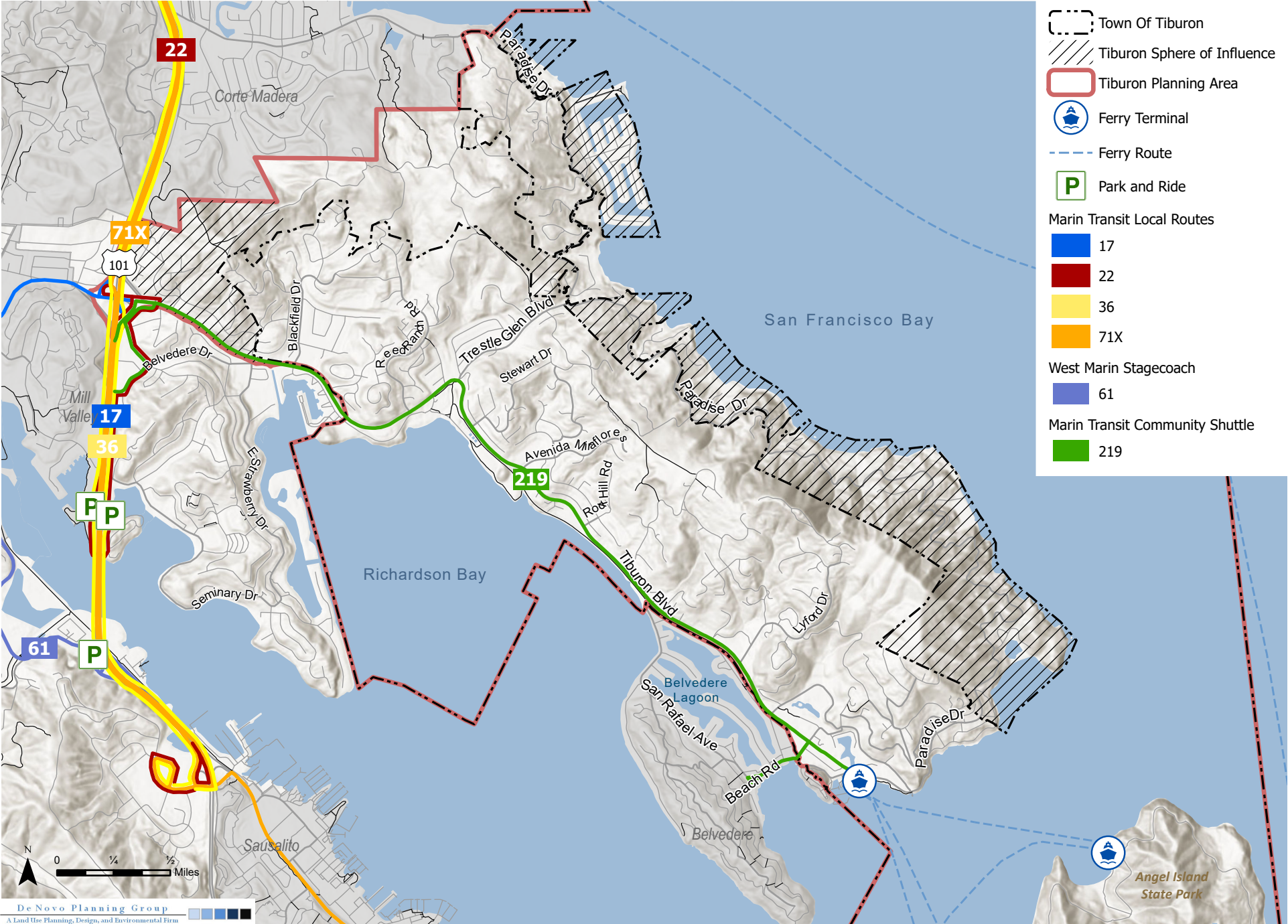


Figure 3.14-4. Bikeway Network

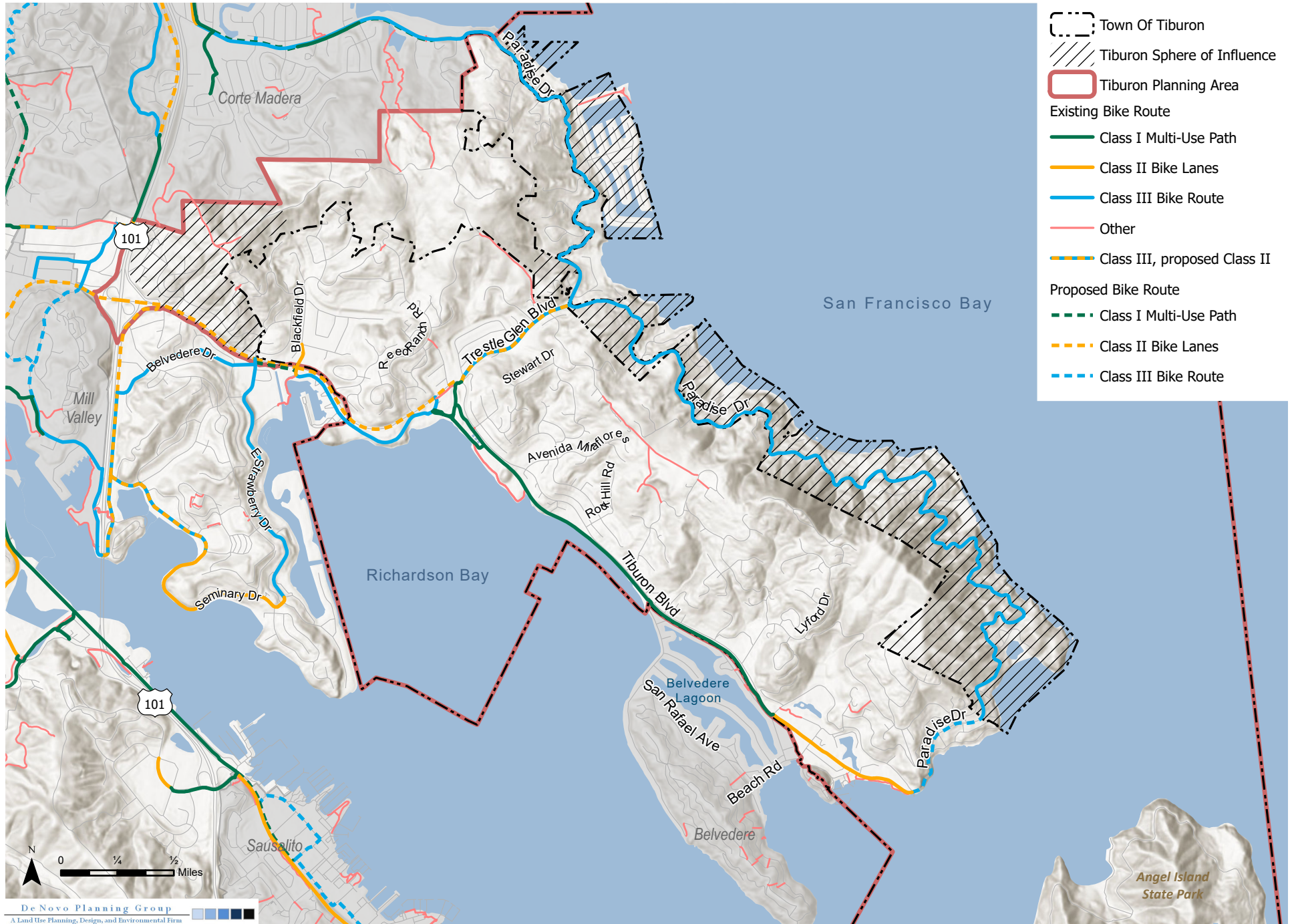


Figure 3.14-5. Sidewalks and Paths

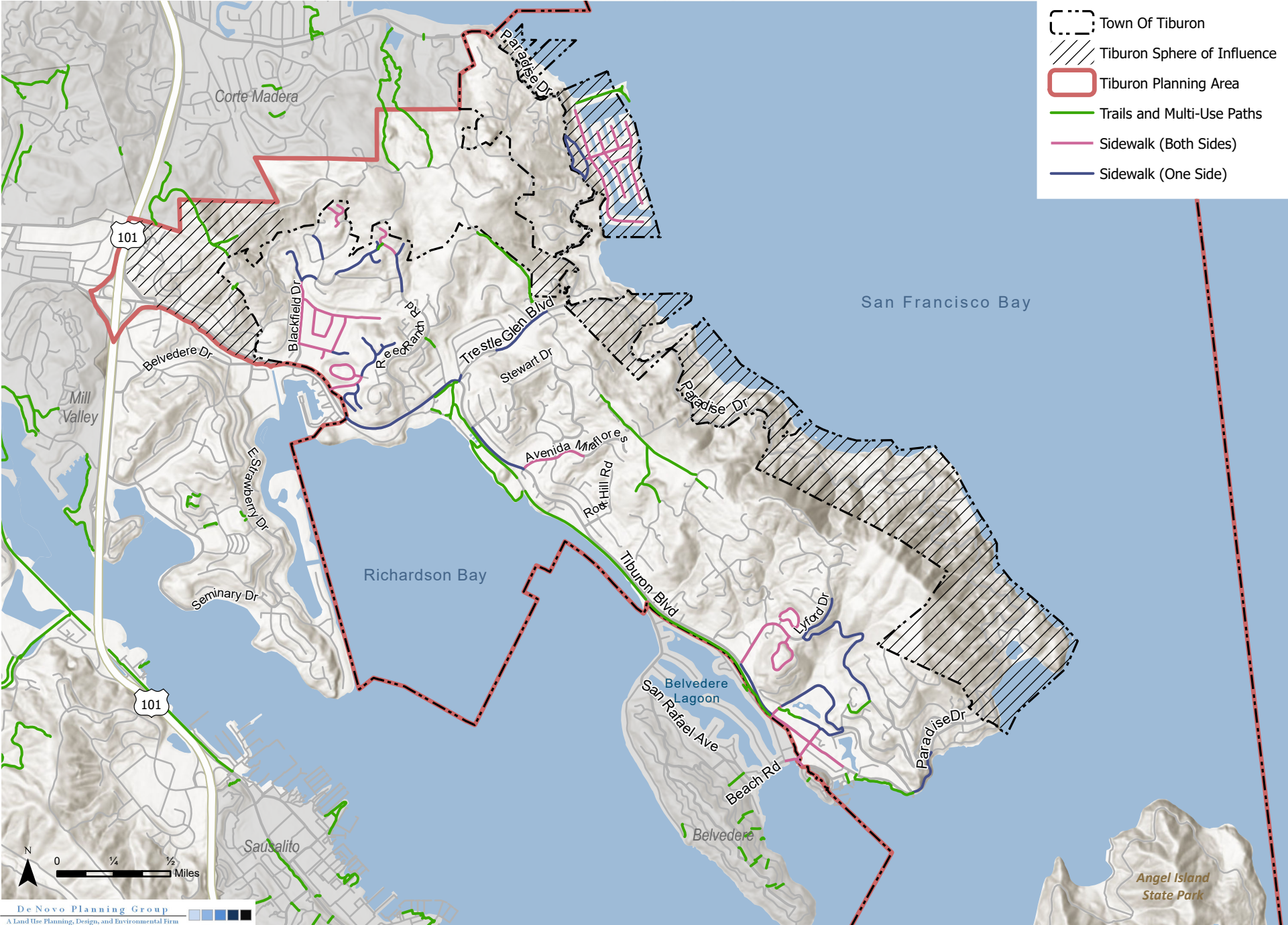


Figure 3.14-6. Motor Vehicle Collision Locations (2015-19)

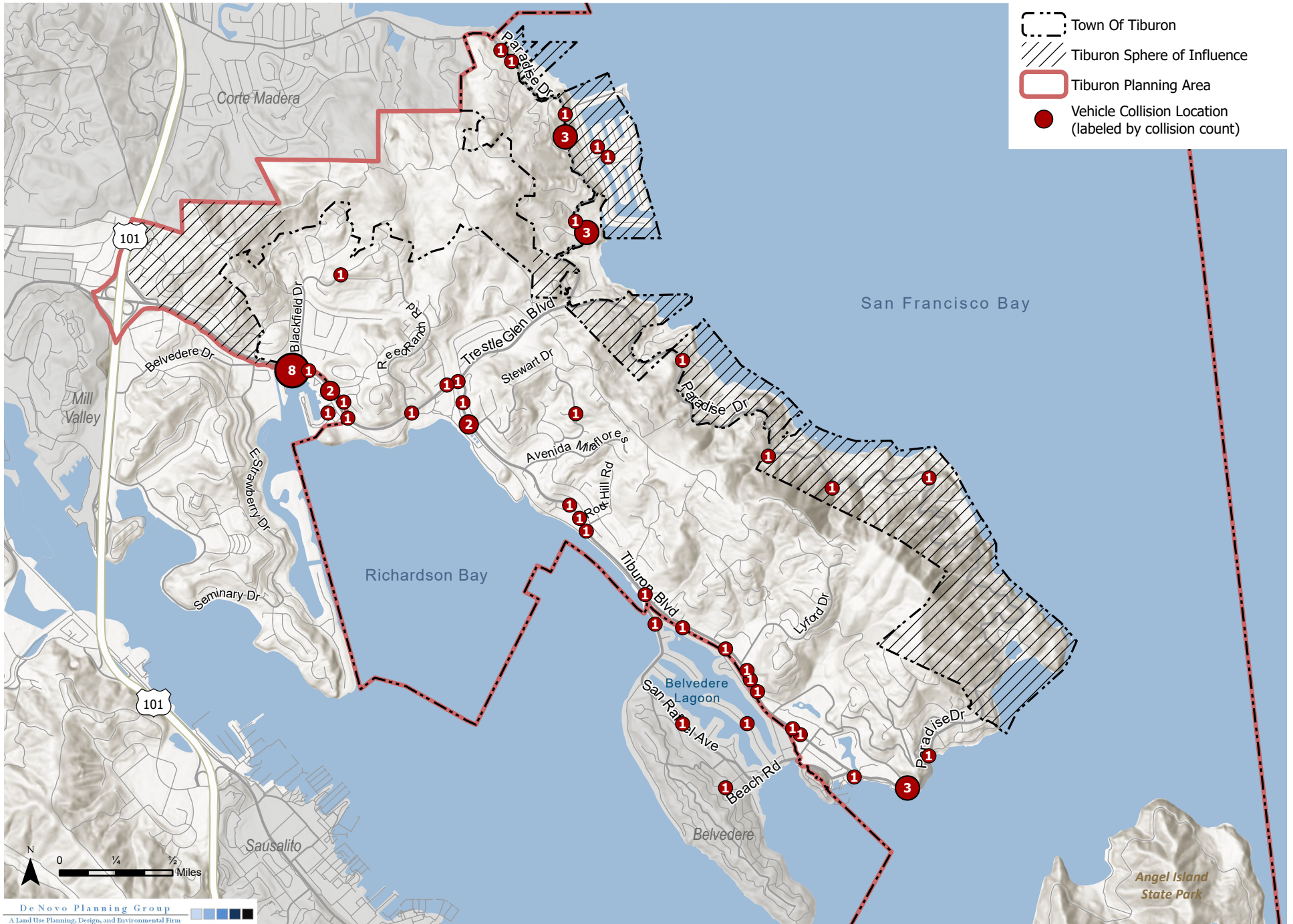


Figure 3.14-7. Types of Reported Collisions (2015-19)

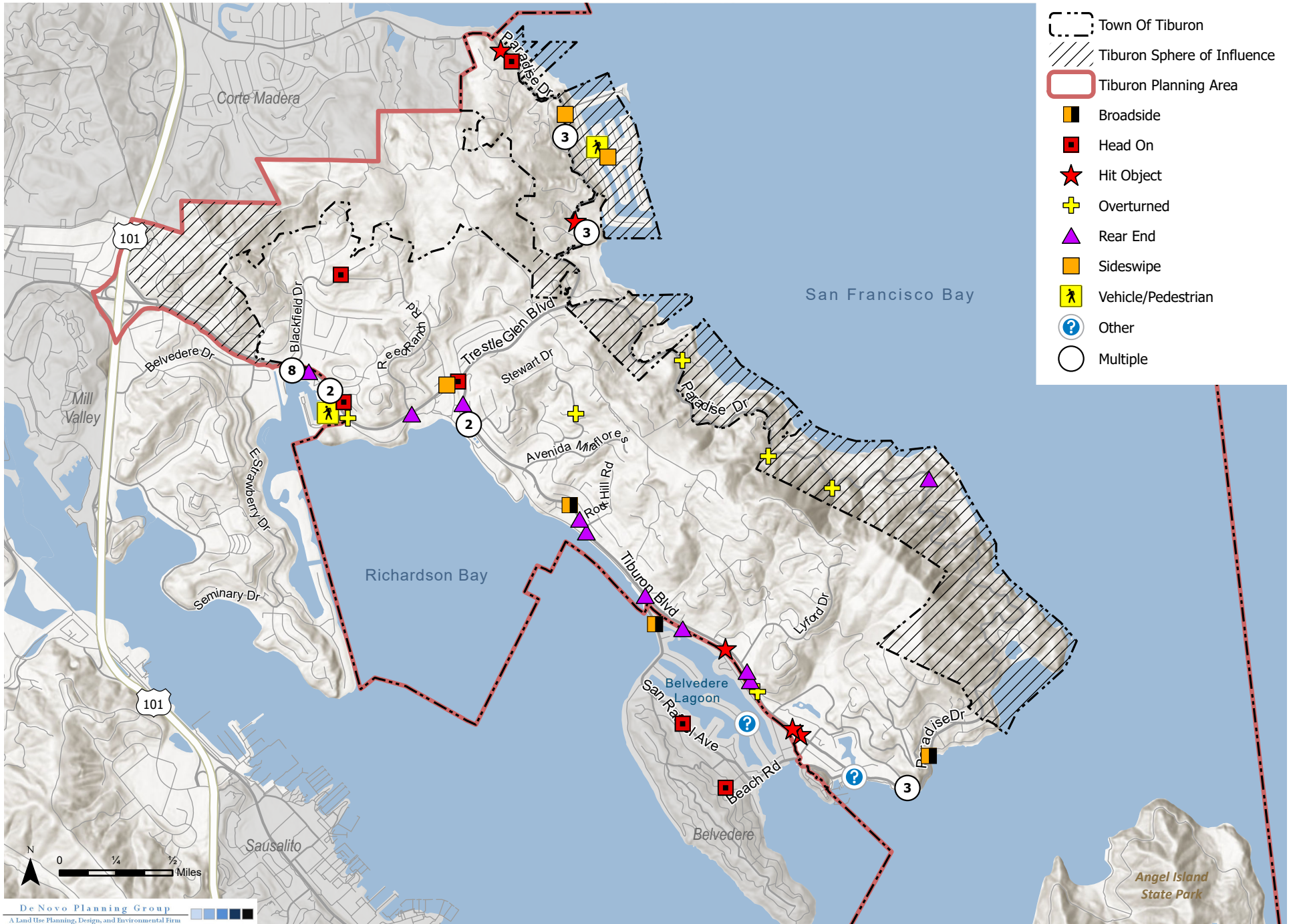


Figure 3.14-8. Bicycle and Pedestrian Collision Locations (2015-19)

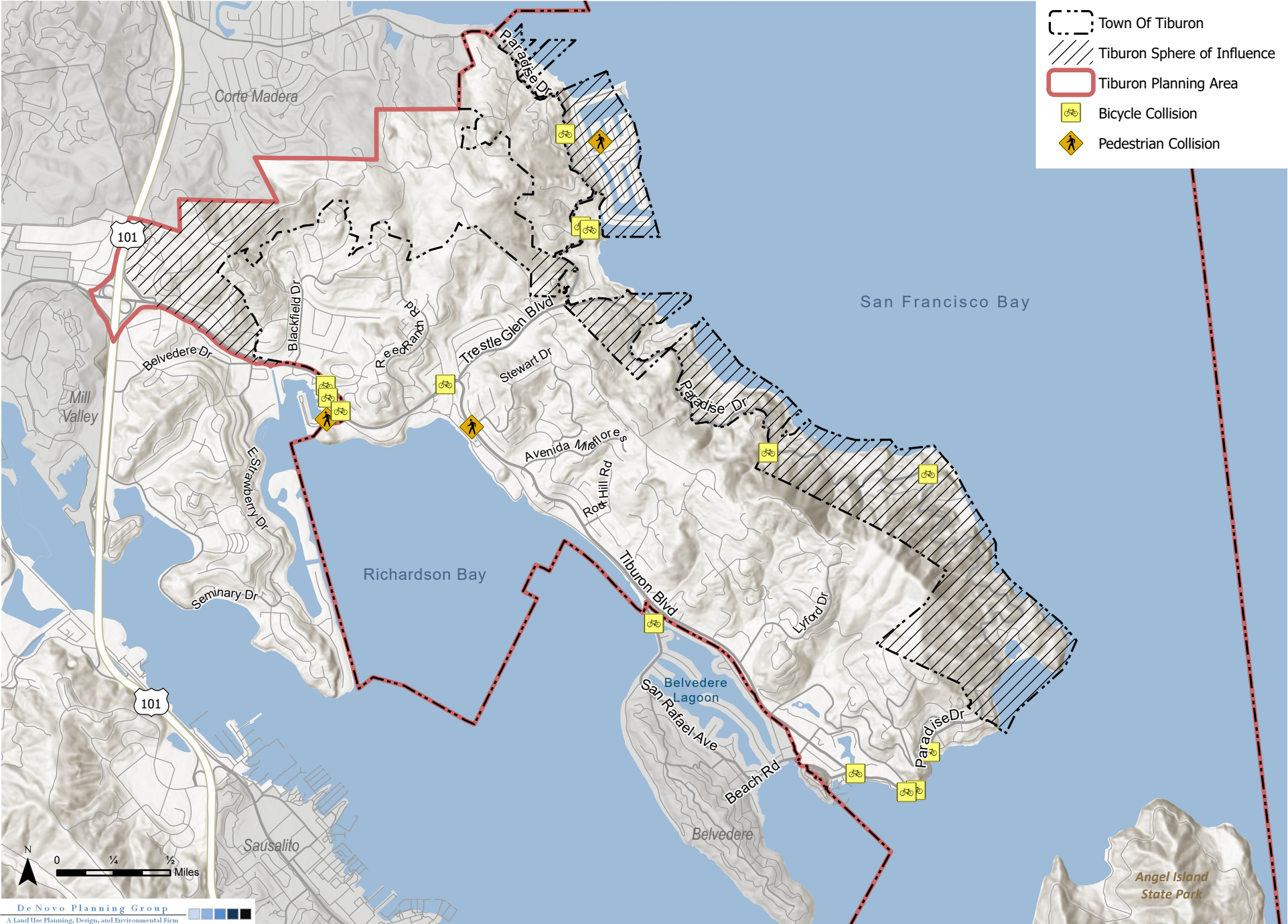


Figure 3.14-9. Daily Traffic Volume

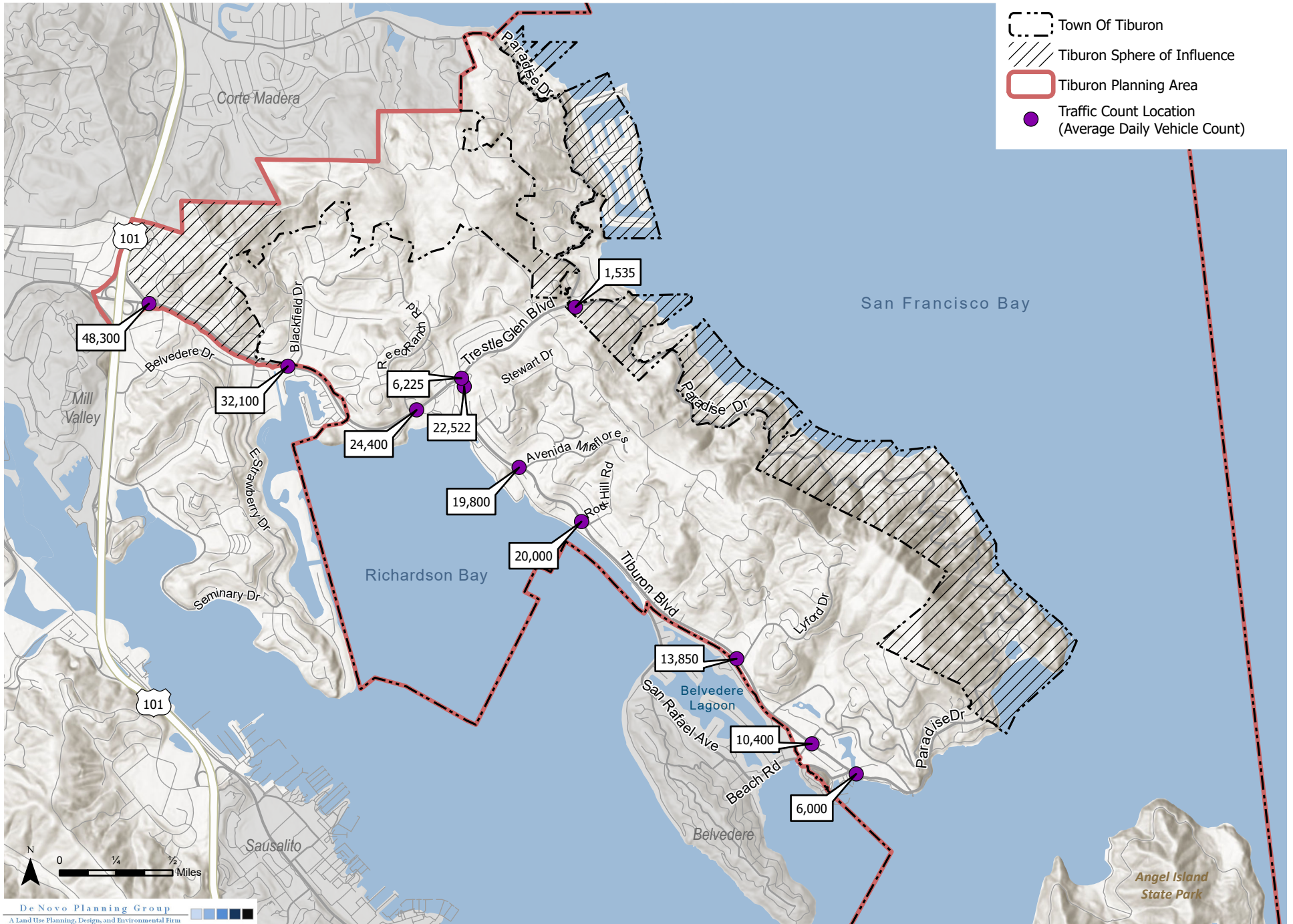
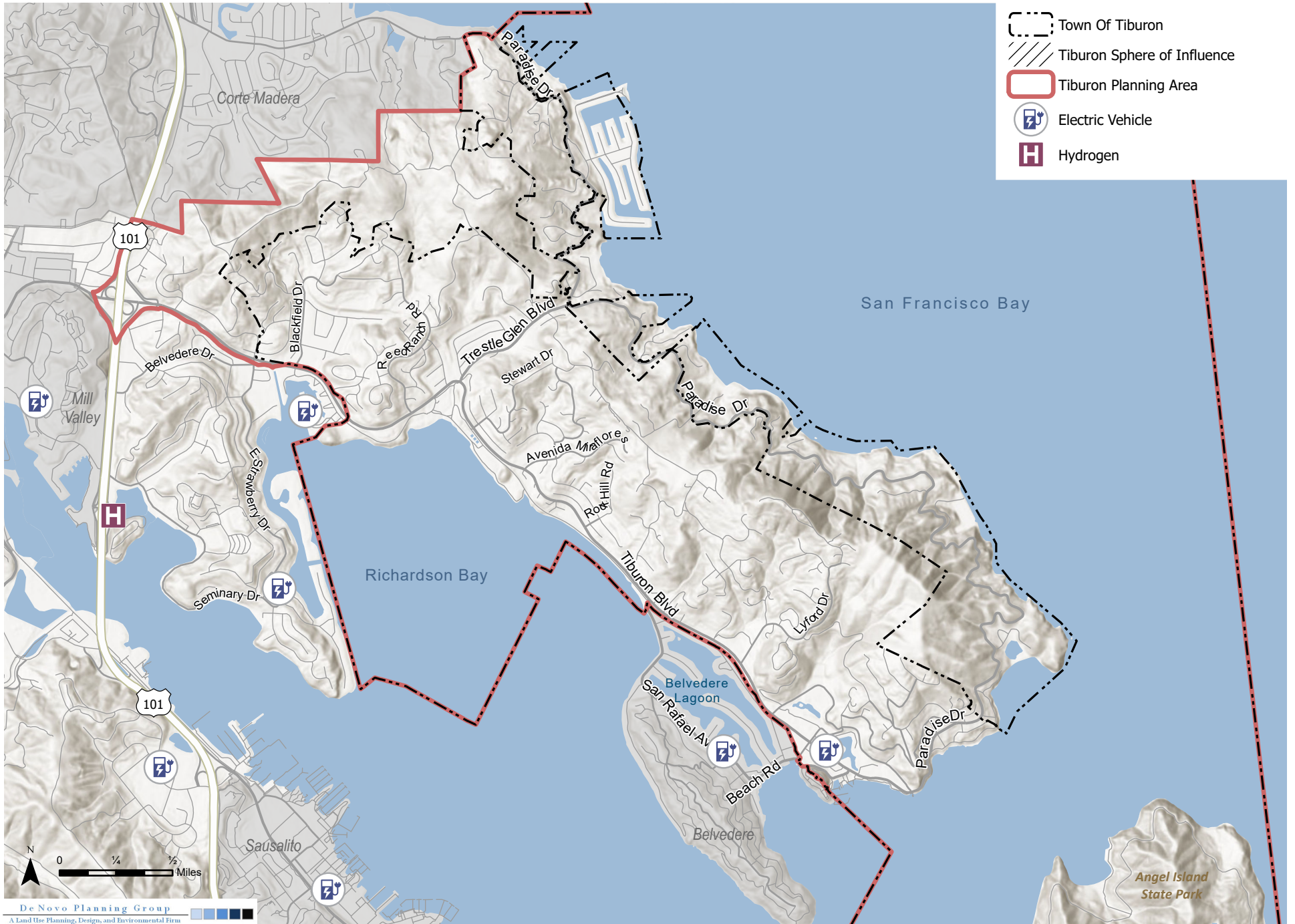


Figure 3.14-10. Alternative Fuel Stations





3.15 UTILITIES AND SERVICE SYSTEMS

This section evaluates the potential effects on utilities related to implementation of the Town of Tiburon General Plan 2040 by identifying anticipated demands and existing and planned service availability. For the purposes of this Draft EIR, utilities consist of water supply; wastewater; solid waste; and storm drain facilities. Future discretionary projects will be evaluated for project-specific impacts to utilities and service systems at the time they are proposed.

There were no comments received during the public review period for the NOP related to utilities and service systems.

3.15.1 WATER SERVICES

This section describes the Town of Tiburon's water demands, water supplies, water distribution system, and water quality.

Key Terms

Acre feet (AF): The volume of one acre of water to a depth of one foot. Each acre-foot of water is equal to 325,851.4 gallons.

GPD: Gallons per day.

Groundwater: Water that is underground and below the water table, as opposed to surface water, which flows across the ground surface. Water beneath the earth's surface fills the spaces in soil, gravel, or rock formations. Pockets of groundwater are often called "aquifers" and are the source of drinking water for a large percentage of the population in the United States. Groundwater is often extracted using wells which pump the water out of the ground and up to the surface. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

MG: Million gallons.

MGD: Million gallons per day.

Surface water: Water collected on the ground or from a stream, river, lake, wetland, or ocean. Surface water is replenished naturally through precipitation, but is lost naturally through evaporation and seepage into soil.

Existing Conditions - Water Services

Potable Water System

Chartered on April 25, 1912, the Marin Municipal Water District (Marin Water) is the first municipal water district in California and currently provides potable water service to ten incorporated cities and towns, including San Rafael, Mill Valley, Fairfax, San Anselmo, Ross, Larkspur, Corte Madera, Tiburon, Belvedere, and Sausalito. The Marin Water service area covers approximately 147 square miles and serves a population of approximately 191,000 customers through about 61,700 active service connections.¹ Marin Water averages 22.4 million gallons per day (mgd) of water use with a maximum daily water design capacity of 71 mgd.²

Approximately 75 percent of Marin Water’s water supply originates from rainfall on about 22,000 acres of protected Mount Tamalpais watershed land owned by the district and in the grassy hills of west Marin, which flows into one of seven Marin Water reservoirs. Additionally, Marin Water supplements its water supply with purchased water from the Sonoma County Water Agency (SCWA), which comes from the Russian River system in Sonoma County. The Russian River water supply originates from rainfall that flows into Lake Sonoma and Lake Mendocino, and it is naturally filtered through 80 feet of sand beds adjacent to the river. The Russian River water supply is blended with Marin Water’s reservoir water, within its distribution system. The reservoir water is treated at one of the three Marin Water’s treatment plants before traveling through the extensive distribution system—including 886 miles of water mains, 121 storage tanks, and 94 pump stations.³ Figure 3.15-1 illustrates the Marin Water facilities that serves the Tiburon Planning Area.

As California’s first municipal water district, replacing aging infrastructure is one of the most critical needs in the district. Many pipelines are more than 100 years old; therefore, upgrading the system of underground pipelines increases the overall reliability of Marin Water’s system. In 2019, Marin Water managed 14 large construction projects designed to improve the reliability of the existing infrastructure. These projects included water main replacements and repairs, large valve replacements, and bypass installations. Additionally, many of these projects were designed to deliver large amounts of water in a short period for firefighting, improving fire flow.⁴

Marin Water is currently conducting a comprehensive evaluation of its complex water system through the development of the Water System Master Plan (WSMP), which is anticipated to be completed in 2023. The WSMP will evaluate long-term investments for water system assets that are essential to maintaining delivery of water to customers. From this system-

¹ Marin Municipal Water District. June 2021. 2020 Urban Water Management Plan. Available at: https://www.marinwater.org/sites/default/files/2021-07/Final%20MMWD%20UWMP_w_Appendices_rev.pdf

² Marin Water. 2021. 2020 Urban Water Management Plan. [page 21]

³ Marin Water. 2021. 2020 Urban Water Management Plan. [p. 20]

⁴ Marin Water. 2020. Marin Water 2019 Annual Report. [page 6]

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wide evaluation, the WSMP will determine infrastructure needs and recommend long-term capital investments for maintaining service reliability and improving system operations.⁵

Water System Supplies

The Town of Tiburon receives potable water from Marin Water. Marin Water’s water supplies presently come from a combination of water imported from Sonoma County Water Agency (SCWA), local surface water, and recycled water. Groundwater is not currently or planned to be used as a municipal water supply source by the district, though private groundwater wells are used in Marin Water’s service area. Table 3.15-1 summarizes, by source, the total amount of actual water supplied in 2020.

TABLE 3.15-1: MARIN WATER’S WATER SUPPLIES – ACTUAL (AFY)

Water Supply	Additional Water Supply Detail	2020	
		Actual Volume	Water Quality
Purchased or Imported Water	Purchased from SCWA	6,822	Drinking Water
Surface Water	Not desalinated	20,449	Drinking Water
Surface Water	Environmental releases from Kent and Soulajule Lakes	12,699	Raw Water
Other	Water sold to the Meadow Club	180	Raw Water
Total		40,149	--

SOURCE: MARIN WATER 2020 URBAN WATER MANAGEMENT PLAN, TABLE 6-9. (JUNE 2021)

Table 3.15-2 summarizes, by source, the total amount of projected water supply from 2025 to 2045 in five-year increments. Note that the numbers represent the total amount of supply available to the district, whereas Table 3.15-1 showed only the supply that was used to meet demand, regardless of how much was available.

TABLE 3.15-2: MARIN WATER’S PROJECTED WATER SUPPLIES (AFY)

Water Supply	Projected Water Supply				
	2025	2030	2035	2040	2045
Purchased/Imported Water	5,300	5,300	5,300	5,300	5,300
Surface Water	78,450	78,793	78,525	78,558	78,626
Recycled Water	750	750	750	750	750
Other	171	174	176	176	176
Total	84,761	85,017	84,751	84,784	84,852

NOTE: RAV = REASONABLE AVAILABLE VOLUME; TRSY = TOTAL RIGHT OR SAFE YIELD

SOURCE: MARIN WATER 2020 URBAN WATER MANAGEMENT PLAN, TABLE 6-10 (JUNE 2021)

Purchased/Imported Water Supply

Since 1975, Marin Water has contracted with the SCWA for a supplemental supply of water, primarily from Lake Sonoma via the Russian River. Marin Water’s present contract with SCWA

⁵ Marin Water Board of Directors Special Meeting. 2020. Agenda Item 1: Board 2020 Annual Retreat. September 25, 2020. [Attachment 1b]

is based on two antecedent documents: the 1975 Off-Peak Water Supply Agreement (Off-Peak Agreement) and its amendments, and the 1991 Agreement for the Sale of Water between SCWA and the district. In 1996, these two contracts were combined into a single new agreement, the Supplemental Water Supply Agreement (Agreement).

The Agreement combined the two prior agreements such that the district can now take deliveries of up to 14,300 AFY from SCWA. All of these deliveries are also now classified as “firm” water. In addition to the annual delivery limit, the Agreement also places seasonal limitations on water delivery rates to the district. Deliveries are limited to 23.1 mgd from December to March and 12.8 mgd from May to September. In April and November, deliveries cannot exceed 20.1 mgd, and in October, deliveries are limited to 17.1 mgd. The Agreement will remain in force through June 30, 2025 and includes a renewal provision that will extend the Agreement through June 30, 2040.⁶

In addition to contractual delivery limits, Russian River water deliveries to Marin Water are subject to available pipeline capacity in facilities owned by SCWA and Novato Municipal Water District (NMWD). Russian River water is diverted by SCWA at a series of sub-surface Ranney collectors near Wohler Bridge in Sonoma County. Water destined for Marin Water flows through SCWA pipelines to Petaluma. From Petaluma, the water flows southward in NMWD’s aqueduct for eight miles to the northern end of Marin Water’s pipeline facilities in Novato. The Interconnection Agreement from 2014 describes Marin Water’s rights to use the excess capacity in NMWD’s facilities. The Interconnection Agreement runs contiguous with the SCWA Restructured Agreement for Water Supply, which will expire on June 30, 2040, and has renewal options.⁷

Water imported from SCWA is naturally filtered in the deep sand and gravel below the riverbed and requires no further clarification. This water enters Marin Water’s system at the Ignacio Water Quality and Pumping Station, where water quality is monitored continually and adjusted as needed. Marin Water’s water use projections for imported water from SCWA are shown in Table 3.15-3, which have been coordinated with the demands and methodology in the SCWA’s 2020 UWMP. Marin Water’s current contract allows the purchase of up to 14,300 AFY from SCWA; however, Marin Water’s ability to accept this water is limited by infrastructure constraints.

⁶ Marin Water. 2021. 2020 Urban Water Management Plan. [page 51]

⁷ Marin Water. 2021. 2020 Urban Water Management Plan. [page 51]

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TABLE 3.15-3: WHOLESAL WATER SUPPLIES – EXISTING AND PLANNED SOURCES OF WATER (AFY)

Wholesale Source – Sonoma County Water Agency	2025	2030	2035	2040	2045
Normal Year	5,300	5,300	5,300	5,300	5,300
Single-Dry Year	7,200	7,200	7,200	7,200	7,200
Extended Drought, First Year	7,200	7,200	7,200	7,200	7,200
Extended Drought, Second Year	7,200	7,200	7,200	7,200	7,200
Extended Drought, Third Year	4,597	4,597	4,597	4,597	4,597
Extended Drought, Fourth Year	4,300	4,300	4,300	4,300	4,300
Extended Drought, Fifth Year	4,300	4,300	4,300	4,300	4,300

SOURCE: MARIN WATER 2020 MUNICIPAL WATER DISTRICT URBAN WATER MANAGEMENT PLAN, TABLE 7-3. (JUNE 2021)

Surface Water Supply

Marin Water's primary water supply is local surface water. Until 1976, the district's water supply was obtained solely from rainfall collected from the Mount Tamalpais watershed, including approximately 28 square miles of Marin Water-owned lands, and 36 square miles not owned by Marin Water. Presently, total reservoir storage operated by Marin Water is 25.9 billion gallons (79,566 AF). The annual runoff into Marin Water's reservoirs varies greatly from a maximum of 220,000 AF in 1983 to a minimum of only 4,100 AF in 1977. The average and median annual runoff is 83,000 AF.⁸ Table 3.15-4 provides a chronology of Marin Water's water rights and development of its reservoir system.

TABLE 3.15-4: MARIN WATER'S SURFACE WATER RESERVOIR SYSTEM (AF)

Reservoir Name	Year Constructed	Storage Capacity (AF)	Water Rights
Lake Lagunitas	1873	350	Pre-1914
Phoenix Lake	1905	411	Pre-1914
Bon Tempe Reservoir	1948	4,017	Appropriative Permit No. 05633
Alpine Lake	1918	3,069	Pre-1914
	1924	4,600	Appropriative Permit No. 05633
	1941	8,891	
Kent Lake	1953	16,050	Appropriative Permit Nos. 05633, 09390, 18546
	1982	32,895	
Nicasio Reservoir	1960	29,000 ¹	Appropriative Permit No. 12800
Soulajule Reservoir	1980	10,572	Appropriative License 12807 and Permit No. 16892
Total Existing Reservoir Storage		79,566	

NOTE: 1) UNDER THE WATER RIGHT FOR STORAGE, 6,570 AF OF WATER FROM NICASIO CREEK CAN BE TRANSFERRED FROM NICASIO RESERVOIR TO KENT LAKE TO FILL KENT LAKE. THIS WOULD FREE UP CAPACITY IN NICASIO RESERVOIR FOR ADDITIONAL STORAGE UP TO THE TOTAL OF 29,000 AF (22,430 AF STORED IN NICASIO RESERVOIR PLUS 6,750 TRANSFERRED AND STORED IN KENT LAKE).

SOURCE: MARIN WATER 2020 URBAN WATER MANAGEMENT PLAN, TABLE 6-2. (JUNE 2021)

In managing its surface water supply, Marin Water defines the operational yield of its water supply system as the volume of water that can be provided to its customers in most years without depleting its reservoir storage to the point where stored water would be insufficient to meet a reduced water demand during a repeat of the most severe historical drought

⁸ Marin Water. 2021. 2020 Urban Water Management Plan. [page 57]

period. Marin Water’s operational yield is based on 115 years of estimated monthly hydrologic data. The operational yield was determined using the Marin WaterSim model developed to simulate Marin Water’s water supply system, as described in the Marin WaterSim Model Technical Memorandum of the Marin Water Water Resources Plan 2040. The analysis was limited to Marin Water’s local watershed supplies, meaning it excluded the water imported from the SCWA and locally produced recycled water. According to the Marin Water Water Resources Plan 2040, Marin Water currently estimates the “operational yield” of its surface water sources to be about 29,020 AFY if 25 percent of usable storage is reserved for emergency supply and imported water is excluded from the analysis.⁹

Recycled Water

Recycled water is highly treated wastewater that is safe for many purposes. Wastewater is treated at the Recycled Water Facility, a state-of-the-art membrane treatment plant located at, and operated by, the Las Gallinas Valley Sanitary District. Once treated, recycled water travels through separate pipelines to district customers. Marin Water’s recycled water system contains 24.5 miles of pipeline, 5 MG of storage, 4 pump stations, and 333 service connections. The recycled water distribution system primarily serves customers in the City of San Rafael, as well as the unincorporated communities of Marin County.

In 2020, the recycled water system served about 748 AFY, or about 2 percent of the total demand, through 333 service connections. Table 3.14-5 indicates the existing and projected future recycled water uses.¹⁰

Groundwater Supply

According to the DWR’s Bulletin 118 Groundwater Basin Lookup, there are three groundwater basins identified within the Marin Water’s service area, including the Ross Valley Groundwater Basin, San Rafael Valley Groundwater Basin, and portions of the Novato Groundwater Basin. All three basins are categorized by the California Statewide Groundwater Elevation Monitoring (CASGEM) program as very low priority basins. No groundwater basins are identified within the Tiburon Planning Area.

⁹ Marin Water, 2017. Marin Municipal Water District Water Resources Plan 2040. March. Available: <https://www.marinwater.org/sites/default/files/2020-09/Water%20Resources%20Plan%202040.pdf>.

¹⁰ Marin Water. 2021. 2020 Urban Water Management Plan. [page 65]

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TABLE 3.15-5: CURRENT AND PROJECTED RECYCLED WATER USES (AFY)

Beneficial Use Type	General Description of Use	2020 actual use	2025	2030	2035	2040	2045
Landscape irrigation (excluding golf courses)		443	433	433	433	433	433
Golf course irrigation		88	88	88	88	88	88
Commercial Use		162	163	163	163	163	163
Industrial use		33	33	33	33	33	33
Other	Toilet/urinal flushing in commercial and residential settings	23	23	23	23	23	23
Total		748	750	750	750	750	750

SOURCE: MARIN WATER 2020 URBAN WATER MANAGEMENT PLAN, TABLE 6-5. (JUNE 2021)

Groundwater use within Marin Water’s service area is limited to small, domestic use through private groundwater pumping wells. Marin Water has studied the potential for municipal groundwater use. However, several studies have determined the potential for municipal groundwater use within the boundaries of Marin Water’s service area is very limited due to limited production capabilities, water quality constraints, and potential water rights issues. As a result of these studies, groundwater is not currently or planned to be used as a municipal water supply source by the district.¹¹

Current and Projected Water Demands and Supplies

According to Marin Water’s 2020 UWMP, the 2020 actual water demands of the district were 40,149 AFY. Water demand projections were developed through 2045 using Marin Water’s Demand Side Management Least Cost Planning Decision Support System (DSS) model. Table 3.15-6 compares projected water supplies available in a normal year to projected demand totals, with the difference showing a projected surplus during the planning horizon of the UWMP.

TABLE 3.15-6: NORMAL YEAR SUPPLY AND DEMAND COMPARISON (AFY)

	2025	2030	2035	2040	2045
Supply totals	84,761	85,018	54,751	84,784	84,582
Demand totals	38,018	38,049	37,974	38,051	38,207
Difference	46,742	46,972	46,777	46,733	46,645

SOURCE: MARIN WATER 2020 URBAN WATER MANAGEMENT PLAN, TABLE 7-7. (JUNE 2021)

¹¹ Marin Water. 2021. 2020 Urban Water Management Plan. [page 53]

Table 3.15-7 compares projected water supplies available in a single dry year to projected demand totals, with the difference showing a projected surplus during the planning horizon of the UWMP.

TABLE 3.15-7: SINGLE DRY YEAR SUPPLY AND DEMAND COMPARISON (AFY)

	2025	2030	2035	2040	2045
Supply totals	52,432	52,137	52,135	52,139	52,149
Demand totals	38,019	68,046	37,974	38,051	38,207
Difference	14,113	14,091	14,161	14,088	13,942

SOURCE: MARIN WATER 2020 URBAN WATER MANAGEMENT PLAN, TABLE 7-8. (JUNE 2021)

Table 3.15-8 compares total supply available in multiple dry years to projected demand totals, with the difference in multiple dry years showing a projected surplus during the planning horizon of the UWMP. Based on this comparison, Marin Water will have sufficient supplies to meet the demands anticipated by the UWMP during normal and dry water years. This is attributed to the measures already implemented by the district to increase storage and SCWA supply, as well as the district’s aggressive conservation measures and Dry Year Water Use Reduction Program.

TABLE 3.15-8: MULTIPLE DRY YEARS SUPPLY AND DEMAND COMPARISON (AFY)

		2025	2030	2035	2040	2045
First Year	Supply totals	79,556	79,560	79,560	79,562	79,567
	Demand totals	38,019	38,046	37,974	38,051	38,207
	<i>Difference</i>	41,537	41,514	41,586	41,511	41,360
Second Year	Supply totals	84,321	84,313	84,342	84,314	84,262
	Demand totals	38,019	38,046	37,974	38,051	38,207
	<i>Difference</i>	46,302	46,267	46,368	46,263	46,055
Third Year	Supply totals	86,430	86,448	86,419	86,453	86,530
	Demand totals	38,019	38,046	37,974	38,051	38,207
	<i>Difference</i>	48,411	48,402	48,445	48,402	48,323

SOURCE: MARIN WATER 2020 URBAN WATER MANAGEMENT PLAN, TABLE 7-9. (JUNE 2021)

Water Shortage Contingency Plan

As the water purveyor, Marin Water must provide the minimum health and safety water needs of the communities it serves at all times. As part of urban water management planning, water suppliers are required to provide a Water Shortage Contingency Plan (WSCP) outlining how the supplier will prepare for and respond to water shortages.

Table 3.15-9 shows the seven stages of the WSCP and their associated shortage range and shortage response actions.

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TABLE 3.15-9: WATER SHORTAGE CONTINGENCY PLAN LEVELS

Stage	Percent Shortage Range	Shortage Response Actions
0	0%	<ul style="list-style-type: none"> Includes water waste prohibitions effective at all times.
1	Up to 10%	<ul style="list-style-type: none"> If rainfall is 30% below average for the water year¹ as of April 1st Includes implementation of mandatory restrictions on end uses (see 2020 UWMP Table 8-2) as well as agency actions (see 2020 UWMP Table 8-3).
2	Up to 20%	<ul style="list-style-type: none"> Total reservoir storage is in the vicinity of 45,000 acre-feet on January 1st. Includes implementation of mandatory restrictions on end uses (see 2020 UWMP Table 8-2) as well as agency actions (see 2020 UWMP Table 8-3).
3	Up to 30%	<ul style="list-style-type: none"> Total reservoir storage is in the vicinity of 50,000 AF on February 1st Includes implementation of mandatory restrictions on end uses (see 2020 UWMP Table 8-2) as well as agency actions (see 2020 UWMP Table 8-3).
4	Up to 40%	<ul style="list-style-type: none"> Total reservoir storage is in the vicinity of 55,000 AF on April 30th and/or storage level projections using average rainfall indicate December 1st storage in vicinity of 30,000 AF. Includes implementation of mandatory restrictions on end uses (see 2020 UWMP Table 8-2) as well as agency actions (see 2020 UWMP Table 8-3).
5	Up to 50%	<ul style="list-style-type: none"> Total reservoir storage on December 1 is less than 30,000 AF. Includes implementation of mandatory restrictions on end uses (see 2020 UWMP Table 8-2) as well as agency actions (see 2020 UWMP Table 8-3).
6	Up to 60%	<ul style="list-style-type: none"> Continued drought and forecasted decreasing storage levels or catastrophic event beyond Stage 5, or total reservoir storage is projected to be in the vicinity of 30,000 AF on April 1st. Includes implementation of mandatory restrictions on end uses (see 2020 UWMP Table 8-2) as well as agency actions (see 2020 UWMP Table 8-3).

NOTE: 1) TOTAL RESERVOIR STORAGE INCLUDES EMERGENCY STORAGE AND DEAD STORAGE
 SOURCE: MARIN WATER 2020 URBAN WATER MANAGEMENT PLAN, TABLE 8-1. (JUNE 2021)

Water System Quality

According to Marin Water’s 2020 Annual Water Quality Report, Marin Water conducts more than 120,000 water quality and process control tests yearly from watershed to faucet, to ensure the potable water supply is safe to drink. This includes ongoing process control testing at the treatment plants as well as laboratory testing of the district’s water samples. Many of these samples undergo chemical, bacteriological and physical analyses in the district’s water quality laboratory, which is certified by the California State Water Resources Control Board’s Environmental Laboratory Accreditation Program. Additionally, Marin Water sends other samples to specialty labs for testing. Marin Water’s 2020 Annual Water Quality Report indicates that all water supplied to customers during 2020 met all state and federal regulatory standards.

It should be noted that routine water testing at Bel Aire Elementary School in Tiburon was conducted in August 2019, which showed possibly dangerous levels of lead close to or exceeding the EPA’s safety threshold for toxic metals of 15 parts per billion. The routine water testing identified a drinking fountain inside a classroom with toxic metals measured at 14.7 parts per billion, a hallway fountain with toxic metals measured at 17.4 parts per billion, and a fountain at a play field with toxic metals measured at 12.3 parts per billion. All three water fountains were replaced with new hydration stations. Marin Water indicated that the water quality issue was with the school’s plumbing or fountain fixtures and that there were no issues with lead in Marin Water’s water supply or delivery system.¹²

Regulatory Framework - Water Services

State

California Water Quality Control Board

The State Water Quality Control Board (Water Board), Division of Drinking Water, oversees the Drinking Water Program. The Drinking Water Program regulates public water systems and certifies drinking water treatment and distribution operators. It provides support for small water systems and for improving their technical, managerial, and financial capacity. It provides subsidized funding for water system improvements under the State Revolving Fund (“SRF”) and Proposition 50 programs. The Drinking Water Program also oversees water recycling projects, permits water treatment devices, supports and promotes water system security, and oversees the Drinking Water Treatment and Research Fund for MTBE and other oxygenates.

Consumer Confidence Report Requirements

California Code of Regulations (CCR) Title 22, Chapter 15, Article 20 requires all public water systems to prepare a Consumer Confidence Report for distribution to its customers and to the Water Board. The Consumer Confidence Report provides information regarding the quality of potable water provided by the water system. It includes information on the sources of the water, any detected contaminants in the water, the maximum contaminant levels set by regulation, violations and actions taken to correct them, and opportunities for public participation in decisions that may affect the quality of the water provided.

Urban Water Management Planning Act

The Urban Water Management Planning Act has as its objectives the management of urban water demands and the efficient use of urban water. Under its provisions, every urban water supplier is required to prepare and adopt an urban water management plan. An “urban water supplier” is a public or private water supplier that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than

¹² Rodriguez, Adrian. “Tiburon School’s Water Tests Show Lead Contamination”. Marin Independent Journal. October 14, 2019.

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3,000 acre-feet of water annually. The plan must identify and quantify the existing and planned sources of water available to the supplier, quantify the projected water use for a period of 20 years, and describe the supplier's water demand management measures. The urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Department of Water Resources must receive a copy of an adopted urban water management plan.

Senate Bill 610 and Assembly Bill 901

The State Legislature passed Senate Bill (SB) 610 and Assembly Bill (AB) 901 in 2001. Both measures modified the Urban Water Management Planning Act.

SB 610 requires additional information in an urban water management plan if groundwater is identified as a source of water available to an urban water supplier. It also requires that the plan include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 requires a city or county that determines a project is subject to CEQA to identify any public water system that may supply water to the project and to request identified public water systems to prepare a specified water supply assessment. The assessment must include, among other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and water received in prior years pursuant to these entitlements, rights, and contracts. AB 901 requires an urban water management plan to include information, to the extent practicable, relating to the quality of existing sources of water available to an urban water supplier over given time periods. AB 901 also requires information on the manner in which water quality affects water management strategies and supply reliability. The bill requires a plan to describe plans to supplement a water source that may not be available at a consistent level of use, to the extent practicable. Additional findings and declarations relating to water quality are required.

Senate Bill (SB) 221

SB 221 adds Government Code Section 66455.3, requiring that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within five days of the subdivision application being accepted as complete for processing by the city or county. It also adds Government Code Section 66473.7, establishing detailed requirements for establishing whether a "sufficient water supply" exists to support any proposed residential subdivisions of more than 500 dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring availability of a sufficient water supply. The applicable public water system must provide proof of availability. If there is no public water system, the city or county must undertake the analysis described in Government Code Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

Local

Marin Municipal 2020 Water District Urban Water Management Plan

The 2020 Urban Water Management Plan (UWMP) is a foundational document for Marin Municipal Water District (Marin Water) and is a source of information about Marin Water’s historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs. Marin Water prepared the UWMP to remain in compliance with the Urban Water Management Planning Act (California Water Code Section 10610 et seq.). This document also describes the actions Marin Water is taking to promote water conservation, both by the Marin Water and by its customers (referred to as “demand management measures”), and includes a plan to address potential water supply shortages such as drought or other impacts to supply availability (the “Water Shortage Contingency Plan”). The UWMP is updated every five years in accordance with state requirements under the Urban Water Management Planning Act (UWMP Act) and amendments (Division 6 Part 2.6 of the California Water Code Sections 10610 – 10656).

Marin Municipal Water District Water Resources Plan 2040

Marin Water prepared the Water Resources Plan 2040 to evaluate resiliency in the face of a variety of threats to water resources in its service area and to identify options to enhance resiliency for its customers. The Water Resources Plan 2040 provides information to enable the district to make informed water supply planning decisions in the face of a variety of potential reliability threats, including an updated Water Shortage Contingency Plan that includes to provide the district more flexibility in addressing dry periods early. As part of the Water Resources Plan 2040, Marin Water updated the baseline operational yield, which is defined as the maximum annual demand that can be met by the district’s local water supply system during the hydrologic record, assuming 25 percent of supply capacity (beyond unusable storage) is reserved for emergency purposes. To better understand potential changes in future supply availability under various future conditions, the Water Resources Plan 2040 addresses simulated reliability threats or “events” and the “futures” that would result from those events that could impact baseline supply conditions, including earthquakes, drought, climate change, wildfire, landslides, and water quality issues. Based on the results of the simulated reliability threats, the Water Resources Plan 2040 recommends actions that Marin Water should take to increase the water supply resiliency, including increased water conservation, investing in watershed management, and exploring groundwater partnering opportunities.

Water Supply Master Plan

Marin Water is preparing a Water System Master Plan (WSMP) that is intended to provide a roadmap for investing in the water system, ensure cost effective use of resources, evaluate and address system needs, and update its planning and design criteria. The WSMP is anticipated to be completed in 2023.

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Marin Municipal Water District Code

Title 11 Water Service Rules and Regulations. This title outlines the rules and regulations that are adopted to establish uniform practices governing water service and to define the obligations of Marin Water to consumers and of consumers to Marin Water. Topics in this title of the code include applications for water service, installation of new service connections, cross-connections, meter reading, billing and rendering of bills, payment of bills, termination of water service, water main extensions, charges for main extensions, installation of services, charges for service installations and connection fees, and fire flow fees.

Chapter 13.02 Water Conservation and Dry Year Water Use Reduction Program. This chapter provides a water conservation plan to minimize the effect of a shortage of water on consumers and to adopt provisions that will significantly reduce the consumption of water during an extended dry weather period (drought), which would extend the available water for consumers while reducing the hardship on the general public to the greatest extent possible. The programs developed in this chapter are triggered based on lake storages developed by computer simulations performed utilizing Marin Water's seven reservoirs with approximately 80,000 acre feet of total capacity and up to 9,000 acre feet per year of imported water. This chapter establishes prohibitions on nonessential activities, requirements for water services, and identifies programs to reach 10% and 25% reduction goals in dry periods.

Chapter 13.03 Water Budgets and Related Conservation Measures. This chapter specifies the terms and conditions under which water budgets will be required and to specify when consumers will be required to retrofit water using fixtures with low flow or ultra-low flow fixtures to reduce the per capita consumption of water. Implementation of the provisions of this chapter would reduce the hardship on consumers resulting from over subscription of the Marin Water's water supplies which has increased the susceptibility to short-falls in dry years.

Chapter 13.04 Comprehensive Drought Water Conservation and Enforcement Measures. Chapter 13.04 was amended multiple times in 2021 in response to drought conditions that led Marin Water to declare a water shortage emergency and adopt mandatory water restrictions. In 2022, Marin Water repealed restrictions that established maximum water use for single-family residential accounts, single-family irrigation, and commercial irrigation accounts, while maintaining regulations and restrictions on water. As amended, Chapter 13.04, establishes drought water waste prohibitions that address prohibited nonessential uses, including washing of sidewalks, driveways, parking lots, and other hard surfaced areas, water leaks, water use for decorative elements, water use for various landscaping activities, refilling drained swimming pools, and initial filling of swimming pools and restrictions on reverse osmosis units. Chapter 13.04 provides exemptions from daytime water prohibition for testing and repair of irrigation systems to eliminate water use, allows for adjustments of

water use limits for larger households, and provided for variances for use of water due to hardship, emergency conditions, or comparable water conservation efforts.

Town of Tiburon Municipal Code

Chapter 13E Water Efficient Landscape. As mandated under State Government Code Section 65595(c), certain new construction, remodel, and rehabilitation projects that include landscape and irrigation improvements are required to comply with water-efficient landscape requirements and monitoring of water usage for irrigation. The purpose of this chapter is to comply with this state mandate regarding water-efficient landscaping. The ordinance contains provisions that include but are not limited to, the following:

1. The application and monitoring of a "maximum applied water allowance" that is established for applicable projects.
2. The review of required landscape and irrigation plans, specifications and supportive documents prepared for applicable projects for compliance with water-efficient landscape restrictions, including limitations on the type and amount of landscape materials and plant species.
3. The review, inspection and approval of landscape and irrigation that is installed for applicable projects to ensure compliance with the approved landscape and irrigation plans and specifications.
4. The post-installation monitoring of water usage for irrigation by applicable projects.

ANALYSIS, IMPACTS, AND MITIGATION MEASURES – WATER SERVICES

Impact 3.15-1 General Plan 2040 implementation may result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years (Significant and Unavoidable)

Implementation of the General Plan 2040 would result in increased population and employment growth within the Planning Area, and a corresponding increase in the demand for additional water supplies.

While Marin Water can meet future demands as described in the District's UWMP with no new or expanded water supply or treatment facilities, the General Plan 2040, along with additional growth in the Marin Water service area associated with the regional growth assigned to Marin County jurisdictions under the 6th cycle RHNA would result in growth beyond the service population projected in the UWMP. Future UWMP updates would need to include updated regional population and housing estimates as plans and housing element are updated. Additionally, according to Marin Water, once it receives the updated Housing Elements from all jurisdictions served, Marin Water will be amending its UWMP to evaluate water supply and infrastructure capacity. This potential future population growth would

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exceed Marin Water's planned service population, which is anticipated to increase by 20,629 from 2020 to 2045.¹³

While the population growth associated with all jurisdictions served by Marin Water would increase growth during the planning period, the UWMP demonstrates that Marin Water will have a robust water supply under normal year, single dry year, and multiple dry year conditions and is anticipated to have excess supply under all of these conditions and in all study years (2025, 2030, 2035, 2040, and 2045) as shown in Tables 7-7 through 7-9 of the 2020 UWMP. The lowest excess supply of 13,942 acre feet per year is projected in 2045 under a single dry year condition.¹⁴ This excess supply is more than adequate to serve the 303.5 acre feet of year demand for water that would occur with additional population growth of 2,215 under full buildout of the General Plan 2040 (916 housing units x 2.44 pph = 2,235) [128 gallons per capita per day x 2,235 = 286,080 gallons per day or approximately 320 acre feet per year). Furthermore, Marin Water's 2020 UWMP indicates that based on historical water supply patterns, the MMWD can meet future demands for the district, including Tiburon, under normal, single-dry year, and multiple-dry year scenarios. However, there is uncertainty in the future due to climate change.

The Town's General Plan 2040 requires development to demonstrate adequacy of facilities and water supplies through Policy LU-2 and Policy C-18 and Programs LU-e through LU-g. Additionally, Program LU-g requires the Town to coordinate growth projections and infrastructure planning with urban service providers such as Marin Municipal Water District to ensure sufficient capacity to serve existing and future development, and Policy C-19 calls for the Town to coordinate planning activities with Marin Water to ensure that both the Town and Marin Water have the latest information with respect to land use and water supply planning.

As described previously, Marin Water's 2020 UWMP has determined that there is adequate supply to meet demand for a projected service population of 211,961 in 2045, an increase of 20,692 people from the 2020 level. Thus, water supply is sufficient to accommodate population growth in Tiburon associated with the development of 916 new residential units. However, the 2020 UWMP was prepared based upon the Association of Bay Area Government 2017 population projections, and therefore does not account for population projections associated within the 6th Cycle Housing Element updates for all of the jurisdictions within Marin Water's service area. The aggregate RHNA's for these jurisdictions would result in significantly more residential units within Marin Water's service area than what was considered in the UWMP. Specifically, future growth would include 8,021 RHNA units assigned to Marin Water's cities and towns from 2023-2031 as well as a portion of the 3,569 RHNA units assigned to the unincorporated area. The resulting population from the 2023-2031 period alone would be close to or exceed the population planned through 2045.

¹³ Marin Water. 2021. 2020 Urban Water Management Plan. [Table 3-1]

¹⁴ Marin Water. 2021. 2020 Urban Water Management Plan. [Table 7-8]

The RHNA does not account for units that would be assigned past 2031 which would allocate additional units to Marin Water's service area from 2031-2045.

Marin Water must update the UWMP every five years to accommodate new and projected population growth, and Marin Water intends to update the plan to reflect the 6th Cycle Housing Element Updates and to ensure sufficient water supplies to support the anticipated increase in residential development.

However, out on an abundance of caution, even with implementation of the above policies and programs, the uncertainty associated with drought impacts on future water supply and with the timing and fruition of efforts by Marin Water and other regional districts to supplement water supplies in dry and multiple dry years presents the possibility that Marin Water may not be able to supply water for the Project and cumulative (Project and Marin Water's commitments outside of the Project) scenarios. Because of these uncertainties, and because the current UWMP does not account for population projections associated with RHNA for all of the jurisdictions within Marin Water's service area, impacts to water supply for the Project are **significant and unavoidable** with no feasible mitigation measures.

Level of Significance before Mitigation

Potentially significant

Mitigation Measures

No feasible mitigation

Level of Significance

Significant and unavoidable

General Plan 2040 Policies and Programs that minimize impacts

Policy LU-2 Infrastructure for New Development: Assure that sewer, water, and other essential infrastructure improvements must be available to the developer to serve new development by the time of completion of construction and that anticipated traffic levels are consistent with adopted Vehicle Miles Traveled (VMT) standards. New development shall pay its fair share of essential expanded infrastructure to the maximum extent allowed by law.

Program LU-e Infrastructure Capacity: Analyze project impacts on infrastructure capacity and services as part of CEQA review and require mitigation measures as needed in consultation with provider agencies.

Program LU-f Development Impact Fees: Periodically review and update public facilities impact fees to assure that new development pays its fair share of public infrastructure and service costs.

Program LU-g Public Infrastructure Planning: Coordinate growth projections and infrastructure planning with urban service providers such as Marin Municipal Water District and the sanitary districts to ensure sufficient capacity to serve existing and future development.

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Policy C-18 Water Conservation: Support the efforts of the Marin Municipal Water District (Marin Water) to conserve the use of water through enforcement of the Town's water conservation ordinance requiring implementation of water conservation measures.

Program C-e Development Impacts on Water Retention: Where impervious surface construction and storm drain system installation and/or hillside stabilization (e.g., landslide repair) are proposed as part of development proposals, or wherever such stabilization is required by the Town to protect public safety, require project applicants to analyze the impacts of these drainage pattern modifications on groundwater recharge and on downslope water wells and their yields. In the event impacts are likely, modifications to the proposed project, including possible downsizing, should be implemented to the extent feasible.

Program C-f Water Conservation Ordinance: Continue to implement the Town's water conservation ordinance through the review of new development proposals involving new landscaping.

Policy C-19 Water Supply Planning: Coordinate planning activities with Marin Water to ensure that both the Town and Marin Water have the latest information with respect to land use and water supply planning.

Impact 3.15-2 General Plan 2040 implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Significant and Unavoidable)

Development and growth in the Town under the General Plan 2040 would result in increased demand for water supplies, including water conveyance and treatment infrastructure. The General Plan 2040 includes policies and actions to ensure that water supplies are provided at acceptable levels and to ensure that development and growth does not outpace the provision of available water supplies.

As described under Impact 3.15-1, future water supplies are projected to be adequate to meet demand that would be generated by buildout of the General Plan 2040.

It is anticipated that water treatment infrastructure and water supply infrastructure may need to be extended to serve future development. Future development in the Planning Area would be required to connect to existing water distribution infrastructure in the vicinity of each site, pay the applicable water system connection fees, and pay the applicable water usage rates. Future projects may be required to implement site specific and limited off-site improvements to the water distribution system in order to connect new project sites to the existing water infrastructure network.

As future development and infrastructure projects are considered by the Town, each project will be evaluated for conformance with the General Plan 2040, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. The specific impacts of providing new and expanded water distribution infrastructure cannot be determined at this time, as the General Plan 2040 does not propose or authorize any specific development projects or include details on any future development projects. Future water treatment and supply infrastructure, such as new or expanded water treatment plants, increased storage capacity at reservoirs, groundwater storage, and additional or expanded storage tanks, may also be needed to serve General Plan 2040 development. As previously identified, Marin Water plans to evaluate its water supply and system needs following review of all adopted 6th Cycle Housing Elements. As Marin Water has not yet identified specific improvements to address planned growth, the specific impacts of expanding the water treatment and supply infrastructure cannot be determined at this time.

Any future improvements to the existing water distribution infrastructure would be primarily provided on sites with land use designations that allow for urbanized land uses, and the environmental impacts of constructing and operating the new water distribution infrastructure are anticipated to be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan 2040, as discussed in Chapters 3.1 through 3.14, 3.16, and 4.0 of this Draft EIR. However, because new or expanded facilities would be required to serve General Plan 2040 buildout and the site specific details of these new or expanded facilities is unknown this is considered a **significant and unavoidable** impact of General Plan 2040.

Level of Significance before Mitigation

Significant and unavoidable

Mitigation Measures

No feasible mitigation

Level of Significance

Significant and unavoidable

Impact 3.15-3: General Plan 2040 implementation, combined with other cumulative development, may result in insufficient water infrastructure available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years (Significant and Unavoidable)

Water treatment, storage, and supply infrastructure upgrades and expansion may be needed in the Planning Area and region in order to treat and deliver water from new development, including growth planned in General Plans throughout the region, the 6th Cycle Final RHNA Plan, and Plan Bay Area 2050 for Marin County. As previously identified, the

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construction and improvement projects to increase water supply, water treatment, water storage, and water conveyance, would be site and project specific and not cumulative in nature. Additionally, as described in Impact 3.15-2, and facility improvement projects either for the Project or cumulatively would, comply with District, local, state, and federal regulations and adopted standards for development and construction of utility system infrastructure and facilities. While the adopted federal, state, and local regulations and standards along with General Plan policies and programs and mitigation measures identified in Sections 3.1 through 3.15 would reduce potential environmental effects associated with construction and expansion of system infrastructure, it cannot be concluded with certainty that impacts related to this potential construction would be mitigated to less than significant. Therefore, because new or expanded facilities would be required to serve regional growth, including General Plan 2040 buildout, and the site specific details of these new or expanded facilities is unknown, the General Plan 2040's contribution would be considered **cumulatively considerable**.

Level of Significance before Mitigation

Potentially Significant.

Mitigation Measures

No feasible mitigation

Level of Significance

Significant and unavoidable and cumulatively considerable

Impact 3.15-4 General Plan 2040 implementation along with cumulative development could result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.

As described previously, Marin Water's UWMP has determined that there is adequate supply to meet demand for a projected service population of 211,961 in 2045, an increase of 20,692 people from the 2020 level. Thus, water supply is sufficient to accommodate population growth in Tiburon associated with the development of 916 new residential units. However, the 2020 UWMP was prepared based upon the Association of Bay Area Government 2017 population projections, and therefore does not account for population projections associated within the 6th Cycle Housing Element updates for all of the jurisdictions within Marin Water's service area. The aggregate RHNAs for these jurisdictions would result in significantly more residential units within Marin Water's service area than what was considered in the UWMP. Marin Water must update the Urban Water Management Plan every five years to accommodate new and projected population growth, and the district intends to update the plan to reflect the 6th Cycle Housing Element Updates and to ensure sufficient water supplies to support the anticipated increase in residential development.

Implementation of the General Plan 2040 along with regional development would result in increased population and employment growth within the Planning Area and region, and a corresponding increase in the demand for additional water supplies. Additionally, even with implementation of the above policies and programs, the uncertainty associated with drought impacts on future water supply and with the timing and fruition of efforts by water districts to supplement water supplies in dry and multiple dry years presents the possibility that Marin Water may not be able to supply water for the Project and cumulative (Project and Districts' commitments outside of the Project) scenarios. Because of these uncertainties, and because current UWMPs do not account for population projections associated within the 6th Cycle Housing Element updates for all of the jurisdictions within Marin Water's service area. Impacts to water supply for the Project and cumulative scenarios are **significant and unavoidable** and **cumulatively considerable** with no feasible mitigation measures.

Level of Significance before Mitigation

Potentially Significant.

Mitigation Measures

No feasible mitigation

Level of Significance

Significant and unavoidable and cumulatively considerable

3.15.2 WASTEWATER

This section describes the Town of Tiburon's wastewater infrastructure, wastewater flows, treatment, regulatory requirements, and infrastructure planning.

Key Terms

Effluent: In the context of wastewater treatment plants, effluent is wastewater that has been through a treatment process to remove pollution and undesirable constituents from the water.

PDES: Water pollution degrades surface waters making them unsafe for drinking, fishing, swimming, and other activities. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

WWTP: Wastewater treatment plant. Treatment of wastewater may include the following processes: screening to remove large waste items; grit removal to allow sand, gravel, and

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sediment to settle out; primary sedimentation where sludge can settle out of the wastewater; secondary treatment to substantially degrade the biological content of the sewage; tertiary Treatment to raise the quality of the effluent before it is discharged; and discharge.

Existing Conditions - Wastewater

Wastewater service in the Tiburon Planning Area is provided by multiple local agencies, including the Richardson Bay Sanitary District (RBSD), Sanitary District 5 (SD5), and Sanitary District 2 (SD2) of Marin County. As shown on Figure 3.15-2, the majority of the Planning Area is served by either the RBSD or the SD5 while a small northeastern portion of the Town and Planning Area is served by SD2.

Richardson Bay Sanitary District

RBSD is an independent special district. It encompasses an approximate 3.1 square mile jurisdictional boundary within southeast Marin County. Approximately 60 percent of its jurisdictional area is within Tiburon Town limits, and the other 40 percent covers the unincorporated community of Strawberry.

RBSD is a member of the Sewerage Agency of Southern Marin (SASM). RBSD provides sewage collection and water reclamation services and connects to the main sewer lines owned by SASM which carry the wastewater to the SASM wastewater treatment plant located in the City of Mill Valley. Once processed, the wastewater is disinfected and pumped 6 miles to Racoon Straits in Tiburon for deep-water discharge into the San Francisco Bay. Processed water is also further treated, or reclaimed, and used for landscape irrigation by the City of Mill Valley Parks Department. Figure 3.15-3 illustrates the RBSD wastewater infrastructure and facilities that serve the Tiburon Planning Area.

RBSD Capacity

As part of the 2019 RBSD Sewer System Management Plan, a capacity assessment was completed for RBSD based on flow monitoring data obtained during the 2008/09 and 2009/10 wet weather seasons, which was used to develop a Capacity Assurance Plan and Capital Improvement Plan (CIP). The modeled facilities in the RBSD collection system included the Hawthorne Terrace, Del Mar, and Belveron Gardens pump stations, downstream force mains, and gravity sewers that convey flow to the Salt Works Pump Station from the northeast and southwest, and to the Ricardo Road Pump Station from the northwest and southeast. According to the 2019 Sewer System Management Plan, the capacity assessment identified some sewers in the RBSD system that may surcharge under peak design event wet weather flow conditions; however, none of the surcharge was severe enough to present a significant risk of overflow.

Additionally, the 2019 Sewer System Management Plan noted the RBSD completed a sewer rehabilitation project in the Belveron Gardens Pump Station tributary area in response to a

2009 hydraulic model analysis identifying the Belveron Gardens Pump Station as not having sufficient firm capacity to convey design storm flows. The Belveron Gardens Pump Station sewer rehabilitation project consisted of the rehabilitation and/or replacement of over 7,000 feet of sewer mains, lower laterals, and some upper laterals. As a result, the Belveron Gardens Pump Station did not have a sewer system overflow during the February 13, 2019 wet weather event, which closely resembled a design storm event.¹⁵

SASM Wastewater Treatment Plant

The SASM WWTP is located in Mill Valley at 450 Sycamore Avenue, approximately 1.9 miles west of the Tiburon Town limits. The SASM WWTP treats raw wastewater from its six member agencies. The WWTP’s treatment process consists of screening, grit removal, flow equalization, primary sedimentation, biological treatment (trickling filters), secondary clarification, disinfection (chlorination), and dechlorination. Dechlorination occurs prior to discharge to Raccoon Strait in the San Francisco Bay via a submerged outfall that is jointly shared with the Sanitary District 5 of Marin County.

Current and Projected Wastewater Flows

Table 3.15-10 identifies the current and projected wastewater flow and loading, as summarized in the SASM WWTP Master Plan.

TABLE 3.15-10: SUMMARY OF WASTEWATER FLOWS AND CHARACTERISTICS – SASM WWTP

Parameter	Units	Existing Conditions (2014)			Projected 2035 Values		
		ADW	ADA	ADMM	ADW	ADA	ADMM
Flow	mgd	2.22	2.67	4.19	2.34	2.81	4.41
BODS	mg/L	253	213	--	253	213	--
	lb/d	4,557	4,686	6,167	4,803	4,939	6,500
TSS	mg/L	323	271	--	323	271	--
	lb/d	5,811	5,984	7,689	6,125	6,307	8,104
Minimum Hour Dry Weather Flow		0.40 mgd			0.42 mgd		
Peak Hour Dry Weather Flow		4.67 mgd			4.92 mgd		
Peak Hour Wet Weather Flow		32.7 mgd			32.7 mgd		

NOTE: FLOWS REPRESENT AVERAGE DRY WEATHER (ADW) FLOWS, AVERAGE DAILY ANNUAL (ADA) FLOWS, AND AVERAGE DAY MAXIMUM MONTH (ADMM) FLOWS AND LOADS IN LB/D REPRESENT ADW LOADS, ADA LOADS, AND ADMM, LOADS.
SOURCE: SASM WWTP MASTER PLAN (DECEMBER 2014)

The current average dry weather flow (ADWF) to the SASM WWTP is 2.22 mgd, with a service population in 2014 of 29,000. The SASM WWTP Master Plan identifies anticipated population growth in Marin County by approximately 5.4 percent and in Mill Valley by approximately 5 percent by 2035. Therefore, the SASM WWTP Master Plan projects that the ADWF in 2035 will be 2.34 mgd. During wet weather events, the wastewater collection system receives a significant amount of extraneous flows, known as infiltration and inflow. Because of the high

¹⁵ Richardson Bay Sanitary District. April 2019. Sewer System Management Plan. [page 8-2]

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infiltration and inflow contributions, the existing peak hourly wet weather flow (PHWWF) to the WWTP is 32.7 mgd.¹⁶

The existing NPDES permit rates the facility capacity at 3.6 mgd for ADWF and 24.7 mgd for PWWF; however, the influent pump station has a capacity of 32.8 mgd. Therefore, when flows exceed 24.7 mgd, excess wastewater flows are diverted to the equalization basins for treatment after the event. If the equalization basins reach capacity, the excess flows are treated in primary clarifiers and blended with the secondary effluent. The blended effluent is required to meet the NPDES permit discharge standards.¹⁷

As part of the SASM WWTP Master Plan, a hydraulic and process capacity assessment of the WWTP and outfall was performed, which estimated that the WWTP and outfall have a firm hydraulic capacity of 23.5 to 25.2 mgd during wet weather events. The process analysis indicated that the WWTP can adequately treat an ADFW of up to 2.77 mdg under maximum month load conditions to current discharge standards when all units are in service. Therefore, the WWTP has adequate capacity to treat the projected ADWF flows in 2035. However, capacity improvements would be necessary to meet the PHWWF of 24.7.

In response, the SASM initiated the Wastewater Treatment Plant Rehabilitation Project – Phase I in April 2018 to increase the WWTP’s PHWWF capacity to 24.7, which is currently 90 percent complete and is expected to conclude in February 2021. The primary goal of the WWTP Rehabilitation Project is to ensure reliable treatment of wastewater under the National Pollutant Discharge Elimination System permit (NPDES), as well as compliance with regional, State and Federal regulations.¹⁸

Sanitary District Number 5

SD5 is an independent special district and provides secondary treatment of domestic and commercial wastewater to the City of Belvedere, the Town of Tiburon east of Gilmartin Drive, and unincorporated areas of the Tiburon Peninsula. SD5 maintains two separate sewer collection systems each with their own WWTP: the Main Sewer System and the Paradise Cove Sewer System. Figure 3.15-3 illustrates the SD5 wastewater infrastructure and facilities that serve the Tiburon Planning Area, including the Main WWTP and Paradise Cove WWTP.

It should be noted that Figure 3.15-3 also identifies the Seafirth WWTP within the jurisdictional boundaries of SD5; however, the Seafirth WWTP is not active and has been decommissioned. The Seafirth WWTP was originally a part of the Seafirth Estates neighborhood private wastewater collection system serving the 30-unit subdivision, which

¹⁶ Sewerage Agency of Southern Marin. December 2014. Wastewater Treatment Plan Master Plan. [page ES-4]

¹⁷ Sewerage Agency of Southern Marin. December 2014. Wastewater Treatment Plan Master Plan. [page ES-4]

¹⁸ Sewerage Agency of Southern Marin. April 2018. Wastewater Treatment Plant Rehabilitation Project – Phase I Notice.

was owned and operated by the Seafirth Estates Company.¹⁹ Following the establishment of SD5's Paradise Cove Sewer System and WWTP, SD5 worked with the Seafirth Estates Company and SFBRWQCB in decommissioning the aging Seafirth Estates WWTP and connecting the neighborhood to the new Paradise Cove force main. Additionally, two new pump stations were installed in the Seafirth Estates neighborhood to facilitate pumping to the Paradise Cove WWTP.²⁰

Main Sewer System and Wastewater Treatment Plant

The Main Sewer System consists of approximately 30.9 miles of pipe, ranging from 4 inches to 18 inches in diameter, and 24 pump stations (9 in the Tiburon Zone, 13 in the Belvedere Zone and 2 in the Paradise Cove Zone). Of the 30.9 miles of pipe, 28.5 miles are gravity lines and the remaining 2.4 miles are Force Main lines. The Main Sewer System serves a population of about 8,400 and provides sewer service to most businesses and residents within the service area, as well as unincorporated areas within the District's sphere of influence. The majority of sewer collected and treated in the service area is residential with a very small commercial component serving downtown Tiburon. There are no industrial activities in the SD5 service area and the Tiburon/Belvedere peninsula is fully developed with very few opportunities for future developments.

Collected sewage in the main sewer system is conveyed to the SD5 Main WWTP located at 2001 Paradise Drive in Tiburon. The Main WWTP provides secondary treatment of wastewater for discharge to Raccoon Strait in Central San Francisco Bay. The treatment process consists of raw influent grinding, primary clarification, activated sludge aeration, secondary clarification, sodium hypochlorite disinfection, and sodium bisulfite dechlorination. The WWTP also has onsite storage consisting of an additional primary clarifier, an offline aeration basin, and a surge tank, totaling 315,000 gallons. During wet weather, when primary-treated flows exceed the WWTP's biological treatment capacity and all onsite storage is used, the WWTP routes the portion of flows above 2.3 MGD from its primary clarifiers directly to its sodium hypochlorite disinfection tank (bypassing activated sludge aeration and secondary clarification) where it is blended with biologically treated effluent prior to discharge. Any primary treated flows stored onsite are routed back to the headworks for full treatment.

The Main WWTP shares an outfall with the SASM WTP in Mill Valley (regulated under NPDES Permit No. CA0037711). Discharge of treated effluent to Raccoon Strait in Central San Francisco Bay is through a 36-inch outfall and a submerged, multi-port diffuser located about 840 feet offshore. The diffuser spans 195 feet and consists of 15 risers, each with four 3-inch

¹⁹ California Regional Water Quality Control Board – San Francisco Bay Region. December 2006. Order No. R2-2006-0082. [page 4].

²⁰ Sanitary District No. 5 of Marin County. August 2014. Grand Jury Report Findings Response "The Scoop on Marin County Sewer Systems: Part 1". [page 3].

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diameter ports submerged approximately 84 feet below mean sea level. The average daily outfall capacity is 31.4 mgd.²¹

Current and Projected Wastewater Flows

The Main WWTP is licensed to provide biological treatment for an average daily dry weather design flow of 0.98 mgd. Additionally, the WWTP can provide biological treatment for up to 2.3 mgd wet weather flows.²² In the calendar year 2020, the Main WWTP received and treated:

- Average dry weather flow of 0.57 mgd;
- Average daily annual flow of 0.585 mgd;
- Average wet weather flow of 0.63 mgd (very dry year); and
- Peak wet weather flow of 1.17 mgd (very dry year).²³

According to Tony Rubio, District Manager – Chief Plant Operator of SD5, the Main WWTP has plenty of capacity to treat future flows for the occasional new home or upgraded home that adds fixture units.²⁴ According to the 2018 Sewer System Master Plan for the main sewer system, the portions of Tiburon and the City of Belvedere in the service area are close to being completely built out. To date, the Main Sewer System has not had an overflow event attributed to capacity deficiency; therefore, it is anticipated the main sewer system has capacity to treat future flows.

Paradise Cove Sewer System and Wastewater Treatment Plant

The Paradise Cove Sewer System consists of approximately 3.1 miles of pipe, ranging from 3 inches to 6 inches in diameter, and 2 pump stations. Of the 3.1 miles of pipeline, 1.4 miles are gravity lines while the remaining 1.7 miles are associated with the force main pipeline. The majority of sewer collected and treated in the service area is residential. The Paradise Cove Sewer System serves 400 customers through 109 service connections within unincorporated area within the Tiburon Sphere of Influence from 3200 through 4200 Paradise Drive, as well the Seafirth Estates neighborhood.

The Paradise Cove WWTP is located at 3700 Paradise Drive within the Tiburon Sphere of Influence. SD5 is responsible for the operation and maintenance of the collection system associated with the Paradise Cove WWTP. The WWTP treatment process uses two identical treatment trains, each with an average daily dry weather capacity of 0.02 mgd, consisting of grinding, influent screening, flow equalization (primary clarification), extended aeration,

²¹ California Regional Water Quality Control Board – San Francisco Bay Region. August 2018. Order No. R2-2018-0038. [page F-5].

²² California Regional Water Quality Control Board – San Francisco Bay Region. August 2018. Order No. R2-2018-0038.

²³ Sanitary District No. 5 of Marin County. February 11, 2021. Email correspondence with Tony Rubio, District Manager – Chief Plant Operator.

²⁴ Sanitary District No. 5 of Marin County. February 11, 2021. Email correspondence with Tony Rubio, District Manager – Chief Plant Operator.

secondary clarification, chlorination (sodium hypochlorite), and dechlorination (sodium bisulfite). The treated, disinfected, and dechlorinated wastewater is then discharged into the Central San Francisco Bay through a submerged, four-inch, rubber duckbill diffuser valve located approximately 400 feet offshore. It should be noted that the Paradise Cove WWTP does not process any biosolids. Waste-activated sludge is stored in a holding tank (aerobic digestion) and is hauled to the Main Sewer System's WWTP for processing.²⁵

Current and Projected Wastewater flows

The Paradise Cove WWTP can provide secondary treatment for an average daily dry weather design flow of 0.04 mgd. In 2014, the average daily flow was 0.015 mgd.²⁶ In the calendar year 2020, the Paradise Cove WWTP received and treated:

- Average dry weather flow of 0.015 mgd;
- Average daily annual flow of 0.015 mgd;
- Average wet weather flow of 0.016 mgd (very dry year); and
- Peak wet weather flow of 0.019 mgd (very dry year).²⁷

According to Tony Rubio, District Manager – Chief Plant Operator of SD5, the Paradise Cove WWTP has plenty of capacity for the occasional new home or renovations/remodels that add fixture units. Additionally, according to the 2018 Paradise Cove -- Sewer System Master Plan, the Paradise Cove Sewer System has not had an overflow event that has been attributed to capacity deficiency and that the land in the service area is close to being completely built out. For these reasons, it is anticipated that the Paradise Cove Sewer System will have capacity to treat future wastewater flows.

Sanitary District Number 2

SD2 serves 4.5 square miles and provides sewerage collection services for the Town of Corte Madera, small portions of the surrounding communities of Larkspur and Tiburon and some adjacent unincorporated County land. SD2 operates the 44.7 miles of the gravity sewage collection system, 19 pump stations, and 5.1 miles of force mains.²⁸ Figure 3.15-3 illustrates the SD2 wastewater infrastructure and facilities that serve the Tiburon Planning Area.

SD2 is a member of CMSA, as previously described. The CMSA WWTP on the north side of Point San Quentin was completed in 1985. Its dry weather capacity is 10 mgd. The flow from

²⁵ California Regional Water Quality Control Board – San Francisco Bay Region. 2016. Tentative Order No. R2-2016-00XX.

²⁶ California Regional Water Quality Control Board – San Francisco Bay Region. 2016. Tentative Order No. R2-2016-00XX.

²⁷ Sanitary District No. 5 of Marin County. February 11, 2021. Email correspondence with Tony Rubio, District Manager – Chief Plant Operator.

²⁸ Sanitary District No. 2 of Marin County. August 2013. Sewer System Management Plan.

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SD2 is delivered to the treatment plant through the Ross Valley Interceptor that includes the flows from the other MAs.²⁹

As part of SD2’s Sewer Master Plan, SD2 conducted a capacity assessment to assess the current and future capacity requirements of its collection system. To develop and calibrate the hydraulic model, two separate data sources were used: flow meters at the Paradise pump station, at the Golden Hind pump station, and upstream of the SD2 connection to the Ross Valley Interceptor (District force main [FM]), and level monitoring devices in specific manholes. Table 3.15-11 identifies the results of the capacity evaluation comparing the peak flow to the Paradise Pump Station to the peak flow to the District FM, as identified in the Sewer Master Plan.

TABLE 3.15-11: SUMMARY OF WASTEWATER FLOWS AND CHARACTERISTICS – CMSA WWTP

Scenario	Peak Flow to Paradise Pump Station	Peak Flow to District FM
Existing Dry Weather Loading	1.37 mgd	1.51 mgd
Future Dry Weather Loading	1.41 mgd	1.59 mgd
Existing Wet Weather Loading	6.32 mgd	6.83 mgd
Future Wet Weather Loading	6.35 mgd	6.91 mgd

SOURCE: SD2 SEWER MASTER PLAN (AUGUST 2009)

Based on the results of the capacity assessment, SD2 identified hydraulic deficiencies during wet weather conditions, including gravity segments with excessive flow depth to pipe diameter ratios (flowing full), surcharging manholes, and gradient deficiencies. For design storm conditions, seven gravity segments were deemed hydraulically deficient (out of 1,697 in total) and one manhole was identified for surcharging. Additionally, 10 out of the 1,697 gravity segments were identified with slopes either reversed or less than standard. To alleviate the identified hydraulic deficiencies and surcharges, specific capacity improvement projects were developed and included as Capital improvement Projects, which alleviated capacity issues and surcharges under design storm conditions at buildout.³⁰

SD2 has developed and completed a number of more recent rehabilitation projects to increase the reliability of the sewer system to ensure sewer flows can be directed to the CSMA WWTP, including the:

- Variable Frequency Drive Replacement at Paradise Drive Pump Station project;
- Trinidad II Pump Station Modifications project to reduce SSO risk, reduce staff maintenance and overtime hours, and improve worker safety;
- Fifer Pump Station Modification project to upgrade submersible pumps to meet wet weather demands, modernizing pump controls, replacing a diesel generator to meet current air quality standards, and refurbishing wet well protective coating to enhance long term durability of the concrete; and

²⁹ Sanitary District No. 2 of Marin County. August 2013. Sewer System Management Plan.

³⁰ Sanitary District No. 2 of Marin County. August 2009. Sewer Master Plan.

- Boardwalk A & B Pump Station Motor Control Center Update Project.

Additionally, SD2 recently completed the 2019 Sewer Rehabilitation Project, which focused on rehabilitating the sanitary sewer system in several neighborhoods to improve efficiency and operational integrity of the sewer collection system, reduce inflow & infiltration, reduce SSO risk and reducing staff maintenance. Overall, the project replaced a total of 7,450 linear feet of 6-inch pipes with 8-inch pipes and replaced 151 lower laterals.³¹ Currently, SD2 is working on the 2020 Rehabilitation Project, which will replace 2,900 linear feet of sewer main, 3 spot repairs and a rehabilitation of 33 manholes, as well as replace 156 lower laterals and 4,248 linear feet of associated pipe. The project is designed to improve efficiency and operational integrity of the sewer collection system, reduce inflow & infiltration, reduce SSO risk, and reduce the need for staff maintenance.³² The 2020 Rehabilitation Project is anticipated to be completed in February 2021.

CMSA Wastewater Treatment Plant

The Central Marin Sanitation Agency (CMSA) WWTP is located in San Rafael at 1301 Anderson Drive, approximately 2.3 miles north of the Tiburon town limits. The CMSA WWTP provides secondary treatment of domestic, commercial, and industrial wastewater for the City of San Rafael and the surrounding CMSA member agencies and serves a population of about 105,000. The CMSA wastewater management system includes over 70 pump stations, more than 450 miles of sewer pipelines throughout the service area, as well as two major interceptors to transport the wastewater to the treatment plant, and a two-mile long outfall through which treated wastewater is discharged into the San Francisco Bay.³³

CMSA treats its wastewater by screening, grit removal, primary clarification, secondary biological treatment, secondary clarification, disinfection by chlorine, and dechlorination by sodium bisulfite. The treatment plant uses an onsite storage basin to store up to 6.2-million gallons of effluent during wet weather diversions of the secondary treatment units. When flows subside, the stored wastewater is either sent to the chlorine disinfection units for discharge or routed back to the headworks for re-treatment (if needed). During wet weather periods, primary-treated wastewater above 30 mgd is routed around the secondary treatment processes and blended with the secondary-treated wastewater prior to disinfection.³⁴ In 2018, CMSA received 3.99 billion gallons of wastewater and removed over 98% of pollutants, and there were zero reportable NPDES permit violations.³⁵

³¹ Sanitary District No. 2 of Marin County. Available at: <https://townofcortemadera.org/955/2019-Sewer-Rehabilitation-Project>.

³² Sanitary District No. 2 of Marin County. Available at: <https://townofcortemadera.org/957/2020-Sewer-Rehabilitation-Project>.

³³ Central Marin Sanitation Agency. June 2020. Biennial Operating and Capital Budget [page 24].

³⁴ California Regional Water Quality Control Board – San Francisco Bay Region. January 2018. CMSA WTP NPDES Permit Reissued.

³⁵ Central Marin Sanitation Agency. 2019. Spring 2019 Newsletter [page 4].

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According to the 2017 Facilities Master Plan, the CMSA completed the Wet Weather Improvements Project in May 2010 to handle increasing wet weather flows from the CMSA member agencies. WWTP expansions and modifications included new mechanical equipment for the Aerated Grit Chamber 3, two new primary clarifiers to increase the primary treatment capacity to 125 mgd, polymer storage and feed facilities to increase primary clarifier performance, two new chlorine contact tanks, and a new 155-mgd effluent pumping station to increase disposal capacity during concurrent peak flow and high tide events.

Current Wastewater Flows

According to the CMSA 2017 Facilities Master Plan, the CMSA WWTP has a ADWF capacity of 10 mgd and has a wet weather capacity of 125 mgd. Currently, the WWTP typically receives and treats:

- Average dry weather flow of 3.1 mgd;
- Average annual flow of 4.95 mgd;
- Average wet weather flow of 6.51 mgd; and
- Peak wet weather flow of 58.5 mgd.³⁶

Regulatory Framework - Wastewater

Federal

Clean Water Act (CWA) / National Pollutant Discharge Elimination System (NPDES) Permits

The CWA is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. Section 402 of the Act creates the NPDES regulatory program which makes it illegal to discharge pollutants from a point source to the waters of the United States without a permit. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial

³⁶ City of San Rafael. January 2021. San Rafael General Plan 2040 & Downtown Precise Plan Draft EIR. [page 4.17-31]

activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

Permit requirements for treatment are expressed as end-of-pipe conditions. This set of numbers reflects levels of three key parameters: (1) biochemical oxygen demand (BOD), (2) total suspended solids (TSS), and (3) pH acid/base balance. These levels can be achieved by well-operated sewage plants employing "secondary" treatment. Primary treatment involves screening and settling, while secondary treatment uses biological treatment in the form of "activated sludge."

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Although not regulated under NPDES, "indirect" discharges are covered by another CWA program called pretreatment. "Indirect" dischargers send their wastewater into a municipal sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering surface water.

State

State Water Resources Control Board/Regional Water Quality Control Board

In California, all wastewater treatment and disposal systems fall under the overall regulatory authority of the Water Board and the nine California Regional Water Quality Control Boards (RWQCBs), who are charged with the responsibility of protecting beneficial uses of State waters (ground and surface) from a variety of waste discharges, including wastewater from individual and municipal systems. The Town of Tiburon is within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB).

The RWQCB's regulatory role often involves the formation and implementation of basic water protection policies. These are reflected in the individual RWQCB's Basin Plan, generally in the form of guidelines, criteria and/or prohibitions related to the siting, design, construction, and maintenance of on-site sewage disposal systems. The Water Board's role has historically been one of providing overall policy direction, organizational and technical assistance, and a communications link to the State legislature.

The RWQCBs may waive or delegate regulatory authority for on-site sewage disposal systems to counties, cities or special districts. Although not mandatory, it is commonly done and has proven to be administratively efficient. In some cases, this is accomplished through a Memorandum of Understanding (MOU), whereby the local agency commits to enforcing the Basin Plan requirements or other specified standards that may be more restrictive. The RWQCBs generally elect to retain permitting authority over large and/or commercial or industrial on-site sewage disposal systems, depending on the volume and character of the wastewater.

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Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the State is required to adopt policies, plans, and objectives that will protect the State's waters for the use by and enjoyment of Californians. In California, the State Water Resources Control Board (Water Board) has the authority and responsibility for establishing policy related to the State's water quality. Regional authority is delegated by the Water Board to a RWQCB. The Porter-Cologne Act authorizes the Water Board and RWQCB to issue NPDES permits.

Under the RWQCB NPDES permit system, all existing and future municipal and industrial discharges to surface water within the city would be subject to regulation. NPDES permits are required for operators of municipal separate storm sewer systems, construction projects, and industrial facilities. These permits contain limits on the amount of pollutants that can be contained in each facility's discharge.

Local

Richardson Bay Sanitary District

The Richardson Bay Sanitary District of Marin County (RBSD) is an independent special district that provides wastewater collection services to parts of the Tiburon Peninsula and the unincorporated area of Strawberry. The RBSD serves over 4,140 households and has been servicing the area since 1949. The RBSD is a Member Agency (MA) of the Sewerage Agency of Southern Marin (SASM), which is a Joint Powers Agency formed in 1979 to consolidate the wastewater collection, treatment, water reclamation, and disposal in southern Marin County. RBSD's wastewater flows are conveyed to the SASM wastewater treatment plant (WWTP) in Mill Valley.

RBSD Sewer System Management Plan

The RBSD Sewer System Management Plan (SSMP) was updated in June 2019 to comply with the requirements of the Water Board Order No. 2006-0003-DWQ, and Amended Monitoring and Reporting Program (MRP), Order No. WQ 2013-0058-Exec. The objective of the RBSD SSMP is to establish goals that align the sewer collection system operation, management and capacity assurance activities in a manner that achieves the following:

- To properly manage, operate, and maintain all parts of the wastewater collection system, so as to preserve and protect the public's investment in that system;
- To provide adequate capacity to convey peak flows to the WWTP;
- To minimize the frequency and duration of sewer system overflows (SSOs), including implementing regular, proactive maintenance of the system to remove issues that may cause sewer backups or SSOs;
- To mitigate the impact of SSOs on public health and the environment;
- To respond quickly and respectfully to public notifications of SSOs or other collection system issues;

- To collect complete and accurate information regarding SSOs for reporting to the appropriate regulatory agencies;
- To uphold the District’s standards and specifications on newly constructed public and private sewers;
- To provide a safe working environment for District employees; and
- To provide District employees with the tools and training needed to perform their work effectively and achieve the District goals.

The RBSD SSMP references the RBSD Sewer Use Code and service agreements to demonstrate that the district has legal authority to prevent illicit discharges into its wastewater collection system; require sewers and connections be properly designed and constructed; ensure access for maintenance, inspection, or repairs for portions of the laterals owned or maintained by the district; to limit discharges of fats, oils, and greases (FOG) and other debris that may cause blockages; and enforce any violation of its sewer ordinances.

RBSD Sewer Use Code

The RBSD Sewer Use Code consists of rules and regulations that govern sewer construction, the disposal of sewage and drainage from buildings, and the connection to the sewerage works of the RBSD. RBSD Sewer Use Code Articles III and VII, specifically Section 301, names specific wastes that are not allowed in the sewer system. RBSD Sewer Use Code Article VII, Section 701 calls attention to the requirements of the SASM Ordinance 83-1 (see “Sewage Agency of Southern Marin Ordinances”), which provides uniform requirements for discharges into the wastewater collection and treatment system. Additionally, RBSD Sewer Use Code Article VII, Section 702 provides authority to require installation and maintenance of grease traps or grease interceptors by restaurants, school kitchens, hotels, hospitals, or other establishments where grease may be introduced into drainage or sewerage system in quantities that could affect line stoppage or hinder sewage treatment or private sewage disposal.

RBSD Sewer Use Code Articles V, VI, and VIII establish requirements for proper design and construction of sewers and connections. RBSD Sewer Use Code Article V, Section 502 and Article VI, Section 613 require all laterals and sewer lines, respectively, be constructed in conformance with the Standard Specifications for Building Sewer Construction of the RBSD. Both RBSD Sewer Use Code Articles V and VI provide other requirements for development of plans and specification, and for District inspections and approvals. Additionally, RBSD Sewer Use Code Article VIII, Sections 801 to 803 require a permit and establish compliance to assure that sewer construction and design meets RBSD standards.

RBSD Sewer use Code Article IV, Section 406 states that the district has the right to inspect any individual sewer disposal system and Article VI, Section 601 requires all new building sewers to be accompanied by a contract with the District that authorizes inspection. Lastly, RBSD Sewer use Code Article X, Section 1003 provides authorized representatives of the

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district to enter in and upon any and all buildings, industrial facilities, and properties for the purpose of inspection, re-inspection, observation, sampling, testing, or otherwise performing such duties, as may be necessary.

Sewerage Agency of Southern Marin

As previously stated, the SASM is a Joint Powers Agency formed in 1979 to consolidate the wastewater collection, treatment, water reclamation, and disposal needs of about 29,500 residents in southern Marin County. SASM is made up of six MAs, including the City of Mill Valley, Tamalpais Community Services District, Almonte Sanitary District, Alto Sanitary District, Homestead Valley Sanitary District, and RBSD. The mission of the SASM is to efficiently provide wastewater treatment services to its member agencies and work cooperatively with government agencies on all compliance requirements, guided at all times by the following core values:

- Public health and safety with an emphasis on facility operations, employee safety, and neighborhood well-being;
- Operational excellence, customer service and public education;
- Environmental stewardship with an emphasis on quality treated effluent, zero controllable spills, and re-use of biosolids, methane and reclaimed water; and
- Support and encourage cooperative activities between all member agencies.

Each MA owns, operates and maintains a sanitary sewer system, which connect to the main sewer lines owned by SASM that carry the wastewater to the SASM WWTP located in Mill Valley at 450 Sycamore Avenue. At the SASM WWTP, the water flows through several treatment units which reduce and remove a variety of pollutants and organic materials. The processed wastewater is disinfected and pumped six miles to Racoon Straits in Tiburon for deep water discharge into the San Francisco Bay.

SASM WWTP Master Plan

In December 2014, the SASM adopted a WWTP Master Plan to develop a “road map” for the next 25 years of WWTP improvements, including a list of necessary projects, an implementation schedule, and cost estimates to ensure that capital funds are properly allocated to improvements that will benefit the SASM in the short and long term. The primary objectives of the SAMS WWTP Master Plan are to:

- Evaluate the existing treatment processes for capability of reliably meeting existing discharge requirements;
- Evaluate the existing treatment system to meet potential future discharge requirements, such as stricter nutrient limits or reducing blending during weather flows;
- Develop a prioritized 25-year capital improvements program (CIP) that phases projects and results in reasonable customer rate impacts; and

- Examine and recommend sustainable elements and strategies, which can be incorporated into the proposed CIP, that are complementary to SASM's policy initiatives.

Based on the evaluation of the existing SASM WWTP and treatment system, the SASM developed recommended improvements, including rehabilitation and/or replacement improvements to maintain overall reliability, capacity improvements to treat existing and future flows/loads, flood mitigation and sustainability projects, improvements required if ammonia removal is required, improvements required if nitrogen removal is required, improvements required if blending is prohibited, recycled water expansion project, and collection and conveyance system improvements.

SASM Ordinances

The SASM Wastewater Discharge Ordinance (Ordinance No. 83-1) was adopted in 1983 to set uniform requirements for discharges into the wastewater collection and treatment system and enable SASM to comply with the administrative provisions of the Clean Water Grant Regulations and the water quality requirements set by the RWQCB. Article II of the Wastewater Discharge Ordinance lists prohibitions on discharges that include, but are not limited to, substances that could cause fire or explosion, obstruct the treatment works, cause danger to life or safety, have a strong offensive odor, have a detrimental impact to Waters of the State, or cause the treatment works to be overloaded. Specifically, Section 2.08.2 of the Wastewater Discharge Ordinance states that no person shall discharge any wastewater containing 300 milligrams per liter (mg/l) of oil or grease of animal or vegetable origin or containing more than 100 mg/l of oil or grease of mineral or petroleum origin.

Additionally, SASM adopted a Mercury Reduction ordinance (Ordinance No. 2010-01) in 2010 to help prevent the spread of mercury pollution and a Private Lateral Model ordinance (Ordinance No. 2014-01) in 2014 to regulate the construction, use, and maintenance of private sewer laterals. The Mercury Reduction ordinance requires dental facilities in the SASM jurisdiction to separate amalgam (the silver material used in dental fillings which contains mercury) and properly dispose of waste in compliance with the Bay Area Pollution Prevention Group (BAPPG). The Private Lateral Model ordinance authorizes the SASM to enforce the upgrade and repairs of private sewer laterals to ensure SASM sewer treatment facilities are not overburdened.

Sanitary District Number 2 of Marin County

Sanitary District Number 2 of Marin County (SD2) was incorporated on January 21, 1901, and was re-incorporated as a subsidiary district to Corte Madera on January 15, 1969. SD2 provides sewage collection services for Corte Madera, limited areas of the surrounding communities of Larkspur and Tiburon, and certain unincorporated land within Marin County. Services include the installation and maintenance of sanitary sewer pipelines and pump stations, regulation of sanitary sewer connections, and waste collection services within the

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boundary of SD2. Treatment of sanitary sewer flow is provided by the Central Marin Sanitation Agency (CMSA).

SD2 SSMP

The SD2 SSMP is a document that guides the design, development, and maintenance of the sewer utilities within the district and was last updated in August 2013. Specifically, the SD2 SSMP:

- Identifies goals to properly manage, operate, and maintain all parts of its wastewater collection system in order to reduce and prevent SSOs, as well as to mitigate any SSOs that occur;
- Identifies identify SD2 Staff who are responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements;
- Provides a summary of SD2's overflow emergency response plan;
- Discusses SD2's FOG control measures, including identification of problem areas, focused cleaning, and source control;
- Discusses SD2's legal authority, including its sanitary code and agreements with other agencies;
- Identifies SD2's measures and activities, including maps, resources and budget, preventive maintenance, condition assessments, equipment, training, and outreach;
- Identifies the design and construction standards;
- Outlines SD2's Capacity Management program; and
- Identifies SD2's monitoring, measurement, and program modifications plan.

SD2 Sewer Master Plan

The SD2 Sewer Master Plan was prepared in August 2009 to provide information to support the SD2 SSMP. The primary focus of the SD2 Sewer Master Plan was to evaluate the condition of the existing system, further develop the existing hydraulic model, and establish a capital improvement plan (CIP) that will allow for the continued operation, maintenance and replacement of the system as required. Projects recommended in the CIP were developed to support the levels of service and the total cost of the 40-year CIP is \$94,600,000, an average of \$2.3 million annually.

SD2 Sanitary Code

The SD2's Sanitary Code, the Town of Corte Madera Municipal Code, Title 21: SD2 a Subsidiary District of The Town of Corte Madera includes several provisions that establish the District's legal authority to control discharges and maintain their sanitary sewer system.

Chapter 21.16 (Sewer Use Regulations) outlines the use regulations of SD2's sewer system, including prohibited drainage into the sanitary sewers, types of waste prohibited, required interceptors, maintenance of interceptors, preliminary treatment of wastes, and maintenance of pretreatment facilities. Section 21.16.010 (Drainage into Sanitary Sewers prohibited) prohibits stormwater drainage entering into the SD2's sanitary sewers. Additionally, Section 21.16.020 (Types of Wastes Discharged to Public Sewers) outlines the

types of waste prohibited from being discharged or deposited into the sewer system, including the discharge of any water or waste which contains more than one hundred parts per million, by weight, of fat, oil or grease. Section 21.16.030 (Installation of Grease Interceptors) allows for the SD2 to require installation of grease interceptors at non-residential buildings. Interceptors shall be of a type and capacity approved by district staff and shall be located in such a manner as to be readily and easily accessible for inspection by the district.

Chapter 21.20 (Sewer Laterals and Connections) outlines the regulations related to sewer laterals and connections, including the new construction of laterals; the ownership, maintenance, and repair of private sewer laterals; separate sewers; connection to district sewer system; sewer lateral and connection cleanouts; backflow prevention devices; sewer too low; maintenance; testing and right of entry; access to properties for sewer lateral inspections; mandatory testing; and permits required.

Chapter 21.22 (Infiltration and Inflow; Inspection; Repairs) provides for the SD2 to authorize and mandate the enforcement of the upgrade, replacement or repair of private sewer laterals to address inflows and infiltrations and sewer overflows contributed by private sewer laterals.

Chapter 21.28 (Permits and Permit Fees) outlines the necessary permit and permit fees to connect to the SD2 sanitary sewer system, as well as the minimum standards for the design and construction of new sewers, and for the repair or replacement of existing sewers.

Central Marin Sanitation Agency

On October 15, 1979, the San Rafael Sanitation District, Sanitary District No. 1 of Marin County, SD2, and the City of Larkspur entered into a joint powers agreement to create the CMSA to oversee the construction and operation of a regional WWTP. The purpose of the CMSA is to plan, acquire, construct, maintain and operate facilities, for the collection, treatment, reclamation, and disposal of wastewater, and to capture and utilize the renewable resources derived from the wastewater treatment process, including but not limited to biogas, recycled water, and biosolids. The goals of the CMSA are to:

- Continue to operate and maintain its wastewater facilities to produce high quality effluent and biosolids, within a changing regulatory environment;
- Continually improve financial management practices to ensure transparency, financial sustainability, and sound fiscal principles;
- Further incorporate green business principles and consider renewable resource opportunities in its short- and long-term planning;
- Lead or actively participate in collaborative efforts to address local and regional environmental opportunities and challenges; and
- Attract and retain high quality employees by providing a work environment that motivates staff, fosters professional development values.

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Central Marin Sanitation Agency Ordinances

CMSA adopted a FOG ordinance (Ordinance No. 2007-1) to minimize sanitary sewer overflows (SSOs) in the CMSA service area. The FOG ordinance controls the discharge of FOG to the sanitary sewer from commercial food service establishments by establishing requirements for food service establishments to install and maintain grease traps and interceptors. CMSA Ordinance No. 2019-1 outlines the fees to be paid for each new sewer connection based on land use or plumbing fixtures. Fees are also assessed for septic and chemical toilet waste haulers, FOG haulers, and industrial waste discharges. CMSA Ordinance No. 2009-2 is aimed at reducing the mercury load to the sanitary sewer system by regulating the discharge of amalgam wastes from dental offices.

Sanitary District Number 5 of Marin County

Sanitary District Number 5 of Marin County (SD5) is a special district that has been providing collection and treatment of wastewater to parts of the Tiburon Peninsula and the City of Belvedere since the early 1940s. SD5 maintains two separate sewer collection systems each with their own WWTP: the Main Sewer System and the Paradise Cove Sewer System. The SD5 Main Sewer System serves the City of Belvedere and parts of the Town of Tiburon east of Gilmartin Drive and the majority of sewage collected and treated in the service area is residential with a very small commercial component serving downtown Tiburon. The collected sewage in the Main Sewer System is conveyed to SD5's Main WWTP located at 2001 Paradise Drive for treatment. The SD5 Paradise Cove Sewer System is located in unincorporated Marin County and serves the Town of Tiburon unincorporated area from 3200 Paradise Drive through 4200 Paradise Drive, as well as the Seafirth Estates neighborhood. Collected sewage is conveyed to SD5's Paradise Cove WWTP located at 3700 Paradise Drive for treatment.

SD5 SSMP and SD5 – Paradise Cove SSMP

The SD5 SSMP and SD5 – Paradise Cove SSMP are documents that guides the design, development, and maintenance of the sewer utilities within SD5's Main Sewer System and Paradise Cove Sewer System. Both SSMP's were last updated in May 2018. The SD5 SSMP and SD5 – Paradise Cove SSMP:

- Identify goals SD5 has set for the management, operation, and maintenance of both sewer systems and discuss the role of the SSMPs in supporting these goals;
- Identify SD5 staff who are responsible for implementing the SSMPs, responding to SSO events, and meeting the SSO reporting requirements;
- Provide an overview and summary of the SD5's emergency response documents and procedures for sewer overflows;
- Discuss the SD5's FOG control measures, including identification of problem areas, focused cleaning, and source control;
- Discuss SD5s Legal Authority and includes agreements with other agencies;
- Discuss SD5 operations, maintenance and other related measures and activities;
- Discuss SD5's design and construction standards;

- Discuss SD5's capacity management measures;
- Discuss parameters SD5 tracks to monitor the success of the SSMPs and how the SD5 plans to keep the SSMPs current; and
- Discuss the SD5's SSMPs auditing program.

SD5 Municipal Code

The SD5 Municipal Code includes several provisions and regulations that establish SD5's legal authority to control discharges and maintain their sanitary sewer systems.

Chapter 3.05 (Sanitary Code) of the SD5 Municipal Code outlines the rules and regulations of sewer construction, disposal of sewage and drainage of buildings, and connections to SD5's sewage system. This chapter regulates the use of public and private sewers and drains and discharge of waters and waste into the public sewer system and provides penalties for the violation of the provisions. This chapter also adopts standard specifications as minimum standards for the design and construction of sewerage facilities within the boundaries of SD5. Additionally, Article VIII (Use of Public Sewers) of Chapter 3.05 outlines all measures prohibiting illicit discharges and discharges of any pollutant into the sewers that would obstruct or damage the collection system, interfere with treatment, or threaten harm to human health or the environment. Examples of discharges include waste or water containing more than 100 parts per million, by weight, of FOG, any gasoline or other flammable or explosive liquid/solid/gas, and any other solid or viscous substance capable of causing obstruction to the flow in the sewers, to name a few.

Chapter 3.10 (Mercury Reduction) of the SD5 Municipal Code is intended to significantly reduce the quantity of mercury entering SD5's water pollution control system by establishing waste management practices for all owners and operators of dental facilities that remove, repair, or place amalgam fillings.

Chapter 3.25 (FOG) of the SD5 Municipal Code is intended to facilitate the implementation and enhance the effectiveness of the FOG control program. SSOs are a major concern to wastewater agencies throughout the State of California. A frequent cause of SSOs is the blockage of sewer lines due to discharge of FOG from food preparation and clean-up operations. To prevent SSOs in its sanitary sewer system, Chapter 3.25 outlines regulations and requirements to reduce the discharge of FOG from restaurants and other food service establishments to levels that will not cause blockage in sewer lines.

Title V (Standard Specifications) of the SD5 Municipal Code provides minimum standards for the design and construction of sewerage facilities within the boundaries of SD5, as well as outlines the procedures for the submittal, review, and approval of plans and permits of sewerage facilities, such as sewer mains. Additionally, Title V outlines SD5's annexation policy, downstream capacity policy, right-of-way policy, condemnation policy, and engineering policy.

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Tiburon/Belvedere Wastewater Financing Authority

The Tiburon/Belvedere Wastewater Financing Authority, via SD5, provides collection and treatment of wastewater to parts of the Tiburon Peninsula and the City of Belvedere. The Tiburon/Belvedere Wastewater Financing Authority is set up to assist SD5 to meet or exceed all applicable local, state and federal laws and regulations, and is dedicated to the protection of public health and the environment through effective and economical collection, conveyance, treatment and disposal of wastewater. SD5 is an independent local agency governed by an elected Board of Directors, whom are then appointed to the Board of Directors for the Tiburon/Belvedere Wastewater Financing Authority.

Town of Tiburon Municipal Code

Chapter 13C Individual and Alternative Sewage Disposal Systems. This chapter adopts the Marin County individual sewage disposal ordinance and the alternative sewage disposal system ordinance. The individual sewage and alternative sewage disposal systems ordinances both includes provisions to ensure that the disposal of sewage and/or the distribution of graywater shall be accomplished in a safe and sanitary manner in order to protect the public health, safety and welfare.

ANALYSIS, IMPACTS, AND MITIGATION MEASURES –WASTEWATER

Impact 3.15-5: General Plan 2040 implementation would not have the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments (Less than Significant)

Wastewater service in the Tiburon Planning Area is provided by multiple local agencies. The Richardson Bay Sanitary District provides wastewater collection facilities and services, and the Sewerage Agency of Southern Marin provides wastewater treatment for properties located in the western area of Tiburon near the town of Corte Madera. Sanitary District No. 2 provides collection services, and the Central Marin Sanitation Agency treats the wastewater for properties located in the northern area of Tiburon. The eastern end of the Tiburon peninsula is served by Sanitary District No. 5, which provides both wastewater collection and treatment.

Additional population growth of 2,235 is anticipated under full buildout of the General Plan 2040 (916 housing units x 2.44 pph = 2,235). Assuming a water use rate of 128 gallons per capita per day x 2,235 = 286,080 gallons per day) would result in approximately 0.29 mgd of additional demand.

The current average dry weather flow (ADWF) to the SASM WWTP is 2.22 mgd, with a service population in 2014 of 29,000. The SASM WWTP Master Plan identifies anticipated population

growth in Marin County by approximately 5.4 percent. The growth in Tiburon under full buildout of the General Plan 2040 would be anticipated to exceed this growth rate.

The Main WWTP is licensed to provide biological treatment for an average daily dry weather design flow of 0.98 mgd. Additionally, the WWTP can provide biological treatment for up to 2.3 mgd wet weather flows (California Regional Water Quality Control Board – San Francisco Bay Region, August 2018). In the calendar year 2020, the Main WWTP received and treated:

- Average dry weather flow of 0.57 mgd;
- Average daily annual flow of 0.585 mgd;
- Average wet weather flow of 0.63 mgd (very dry year); and
- Peak wet weather flow of 1.17 mgd (very dry year).

Approximately 780 units would be accommodated by the General Plan 2040 in this service area which would add approximately 0.24 mgd. This increase is within the 0.98 mgd design capacity. While it is anticipated the main sewer system has capacity to treat future flows as the General Plan 2040 growth is within design capacity, growth within the service area may require additional capacity and may result in the need for additional upgrades or expansion.

The Paradise Cove WWTP can provide secondary treatment for an average daily dry weather design flow of 0.04 mgd. In 2014, the average daily flow was 0.015 mgd (California Regional Water Quality Control Board – San Francisco Bay Region, 2016). In 2020, the Paradise Cove WWTP received and treated:

- Average dry weather flow of 0.015 mgd;
- Average daily annual flow of 0.015 mgd;
- Average wet weather flow of 0.016 mgd (very dry year); and
- Peak wet weather flow of 0.019 mgd (very dry year).

Approximately 134 units would be accommodated by the General Plan 2040 within this service area which could result in 0.042 mgd of additional demands. This new demand would place the total at 0.057 mgd which is above the design flow capacity identified for dry weather flows. It is anticipated that the Paradise Cove Sewer System may need additional upgrades or treatment requirements would need alternative or expanded service.

According to the CMSA 2017 Facilities Master Plan, the CMSA WWTP has a ADWF capacity of 10 mgd and has a wet weather capacity of 125 mgd. Currently, the WWTP typically receives and treats:

- Average dry weather flow of 3.1 mgd;
- Average annual flow of 4.95 mgd;
- Average wet weather flow of 6.51 mgd; and
- Peak wet weather flow of 58.5 mgd.

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It is anticipated that the CMSA Wastewater Treatment Plant will have capacity to treat future wastewater flows.

As described above based on the overview of each agency, including the existing wastewater system and current and projected wastewater flows the service providers other than Paradise Cove WWTP would be anticipated to have sufficient capacity to serve development anticipated under the General Plan 2040, including the SASM WWTP future planned capacity improvements necessary to meet the peak hourly wet weather flow, potential SASM WWTP upgrades to meet regional demand, including the General Plan 2040, and upgrades for the Paradise Cove WWTP to accommodate new development.

The Town and its service providers must also periodically review and update their applicable master plans, and as growth continues to occur within the Planning Area, service providers and the Town will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development. The General Plan 2040 includes policies and programs to ensure and support adequate treatment capacity. Specifically, Program LU-e will require future projects to analyze project impacts on infrastructure capacity and services as part of CEQA review and require mitigation measures as needed in consultation with provider agencies. Program LU-f calls for the periodical review and update public facilities impact fees to assure that new development pays its fair share of public infrastructure and service costs, while Program LU-g focuses on public infrastructure planning and calls for the Town to coordinate growth and infrastructure planning with urban service providers such as Marin Water and the sanitary districts to ensure sufficient capacity to serve existing and future development.

However, even with implementation of the above policies and programs, because development anticipated under the General Plan 2040 could exceed wastewater treatment capacity to accommodate population projections associated with the General Plan 2040, impacts to wastewater treatment capacity for the Project are considered **significant and unavoidable**.

Level of Significance before Mitigation

Potentially significant

Mitigation Measures

No feasible mitigation

Level of Significance

Significant and unavoidable

Impact 3.15-6: General Plan 2040 implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects

Development contemplated under the General Plan 2040 would result in increased wastewater flows, resulting in the need for additional or expanded wastewater treatment and conveyance infrastructure.

As described under Impact 3.15-5 the SASM WWTP would require future capacity improvements necessary to meet the peak hourly wet weather flow and potential other improvements to accommodate regional demand. While it is anticipated the main sewer system has capacity to treat future flows as the General Plan 2040 growth is within design capacity, growth within the service area may require additional capacity and may result in the need for additional upgrades or expansion. Additionally, the Paradise Cove WWTP would require capacity improvements to accommodate population projections associated within the 6th Cycle Housing Element RHNAs. The Town and its service providers must periodically review and update their applicable master plans, and as growth continues to occur within the Planning Area, service providers and the Town will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development. The General Plan 2040 includes policies and programs to ensure and support adequate treatment capacity. Specifically, Program LU-e will require future projects to analyze project impacts on infrastructure capacity and services as part of CEQA review and require mitigation measures as needed in consultation with provider agencies. Program LU-f calls for the periodical review and update public facilities impact fees to assure that new development pays its fair share of public infrastructure and service costs, while Program LU-g focuses on public infrastructure planning and calls for the Town to coordinate growth and infrastructure planning with urban service providers such as Marin Municipal Water District and the sanitary districts to ensure sufficient capacity to serve existing and future development.

Wastewater treatment and conveyance facilities would be evaluated at the project level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan 2040. As future development and infrastructure projects are considered by the Town, each project will be evaluated for conformance with the General Plan 2040, Municipal Code, and other applicable regulations.

While the adopted federal, state, and local regulations and standards along with General Plan policies and programs and mitigation measures identified in Sections 3.1 through 3.15 would reduce potential environmental effects associated with construction and expansion of wastewater infrastructure, it cannot be concluded with certainty that impacts related to

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this potential construction and operation of expanded facilities would be mitigated to less than significant. Therefore, because new or expanded facilities would be required to serve regional growth, including General Plan 2040 buildout, and the site specific details of these new or expanded facilities is unknown, this is considered a **significant and unavoidable** impact of the Project.

Level of Significance before Mitigation

Potentially significant

Mitigation Measures

No feasible mitigation

Level of Significance

Significant and unavoidable

Impact 3.15-7: Project and Cumulative Need for System Infrastructure and Facilities:

Regionally, wastewater infrastructure upgrades and expansions will be needed to serve and treat wastewater demand anticipated under regional plans, including local General Plans, the 6th Cycle Final RHNA Plan, and Plan Bay Area 2050. Parts of the Planning Area may need wastewater infrastructure upgrades and expansion in order to serve and treat wastewater from new development. Generally, construction and improvement projects would be site and project specific and not cumulative in nature. Additionally, while there are potential individual environmental impacts that may be associated with the infrastructure and facility improvement projects either for the Project or cumulatively (Project and Districts' commitments outside of the Project), compliance with District, local, state, and federal regulations and adopted standards for development and construction of utility system infrastructure and facilities would reduce potential impacts.

While the adopted federal, state, and local regulations and standards along with General Plan policies and programs and mitigation measures identified in Sections 3.1 through 3.15 would reduce potential environmental effects associated with construction and expansion of system infrastructure to address planned cumulative demand, it cannot be concluded with certainty that impacts related to this potential construction would be mitigated to less than significant. Therefore, because new or expanded facilities would be required to serve regional growth, including General Plan 2040 buildout, and the site specific details of these new or expanded facilities is unknown, However, because new or expanded facilities would be required to serve General Plan 2040 buildout and the site specific details of these new or expanded facilities is unknown the Projects contribution would be considered **cumulatively considerable**.

Level of Significance before Mitigation

Potentially Significant.

Mitigation Measures

No feasible mitigation

Level of Significance

Significant and unavoidable and cumulatively considerable

Impact 3.15-8 General Plan 2040 implementation along with cumulative development could result in insufficient wastewater treatment capacities available to serve the Town and reasonably foreseeable future development

Regionally, wastewater treatment capacity will need to be expanded to serve and treat wastewater generated anticipated under regional plans, including local General Plans, the 6th Cycle Final RHNA Plan, and Plan Bay Area 2050. As described previously, the Town and its service providers must also periodically review and update their applicable master plans, and as growth continues to occur within the Planning Area, service providers and the Town will identify necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development. The General Plan 2040 includes policies and Programs to ensure and support adequate treatment capacity. Specifically, Program LU-e will require future projects to analyze project impacts on infrastructure capacity and services as part of CEQA review and require mitigation measures as needed in consultation with provider agencies. Program LU-f calls for the periodical review and update public facilities impact fees to assure that new development pays its fair share of public infrastructure and service costs, while Program LU-g focuses on public infrastructure planning and calls for the Town to coordinate growth and infrastructure planning with urban service providers such as sanitary districts to ensure sufficient capacity to serve existing and future development.

However, even with implementation of the above policies and programs, because development anticipated under the General Plan 2040 could exceed treatment capacity at the Paradise Cove WWTP to accommodate population projections associated within the 6th Cycle Housing Element update. As such Impacts to wastewater treatment capacity for the Project are considered **significant and unavoidable** and **cumulatively considerable** as the projects contributing increased service demands beyond existing capacities.

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Level of Significance before Mitigation

Potentially Significant.

Mitigation Measures

No feasible mitigation

Level of Significance

Significant and unavoidable and cumulatively considerable

3.15.3 STORMWATER

The section provides a discussion of the stormwater/flood control systems that serve the Town of Tiburon. The Town's existing drainage system is comprised primarily of channelized creeks fed by surface runoff and underground storm drains. The Town maintains the system within incorporated areas. In the unincorporated parts of the Planning Area, the Marin County Flood Control and Water Conservation maintains major channels and creeks over which they hold land rights, while the County Department of Public Works maintains road drainage systems and several detention basins.

Existing Conditions - Stormwater

Stormwater Flows and Storm Drains

The Tiburon storm drain system is a combination of pipe and open drainage channel (ditch) systems, which includes over 344 sections of pipes, several natural and enhanced channels and ditches within and flowing into Town boundaries not owned or maintained by the Town of Tiburon, the Pamela Court and Leland Pump Stations, and tidal and tidal outfalls into the Richardson Bay and San Francisco Bay. The storm drain system co-mingles with Caltrans and unincorporated Marin County drainage channels, as well as the drainage systems of the cities of Belvedere, Corte Madera, and Mill Valley³⁷. Figure 3.15-4 identifies the stormwater facilities that serve the Town and Planning Area.

Located on a peninsula, the Tiburon Planning Area consists of multiple watersheds generally draining to Richardson Bay on the south side, Racoon Strait to the east, and San Francisco Bay to the north. The Tiburon Planning Area is located within the Richardson Bay Watershed³⁸, which encompasses several sub-watersheds, including: the Angel Island-San Francisco Bay Estuaries sub, Arroyo Corte Madera Del Presidio-Frontal San Francisco Bay Estuaries, and Larkspur Creek-Frontal San Francisco Bay Estuaries. According to the Tiburon Storm Drainage Master Plan, the Town is drained by multiple smaller sub-watersheds on the

³⁷ CSW/Stuber-Stroeh Engineering Group. 2008. Tiburon Storm Drainage Master Plan

³⁸ Marin County Stormwater Pollution Prevention Program. September 2017. Storm Water Resource Plan Functionally Equivalent Document. [page 3-12]

north, west, east, and south sides of the Peninsula, which primarily discharge into Richardson Bay or San Francisco Bay through tidal outfalls.

The following are descriptions of the identified watersheds in the Tiburon Storm Drainage Master Plan that contribute to the Town's storm drain system.

Belveron A and B Watersheds: Both Belveron A and B Watersheds outlet into Richardson Bay through Blackie's Pasture, a park traversed by drainage pathways defined by vegetated open channel, culvert and underground pipe storm drain system. Belveron A Watershed encompasses approximately 59 acres of mostly residential development within the lower portion of Reed Ranch Road and is bounded by Jefferson Drive to the east and Southridge West (road) to the west. Belveron A Watershed discharges to Richardson Bay through the western culvert and open channel system through Blackie's Pasture.

The westerly draining portion of Trestle Glen Boulevard (west of Hacienda Drive) is situated along the valley of the Belveron B Watershed. The Belveron B Watershed encompasses approximately 195 acres of open space, vegetated hillside, and residential development. Drainage from Trestle Glen Boulevard discharges through the eastern vegetated channel flowing through Blackie's Pasture.

Blackfield/West Creek Watershed: The Blackfield/West Creek Watershed encompasses the westernmost portion of the Town limits. This approximately 244-acre watershed accepts drainage from both unincorporated Marin County along the upper ridge lines and from the City of Mill Valley along the western boundary. A portion of the storm drain system draining the Cypress Hollow Drive area appears to be located under Bay Vista Drive in the City of Mill Valley. Blackfield Road parallels the north-south flowing West Creek which is under the jurisdiction of Marin County Flood Control and Water Conservation District. Flows in West Creek upstream of the Tiburon Boulevard crossing may be influenced by inflow from the Pamela Court Pump Station under large events.

Cecilia Watershed: The Cecilia Watershed lies adjacent to the Leland/East Creek Watershed, receiving flows from the Cayford Circle hilltop and Southridge West Hilltop. The approximately 40-acre watershed drains to Richardson Bay, crossing Tiburon Boulevard near the intersection with Cecilia Way via a 36-inch diameter culvert.

Downtown 1/4, 2, 3, 5, and 6 Watersheds: The Downtown 1/4 Watershed utilizes two outlets to drain its approximately 36 acres to Richardson Bay. Flow entering inlet DT719 splits with flows moving either to the northwest to the outlet near the intersection of Mar West and Tiburon Boulevard or southeast towards the outlet at Main Street and Tiburon Boulevard, near several Downtown outlets.

The Downtown 2 Watershed encompasses approximately 1.3 acres and outlets to the northwest of the City of Belvedere at the intersection of Main Street and Beach Road. The Downtown 3, 5, and 6 Watersheds all outlet in the vicinity of the intersection of Main Street

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and Tiburon Boulevard. The areas drained by the Downtown 3, 5, and 6 Watersheds are approximately 4.6 acres, 1.2 acres, and 2.0 acres, respectively.

East End Watersheds: The East End Watershed group consists of nine separate watersheds located along the eastern-most tip of the Tiburon Peninsula. All outlets for the East End group are located easterly of the downtown area, northeast of the intersection of Tiburon Boulevard and Paradise Boulevard. The areas drained by the East End Watersheds are approximately 1.1 acres known as East End 1, approximately 1.7 acres known as East End 2, approximately 24.1 Acres known as East End 3, approximately 1.2 acres known as East End 4, approximately 8.9 acres known as East End 5, approximately 46.1 acres known as East End 6, approximately 5.3 acres known as East End 7, approximately 1.1 acres known as East End 8, and approximately 4.8 acres known as East End 9.

Leland/East Creek Watersheds: The Leland/East Creek Watershed lies adjacent and to the east of the Blackfield/West Creek Watershed. This approximately 253-acre watershed is comprised of residential and open space area which drains into the north-south flowing East Creek (parallel to Leland Street) which is under the jurisdiction of the Marin County Flood Control and Water Conservation District. Flows in East Creek upstream of the Tiburon Boulevard crossing may be influenced by inflow from the Leland Pump Station under large events.

Lyford Watershed: The approximately 197-acre Lyford Watershed drains a portion of the hillside to the south of Mount Tiburon Road to an outlet midway between the intersections of Tiburon Boulevard with Lyford Drive and Ned's Way. A large portion of the flow generated within the watershed travels beneath Reed Elementary School. The outlet of Lyford Watershed, after crossing Tiburon Boulevard, flows into the Lagoon adjacent to the Town of Belvedere via 36-inch diameter culvert.

Madsen Watershed: The approximately 1.5-acre Madsen Watershed is located on the northeastern slope of Tiburon, north of the Old Landing Watersheds. Storm water flows enter the storm drain system primarily at the entrance of Mateo Drive, as well as at an additions storm drain located further uphill along Mateo Drive; however, the uphill portion of Mateo Drive discharges into Old Landing Watersheds. In general, discharge from the Madsen Watershed enters San Francisco Bay near the Paradise Cay Yacht Harbor.

Upper Mar West and Lower Mar West (Mar West-Raccoon) Watersheds: The Upper Mar West and Lower Mar West (Mar West-Raccoon) Watersheds are related by an outlet weir and conduit overflow structure located in the lake adjacent to the Tiburon Peninsula Club on Mar West Boulevard. The number of inlet structures for the two watersheds precluded modeling them together, although technically they share the same outlet into Richardson Bay. The entire Upper Mar West Watershed drains to the lake and is released via outlet weir and conduit structure into the Lower Mar West (Mar West-Raccoon) Watershed. The outlet for the combined system is located near the Downtown 6 Watershed outlet.

Upper Mar West Watershed encompasses approximately 191-acres, including the lake near the Peninsula Club. The Lower Mar West (Mar West-Raccoon) Watershed drains approximately 72 acres. The lower "Raccoon Lake" within the Lower Mar West (Mar West-Raccoon) Watershed outlets via weir and conduit structure into the lower portion of the Lower Mar West system. A very small watershed contributes to the lake and the outlet weir appears to discharge only under very large events.

Miraflores Watershed: The Miraflores Watershed envelops approximately 133 acres and outfalls to Richardson Bay to the southwest of the Pine Terrace subdivision. The watershed of mostly steep slopes is almost entirely developed. The lower portion of the watershed includes the lower section of Avenida Miraflores and Del Mar Middle School.

Old Landing Watersheds: Old Landing Watersheds 1 and 2 drain a combined approximately 128 acres on the northeast slope of the Tiburon Peninsula, and drain into San Francisco Bay. Old Landing 1 envelops approximately 40 acres, and Old Landing 2 consists of approximately 88 acres. In both cases, much of the contributing watershed is undeveloped with areas of residential single family low-density housing.

Rock Hill Watersheds: The Rock Hill Watersheds A through G were previously described in the Tiburon Drainage Master Plan (Bala & Strandgaard, 1975). These watersheds are generally steep with small areas of relatively flat terrain adjacent to Tiburon Boulevard.

The outfall from Rock Hill A Watershed is located near the westerly corner of the Belvedere Tennis Club and drains approximately 40 acres. Rock Hill B Watershed outlets at the southeast edge of the Belvedere Tennis Club and drains approximately 51 acres. The outfall from Rock Hill C Watershed is located approximately 650 feet south southwest of the intersection of Tiburon Boulevard and Rock Hill Drive and drains approximately 11 acres.

Rock Hill D Watershed outfalls approximately 350 feet northwest of the intersection of Tiburon Boulevard and Gilmartin Drive and drains approximately 58 acres. The outfall from Rock Hill E Watershed is located approximately 150 feet southwest of the intersection of Tiburon Boulevard and Gilmartin Drive and drains approximately 11 acres. Rock Hill F outlets approximately 220 feet west of the intersection of Tiburon Boulevard and San Rafael Avenue and drains approximately 8 acres. The outlet for the Rock Hill G Watershed is approximately 250 feet to the southwest of Tiburon Boulevard and San Rafael Avenue and drains approximately 74 acres.

Seafirth Watershed: Seafirth Watershed consists of approximately 23 acres of residential development along Seafirth Road. The watershed lies on the northeastern slope of the Tiburon Peninsula and drains to San Francisco Bay.

Stewart Watershed: The Stewart Watershed encompasses approximately 25 acres. Stewart Drive and several cul-de-sacs drain to a main trunk line along lower Stewart Drive. The watershed outlets into Richardson Bay immediately east of Blackie's Pasture. Stewart is one

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of the only watersheds completely drained by a closed pipe system instead of a pipe and open drainage channel (ditch) system.

Sugarloaf Watersheds: Five small drainage systems at the top of Sugarloaf Hill collect water from ridge line development and outlet onto Tiburon's northeast slope. Combined, Sugarloaf A, B, C, D, and E watersheds encompass approximately 3.5 acres.

Taylor Watersheds: The Taylor Watersheds include four individual areas surrounding and including parts of Taylor Road at the northernmost point of the northeastern side of the Tiburon Peninsula. Whereas Taylor 1 outlets directly to San Francisco Bay, Taylor 2, 3, and 4 outlet into swales which eventually reach the bay without additional pipes except those which may cross beneath Paradise Boulevard. The Taylor Watersheds encompasses approximately 36.6 acres, including 27.1 acres known as Taylor 1, 1.3 acres known as Taylor 2, 2.6 acres known as Taylor 3, and 5.6 acres known as Taylor 4.

The Tiburon Department of Public Works is responsible for the maintenance and improvement of all public infrastructure owned and managed by the Town. In addition to normal maintenance operations, they are a key agency in responding to emergencies involving infrastructure as well as weather related events and other disasters that have the potential for adverse impacts to public health or the environment.

Areas not owned or maintained by the Town include those maintained by the Marin County Department of Public Works, Marin County Parks Department and Open Space District, and the Reed Union School District. Marin County Department of Public Works maintains West Creek and East Creek and operates the Pamela Court and Leland Pump Stations, which are the only pump stations within the Town's storm drain system. The Pamela Court Pump Station adjoins West Creek and Leland Pump Stations adjoins East Creek and collects flood waters from a flat area encompassing Pamela Court, lower Blackfield Drive, Harriet Way, and the Cove Shopping Center, and discharge into the East and West Creeks immediately upstream of the Tiburon Boulevard culvert crossings. Additionally, Marin County Parks Department and Marin County Open Space District maintain some upland areas which contribute to the Tiburon storm drainage system, Caltrans maintains several ditches along the Tiburon Boulevard right-of-way, and Reed Union School District maintains the storm drain systems which traverse school district property³⁹.

According to the Tiburon Storm Drainage Master Plan, of the 344 pipe sections analyzed in the plan, 249 pipe sections were determined to have insufficient capacity to pass a 25-year frequency storm event. Additionally, 116 sections (approximately 17,000 feet of pipe) require cleaning or cleaning and re-inspecting, and 58 pipe sections necessitate replacement due to structural and material failures. In June 2020, the Town of Tiburon Public Works Department completed a storm drain rehabilitation project, which consisted of the cleaning and repairing

³⁹ CSW/Stuber-Stroeh Engineering Group. 2008. Tiburon Storm Drainage Master Plan [page 9-10]

of corrugated metal pipe, lining of pipes with cured in-place liners, miscellaneous repairs, minor concrete, and other similar actions on various streets in Tiburon to improve stormwater drainage⁴⁰.

The Town's storm drains do not connect to the sewer system, and all stormwater that flows into a storm drain system flows directly into the neighboring bays. As discussed previously, The SFBRWQCB requires all municipalities within Marin County (and the County itself) to develop restrictive surface water control standards for new development projects as part of the municipal regional NPDES Permit. Known as "Provision C.3," new development or redevelopment projects that disturb one or more acres of land area must contain and treat stormwater runoff from the site.

Flooding and Floodplain Mapping

Tiburon is responsible for maintaining the flood control system within the incorporated area. In the unincorporated parts of the Planning Area, responsibility for storm drain maintenance lies with the Marin County Flood Control and Water Conservation District. FEMA identifies Special Flood Hazard Areas (SFHA). FEMA publishes Flood Insurance Rate Maps that depict floodplains. Flooding and flood hazards are addressed in greater detail in Section 3.8 (Hazards).

Regulatory Framework - Stormwater

Federal

Clean Water Act

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

- Set requirements and standards pertaining to such discharges: subparagraph (e); Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);

⁴⁰ Town of Tiburon Town Council Meeting. (2020). 'Agenda Item CC-3: Accept the 2020 Storm Drain Rehabilitation Project as Complete and File a Notice of Completion with the County of Marin. July 15, 2020.

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- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

The Water Board is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The Water Board elected to adopt a Statewide General Permit (Water Quality Order No. 2013-001-DWQ-DWQ).

Federal Emergency Management Agency

The Town is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations. The Town adopted the Model Floodplain Management Ordinance within the Town in order to maintain eligibility within the National Flood Insurance Program.

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) was passed in 1972. This act, administered by the National Oceanic and Atmospheric Administration, provides for the management of the nation's coastal resources, including the Great Lakes. The goal is to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The CZMA outlines three national programs: the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program (CELCP). The National Coastal Zone Management Program aims to balance competing land and water issues through state and territorial coastal

management programs, the reserves serve as field laboratories that provide a greater understanding of estuaries and how humans impact them, and CELCP provides matching funds to state and local governments to purchase threatened coastal and estuarine lands or obtain conservation easements.

National Pollutant Discharge Elimination System

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The RWQCB issues these permits in lieu of direct issuance by the EPA, subject to review and approval by the EPA Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti-degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the RWQCB are also Waste Discharge Requirements issued under the authority of the Clean Water Act.

These NPDES permits regulate discharges from publicly owned treatment works, industrial discharges, stormwater runoff, dewatering operations, and groundwater cleanup discharges. NPDES permits are issued for five years or less and are therefore to be updated regularly. To expedite the permit issuance process, the Water Board has adopted several general NPDES permits, each of which regulates numerous discharges of similar types of wastes. The Water Board has issued general permits for stormwater runoff from industrial and construction sites statewide. Stormwater discharges from industrial and construction activities in the San Francisco Bay Region can be covered under these general permits, which are administered jointly by the Water Board and RWQCB. Tiburon is within the jurisdiction of the San Francisco Bay RWQCB.

The Water Board and RWQCBs enforce State of California statutes that are equivalent to or more stringent than the Federal statutes. RWQCBs are responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters. In 2003, smaller (less than 100,000 population) municipalities and unincorporated counties were required to obtain coverage under a statewide NPDES Municipal General Stormwater Permit (Phase II Permit) issued by the State Water Resources Control Board. In Marin County, the County and all Marin's municipalities, including Tiburon, are subject to the conditions of the regulations described in the current 2013 Phase II Permit. The Marin County Permittees are currently subject to National Pollutant Discharge Elimination System (NPDES) Permit No.

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CAS000004, issued by Order No. WQ 2018-0007-EXEC on March 13, 2019, which pertains to stormwater runoff discharge from storm drains and watercourses within their jurisdictions.

State

Department of Water Resources

The Department of Water Resources' (DWR) major responsibilities include preparing and updating the California Water Plan to guide development and management of the State's water resources, planning, designing, constructing, operating, and maintaining the State Water Resources Development System, protecting and restoring the Sacramento-San Joaquin Delta, regulating dams, providing flood protection, assisting in emergency management to safeguard life and property, educating the public, and serving local water needs by providing technical assistance. In addition, the DWR cooperates with local agencies on water resources investigations; supports watershed and river restoration programs; encourages water conservation; explores conjunctive use of ground and surface water; facilitates voluntary water transfers; and, when needed, operates a State drought water bank.

California Water Code

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the Water Board and each of the RWQCBs power to protect water quality and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the Water Board and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the Water Board in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

- (a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary

The watershed of the Bay-Delta Estuary provides drinking water to two-thirds of the State's population and water for a multitude of other urban uses, and it supplies some of the State's most productive agricultural areas, both inside and outside of the Estuary. The Bay-Delta Estuary itself is one of the largest ecosystems for fish and wildlife habitat and production in the United States.

The Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Basin Plan) includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region's ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

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Local

San Francisco Bay Conservation and Development Commission (BCDC) San Francisco Bay Plan (Bay Plan)

The San Francisco Bay Conservation and Development Commission (BCDC) is a California state planning and regulatory agency with regional authority over the San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh. BCDC was created in 1965 and is the nation's oldest coastal zone agency.

Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. State law requires sponsors of projects that propose to fill or extract materials from the Bay to apply for a BCDC permit. In addition to minimizing any fill required for an appropriate project and ensuring that the project is compatible with the conservation of Bay resources, BCDC is tasked with requiring maximum feasible public access within the Bay's 100-foot shoreline band. In addition, BCDC leads the Bay Area's ongoing multi-agency regional effort to address the impacts of rising sea level on shoreline communities and assets.

The San Francisco Bay Plan (Bay Plan) was completed and adopted by the BCDC in 1968 and has been updated regularly with the most recent revisions approved by BCDC in 2019. Essential parts of the Bay Plan include policies to guide future uses of the Bay and shoreline, and the maps that apply these policies to the present Bay and shoreline. The Bay Plan addresses the following matters as specifically required by the law:

1. The results of the Commission's detailed study of the Bay;
2. The comprehensive plan adopted by the Commission for the conservation of the water of San Francisco Bay and the development of its shoreline;
3. The Commission's recommendation of the appropriate agency to maintain and carry out the Bay Plan;
4. The Commission's estimate of the approximate amount of money that would be required to maintain and carry out the provisions of the Plan for the Bay;
5. Other information and recommendations the Commission deemed desirable.

The Bay Area Plan includes findings and policies related to hydrology/ water quality. The hydrology/ water quality section of the Bay Area Plan includes policies associated with the implementation of programs for controlling pollution, including stormwater management plans, Total Maximum Daily Load implementation plans, construction site stormwater runoff and erosion, sediment controls, establishing best management practices, such as site planning or structural controls, new technologies, project siting criteria, and operating methods.

Marin County Stormwater Pollution Prevention Program

The Marin County Stormwater Pollution Prevention Program (MCSTOPPP) is a joint effort of Marin's cities, towns, and unincorporated areas to prevent stormwater pollution, protect and enhance water quality in creeks and wetlands, preserve beneficial uses of local waterways,

and comply with State and Federal regulations. Each MCSTOPPP member agency implements a local stormwater pollution prevention program and funds the countywide MCSTOPPP, which provides for the coordination and consistency of approaches between the local stormwater programs and documents their efforts in annual reports. The annual reports include information on illegal discharge detection and elimination, street and storm drain cleaning, municipal and creek maintenance, stormwater and creek protection controls for development projects, business inspections, and public outreach, education, and participation. While MCSTOPPP provides guidance for compliance with NPDES permitting, permit compliance is administered by the specific municipality in which the project is proposed.

Bay Area Stormwater Management Agencies Post Construction Manual

The MCSTOPPP has approved the most recent version of the Bay Area Stormwater Management Agencies (BASMAA) Post Construction Manual as the applicable California Storm Water Quality Association Best Management Practices Handbook for projects within MCSTOPPP. The BASMAA Post Construction Manual is to assist applicants for development approvals to prepare submittals that demonstrate their project complies with the NPDES permit requirements. This manual is designed to facilitate the review of applications and promote integrated Low Impact Development (LID) designs. LID design aims to mimic pre-project site hydrology as well as protect water quality. Runoff from roofs and impervious paved areas is dispersed to landscaped areas or routed to bioretention facilities distributed throughout the site. Bioretention facilities infiltrate some runoff and feature underdrains to convey treated stormwater to storm drains.

Tiburon Storm Drain Master Plan

The Tiburon Storm Drain Master Plan established a comprehensive study of the existing drainage system throughout the Town of Tiburon. The study involved the research and review of available background materials and information, examination of regional storm drain video footage, and the creation of base maps for field investigation. The Plan includes watershed areas outside of Town boundaries which, due to topography, contribute to the Town's drainage system. Preparation of the Storm Drainage Master Plan is part of the Town of Tiburon's ongoing efforts to compile data, analyze, and upgrade its existing, aging storm drainage system. Field observations were catalogued, and data was formulated for input into 44 separate hydrologic/hydraulic models representing the watersheds and drainage systems of Tiburon to identify structural and material failures.

Town of Tiburon Municipal Code

Chapter 13D Flood Damage Prevention Ordinance. This chapter outlines specific requirements for new developments within floodplain areas that serve to minimize public and private losses due to flood conditions. In order to accomplish its purposes, this chapter includes methods and provisions for:

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1. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;
2. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
3. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;
4. Controlling filling, grading, dredging and other development which may increase flood damage; and
5. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

Chapter 13E Water Efficient Landscape. As mandated under State Government Code Section 65595(c), certain new construction, remodel, and rehabilitation projects that include landscape and irrigation improvements are required to comply with water-efficient landscape requirements and monitoring of water usage for irrigation. The purpose of this chapter is to comply with this state mandate regarding water-efficient landscaping. The ordinance contains provisions that include but are not limited to, the following:

- The application and monitoring of a "maximum applied water allowance" that is established for applicable projects.
- The review of required landscape and irrigation plans, specifications and supportive documents prepared for applicable projects for compliance with water-efficient landscape restrictions, including limitations on the type and amount of landscape materials and plant species.
- The review, inspection and approval of landscape and irrigation that is installed for applicable projects to ensure compliance with the approved landscape and irrigation plans and specifications.
- The post-installation monitoring of water usage for irrigation by applicable projects.

Chapter 14A Drainage Areas. This chapter is enacted for the purpose of establishing drainage fees to defray the actual or estimated costs of constructing planned drainage facilities for the removal of surface and storm waters from local or neighborhood drainage areas.

Chapter 17 Harbor and Waterways. This chapter establishes additional standards and regulations related to zoning, parks and recreation and the obstruction, diverting, etc., of watercourses within the Town of Tiburon.

Chapter 20A Urban Runoff Pollution Prevention. The purpose of this chapter is to establish the legal authority required by section E.6.a of the phase II stormwater permit and to ensure the future health, safety and general welfare of the citizens of the Town of Tiburon and to protect and enhance watercourses, fish and wildlife habitat by:

1. Minimizing discharges other than storm runoff to storm drains or watercourses to the maximum extent practicable;
2. Responding to the discharge of spills, preventing and controlling the discharge of spills to storm drains or watercourses and prohibiting dumping or disposal of materials other than stormwater;
3. Reducing pollutants in stormwater discharges to the maximum extent practicable;
4. Requiring operators of construction sites, new or redeveloped land, and industrial and commercial facilities to install, implement, or maintain appropriate best management practices ("BMPs").
5. Requiring development projects to maintain or reduce the volume, velocity, peak flow rate and duration of runoff as compared to the pre-development stormwater runoff and preventing stormwater pollution whenever possible, through stormwater management controls and ensuring that these management controls are properly maintained.
6. Authorizing the town to take the foregoing and all other actions specified by Section E.6.a of the Phase II Small Municipal Separate Storm Sewer System National Pollutant Discharge Elimination System Permit, Water Quality Order No. 2013-0001—DWQ, General Permit No. CAS000004 ("Phase II Stormwater Permit") and subsequent revisions and amendments thereto.
7. The intent of this chapter is to protect and enhance the water quality of our watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Clean Water Act, the Porter-Cologne Water Quality Control Act (California Water Code section 13000 et seq.), and the phase II stormwater permit and subsequent revisions and amendments thereto.

Analysis, Impacts, and Mitigation Measures - Stormwater

Impact 3.15-9: General Plan 2040 implementation would not require or result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant)

Tiburon has adopted regulations that require management of stormwater for all new development. Stormwater management is the use of specific practices, constructed or natural, to reduce, slow down and/or remove pollutants from stormwater runoff. Stormwater management practices are essentially designed to restore or mimic some of the natural processes provided by the vegetative cover that existed prior to land disturbance. Replacing impervious surfaces with vegetation allows the soil to naturally filter or biodegrade contaminants that would otherwise flow into streams, and wetlands, and the Bay.

State and federal regulations work to protect watershed and recharge areas. In particular, the National Pollutant Discharge Elimination System (NPDES) program and the State Regional Water Quality Control Board mandate control of urban runoff to eliminate the percolation of pollutants from surface runoff into underground water supplies and open

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bodies of water. The NPDES program requires the Town to inspect, identify, and prevent illicit discharges such as silt, road debris, oil, or discharges from any residential, commercial or construction area into drains, waterways, and wetlands. Discharges of materials must be processed or eliminated where practical.

Development under the General Plan 2040 could result in increased areas of impervious surfaces throughout the Planning Area, resulting in the need for additional or expanded stormwater drainage, conveyance, and retention infrastructure. The infrastructure and facilities necessary to serve new growth may involve development of some facilities on-site within new development projects, some facilities off-site on appropriately designated land, and may also involve improvements to existing facilities and disturbance of existing rights-of-way. The specific impacts of providing new and expanded drainage facilities cannot be determined at this time, as the General Plan 2040 does not propose or approve any specific development project nor does it designate specific sites for new or expanded public facilities.

Stormwater drainage and conveyance facilities would be evaluated at the project level in association with subsequent development projects. However, the facilities would be primarily provided on sites with land use designations that allow such uses and the environmental impacts of constructing and operating the facilities would likely be similar to those associated with new development, redevelopment, and infrastructure projects under the General Plan 2040 as discussed throughout this Draft EIR, including in Chapters 3.1 through 3.14 and 3.16 through 4.0.

Additionally, the General Plan 2040 includes policies and programs listed below to further ensure that there is adequate stormwater drainage and flood control infrastructure to serve future development under the General Plan 2040, and would ensure that future drainage and flood control infrastructure projects do not result in adverse environmental impacts.

Program C-e Development Impacts on Water Retention

Where impervious surface construction and storm drain system installation and/or hillside stabilization (e.g., landslide repair) are proposed as part of development proposals, or wherever such stabilization is required by the Town to protect public safety, require project applicants to analyze the impacts of these drainage pattern modifications on groundwater recharge and on downslope water wells and their yields. In the event impacts are likely, modifications to the proposed project, including possible downsizing, should be implemented to the extent feasible.

Program C-g Implement Stormwater Regulations

Continue to be an active member agency of the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) to implement best management practices and to comply with federal and state water quality regulations to reduce pollution being conveyed through storm water systems to the Bay.

Program LU-e Infrastructure Capacity

Analyze project impacts on infrastructure capacity and services as part of CEQA review and require mitigation measures as needed in consultation with provider agencies.

As future development and infrastructure projects are considered by the Town, each project will be evaluated for conformance with the General Plan 2040, Municipal Code, and other applicable regulations. Subsequent development and infrastructure projects would also be analyzed for potential environmental impacts, consistent with the requirements of CEQA. As such, this is considered a **less than significant** impact.

Impact 3.15-10: Project and Cumulative Need for System Infrastructure and facilities including relocation or construction of new or expanded storm water drainage facilities.

As the Planning Area develops, portions of the Planning Area may need of infrastructure upgrades in order to serve storm water needs from new development. Generally construction and improvement projects would be site and project specific and not cumulative in nature. Additionally, while there are potential individual environmental impacts that may be associated with the infrastructure and improvement projects either for the Project or cumulative development, compliance with District, local, state, and federal regulations and adopted standards for development and construction of utility system infrastructure and facilities would ensure that potential impacts are **less than significant**.

Level of Significance before Mitigation

Less than significant and less than cumulatively considerable.

Mitigation Measures

None required

3.15.4 SOLID WASTE

This section describes the Town of Tiburon's solid waste collection services, waste disposal facilities, solid waste generation rates, and regulatory requirements.

Key Terms

Class I landfill: A landfill that accepts for disposal 20 tons or more of municipal solid waste daily (based on an annual average); or one that does not qualify as a Class II or Class III municipal solid waste landfill.

Class II landfill: A landfill that (1) accepts less than 20 tons daily of municipal solid waste (based on an annual average); (2) is located on a site where there is no evidence of groundwater pollution caused or contributed by the landfill; (3) is not connected by road to

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a Class I municipal solid waste landfill, or, if connected by road, is located more than 50 miles from a Class I municipal solid waste landfill; and (4) serves a community that experiences (for at least three months each year) an interruption in access to surface transportation, preventing access to a Class I landfill, or a community with no practicable waste management alternative.

Class III landfill: A landfill that is not connected by road to a Class I landfill or a landfill that is located at least 50 miles from a Class I landfill. Class III landfills can accept no more than an average of one ton daily of ash from incinerated municipal solid waste or less than five tons daily of municipal solid waste.

Transfer station: A facility for the temporary deposition of some wastes. Transfer stations are often used as places where local waste collection vehicles will deposit their waste cargo prior to loading into larger vehicles. These larger vehicles will transport the waste to the end point of disposal or treatment.

Existing Conditions - Solid Waste

The Town of Tiburon is a member agency of Zero Waste Marin. As the regional agency, Zero Waste Marin reports diversion progress to CalRecycle on a countywide basis.

Waste Collection Services

Tiburon is served by the Mill Valley Refuse Service, a privately owned company that provides residential and commercial garbage, recycling and yard waste collection services under a Town franchise agreement. Mill Valley Refuse Service began operation as the Mill Valley Garbage Company in 1906, and has served Mill Valley and other southern Marin communities continuously since then, including Almonte, Alto, Belvedere, Corte Madera, Homestead, Mill Valley, Strawberry, Tiburon, and surrounding Marin County areas.

Waste Disposal Facilities

Approximately 19 solid waste sites exist in Marin County with one active disposal site, Redwood Landfill, located north of Novato. The remaining sites are closed or inactive and no longer receive solid waste. Additional active sites in Marin County include the:

- Marin Sanitary Service Transfer Station (large volume transfer/processing facility);
- Marin Sanitary Service (inert Debris Type A processing operation);
- Bolinas-Stinson Resource Recovery Project (green material composting operation);
- West Marin Compost (agricultural material composting operation);
- Central Marin Sanitation Agency (limited volume transfer operation);
- West Marin Compost Project (green material composting operation); and
- WM Earthcare of Marin (composting facility [mixed]).

In 2019, Zero Waste Marin disposed of 241,254 tons of solid waste to 19 different waste disposal facilities all over California. Currently, the Redwood Landfill in Marin County and the

Potrero Hills Landfill in Solano County accept the most solid waste generated from the Zero Waste Marin. The following provides an overview of the Redwood Landfill and Potrero Hills Landfill, as well as a breakdown of the amount of solid waste disposed at the other landfills in California from Zero Waste Marin communities in 2019.

Redwood Landfill

In 2019, the Redwood Landfill accepted approximately 50.7 percent (or 122,303 tons) of the solid waste generated by the Zero Waste Marin. The landfill is operated by Waste Management and is located on a 420-acre site at 8950 Redwood Highway north of Novato and east of US-101. Approximately 220 acres are dedicated to landfill operations, and the remaining 200 acres support composting, recycling, and reuse services as well as open space and a freshwater lagoon for migratory waterfowl. A plant was constructed in 2017 that converts landfill gas to clean, renewable electricity for use by Marin Clean Energy customers. Waste Management also operates the largest composting facility in Marin County and offers recycled compost and mulch as WM EarthCare products. The landfill is licensed as a Class III nonhazardous disposal facility. It has a maximum permitted throughput of 2,300 tons/day and a remaining capacity of 26 million tons. The estimated closure date is 2036.

Potrero Hills Landfill

In 2019, the Potrero Hills Landfill accepted approximately 42.2 percent (or 101,891 tons) of the solid waste generated by the Zero Waste Marin. This landfill accepts approximately 41 percent of the waste generated by the county. The landfill is operated by Waste Connections Company and is located on a 526-acre site at 3675 Potrero Hills Lane, a few miles south of Suisun City in the hills of Suisun Marsh in Solano County. A compost facility and a landfill-gas-to-energy plant is also operated at this site. The landfill has a maximum permitted throughput of 4,330 tons/day and a remaining capacity of 13,872,000 tons. The closure date is estimated to be February 14, 2048.

Other Landfills

Table 3.15-12 identifies the other landfills in California that accepted waste from Zero Waste Marin in 2019 (latest year in CalRecycle records), in decreasing tonnage amounts:

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TABLE 3.15-12: OTHER LANDFILLS ACCEPTING MARIN COUNTY WASTE – 2019

Landfill	Location	Solid Waste Accepted (tons)
Keller Canyon	City of Pittsburg	10,984
Altamont Landfill & Resource Recovery	City of Livermore	2,900
Monterey Peninsula	City of Marina	1,909
Recology Hay Road	City of Vacaville	807
Corinda Los Trancos (Ox Mountain)	City of Half Moon Bay	88
Newby Island Sanitary	City of Milpitas	86
Kirby Canyon Recycling and Disposal Facility	City of Morgan Hill	80
Vasco Road Sanitary	City of Livermore	70
Fink Road	Stanislaus County	61
Kiefer Landfill	Sacramento County	21
Forward	City of Manteca	13
Guadalupe Sanitary	City of San Jose	13
Azusa Land Reclamation County	City of Azusa	10
Foothill Sanitary	San Joaquin County	6
Clean Harbors Buttonwillow LLC	Kern County	6
Yolo County Central	City of Woodland	2
John Smith Road Landfill	San Benito County	1

SOURCE: CALRECYCLE DATABASE: JURISDICTION DISPOSAL BY FACILITY (2019)

Hazardous Waste Disposal

Marin Household Hazardous Waste Facility located at 565 Jacoby Street in San Rafael is open Tuesday to Saturday for residential drop-off and Tuesday and Wednesday by appointment only for commercial drop-off. The facility is available to the residents of Marin County communities except for residents of the City of Novato, which has its own facility. Proof of residency is required to use this facility. Table 3.15-13 shows examples of hazardous waste accepted. Approximately 61 percent of the collected hazardous waste material is recycled and three percent is reused, while only two percent is landfilled⁴¹.

TABLE 3.15-13: HAZARDOUS WASTE ACCEPTED

Home & Garden Products	Automotive Care Products	Paint & Paint Related Products	Personal Care Products	Misc. Products
Liquid cooking oils Detergents Ammonia and tile cleaners Tub cleaners Bleach-base cleaners Window cleaner Over cleaners Polishes	Motor oil Oil filters Gasoline Diesel Antifreeze Brake fluid Transmission fluid Car batteries Car waxes and polishes	Latex paint Oil based paint Aerosol paint cans Solvents Adhesives Paint removers Wood preservatives Wood finishes Roofing tar	Hypodermic, intravenous and pen needles Beauty products in aerosol cans Hair color kits Hair sprays Nail polishes Nail removers Perfumes	Roof shingles Floor tiles Ceiling tiles Siding and insulation Light bulbs Household batteries Electronic products Mercury-containing devices Pool chemicals

⁴¹ Marin Household Hazardous Waste Facility, 2020. About the Marin HHW Facility. Available at: <https://marinhhw.com/about-marin-hhw/>

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Home & Garden Products	Automotive Care Products	Paint & Paint Related Products	Personal Care Products	Misc. Products
Air fresheners Fertilizers Herbicides Fungicides Pesticides Insecticides Rodenticide		Putty, caulk, and glues		Photo chemicals Road flares Fire extinguishers Propane and butane gas cylinders CO ₂ cylinders

SOURCE: MARIN HOUSEHOLD HAZARDOUS WASTE FACILITY RESIDENTIAL AND COMMERCIAL CUSTOMER GUIDELINES

The following materials are not accepted at the Marin Household Hazardous Waste Facility:

- Appliances (e.g., toasters, blenders, air conditioners, refrigerators, etc.);
- Business equipment;
- Medication;
- Hair products (e.g., hair dryers, flat irons, etc.);
- Tapes and CDs;
- Explosives or Ammunition;
- E-cigarettes;
- Toys of any kind; and
- Sharps (i.e., needles and syringes) from businesses.

Solid Waste Generation Rates and Volumes

The California Department of Resources Recycling and Recovery (CalRecycle) tracks and monitors solid waste generation rates on a per capita basis. Per capita solid waste generation rates and total annual solid waste disposal volumes for Zero Waste Marin between 2015 and 2019 are shown in Table 3.15-14.

TABLE 3.15-14: ZERO WASTE MARIN SOLID WASTE GENERATION RATES

Year	Population		Employment		Total Disposal Tonnage (tons/year)
	Waste Generation Rate (lbs/person/day)	Reporting Year Population	Waste Generation Rate (lbs/employee/day)	Reporting Year Employment	
2015	4.0	258,972	9.3	111,124	188,115.60
2016	4.6	263,150	10.5	114,965	223,481.46
2017	4.7	263,262	10.7	115,944	232,015.10
2018	5.2	262,803	11.9	115,777	250,496.11
2019	5.0	262,879	11.4	115,700	241,275.81
2020	4.9	260,388	11.4	111,502	232,349.70

SOURCE: CAL RECYCLE. ACCESSED: JANUARY 2021

The per capita waste generation rate and per employee waste generation rate both increased from 4.0 to 5.2 lbs/person/day and 9.3 to 11.9 lbs/employee/day over the 2015 to

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2018 period, respectively, and the total annual disposal tonnage in the Zero Waste Marin service area increased by 62,380.51 tons over the 2015 to 2018 time span. From 2018 to 2020, the per capita and per employee waste generation rates both decreased from 5.2 to 4.9 lbs/person/day and 11.9 to 11.4 lbs/employee/day. Additionally, the total annual disposal tonnage in the Zero Waste Marin service area decreased by 18,146 tons in from 2018 to 2020. With the passage of SB 1016, the per capita disposal rate is used to determine the diversion progress of a jurisdiction and not the jurisdictional diversion rates. Therefore, a population increase resulting in the generation of more overall waste does not affect the jurisdiction's ability to meet its waste goals. The Zero Waste Marin's waste disposal rate targets are shown in Table 3.15-15.

TABLE 3.15-15: ZERO WASTE MARIN WASTE DISPOSAL RATE TARGETS (POUNDS/DAY)

Year	Population		Employment	
	Target	Actual	Target	Actual
2015	7.6	4.0	17.3	9.3
2016	7.6	4.6	17.3	10.5
2017	7.6	4.7	17.3	10.7
2018	7.6	5.2	17.3	11.9
2019	7.6	5.0	17.3	11.4
2020	7.6	4.9	17.3	11.4

SOURCE: CAL RECYCLE. ACCESSED: JANUARY 2021

The target rate on the above table represents a 50 percent diversion rate. In accordance with AB 939, which required municipalities to aggressively pursue MSW source reduction and recycling, Zero Waste Marin continues to meet and exceed all AB 939 goals. Zero Waste Marin has set a goal of 94 percent diversion from landfills by 2025, which would greatly reduce the need for landfill disposal. The current diversion rate for 2018 is 66 percent, which is down from 75 percent in 2014. Zero Waste Marin also provides grants to its member agencies to develop and implement programs that work toward the zero-waste goal. The various solid waste management actions adopted by Zero Waste Marin include, but are not limited to, recycling and yard waste programs for residents and businesses, public education and public outreach awareness events, and school recycling and composting.

Regulatory Framework - Solid Waste

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address the huge volumes of municipal and industrial solid waste generated nationwide. After several

amendments, the current Act governs the management of solid and hazardous waste and underground storage tanks (USTs). RCRA was an amendment to the Solid Waste Disposal Act of 1965. RCRA has been amended several times, most significantly by the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA is a combination of the first solid waste statutes and all subsequent amendments. RCRA authorizes the Environmental Protection Agency (EPA) to regulate waste management activities. RCRA authorizes states to develop and enforce their own waste management programs, in lieu of the Federal program, if a state's waste management program is substantially equivalent to, consistent with, and no less stringent than the Federal program.

State

Sanitary District Act of 1923

The Sanitary District Act of 1923 (Health and Safety Code Section 6400 et seq.) authorizes the formation of sanitation districts and enforces the sanitation districts to construct, operate, and maintain facilities for the collection, treatment, and disposal of wastewater. This act was amended in 1949 to allow sanitation districts to also provide solid waste management and disposal services, including refuse transfer and resource recovery.

California Integrated Waste Management Act (AB 939, SB 1322, and SB 1016)

The California Integrated Waste Management Act of 1989 (AB 939 and SB 1322) requires every city and county in the state to prepare a Source Reduction and Recycling Element to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory state waste diversion goals of 25 percent by 1995 and 50 percent by 2000. To help achieve this, the act requires that each jurisdiction prepare a source reduction and recycling element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle). AB 939 also established a goal for all California counties to provide at least 15 years of ongoing landfill capacity. The purpose of AB 939 and SB 1322 is to “reduce, recycle, and re-use solid waste generated in the state to the maximum extent feasible.” The term “integrated waste management” refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. The Act has established a waste management hierarchy, as follows: Source Reduction; Recycling; Composting; Transformation; and Disposal.

In 2007, SB 1016 amended AB 939 to establish a per capita disposal measurement system. The per capita disposal measurement system is based on two factors: a jurisdiction’s reported total disposal of solid waste divided by the jurisdiction’s population. The California Integrated Waste Management Board was replaced by CalRecycle in 2010. CalRecycle sets a

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per capita disposal rate target for each jurisdiction. Each jurisdiction must submit an annual report to CalRecycle with an update of its progress in implementing diversion programs and its current per capita disposal rate

Organic Waste Methane Emissions Reduction Act (SB 1383)

In September 2016, SB 1383 was signed into law establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants in various sectors of California's economy. SB 1383 establishes goals to reduce the landfill disposal of organics by achieving a 50 percent reduction in the 2014 level of statewide disposal of organic waste by 2020 and a 75 percent reduction by 2025. SB 1383 grants CalRecycle the regulatory authority to achieve the organic waste disposal reduction targets and establishes an additional target that at least 20 percent of currently disposed edible food must be recovered for human consumption by 2025. Methane emissions resulting from the decomposition of organic waste in landfills are a significant source of greenhouse gas emissions contributing to global climate change. Organic materials—including waste that can be readily recycled or composted—account for a significant portion of California's overall waste stream.

AB 341 (75 Percent Solid Waste Diversion)

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the state to divert 75 percent of the solid waste generated in the state from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

SB 1374 (Construction and Demolition Waste Materials Diversion)

Senate Bill 1374 (SB 1374), Construction and Demolition Waste Materials Diversion Requirements, requires that jurisdictions summarize their progress realized in diverting construction and demolition waste from the waste stream in their annual AB 939 reports. SB 1374 required the CIWMB to adopt a model construction and demolition ordinance for voluntary implementation by local jurisdictions.

AB 2176 (Montanez, Chapter 879, Statutes of 2004)

This law requires the largest venue facilities and events (as defined) in each city and county to plan and implement solid waste diversion programs, and annually report the progress of those upon the request of their local government. In turn, local jurisdictions must report to the CIWMB waste diversion information for the top 10 percent of venues and events by waste generation.

A large event is defined as:

1. Serves an average of more than 2,000 individuals per day of operation (both people attending the event and those working at it—including volunteers—are included in this number); and
2. Charges an admission price or is run by a local agency.

The bill specifically includes public, nonprofit, or privately owned parks, parking lots, golf courses, street systems, or other open space when being used for an event, including, but not limited to, a sporting event or a flea market in addition to events that meet both of the above.

A large venue is defined as:

A permanent facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation (both people attending the event and those working at it—including volunteers too—are included in this number).

Venues include, but are not limited to airports, amphitheaters, amusement parks, aquariums, arenas, conference or civic centers, fairgrounds, museums, halls, horse tracks, performing arts centers, racetracks, stadiums, theaters, zoos, and other public attraction facilities.

AB 1826 (Mandatory Commercial Organics Recycling)

AB 1826, which was enacted in 2014, mandates organic waste recycling for businesses and multifamily dwellings with five or more units. The commercial organics recycling law took effect on April 1, 2016, and organic waste includes food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. Currently, businesses and multifamily residences of five or more units that generate four or more cubic yards per week of solid waste (including recycling and organic waste) must arrange for organic waste recycling services. In the fall of 2020, CalRecycle will review the annual reports from various jurisdictions, and if the statewide goal of 50 percent reduction in organic waste as compared to 2014 has not been met, the organic recycling requirements will cover businesses and multi-family residences that generate two or more cubic yards of solid waste per week.

Marin Sanitary Service offers two organics recycling programs that allow businesses to comply with the requirements of AB 1826: The Food 2 Energy Program and Commercial Compost Program. The Food 2 Energy program diverts organic food waste from local restaurants, delis, food vendors, and grocery stores and converts the material into biogas through anaerobic digestion that is used as a power source for the CSMA WWTP. The Commercial Compost Program provides commercial compostable carts for businesses that generate organic material, including food scraps, food-soiled paper, and plant/landscape trimmings, that are turned into organic compost at the Redwood Landfill.

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California Integrated Waste Management Board Model Ordinance

Subsequent to the Integrated Waste Management Act, additional legislation was passed to assist local jurisdictions in accomplishing the goals of AB 939. The California Solid Waste Reuse and Recycling Access Act of 1991 (Section 42900-42911 of the Public Resources Code) directs the California Integrated Waste Management Board (CIWMB) to draft a “model ordinance” relating to adequate areas for collecting and loading recyclable materials in development projects. The model ordinance requires that any new development project, for which an application is submitted on or after September 1, 1994, include “adequate, accessible, and convenient areas for collecting and loading recyclable materials.” For subdivisions of single family detached homes, recycling areas are required to serve only the needs of the homes within that subdivision.

California Solid Waste Reuse and Recycling Access Act of 1991

The California Solid Waste Reuse and Recycling Access Act requires development projects to set aside areas for collecting and loading recyclable materials. This act required CalRecycle to develop a model ordinance for adoption by any local agency to provide adequate areas for the collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own that establishes standards, including space allocation, for the collection and loading of recyclable materials.

California Green Building Standards Code (CALGreen)

CALGreen became mandatory on January 1, 2011; the most recent 2022 CALGreen became effective on January 1, 2023. CALGreen requires the diversion of at least 65 percent of the construction waste generated during most new construction projects (CALGreen Sections 4.408 and 5.408) and some additions and alterations to nonresidential building projects.

As of January 1, 2020, in all jurisdictions including those without a construction and debris ordinance requiring the diversion of 65 percent of construction waste, the owners/builder of construction projects within the covered occupancies are required to divert 65 percent of the construction waste materials generated during the project. Additionally, CALGreen allows a disposal reduction option that can be met when the project’s disposal rate is less than 2.0 pounds per square foot for non-residential and high rise residential, or less than 3.4 pounds per square foot for low-rise residential.

Local

Marin Hazardous and Solid Waste Joint Powers Authority (Zero Waste Marin)

In response to the California Integrated Waste Management Act, Marin County’s public agencies formed the Marin Hazardous and Solid Waste Joint Powers Authority, also known as Zero Waste Marin. Zero Waste Marin was formed in 1996 and is comprised of the cities and towns of Belvedere, Corte Madera, Fairfax, Larkspur, Mill Valley, Novato, Ross, San Anselmo, San Rafael, Sausalito, and Tiburon, and the County of Marin. The goal of Zero Waste Marin is to help residents and businesses in Marin County meet the County’s goal of 94

percent diversion from landfills by 2025 by reducing and recycling their solid waste and safely disposing of hazardous wastes. Zero Waste Marin ensures the County's compliance with State recycling mandates and provides information on household hazardous waste collection, recycling, composting, and waste disposal. The Marin County Department of Public Works/Waste Management administers Zero Waste Marin, and the AB 939 Local Task Force provides citizen and industry review.

Marin Countywide Integrated Waste Management Plan

The California Integrated Waste Management Act of 1989 (AB 935) requires each county to prepare and adopt a Countywide Integrated Waste Management Plan (CIWMP). In April 1998, Zero Waste Marin, private waste haulers, and facility operators developed the Marin Countywide Integrated Waste Management Plan, which implements recycling programs necessary to meet the State's 25 percent and 50 percent recycling mandates. Waste reduction and disposal facilities in the county that require solid waste facility permits must conform to policies and siting criteria in the CIWMP. The CIWMP includes, by reference, source reduction and recycling elements, household hazardous waste elements, and non-disposal facility elements as well as a plan that describes countywide diversion programs and landfill disposal needs. The elements must be reviewed every five years and revised if necessary. The latest five-year review report for the CIWMP was submitted by Zero Waste Marin in March 2018.

In addition, each city, county, or regional agency must prepare an annual report for submittal to CalRecycle that summarizes its progress in reducing solid waste as required by Public Resources Code Section 41821. Once every two or four years (depending on the compliance schedule), CalRecycle conducts its own jurisdictional review of the annual reports to determine if the jurisdiction has met the Integrated Waste Management Act goals.

Town of Tiburon Municipal Code

Chapter 26 Solid Waste Storage, Collection and Disposal. The purpose of this chapter of the Tiburon Municipal Code is to prevent actual or potential public health hazards and nuisances by the regulation of the accumulation, collection and disposal of solid waste.

Analysis, Impacts, and Mitigation Measures - Solid Waste

Impact 3.15-11: General Plan 2040 implementation would comply with federal, state, and local management and reduction statutes and regulations related to solid waste, would not generate solid waste in excess of State or local standards or otherwise impair the attainment of solid waste reduction goals, and would not exceed of the capacity of local infrastructure (Less than Significant)

The Town of Tiburon is a member agency of Zero Waste Marin. As the regional agency, Zero Waste Marin reports diversion progress to CalRecycle on a countywide basis. Tiburon is

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served by the Mill Valley Refuse Service, a privately owned company that provides residential and commercial garbage, recycling and yard waste collection services under a Town franchise agreement.

The California Department of Resources Recycling and Recovery (CalRecycle) tracks and monitors solid waste generation rates on a per capita basis. As described previously, the per capita waste generation rate and per employee waste generation rate both increased from 4.0 to 5.2 lbs/person/day and 9.3 to 11.9 lbs/employee/day over the 2015 to 2018 period, respectively, and the total annual disposal tonnage in the Zero Waste Marin service area increased by 62,380.51 tons over the 2015 to 2018 time span. From 2018 to 2020, the per capita and per employee waste generation rates both decreased from 5.2 to 4.9 lbs/person/day and 11.9 to 11.4 lbs/employee/day. Additionally, the total annual disposal tonnage in the Zero Waste Marin service area decreased by 18,146 tons in from 2018 to 2020. . With the passage of SB 1016, the per capita disposal rate is used to determine the diversion progress of a jurisdiction and not the jurisdictional diversion rates. Therefore, a population increase resulting in the generation of more overall waste does not affect the jurisdiction's ability to meet its waste goals.

The development of future land uses under the General Plan 2040 would increase solid waste disposal needs. Future development of projects as under buildout the General Plan 2040 may increase the population within the Planning Area by approximately 2,198 persons, and would result in a reduction of 120,042 in non-residential square feet area and 240 fewer jobs. As described above, the service area has achieved a disposal rate of 4.9 PPD per resident, and 11.4 lbs per employee in 2020. Assuming these disposal rates remain constant throughout the life of the General Plan, the new growth under General Plan 2040 buildout would result in an increase of approximately 10,92 pounds per day, which equals 5.48 tons per day or 1,999 tons of solid waste per year. Additionally, the reduction in overall nonresidential square footage would result in a decrease of 2,736 pounds per day or 499 tons per year. The additional solid waste generation associated with the General Plan 2040 would not exceed the receiving landfill's remaining and additional capacity.

As described previously the Redwood Landfill in Marin County and the Potrero Hills Landfill in Solano County accept the most solid waste generated from the Zero Waste Marin. The Redwood Landfill has a maximum permitted throughput of 2,300 tons/day and a remaining capacity of 26 million tons. The estimated closure date is 2036. The Potrero Hills Landfill has a maximum permitted throughput of 4,330 tons/day and a remaining capacity of 13,872,000 tons. The closure date is estimated to be February 14, 2048. The additional solid waste generation associated with the proposed General Plan 2040 would not exceed the receiving landfills' remaining and additional capacity. Additionally, the General Plan 2040 includes actions to further reduce the project's impact on solid waste services. Policy S-5 Waste Diversion Targets call for the Town to strive to meet or exceed waste diversion and food recovery targets set by the state. Program S-m requires that businesses prepare and

implement waste management plans to maximize recycling and food recovery and minimize disposal of organic waste where appropriate as a condition of approval of use permits. Program S-n calls of the Town to work with the Town's waste hauler and Zero Waste Marin to develop and implement programs to educate and motivate residents and business owners to increase recycling of materials and food recovery and reduce disposal of organic waste, while Program S-o call for the modification of the solid waste disposal ordinance to maximize the recovery and recycling of construction debris consistent with the Marin Zero Waste model ordinance. Policy S-6 call for municipal waste reduction by maximizing recycling, composting, reuse, waste reduction, and food recovery within municipal operations and at public parks and facilities. Program S-p calls for the Town to provide sufficient recycling and composting bins for public and staff use, and Program S-q calls for the adoption of municipal purchasing procedures to give preference to purchasing products that are recyclable, made from recycled materials, and minimize packaging.

With the implementation of the policies and programs identified above and a commitment to meeting waste reduction goals within the Planning Area, potential solid waste impacts would be considered a **less-than-significant** impact.

Impact 3.15-12: Under cumulative conditions the Project would not generate solid waste in excess of State or local standards or otherwise impair the attainment of solid waste reduction goals, and would not exceed of the capacity of local infrastructure

As described previously under Impact 3.10-1, there is adequacy capacity anticipated to serve the Projects solid waste requirements. The California Department of Resources Recycling and Recovery (CalRecycle) tracks and monitors solid waste generation rates on a per capita basis. As described previously, from 2018 to 2020, the per capita and per employee waste generation rates both decreased from 5.2 to 4.9 lbs/person/day and 11.9 to 11.4 lbs/employee/day. Additionally, the total annual disposal tonnage in the Zero Waste Marin service area decreased by 18,146 tons in from 2018 to 2020. With the passage of SB 1016, the per capita disposal rate is used to determine the diversion progress of a jurisdiction and not the jurisdictional diversion rates. Therefore, a population increase resulting in the generation of more overall waste does not affect the jurisdiction's ability to meet its waste goals. As such the waste generated is within target ranges identified by state targets and will continue to ensure that potential impacts are **less than significant**.

Level of Significance before Mitigation

Less than significant and less than cumulatively considerable.

Mitigation Measures

None required

Figure 3.15-1. Marin Municipal Water District Facilities

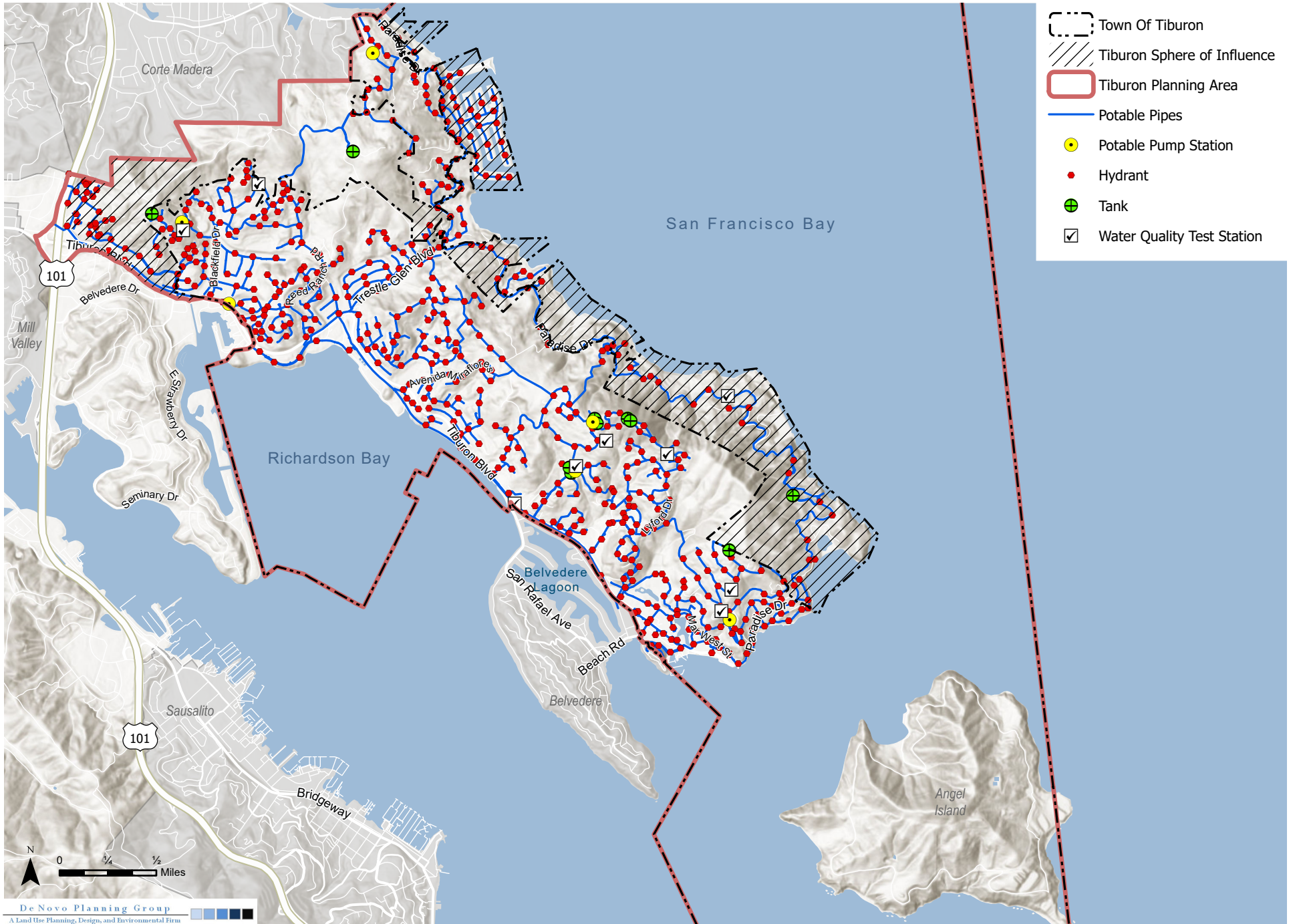


Figure 3.15-2. Wastewater Agency Boundaries

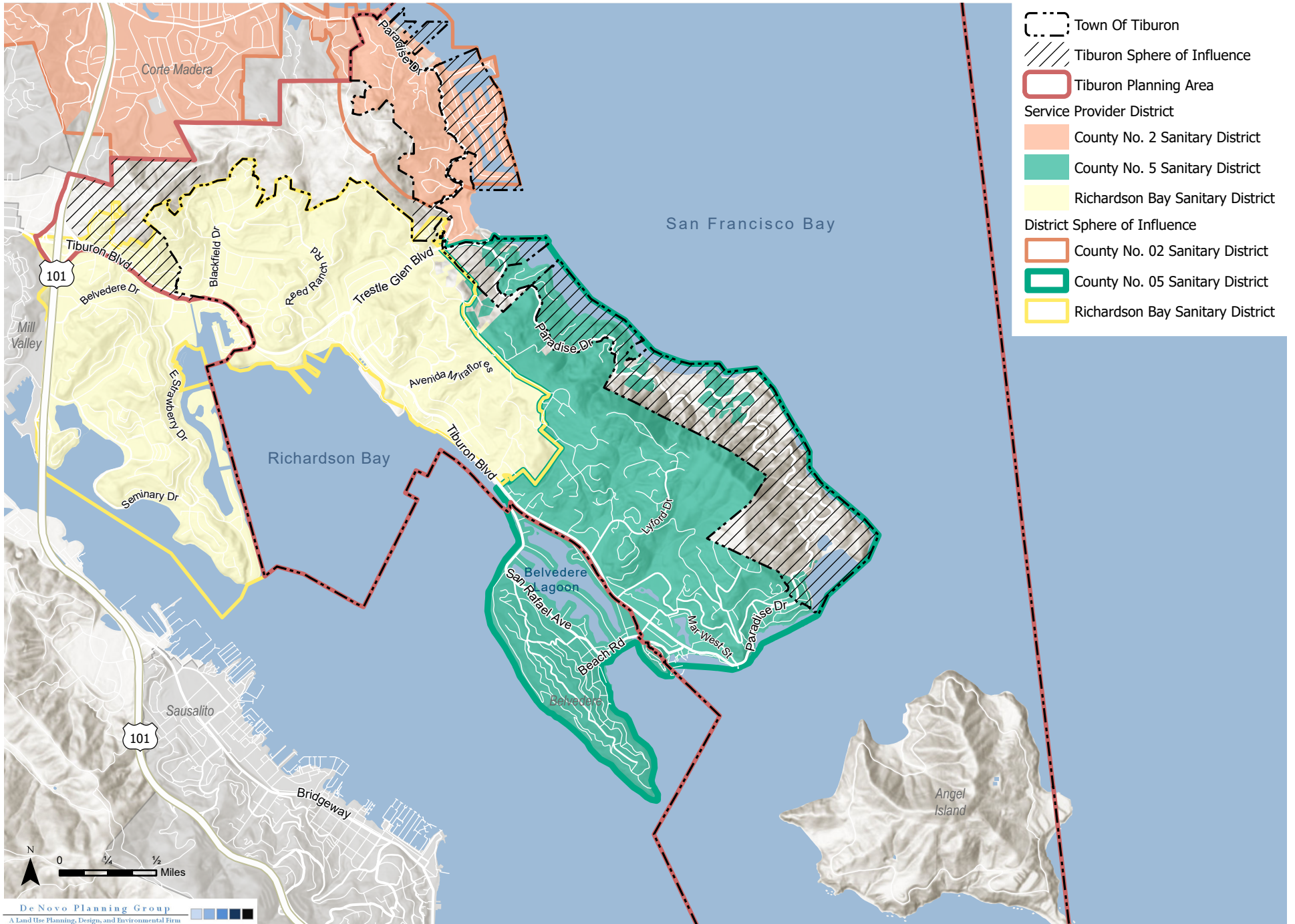
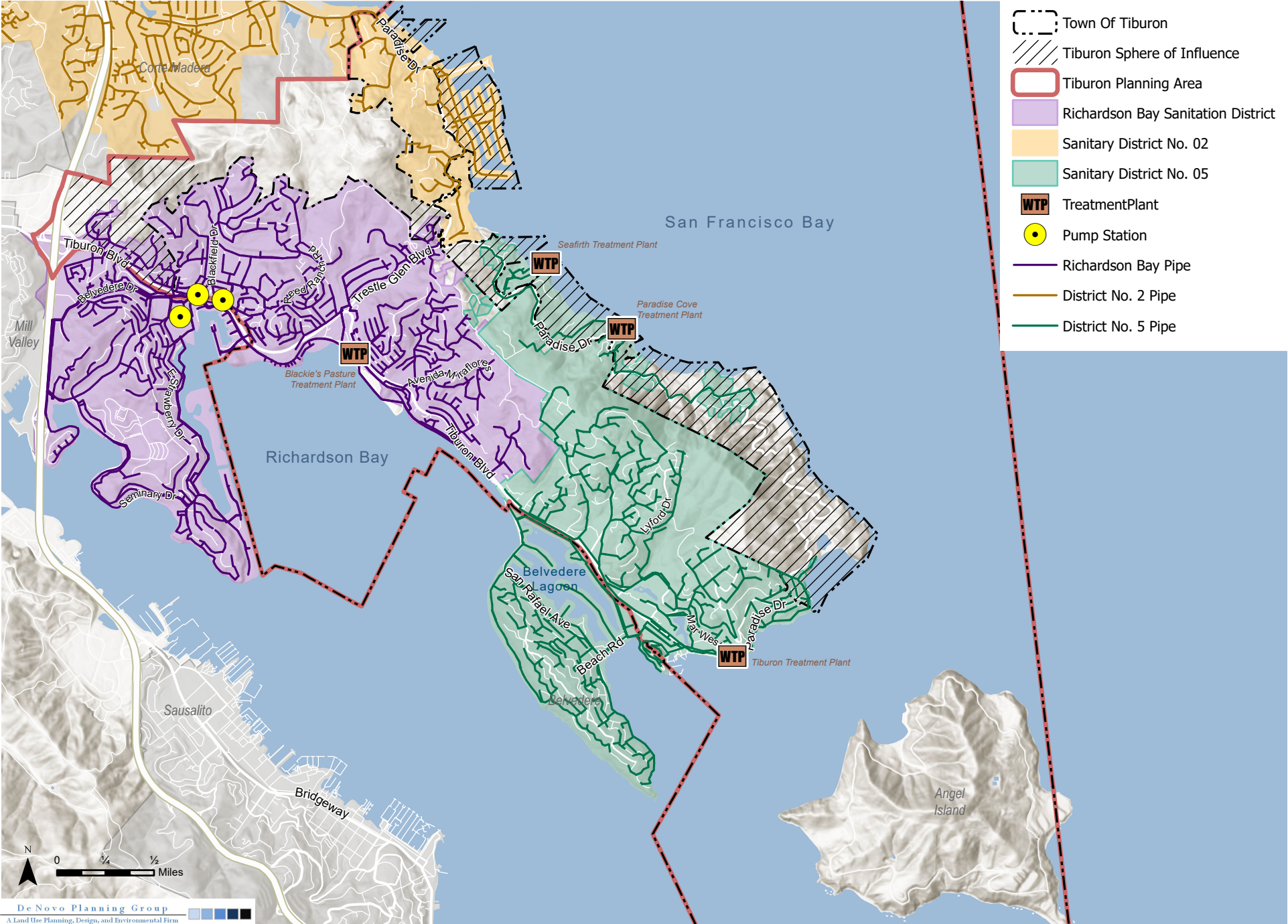


Figure 3.15-3. Wastewater Facilities

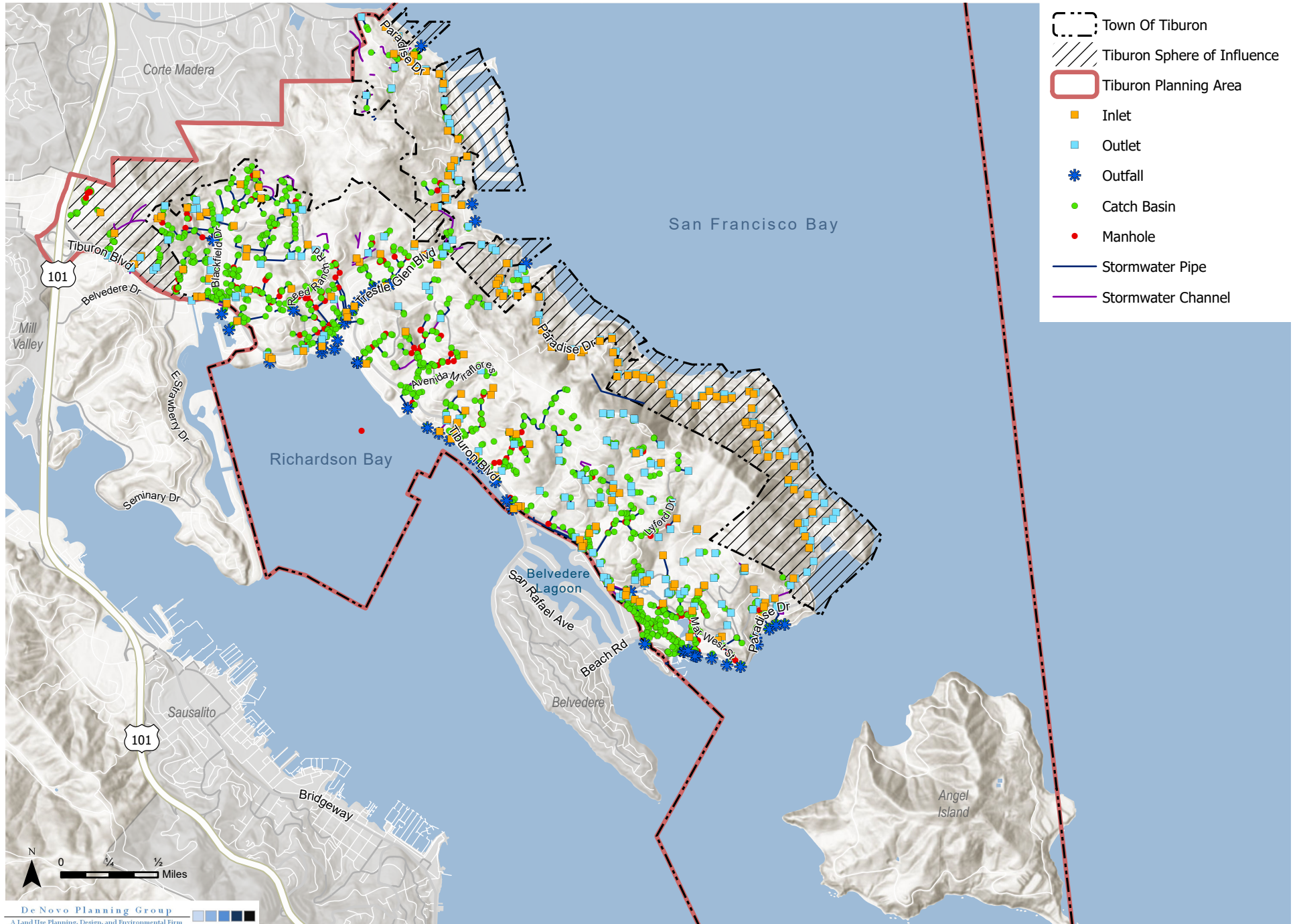


- Town Of Tiburon
- Tiburon Sphere of Influence
- Tiburon Planning Area
- Richardson Bay Sanitation District
- Sanitary District No. 02
- Sanitary District No. 05
- TreatmentPlant
- Pump Station
- Richardson Bay Pipe
- District No. 2 Pipe
- District No. 5 Pipe



Sources: ArcGIS Online World Hillshade Map Service; Marin County GIS; MarinMap; Sanitation District 5. Map date: February 13, 2023.

Figure 3.15-4. Stormwater Facilities





3.16 WILDFIRE

Wildfires are, on average, becoming more frequent and more destructive due to a combination of higher temperatures, longer dry periods, and increased human development within wooded areas. Grassland or other vegetation in California is easily ignited, particularly in dry seasons. Wildfire is a serious hazard in high, dry fuel load areas, particularly near areas of natural vegetation and steep slopes since fires tend to burn more rapidly on steeper terrain. Wildfire is also a serious hazard in areas of high wind, given that fires will travel faster and farther geographically when winds are higher. Furthermore, wildfire is more likely in areas where electric power lines are located above ground where they can encounter either vegetation or building materials.

This Chapter of the Draft EIR describes the existing wildfire conditions in the Planning Area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to wildfire that could result from implementation of the General Plan 2040. Future discretionary projects will also be evaluated for project-specific impacts to wildfire at the time they are proposed. See Section 3.13, Public Services and Recreation, for a discussion of fire protection services.

Three comments were received by Dorene Curtis, Julie and Seth Jacobs, and Kathy and Gerry Silverfield expressing concern about emergency evacuation routes, emergency vehicle access, and housing development in areas of wildfire risk. These topics are further discussed in Chapter 3.8 (Hazards) and additional information related to transportation impacts is included in Chapter 3.14 (Transportation) of this Draft EIR.

3.16.1 EXISTING SETTING

Wildfire Risk

CAL FIRE Fire Threat Areas

California Department of Forestry and Fire Protection's (CAL FIRE) Fire Threat Model identifies fire threats using fuel rank, which is a ranking system developed by CAL FIRE that incorporates four wildfire factors: fuel model, slope, ladder index, and crown index, and modeled characteristics regarding fire probability and behaviors.

The U.S. Forest Service has developed a series of fuel models, which categorize fuels based on burn characteristics. These fuel models help predict fire behavior. In addition to fuel characteristics, slope is an important contributor to fire hazard levels. A surface ranking system has been developed by CAL FIRE, which incorporates the applicable fuel models and slope data. The model categorizes slope into six ranges: 0-10%, 11-25%, 26-40%, 41-55%, 56-75% and >75%. The combined fuel model and slope data are organized into three categories,

referred to as surface rank. Thus, surface rank reflects the quantity and burn characteristics of the fuels and the topography in a given area.

The ladder index is the distance from the ground to the lowest leafy vegetation for tree and plant species. The crown index reflects the quantity of leafy vegetation present within individual specimens of a given species.

The surface rank, ladder index, and crown index for a given area are combined to establish a fuel rank of medium, high, or very high. Fuel rank is used by CAL FIRE to identify areas in the California Fire Plan where large, catastrophic fires are most likely.

The fuel rank data are used by CAL FIRE to delineate fire threat based on a system of ordinal ranking. Thus, the Fire Threat model creates discrete regions, which reflect fire probability and predicted fire behavior. The five classes of fire threat range from low to extreme.

As shown in Figure 3.16-1, the Town of Tiburon primarily contains areas with “moderate” and “high” fire threats. However, Figure 3.16-1 does identify three small areas with “low” fire threats, including one in the northwest portion of the Planning Area adjacent to Richardson Bay and Trestle Glen Boulevard, another in the southeast portion of the Planning Area east of Paradise Drive, and one along the southern shoreline of Angel Island. The two highest fire threat levels, “very high” and “extreme,” are not mapped within or adjacent to the Planning Area. “High” fire threats are located in the northern and eastern portions of the Planning Area, where there tends to be a greater amount of combustible vegetation and where slopes are greater. CAL FIRE data for the areas immediately north and west of the Planning Area include “moderate” and “high” fire threats.

CAL FIRE Fire Hazard Severity Zones

The State has charged CAL FIRE with the identification of Fire Hazard Severity Zones (FHSZ) within State Responsibility Areas. In addition, CAL FIRE must recommend Very High Fire Hazard Severity Zones (VHFHSZ) identified within any Local Responsibility Areas. The FHSZ maps are used by the State Fire Marshall as a basis for the adoption of applicable building code standards. Figure 3.16-2 illustrates the Town’s Fire Hazard Severity Zones and Responsibility Areas.

As shown in Figure 3.16-2, there are no VHFHSZs located within the Town or Planning Area. While the majority of the Planning Area is not within a FHSZ, portions of the Planning Area are located in “moderate” and “high” FHSZs, including areas in the northern, northwestern, northeastern, and eastern portions of the Planning Area. No areas within or adjacent to the Planning Area are categorized as containing a “very high” FHSZs by CAL FIRE.

Wildland-Urban Interface Zones

A Wildland-Urban Interface (WUI) zone is an area where human made structures and infrastructure (e.g., cell towers, schools, water supply facilities, etc.) are in or adjacent to areas prone to wildfire. Approximately 60,000 acres in Marin County fall within the WUI zone, where residences are intermixed with open space and wildland vegetation. Due to

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surrounding vegetation and proximity to wildlands, these areas are considered to be at greater risk of wildfires. A Wildland Urban Intermix zone is defined as a housing development interspersed in an area dominated by wildland vegetation subject to wildfire. Lastly, a Wildfire Influence Zone is an area where wildfire susceptible vegetation is within 1.5 miles from a Wildland-Urban Interface or Wildland-Urban Intermix zone.

Wildland fire hazards exist in varying degrees throughout the Tiburon Peninsula and probably pose the greatest threat to public safety and property of all other potential hazards. The fire season generally lasts from five to six months, but has been elongated due to climate change. Many homes have been built on steep slopes with vegetation near structures. These slopes are often steep, located in rugged terrain, and have very few access routes. The majority of Tiburon is located within either a “Wildland-Urban Interface”, “Wildland-Urban Intermix”, or “Wildfire Influence” fire hazard zone.

Figure 3.16-3 identifies the Wildland-Urban Interface, Wildland-Urban Intermix, and Wildfire Influence Zones within Tiburon and the fire hazard severity for each. As shown in Figure 3.16-3, areas throughout the Town and Planning Area have significant portions designated with a moderate and high fire hazard areas associated with Wildland Urban Interface, Wildland Urban Intermix, and Wildfire Urban Influence zones. Table 3.16-1 identifies the amount acres within the Planning Area located in an either a Wildland Urban Interface, Wildland Urban Intermix, and Wildfire Urban Influence zones.

TABLE 3.16-1: WUI TYPE BY FIRE HAZARD SEVERITY IN TIBURON PLANNING AREA

WUI TYPE	TOWN LIMITS	SOI	PLANNING AREA	GRAND TOTAL
WILDLAND-URBAN INTERFACE ZONE				
Not in a Fire Hazards Severity Zone	0.00	0.00	0.00	0.00
Moderate Fire Hazard Severity	427.49	169.79	1.19	598.46
High Fire Hazard Severity	388.90	71.09	4.28	464.27
<i>Wildland Urban Influence Subtotal</i>	<i>816.39</i>	<i>240.88</i>	<i>5.47</i>	<i>1,062.73</i>
WILDLAND-URBAN INTERMIX ZONE				
Not in a Fire Hazards Severity Zone	0.00	0.00	0.00	0.00
Moderate Fire Hazard Severity	108.29	72.19	0.96	181.45
High Fire Hazard Severity	126.83	72.50	1.64	200.97
<i>Wildland Urban Intermix Subtotal</i>	<i>235.12</i>	<i>144.69</i>	<i>2.60</i>	<i>382.42</i>
WILDFIRE URBAN INFLUENCE ZONE				
Not in a Fire Hazards Severity Zone	87.92	16.69	1.72	106.34
Moderate Fire Hazard Severity	616.53	64.78	2.31	683.62
High Fire Hazard Severity	415.24	309.19	304.39	1,028.82
<i>Wildfire Urban Influence Subtotal</i>	<i>1,119.69</i>	<i>390.66</i>	<i>308.42</i>	<i>1,818.78</i>
NOT IN A WUI ZONE				
Not in a Fire Hazards Severity Zone	7,536.49	122.74	30.73	7,689.96

WUI TYPE	TOWN LIMITS	SOI	PLANNING AREA	GRAND TOTAL
Moderate Fire Hazard Severity	38.45	28.04	0.00	66.49
High Fire Hazard Severity	19.82	19.85	1.74	41.40
<i>Not in a WUI Zone Subtotal</i>	<i>7,594.76</i>	<i>170.63</i>	<i>32.47</i>	<i>7,797.85</i>
Total	9,765.96	946.86	348.96	11,061.78

SOURCE: CAL FIRE FRAP *WILDLAND URBAN INTERFACE, INTERMIX, AND INFLUENCE ZONES – WITH HOUSING DENSITY AND HAZARD CLASS*, 2021.

Federal

United States Department of Interior

Review and Update of the 1995 Federal Wildland Fire Management Policy

1. **Safety**—Firefighter and public safety is the first priority. All Fire Management Plans and activities must reflect this commitment.
2. **Fire Management and Ecosystem Sustainability**—The full range of fire management activities will be used to help achieve ecosystem sustainability, including its interrelated ecological, economic, and social components.
3. **Response to Wildland Fire**—Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale, and across agency boundaries. Response to wildland fire is based on ecological, social, and legal consequences of the fire. The circumstances under which a fire occurs, and the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected dictate the appropriate management response to the fire.
4. **Use of Wildland Fire**—Wildland fire will be used to protect, maintain, and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved Fire Management Plans and will follow specific prescriptions contained in operational plans.
5. **Rehabilitation and Restoration**—Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health, and safety, and to help communities protect infrastructure.
6. **Protection Priorities**—The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.
7. **Wildland Urban Interface**—The operational roles of federal agencies as partners in the Wildland Urban Interface are wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, State, or local governments. Federal

agencies may assist with exterior structural protection activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding. (Some federal agencies have full structural protection authority for their facilities on lands they administer, and may also enter into formal agreements to assist State and local governments with full structural protection.)

8. **Planning**—Every area with burnable vegetation must have an approved Fire Management Plan. Fire Management Plans are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved land management plan. Fire Management Plans must provide for firefighter and public safety; include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and be consistent with resource management objectives, activities of the area, and environmental laws and regulations.
9. **Science**—Fire Management Plans and programs will be based on a foundation of sound science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical, and sociological factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results must be made available to managers in a timely manner and must be used in the development of land management plans, Fire Management Plans, and implementation plans.
10. **Preparedness**—Agencies will ensure their capability to provide safe, cost-effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, equipment, and management oversight.
11. **Suppression**—Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives.
12. **Prevention**—Agencies will work together and with their partners and other affected groups and individuals to prevent unauthorized ignition of wildland fires.
13. **Standardization**—Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values-to-be-protected methodologies, and public education programs for all fire management activities.
14. **Interagency Cooperation and Coordination**—Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.
15. **Communication and Education**—Agencies will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.

16. **Agency Administrator and Employee Roles**—Agency administrators will ensure that their employees are trained, certified, and made available to participate in the wildland fire program locally, regionally, and nationally as the situation demands. Employees with operational, administrative, or other skills will support the wildland fire program as necessary. Agency administrators are responsible and will be held accountable for making employees available.
17. **Evaluation**—Agencies will develop and implement a systematic method of evaluation to determine effectiveness of projects through implementation of the 2001 Federal Fire Policy. The evaluation will assure accountability, facilitate resolution of areas of conflict, and identify resource shortages and agency priorities.

State

California Government Code Section 65302

Government Code Section 65302, which establishes standards for developing and updating General Plans, includes fire hazard assessment and Safety Element content requirements. This section describes that a Safety Element shall include protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The Safety Element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

The Safety Element is also required to:

- Identify information regarding flood hazards;
- Establish a set of comprehensive goals, policies, and objectives for the protection of the community from the unreasonable risks of flooding;
- Establish a set of feasible implementation measures designed to carry out the applicable goals, policies, and objectives;
- Be reviewed and updated as necessary to address the risk of fire for land classified as state responsibility areas and land classified as very high fire hazard severity zones;
- Be reviewed and updated as necessary to address climate adaptation and resiliency strategies applicable to the city or county.

Assembly Bill 337

Per AB 337, local fire prevention authorities and the California Department of Forestry and Fire Protection (CAL FIRE) are required to identify “Very High Fire Hazard Severity Zones

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(VHFHSZ) in Local Responsibility Areas (LRA). Standards related to brush clearance and the use of fire-resistant materials in fire hazard severity zones are also established.

Senate Bill 99

Senate Bill 99 (SB 99) requires jurisdictions, upon the next revision of the Housing Element on or after January 1, 2020, to review and update the safety element to include information identifying residential developments in hazard areas that do not have at least two emergency evacuation routes.

California Public Resources Code

The State's Fire Safe Regulations are set forth in Public Resources Code Section 4290, which include the establishment of State Responsibility Areas (SRA). An SRA is the area of the state where the State of California is financially responsible for the prevention and suppression of wildfires. SRA does not include lands within Town boundaries or in federal ownership. Areas in federal ownership are under Federal Responsibility Areas (FRA), and areas within Town boundaries are included in Local Responsibility Areas.

Public Resources Code Section 4291 sets forth defensible space requirements, which are applicable to anyone that *...owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material* (Section 4291(a)). These requirements include:

- Maintenance of defensible space of 100 feet from each side and from the front and rear of the structure, not beyond the property line except as required by state law, local ordinance, rule, or regulation;
- An insurance company that insures an occupied dwelling or occupied structure may require a greater distance than that required under paragraph (1) if a fire expert, designated by the director, provides findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure.
- Removal of the portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe;
- Maintenance of a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood;
- Maintenance of the roof of a structure free of leaves, needles, or other vegetative materials;
- Prior to constructing a new building or structure or rebuilding a building or structure damaged by a fire in an area subject to this section, the construction or rebuilding of which requires a building permit, the owner shall obtain a certification from the local

building official that the dwelling or structure, as proposed to be built, complies with all applicable state and local building standards.

California Fire Code

The California Fire Code establishes standards related to the design, construction, and maintenance of buildings. The standards set forth in the California Fire Code range from designing for access by firefighters and equipment and minimum requirements for automatic sprinklers and fire hydrants to the appropriate storage and use of combustible materials.

California Code of Regulations Title 8

In accordance with California Code of Regulations Title 8, Sections 1270 and 6773 (*Fire Prevention and Fire Protection and Fire Equipment*), the Occupational Safety and Health Administration (Cal OSHA) establishes fire suppression service standards. The standards range from fire hose size requirements to the design of emergency access roads.

California Code of Regulations Title 14 (Natural Resources)

Division 1.5 (Department of Forestry and Fire Protection), Title 14 of the CCR establishes a variety of wildfire preparedness, prevention, and response regulations.

California Code of Regulations Title 19 (Public Safety)

Title 19 of the CCR establishes a variety of emergency fire response, fire prevention, and construction and construction materials standards.

California Code of Regulations Title 24 (CA Building Standards Code)

The California Fire Code is set forth in Part 9 of the Building Standards Code. The California Fire Code, which is pre-assembled with the International Fire Code by the International Code Council (ICC), contains fire-safety building standards referenced in other parts of Title 24.

California Health and Safety Code Section 13000 et seq.

State fire regulations are set forth in Section 13000 et seq. of the California Health and Safety Code, which is divided into “Fires and Fire Protection” and “Buildings Used by the Public.” The regulations provide for the enforcement of the California Fire Code and mandate the abatement of fire hazards.

The code establishes broadly applicable regulations, such as standards for buildings and fire protection devices, in addition to regulations for specific land uses, such as childcare facilities and high-rise structures.

California Public Utilities Code Section 8367 et seq.

State regulations relating to wildfire mitigation are set forth in Section 8387 of the California Public Utilities Code. The regulations provide that each local publicly owned electric utility and electrical cooperative shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines

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and equipment. The local publicly owned electric utility or electrical cooperative is also required to prepare a wildfire mitigation plan.

Local and Regional

Marin County Community Wildfire Protection Plan

The Marin County Community Wildfire Protection Plan (CWPP), adopted in 2016, is an advisory document prepared by FIREsafe Marin in collaboration with stakeholder agencies pursuant to the Healthy Forests Restoration Act. The CWPP is a countywide strategic plan with action items to reduce fire hazard in the County, especially in areas of concern, which mostly fall within Marin's WUI boundary. The CWPP assists in protecting human life and reducing property loss from wildfire throughout Marin County. The CWPP describes wildfire risk, hazard, and recommendations for improving wildfire preparedness at the County level, achieving the following:

- Outlines community characteristics that relate to wildfire risk and hazard including climate, weather, vegetation, and population;
- Describes the fire environment, including the description of the County WUI and regional weather;
- Accesses wildfire hazard and risk at the County level;
- Describes existing and proposed community outreach that is integral to improving wildfire preparedness;
- Identifies mitigation strategies that could be applied to address wildfire hazards and risk; and
- Describes the CWPP as a living document to be updated periodically.

The CWPP is accompanied by appendices that address specific areas and projects by agency to meet strategic goals. The lists of projects include past, current, and/or planned projects from the 2015 Marin Unit Fire Plan and are intended to provide a starting point for identifying and prioritizing a more complete, countywide list of future fuel reduction and outreach projects.

Tiburon Fire Protection District

The Tiburon Fire Protection District (TFPD) was established in April of 1941 and is an autonomous Special District as defined under the Fire Protection District Law of 1987, Health and Safety Code, Section 13800, of the State of California. A five-member Board of Directors, elected by their constituents and each serving a four-year term, governs the TFPD. The TFPD service area encompasses approximately 5.5 square miles, providing structural fire and emergency medical response to the Town of Tiburon, the City of Belvedere, and unincorporated residential and wildland areas on the peninsula, as well as parts of the San Francisco Bay to Angel Island State Park.

TFPD Ordinance No. 131

In September 2022, the TFPD adopted Ordinance No. 131 (Effective January 2023) adopting and modifying the 2022 California Fire Code and Appendix A of the 2021 International Wildland-Urban Interface Code. The Ordinance contained amendments to the California Fire Code and included requirements for Wildland-Urban Interface fire areas to address the local climatic, geographic, and topographic conditions that impact fire prevention efforts, and the frequency, spread, acceleration, intensity, and size of fire involving buildings in the community. Additionally, TFPD Ordinance No. 131 provided for the issuance of permits for hazardous uses or operations and defined the powers and duties of the Community Risk Reduction and Fire Prevention Bureau and officers.

Southern Marin Fire Protection District

The Southern Marin Fire Protection District (SMFPD) is an independent fire district as defined in the California Administrative Code, (Fire Protection District Law of 1987 - Health & Safety Code Section 13800, et seq.) and provides fire protection and emergency medical services to the northwestern corner of the Tiburon Planning Area. The SMFPD was created in 1999 by Marin County LAFCO with the consolidation of the Alto-Richardson Bay Fire Protection District and the Tamalpais Fire Protection District. The District serves the communities of Sausalito, Tamalpais Valley, Almonte, Homestead Valley, Alto, Strawberry, approximately 1/4 of the town of Tiburon, the City of Mill Valley, Fort Baker and the Marin Headlands.

SMFPD Ordinance

The SMFPD Ordinance adopts the 2022 California Fire Code and Appendix A of the 2021 International Wildland-Urban Interface Code. The Ordinance contains amendments to the California Fire Code and includes requirements for Wildland-Urban Interface fire areas to address the local climatic, geographic, and topographic conditions that impact fire prevention efforts, and the frequency, spread, acceleration, intensity, and size of fire involving buildings in the community. Some of the requirements are related to hazardous vegetation and fuel management, defensible space, fire flow requirements for buildings, fire hydrant locations and distribution, and minimum widths and clearances for fire access roads. The Ordinance was approved by the SMFPD Board of Directors in September 2022.

Southern Marin Emergency Medical Paramedic System

Southern Marin Emergency Medical Paramedic System (SMEMPS) was established in October 1980 to better serve the Emergency Medical Service (EMS) needs of residents and visitors in southern Marin County. Prior to 1980, EMS delivery was provided by firefighters that were certified as Emergency Medical Technicians. Realizing that a better system was possible, the local jurisdictions came together and formed a Joint Powers Authority. The intent was to create a system that would provide paramedic service to the community and, on average, SMEMPS serves an average of 2,650 patients each year. The member agencies currently include the SMFPD, TFPD, City of Belvedere, City of Mill Valley, City of Sausalito, and the County of Marin.

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Town of Tiburon Municipal Code

Chapter 14B Public Facilities Development Fees. This chapter of the Tiburon Municipal Code outlines the development fees that are needed in order to finance public facilities to ensure that each new development, development project, or construction project contributes its fair share of the costs of public facility improvements.

3.16.2 THRESHOLDS OF SIGNIFICANCE

According to the California Environmental Quality Act (CEQA) Guidelines Appendix G, the proposed Project will have a significant impact related to wildfire if located in or near state responsibility areas or lands classified as very high fire hazard severity zones if the project would:

- 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; or
- 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.

As described previously the Planning Area is not within a State Responsibility Area or located on or near lands classified as very high fire hazard severity zones (VHFHSZ) by CAL FIRE. However because the area is located within a locally designated Urban Wildland Interface that carries the risk of fire threat, these impacts are discussed below for informational and disclosure purposes. For impacts related to emergency response and evacuation see Chapter 3.8 (Hazards) Impact HAZ-6. For impacts related to the exposure of people or structures to wildland fires see Impact HAZ-7.

3.16.3 ANALYSIS, IMPACTS, AND MITIGATION MEASURES

Impacts related to wildfires resulting from implementation of the General Plan 2040 are discussed below. The following impact analysis is based on an assessment of baseline conditions for the Planning Area, including emergency response and evacuation plan requirements, wildland fire exposure risk, and post-fire hazards.

Impact 3.16-1 Development allowed under the General Plan 2040 in or near State responsibility areas or lands classified as very high fire hazard severity zones would not substantially impair an adopted emergency response plan or emergency evacuation plan.

Tiburon’s location on a peninsula and topography of steep hillsides poses challenging and existing constraints for emergency response and evacuation. One of the major problems Tiburon faces during any emergency is the possibility of becoming isolated from surrounding cities or counties and any subsequent resources or help. The Tiburon Peninsula has one major road (Tiburon Boulevard) and one minor road (Paradise Drive) which provide primary access to the entire Planning Area. Additionally, there is a second minor road (Trestle Glen Boulevard) connecting Tiburon Boulevard and Paradise Drive in the northern portion of the Planning Area; however, the remaining transportation network consists of narrow local streets within the hillsides. Therefore, the susceptibility to road blockages is high and delays during evacuations will be inevitable. During an emergency, some areas could be inaccessible to emergency service personnel and vehicles due to the limited access to the area.

In the event of an area-wide emergency, evacuation of the Tiburon Planning Area would be difficult. Evacuation traffic on Tiburon Boulevard (Highway 131) would cause severe congestion since that is the only major access route for most of the Planning Area. As residents use the Highway 101 Tiburon Boulevard/East Blithedale Avenue interchange to evacuate out of Marin County, key choke points would occur causing massive delays for Tiburon residents, especially those located in residential areas in the southern portion of the peninsula. During an evacuation of the Tiburon Peninsula area, it is anticipated that over 17,000 residents from Tiburon, Belvedere, and Strawberry would potentially utilize this interchange as the main evacuation route since it is the closest interchange to all three communities.

The fire departments serving Tiburon, the Tiburon Fire Protection District and the Southern Marin Fire Protection District, use a cloud-based platform called Zonehaven that provides public safety workers with tools to pre-plan evacuation zones and routes, run scenario models, and collaborate with other agencies. The platform communicates live updates to fire department personnel and the public about evacuation routes, traffic flow, and roadway conditions during an emergency. Using satellite images and other information, the platform delivers real-time evacuation instructions to residents through mobile alerts and social media that can be adapted to the type of emergency, such as wildfire, earthquake, and tsunami. As conditions change, evacuation routes can be quickly modified. For example, roadways may be closed or turned into one-way evacuation routes as needed.

The Town approved an Evacuation Decal program in August 2018 to demarcate potential evaluation routes to assist residents, businesses, and visitors in evacuating in the event of the disaster. The Evacuation Decal program was developed by the Tiburon Fire Protection District with input from the Belvedere Tiburon Joint Disaster Advisory Council.

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As described previously, there are no SRAs in the Planning Area and according to CAL FIRE, there are no high Fire Hazard Severity Zones within the Planning Area. However, there are locally designated fire threats areas located throughout the Planning Area. The majority of development anticipated under the General Plan 2040 is located in existing developed areas, would be infill development, and all would be located within the existing Town limits. Furthermore, it should be noted that the development that could occur would include additional residential infill development, but would be similar to the development types and developable areas as what was already planned for and would not alter or change existing identified emergency evacuation routes. As described previously, proposed changes to the Land Use Map include areas for higher density housing opportunities within generally developed portions of the Town, with the remainder of the Planning Area land uses remaining the same.

Additionally, policies and programs contained within the General Plan 2040 provide guidance for preventative measures and practices to minimize wildland fire hazards and maintain adequate evacuation and access routes for vehicles in the event of an emergency, including wildland fires. Specifically, Program SR-d calls on the Town to work with the Tiburon Fire Protection District, the Southern Marin Fire Protection District, the Marin Wildfire Prevention Authority, and the Tiburon Police Department to identify and map residential developments in hazard areas that do not have at least two emergency evacuation routes and identify mitigation measures as feasible. Program SR-e ensures the Town evaluates evacuation routes for their capacity, safety, and viability under a range of emergency scenarios, and Program SR-f calls for the improvement of local evacuation capacity by identifying evacuation routes through signage and promotion of public safety route identification applications. Assess the feasibility of adding additional evacuation routes.

Accordingly, compliance with General Plan 2040 Policies, combined with area evacuation procedures and policies, and the review of all new structures by the Police and Fire Departments to ensure adequate emergency access, would result in a **less-than-significant** impact.

Mitigation Measures

None required.

Impact 3.16-2 **Development under the General Plan 2040 in areas located in or near State responsibility areas or lands classified as very high fire hazard severity zones would not, 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 wildfire.**

There are no SRAs in the Planning Area and there are no Fire Hazard Severity Zones within the Planning Area as designated by CAL FIRE. However, as described previously there are locally designated fire threats areas located throughout the Planning Area within the UWI.

The majority of proposed development is located in existing developed areas, would be infill development, and all is located within the existing Town limits.

The degree of wildland fire hazard, including the exposure of future occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope or prevailing winds, would not substantially change with adoption of the General Plan 2040 compared to existing conditions, although additional increases in residential units and residents would be anticipated.

Development facilitated under the General Plan 2040 is required to be consistent with local fire plans, Town Fire regulations, and Town plans, policies, programs, and ordinances in place to reduce the risks associated with wildland fires. As described below, these proposed policies and programs would reduce the potential for exposure to wildland fires through preventative and proactive measures to reduce fuel load, maintain robust communications, and ensure access to evacuation routes.

The Marin County Multi-Jurisdiction Local Hazard Mitigation Plan (MCM LHMP) dedicates a subsection to wildfire and post-fire debris flow. The LHMP identifies the following to assist the County in reducing wildfire risk, which in turn can assist in reducing wildfire risk within the Planning Area:

- Provide potential mitigation such as advance identification of evacuation routes and no parking zones near fire hazard zones, and expanding vegetation management.
- Ensure adequate water supply in high risk wildfire areas for local fire departments.

The Marin Operational Area Emergency Operations Plan (EOP) assists in inter-agency coordination in emergency operations. The Town also participates in programs to reduce wildfire risks that are offered by SMFD, FIRESafe Marin, and CAL FIRE.

Furthermore, implementation of the CWPP and Marin Operational Area EOP include public education programs to reduce potential for fires to start, and also set action plans to remove flammable vegetation from around buildings and ensure adequate water supply in high risk wildfire areas. Reducing potential for fires to start and mitigating wildfire spread once started reduces exposure to smoke and air pollution. Safely evacuating people affected by wildfires also reduces exposure.

The General Plan 2040 contains policies and programs that reduce risks from wildland fires before development occurs. As the Town receives development applications for subsequent development projects, those applications will be reviewed for compliance with the policies and programs of the General Plan 2040 to reduce the exposure of people or structures, either directly or indirectly, to a risk of loss, injury, or death involving wildland fires. In particular, all development would be subject to the Building and Fire codes to address fire hazard conditions and the following General Plan 2040 policies and programs:

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Fire Hazards

Policy SR-17, Fire Risk Reduction: Reduce the risk of loss of life, personal injury, and property damage resulting from wildfire and urban fire hazards through code enforcement and coordination the local Fire Districts and other agencies to ensure the safe delivery of emergency services and the effective evacuation of the community in the event of a disaster.

Policy SR-18, Impacts of New Development: Require new development to provide sufficient water supply and equipment for fire suppression to ensure that the requirements for minimum fire flow and the size, type, and location of water mains and hydrants set forth in the California Fire Code and by local ordinance are met.

Policy SR-19, Mitigation of Inadequate Water Supply: Require new development within areas of insufficient peak load water supply to contribute to improvements to the water delivery system to meet requirements for minimum fire-flow.

Policy SR-20, Cooperation with Fire Districts: Work with the Fire Districts and other agencies to provide, enhance, and maintain adequate access, including secondary access, to all areas within the Planning Area.

Program SR-II, Defensible Space Around Structures: Consider adoption of an ordinance requiring the maintenance of defensible space on properties where fire hazard is significant. On-going maintenance of defensible space buffers and fire protection infrastructure (e.g., safe access for emergency response vehicles, visible street signs, fuel breaks, and emergency water sources and supplies, etc.) in new development projects shall be assured in a form satisfactory to the Town and the Fire Districts prior to construction of improvements.

Program SR-mm, Review New Developments for Fire Risk: Review all development proposals for fire risk and require mitigation measures, including on-going maintenance of defensible space and infrastructure related to fire protection and fire hardening of structures and areas proximate to structures, for development located in state responsibility areas, high fire hazard severity zones, or other areas with significant wildfire potential, to reduce the probability of fire-related hazards to a less than significant level. Require all new development to meet the adopted state and local fire codes. Refer all applications to the appropriate Fire Districts for review.

Program SR-nn, Open Space Management Plan: Implement the adopted Open Space Management Program to reduce fuel loads and maintain fire roads and evacuation routes.

Development facilitated under the General Plan 2040 is required to be consistent with the County of Marin, SMFD, and Town plans, policies, programs, and ordinances in place to

reduce the risks associated with wildland fires. Moreover, development is generally consistent with developed areas of the town and all identified sites that include land use revisions are all located within the existing Town limits and in developed portions of the Town. As a result, the degree of wildland fire hazard would not substantially change with adoption of the General Plan 2040, and current hazards existing fire hazards would not be significantly increased. Therefore, impacts under this topic would be **less than significant**.

Mitigation Measures

None required.

Impact 3.16-3 Implementation of the General Plan 2040 in areas located in or near State responsibility areas or lands classified as very high fire hazard severity zones may require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities); however, the installation and maintenance of such infrastructure would not substantially exacerbate fire risk or result in significant temporary or ongoing impacts to the environment.

There are no Fire Hazard Severity Zones within the Planning Area nor is the Planning Area in a SRA. However, high fire hazard areas and areas within the WUI that are at risk of wildfire are designated locally. The majority of future development is located in existing developed areas, would be infill development, and is located within the existing Town limits. The General Plan 2040 is a long-term planning document, and no development is proposed or would be approved as part of the General Plan 2040. Further, development of sites would generally have existing services and is expected to be on lots and in areas where existing infrastructure (including highways and local roadways) and services are already in place, or readily available. Additionally, Program SR-mm requires the review of new developments for fire risk. Specifically the program requires the review of all development proposals for fire risk and require mitigation measures, including on-going maintenance of defensible space and infrastructure related to fire protection and fire hardening of structures and areas proximate to structures, for development located in state responsibility areas, high fire hazard severity zones, or other areas with significant wildfire potential, to reduce the probability of fire-related hazards to a less-than-significant level. This program also requires all new development meet the adopted state and local fire codes, and refers all applications to the appropriate Fire Districts for review. Any future utility projects or infrastructure improvements would be reviewed for compliance with local and regional policies and programs, and would require project specific reviews. The Town would retain the existing roadway and other infrastructure patterns and does not propose any new roadways or other major infrastructure improvements or extensions into undeveloped areas which would pose an additional or increase to wildfire risk. Additionally, as described previously, there are no State Responsibility Areas or Very High Fire Hazard Severity Zones mapped within the Planning Area. As such, the General Plan 2040 does not approve, propose, or authorize development in a SRA or Fire Hazard Severity Zone per CAL FIRE regulatory maps. As such,

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the General Plan 2040 does not propose the installation and maintenance of any new infrastructure that would substantially exacerbate fire risk, and is not located within a SRA or VHFHSZ as delineated by CAL FIRE. As such, impacts would be **less than significant** related to this environmental topic.

Mitigation Measures

None required.

Impact 3.16-4 Development facilitated by the General Plan 2040 in areas located in or near State responsibility areas or lands classified as very high fire hazard severity zones could substantially 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.

There are no SRAs or Very High Fire Hazard Severity Zones mapped within the Planning Area. As such, the General Plan 2040 does not approve, propose, or authorize development in a SRA or Fire Hazard Severity Zone per CAL FIRE regulatory maps.

However, high fire hazard areas and areas within the WUI that are at risk of wildfire are designated locally. The majority of development allowed under the General Plan 2040 would occur in already developed areas and are less susceptible to wildfire because they are surrounded by existing development. If a fire were to occur in the more developed areas of the Town, the risk of flooding or landslides afterward would be negligible because little additional soil would be exposed due to the developed conditions.

Some development may occur areas currently designated for urban uses but are currently vacant. Portions of the Town contains sloping hillsides that are susceptible to landslides and flooding after fire has removed protective vegetative cover. These secondary hazards associated with wildfires are described in the MCM LHMP. In a post-fire scenario, wildfires can secondarily cause contamination of reservoirs, as well as transmission line and road destruction. Slopes that have been stripped of vegetation are exposed to greater amounts of erosive runoff, which can weaken soils and cause slope failure. Major landslides can occur several years after a wildfire. Most wildfires burn hot and for long durations and can bake soils, especially those high in clay content, thus increasing ground imperviousness and runoff generated by storm events, thereby increasing the chance of flooding.

Land use designations and development types would be substantially similar to the existing and planned site uses throughout the Town, with targeted increased in density in areas to accommodate regional housing needs. As a result, the degree of secondary wildland fire hazard exposure from additional residents and developments within the WUI and within locally designated fire threat areas would increase with additional population growth.

Hazard mitigation is the use of long-term and short-term policies, programs, projects, and other activities to alleviate the death, injury, and property damage that can result from a disaster. Marin County and its partners, including the Town of Tiburon, developed the LHMP

to assess risks posed by natural hazards and to develop a mitigation strategy for reducing the County's risks. The LHMP lays out a process to prepare for and lessen the impacts of specified natural hazards that are most likely to impact Marin, such as earthquakes, wildfires, floods, debris flows, wind damage, and tsunamis.

Development accommodated under the General Plan 2040 is generally focused in infill areas, within the currently Town limits, and in already developed areas of the Town; however, development could result in an increase in exposure of people and structures to wildland post fire hazards within the Planning Area as all future development would add more people and structures within the Town and within areas that contain locally designated fire hazards. Development would place more people and structures in areas of the Town that have been locally designated as high fire hazard areas, within the Wildland Urban Interface and in areas that may be susceptible to post fire hazard conditions.

As described previously, there are no State Responsibility Areas or Very High Fire Hazard Severity Zones mapped within the Planning Area. As such, the General Plan 2040 does not approve, propose, or authorize development in a SRA or Fire Hazard Severity Zone per CAL FIRE regulatory maps. Therefore, impacts related to exposure of people and structures to post wildfire hazards and associated hazards, either directly or indirectly within a SRA or VHFHSZ, would be considered ***less than significant***.

Mitigation Measures

None required.

Impact 3.16-5 **Development facilitated by the General Plan 2040, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to wildfire.**

All cumulative projects would be subject to similar fire protection development standards and be required to comply with Marin County ordinances and General Plan 2040 policies and programs to assist in protecting life and property in the event of a wildfire. In addition, all cumulative projects would be covered under existing emergency response plans by the County. Lastly, implementation of the Marin County Community Wildfire Protection Plan throughout the Planning Area and adjacent unincorporated areas, would reduce cumulative impacts related to wildfire. For these reasons, cumulative impacts with respect to wildfire hazards would be ***less than significant***.

The incremental contribution to cumulative wildfire hazard impacts would not be significant. As previously discussed, development and growth in the Town under would largely occur in already developed areas of the Town and would involve infill development and redevelopment. Limited development could result in an incremental increase in exposure of people and structures to wildland fires and associated hazards, particularly for development within the WUI. As a result, the degree of wildland fire hazard, including secondary hazards, would not substantially change with adoption of the General Plan, and current hazards would not significantly increase.

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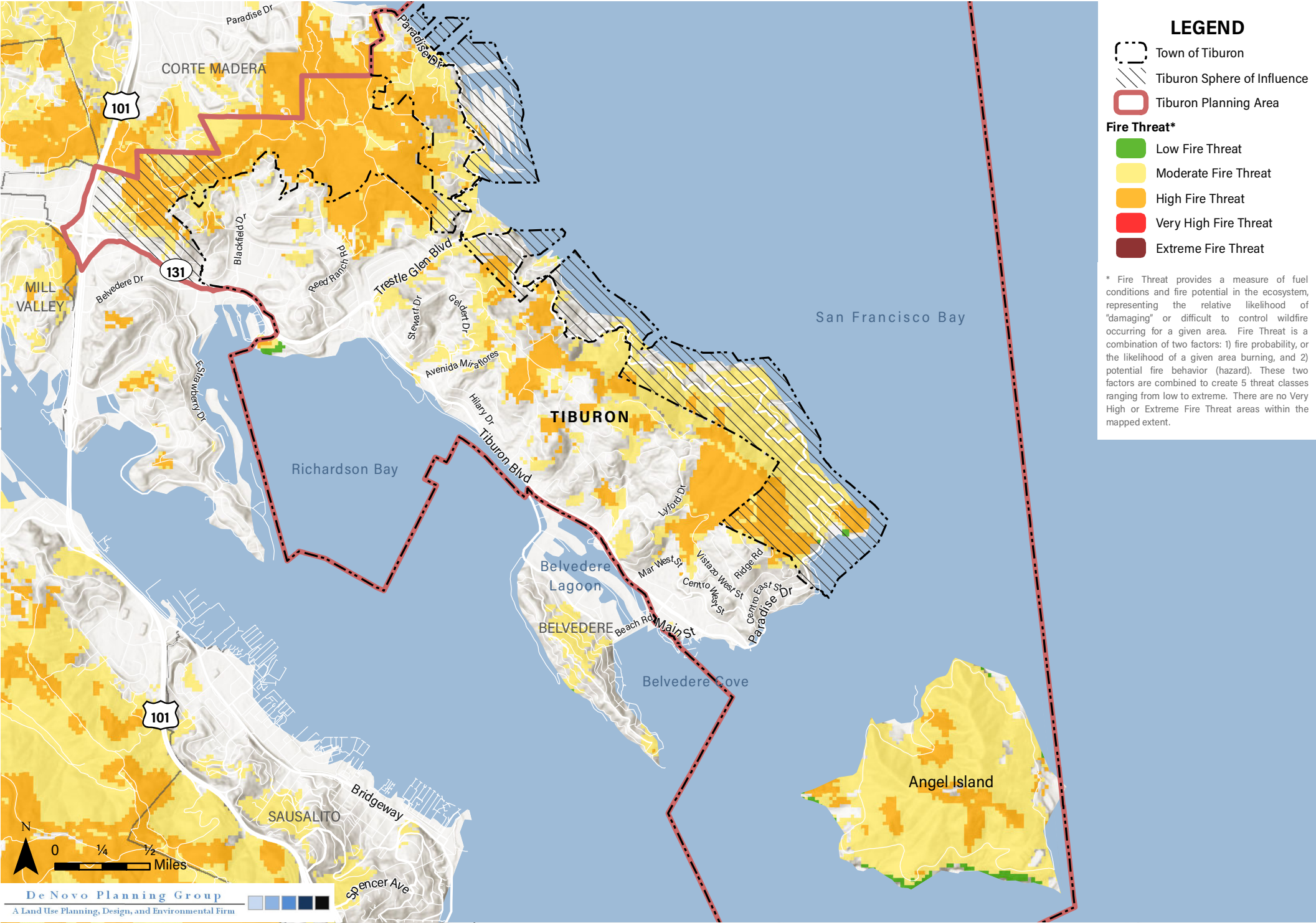
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As described previously, there are no SRAs or Very High Fire Hazard Severity Zones mapped within the Planning Area. As such, the General Plan 2040 does not approve, propose, or authorize development in a SRA or Fire Hazard Severity Zone per CAL FIRE regulatory maps. New development would be required to comply with the special fire protection measures identified in the SMFD Fire Ordinance. Continued implementation of the Marin County Community Wildfire Protection Plan and Marin Operational Area Emergency Operations Plan will assist in protecting life and property in the event of a wildfire. The Town would also continue to work and coordinate with other jurisdictions to minimize and reduce impacts, and would review all projects for wildfire related hazards. As described throughout this EIR chapter the General Plan 2040 includes policies and programs to increase wildfire hazed awareness, planning, and the review of projects which would result in a beneficial landscape for wildfire protection and planned. Accordingly, the General Plan's contribution to cumulative impacts would also be ***less than significant***.

Mitigation Measures

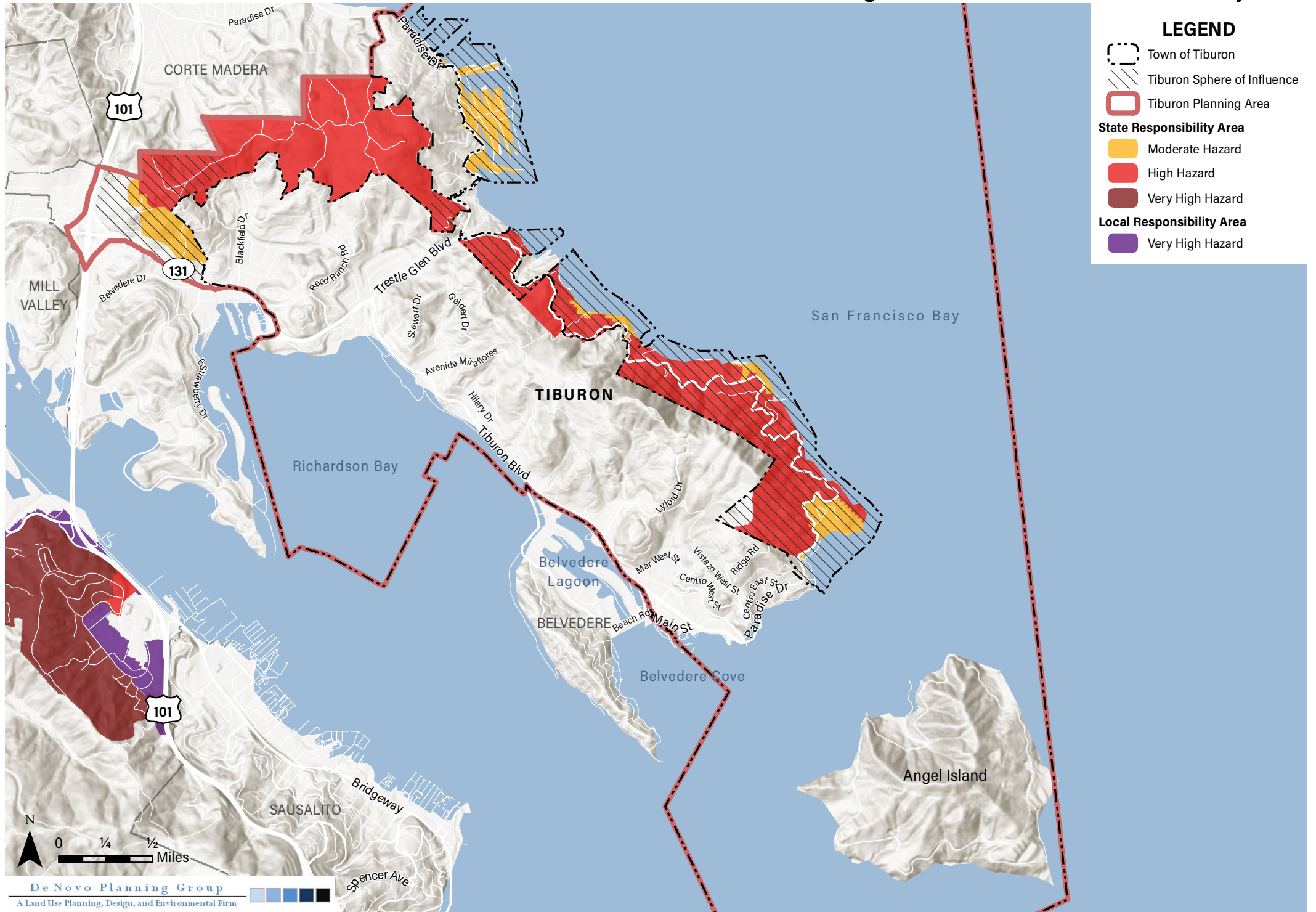
None required.

Figure 3.16-1: Fire Threat



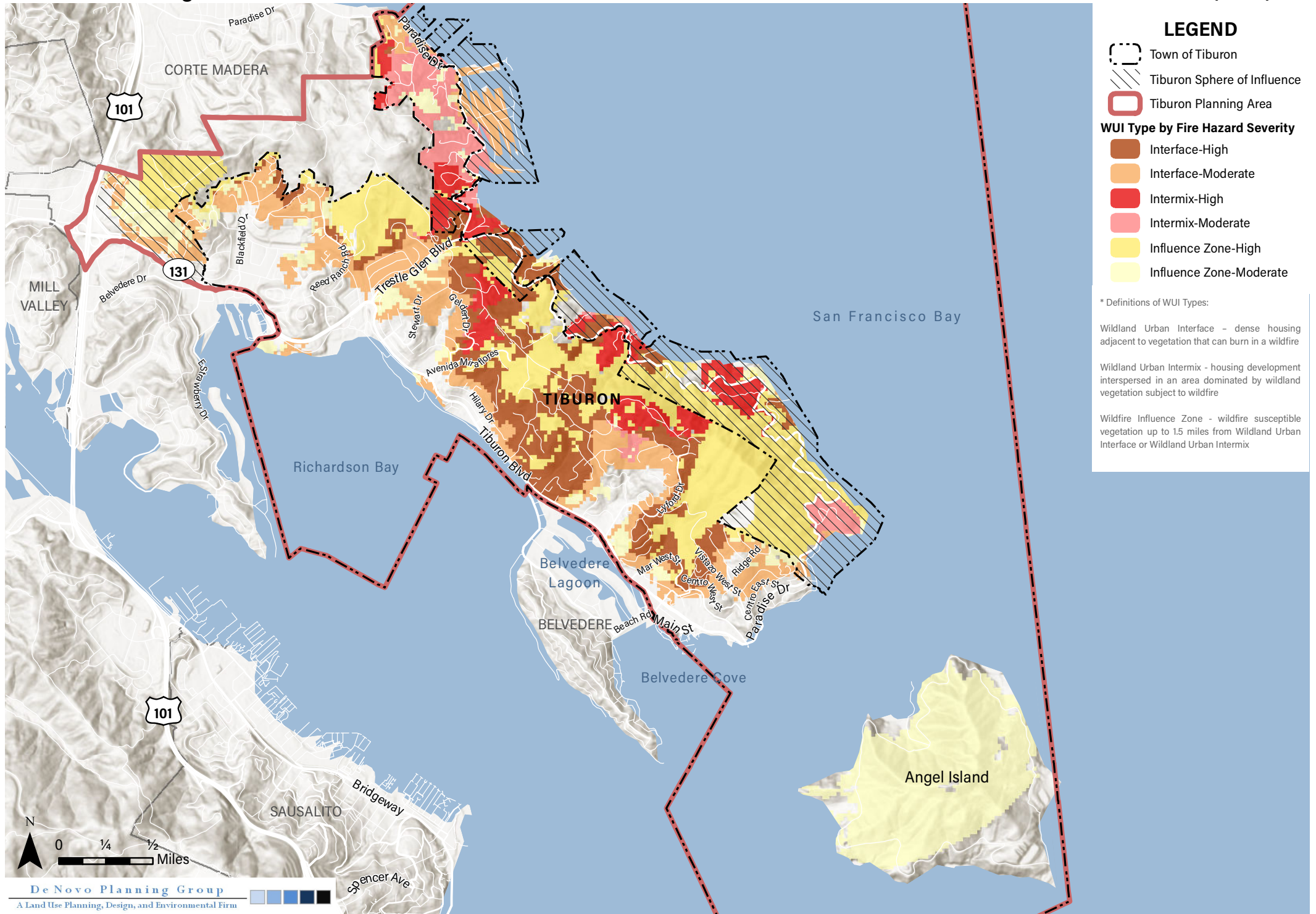
Sources: ArcGIS Online World Hillshade Map Service; CalFireFRAP "Wildland Fire Threat (1thrt14_2). Map date: December 1, 2020. Revised March 4, 2021.

Figure 3.16-2: Fire Hazard Severity Zones



Sources: ArcGIS Online World Hillshade Map Service; CalFireFRAP fhzs06_3_21 and c21fhz06_3. Map date: December 1, 2020. Revised March 4, 2021.

Figure 3.16-3: Fire Hazards and Wildland Urban Interface, Intermix, and Wildfire Influence Zones (WUI)



Sources: ArcGIS Online World Hillshade Map Service; CalFireFRAP "Wildland Urban Interface, Intermix, and Wildfire Influence Zones - with Housing Density and Hazard Class" (WUI12_3). Map date: December 1, 2020. Revised March 4, 2021.



4.0 ALTERNATIVES TO THE GENERAL PLAN

The following section contains a comparative impact assessment of potentially feasible alternatives to the General Plan. The primary purpose of an alternatives analysis under the California Environmental Quality Act (CEQA) is to provide the decision-makers, other interested parties, and the general public with a reasonable number of potentially feasible project alternatives that could attain most of the basic Project Objectives, while potentially avoiding or reducing any of the General Plan’s environmental effects.

Alternatives that are evaluated in the EIR must be potentially feasible alternatives. However, not all possible alternatives need to be analyzed. An EIR must “set forth only those alternatives necessary to permit a reasoned choice.” (CEQA Guidelines, Section 15126.6(f).) The CEQA Guidelines provide a definition for a “range of reasonable alternatives” and, thus limit the number and type of alternatives that need to be evaluated in an EIR. An EIR need not include any action alternatives inconsistent with the lead agency’s fundamental underlying purpose in proposing a project. (In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings (2008) 43 Cal.4th 1143, 1166.)

First and foremost, alternatives in an EIR must be potentially feasible. In the context of CEQA, “feasible” is defined as:

... capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. (CEQA Guidelines Section 15364)

4.1 SIGNIFICANT UNAVOIDABLE IMPACTS

As described in Chapter 1.0 (Introduction) General Plan 2040 has been developed to be largely self-mitigating in that the goals, policies, and programs in the General Plan recognize the importance of natural environment and are designed to protect the environment and environmental resources. In certain instances, mitigation is included to reinforce and enhance the protections identified in the policies and programs. However, the following impacts would remain significant and unavoidable with implementation of General Plan 2040:

- Impact 3.2-1 Implementation of the General Plan 2040 could conflict with or obstruct implementation of the applicable air quality plan.
- Impact 3.2-5: General Plan 2040 implementation, in combination with other cumulative development, would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants.

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- Impact 3.7-1 Development facilitated by the General Plan could directly or indirectly generate GHG emissions that may have a significant impact on the environment.
- Impact 3.7-3 Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, could result in significant cumulative impacts with respect to GHG emissions.
- Impact 3.14-2 Development facilitated by the General Plan 2040 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)
- Impact 3.14-5 Development facilitated by the General Plan 2040, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to transportation.
- Impact 3.15-1 General Plan 2040 implementation may result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact 3.15-2 General Plan 2040 implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Impact 3.15-3: General Plan 2040 implementation, combined with other cumulative development, may result in insufficient water infrastructure available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact 3.15-4 General Plan 2040 implementation along with cumulative development could result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact 3.15-5: General Plan 2040 implementation would not have the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Impact 3.15-6: General Plan 2040 implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects.
- Impact 3.15-7: Implementation of General Plan 2040, along with other cumulative development, would have a significant impact on wastewater infrastructure and facilities.

- Impact 3.15-8 General Plan 2040 implementation along with cumulative development could result in insufficient wastewater treatment capacities available to serve the Town and reasonably foreseeable future development.
- 5.2: Significant and irreversible environmental changes
- 5.4: Substantial adverse effects on human beings

4.2 ALTERNATIVES TO THE GENERAL PLAN

A NOP was circulated to the public to solicit recommendations for a reasonable range of alternatives to the Project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the Project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review and comment period.

The Draft EIR identifies significant and unavoidable and potentially significant impacts described above in Section 4.1.

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR that were found to be significant and unavoidable or potentially significant.

This section describes the potential of each alternative to reduce the impacts identified above, while fulfilling the basic objectives of the Project.

Three alternatives to General Plan 2040 were considered. Since General Plan 2040 was prepared with the intent to be a self-mitigating document, project alternatives focused on amending land uses and development standards to reduce potentially significant impact areas as identified throughout this EIR. The alternatives analyzed in this EIR include the following:

Alternative 1: No Project Alternative. Tiburon continues to operate and develop under the 2020 General Plan and Land Use Map. Under Alternative 1, the Town would not adopt General Plan 2040. The 2020 General Plan would continue to be implemented and no changes to the General Plan, including the Land Use Map, Circulation Diagram, goals, policies, or programs would occur. The 2020 General Plan was last comprehensively updated in 2006, and an update to the Housing Element was completed in 2016.

Table 4.0-1 summarizes the 2020 General Plan land use designations for areas within the Town limits, SOI, and Planning Area by acreage. Land use designations on the 2020 General Plan Land Use Map, as amended through January 2021, are shown in Chapter 1.10 Figure 3.10-1.

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TABLE 4.0-1: 2020 GENERAL PLAN LAND USE DESIGNATIONS - TOWN LIMITS, SOI, AND PLANNING AREA

LAND USE	ACREAGES			
	TOWN LIMITS	SOI	PLANNING AREA (OTHER)	PLANNING AREA TOTAL
Low Density Residential	3.8	15.1	0.0	18.9
Medium Low Density Residential	264.3	75.6	0.0	339.9
Medium Density Residential	545.6	36.7	0.0	582.3
Medium High Density Residential	247.4	106.4	0.0	353.8
High Density Residential	51.8	7.9	0.0	59.7
Very High Density Residential	99.9	9.6	0.0	109.5
Planned Development Residential	130.0	313.1	0.0	443.1
Neighborhood Commercial	20.9	0.0	0.0	20.9
Shopping Commercial	0.0	3.3	0.0	3.3
Village Commercial	6.9	0.0	0.0	6.9
Office	1.4	0.0	0.0	1.4
Open Space	404.1	84.7	308.6	797.5
Public/Quasi-Public	810.7	41.4	0.0	852.1
Park	64.7	12.2	0.0	76.9
Marine	6,781.0	150.3	0.0	6,931.3
Right-of-Ways	0.2	0.0	0.0	0.2
Total	9,432.7	856.2	308.6	10,597.5
<i>Affordable Housing Overlay</i>	7.6	1.2	0.0	8.8

SOURCES: TOWN OF TIBURON, 2021; DE NOVO PLANNING GROUP, 2021.

Under Alternative 1 buildout there would be an increase over existing conditions in residential growth of approximately 421 dwelling units as shown in Table 4.0-5. Under Alternative 1, the 2020 General Plan policy framework would still be in effect, which would constitute a status quo approach to land use regulation in the Town. The policy framework proposed by General Plan 2040, encourages and aims to achieve a community with a compatible land use pattern that meets the Town’s long-term housing, employment, and civic needs while reducing impacts created by growth through the policy framework. Additionally, General Plan 2040 was prepared in conformance with State laws and regulations associated with the preparation of general plans, including requirements for environmental protection.

Alternative 1 would not include updated policies, particularly those related to housing, greenhouse gases, community health, safety, including wildfire, flooding, and climate adaptation, and transportation, as required by State law. This alternative would not include various policies proposed in General Plan 2040 to ensure protection of environmental resources, both at the Project level and under cumulative conditions, consistent with the objectives of CEQA.

Alternative 1 fails to meet several of the basic Project objectives, including addressing new requirements of State law; and addressing emerging transportation, and housing trends.

Therefore, Alternative 1 (No Project) is rejected from further consideration as a CEQA alternative, as it fails to meet several of the Project objectives. However, for reference, the environmental effects associated with Alternative 1 are discussed and summarized in Table 4.0-5 to provide a general comparison between the 2020 General Plan (Alternative 1 – No Project), General Plan 2040, and Alternatives 2 and 3. Additionally for comparative purposes and to provide additional context on land use changes proposed by General Plan 2040 and Alternatives 2 and 3, Table 4.0-2 below details existing land use designations for parcels identified for additional land use changes by General Plan 2040 and Alternatives 2 and 3.

TABLE 4.0-2: EXISTING CONDITIONS FOR PARCELS PROPOSED FOR LAND USE CHANGES UNDER GENERAL PLAN 2040 AND ALTERNATIVES 2 AND 3.

APN	EXISTING USE	2020 GP	PARCEL SIZE (ACRES)	DENSITY (DU/AC) OR INTENSITY	NET NEW DWELLING UNITS	NET NON-RESIDENTIAL S.F. CHANGE
058-171-91	Parking lot	NC	0.66	15.3	10	0
058-171-43	Bank	NC/AHO	0.72	15.3	11	0
058-171-47	Bank (vacant)	NC/AHO	0.57	15.3	8	0
058-171-86	Parking lot	NC/AHO	1.07	15.3	16	0
060-082-57	Boardwalk Shopping Ctr.	NC	2.21	0.37 FAR	-40	0
059-101-03	Comm. bldg.	NC/AHO	0.27	15.3	13	0
059-101-04	Comm. bldg.	NC/AHO	0.6			0
059-102-15	Post Office, comm. bldgs. and 3 apts.	VC	0.41	0.28 FAR	-24	0
059-102-16		VC	1			0
058-151-41	School	VH/AHO	2.9-acre portion of 7.5-acre site	15.3	44	0
058-171-70	Office bldg.	O	0.47	0	0	0
058-171-68	Office bldg.	O	0.3			0
058-171-69	Office bldg.	O	0.59			0
058-171-96	Parking lot	NC/AHO	0.86	15.3	13	0
058-171-97	Store	NC	1.66	15.3	25	0
059-101-01	Former Deli	NC/AHO	0.39	15.3	5	0
059-101-02	Commercial Bldg.	NC/AHO	0.13	15.3	1	0
059-101-15	Commercial Bldg.	NC/AHO	0.43	15.3	6	0
059-101-14	Commercial Bldg.	NC	0.29	0.37 FAR	-3	0
059-102-27	Theatre, retail shops	VC	0.43	0.28 FAR	0	0

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APN	EXISTING USE	2020 GP	PARCEL SIZE (ACRES)	DENSITY (DU/AC) OR INTENSITY	NET NEW DWELLING UNITS	NET NON-RESIDENTIAL S.F. CHANGE
038-142-02	2 residential units	PDR	9.58		7	0

Alternative 2: Village Centers Alternative. Alternative 2 would focus more new development of multifamily housing near a local shopping area within the Town. Specifically, development potential at Cove Shopping Center is increased to accommodate 49 units, while development potential of 4576 Paradise Drive site is reduced to focus development on only 3 acres of the site (maximum 49 units). This alternative would include the updated policy document (consistent with General Plan 2040), and would be required to adhere to the same policy guidance.

Table 4.0-3 below details the land use changes associated with Alternative 2.

TABLE 4.0-3: PARCELS PROPOSED FOR LAND USE CHANGES UNDER ALTERNATIVE 2.

APN	EXISTING USE	PROPOSED GP DESIGNATION	PARCEL SIZE (ACRES)	DENSITY (DU/AC)	NET NEW DWELLING UNITS	NET NON-RESIDENTIAL S.F. CHANGE
058-171-91	Parking lot	MU	0.66	40-45	26	0
058-171-43	Bank	MU	0.72	40-45	28	-7,866
058-171-47	Former bank (vacant)	MU	0.57	40-45	22	-3,487
058-171-86	Parking lot	MU	1.07	30-35	32	0
060-082-57	Boardwalk Shopping Ctr.	MU	2.21	30-35	66	-17,418
059-101-03	Comm. bldg.	MU	0.27	30-35	8	-5,320
059-101-04	Comm. bldg.	MU	0.6	30-35	18	-7,396
059-102-15	Post Office, comm. bldgs. and 3 apts.	MU	0.41	30-35	12	-5,512
059-102-16			1	30-35	30	-23,122
058-151-41	School	VH-25	2.9-acre vacant portion of 7.5-acre site	20-25	72	0
058-171-70	Office bldg.	MU	0.47	30-35	40	-17,640
058-171-68	Office bldg.	MU	0.3	30-35		
058-171-69	Office bldg.	MU	0.59	30-35		
058-171-96	Parking lot	MU	0.86	40-45	34	0
058-171-97	Store	MU	1.66	40-45	66	-17,079
059-101-01	Former Deli	MU	0.39	30-35	11	1,202
059-101-02	Commercial Bldg.	MU	0.13	30-35	3	-3,782
059-101-15	Commercial Bldg.	MU	0.43	30-35	12	-8,440
059-101-14	Commercial Bldg.	MU	0.29	30-35	8	-3,892

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APN	EXISTING USE	PROPOSED GP DESIGNATION	PARCEL SIZE (ACRES)	DENSITY (DU/AC)	NET NEW DWELLING UNITS	NET NON-RESIDENTIAL S.F. CHANGE
059-102-27	Theatre, retail shops	MS	0.43	20-25	12	-9,930
034-212-18	Cove Shopping Center (40% of site develops with new res/MU)	MU	3.09	40-45	49	0
038-142-02	2 residential units	VH	3	12.4	37	0

Alternative 3: Downtown Density Alternative. Development potential in the Downtown is increased to allow 40-45 units per acre on all MU sites. Development potential of 4576 Paradise Dr. site is reduced to the units allowed under the 2020 General Plan (7 units). This alternative would include the updated policy document (consistent with General Plan 2040), and would be required to adhere to the same policy guidance. Table 4.0-4 below details the land use changes associated with Alternative 3.

TABLE 4.0-4: PARCELS PROPOSED FOR LAND USE CHANGES UNDER ALTERNATIVE 3.

APN	EXISTING USE	PROPOSED GP DESIGNATION	PARCEL SIZE (ACRES)	DENSITY (DU/AC)	NET NEW DWELLING UNITS	NET NON-RESIDENTIAL S.F. CHANGE
058-171-91	Parking lot	MU	0.66	40-45	26	0
058-171-43	Bank	MU	0.72	40-45	28	-7,866
058-171-47	Bank (vacant)	MU	0.57	40-45	22	-3,487
058-171-86	Parking lot	MU	1.07	40-45	42	0
060-082-57	Boardwalk Shopping Ctr.	MU	2.21	40-45	88	-17,418
059-101-03	Comm. bldg.	MU	0.27	40-45	10	-5,320
059-101-04	Comm. bldg.	MU	0.6	40-45	24	-7,396
059-102-15	Post Office, comm. bldgs. and 3 apts.	MU	0.41	40-45	16	-5,512
059-102-16			1	40-45	40	-23,122
058-151-41	School	VH-25	2.9-acre vacant portion of 7.5-acre site	20-25	72	0
058-171-70	Office bldg.	MU	0.47	40-45	54	-17,640
058-171-68	Office bldg.	MU	0.3	40-45		
058-171-69	Office bldg.	MU	0.59	40-45		
058-171-96	Parking lot	MU	0.86	40-45	34	0
058-171-97	Store	MU	1.66	40-45	66	-17,079
059-101-01	Former Deli	MU	0.39	40-45	15	1,202
059-101-02	Commercial Bldg.	MU	0.13	40-45	5	-3,782

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APN	EXISTING USE	PROPOSED GP DESIGNATION	PARCEL SIZE (ACRES)	DENSITY (DU/AC)	NET NEW DWELLING UNITS	NET NON-RESIDENTIAL S.F. CHANGE
059-101-15	Commercial Bldg.	MU	0.43	40-45	17	-8,440
059-101-14	Commercial Bldg.	MU	0.29	40-45	11	-3,892
059-102-27	Theatre, retail shops	MS	0.43	20-25	17	-9,930
038-142-02	2 residential units	PDR	9.575		7	0

A brief comparative buildout summary for each Alternative is included in Table 4.0-5 below. As shown in Table 4.0-5 General Plan 2040 includes the most residential development opportunities. Alternatives 2 and 3 have roughly the same buildout potential but the location of units would change. The 2020 General Plan has the least overall residential development capacity but would not result in reduction of non-residential development.

TABLE 4.0-5: NEW GROWTH POTENTIAL BY ALTERNATIVE

	POPULATION	DWELLING UNITS	NON-RESIDENTIAL SQUARE FOOTAGE
<i>NEW GROWTH POTENTIAL</i>			
General Plan 2040	2,215	916	-129,682
Alternative 1: Existing General Plan/No Project	1,010	421	0
Alternative 2: Village Centers Alternative	1,997	832	-129,682
Alternative 3: Downtown Density Alternative	1,999	833	-129,682

SOURCE: DE NOVO PLANNING GROUP, 2023

4.3 PROJECT OBJECTIVES

CEQA Guidelines Section 15124(b) requires a statement of objectives sought by General Plan 2040, including the underlying purpose of the project. The General Plan is intended to guide growth and land development of the community, while conserving resources in a manner consistent with the quality of life desired by residents. For the purpose of this Draft EIR analysis, the following objectives have been identified for the General Plan:

- Sense of Place. Preserve and enhance Tiburon’s quality of life and small-town feel by enhancing access to scenic public open spaces and protecting important historic, cultural, and artistic resources that highlight the Town’s social and architectural history.

- Economic Vitality. Support a local economy, including a vibrant Downtown that provides a wide range of services and amenities to serve the local population, while accommodating tourism.
- Balanced Growth. Focus new development in Downtown and in areas adjacent to Tiburon Boulevard while preserving existing neighborhoods and open space.
- Mobility. Provide a balanced transportation system that accommodates automobiles while enhancing transportation connections for pedestrians, bicycles, transit services, and new technology.
- Healthy Lifestyles and Community Connections. Promote physical health and wellness by improving outdoor recreational facilities and public gathering places, trail connections and signage, and by providing quality recreation programs to residents of all ages, abilities, and economic means.
- Equity. Promote social equity and inclusiveness in the creation of public policies, and ensure the just and equitable provision of public facilities and services.
- Housing. Protect and enhance residential neighborhoods' quality of life, and support the development of more diverse and affordable housing opportunities.
- Safety. Provide a safe community through public safety services, resilient infrastructure, and public preparedness.
- Environmental Resources. Protect and enhance open spaces and natural resources that contribute to Tiburon's unique identity and scenic beauty.
- Climate Change and Resilience. Reduce greenhouse gas emissions and increase community resilience by preparing for the effects of climate change, including increased wildfires and sea level rise.
- Incorporate and address new requirements of State law and State of California General Plan Guidelines (2017).

4.4 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR that were found to be potentially significant or significant and unavoidable. Following the analysis of each alternative, Table 4.0-6 summarizes the comparative effects of each alternative.

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AIR QUALITY

General Plan 2040 includes a range of goals and policies that cover the full breadth of air quality issues as recommended in the BAAQMD's 2017 Clean Air Plan. While implementation of the goals, policies, and actions would reduce criteria pollutant emissions, future project-specific impacts would need to be determined on a project-by-project basis, as necessary. As described in Chapter 3.2 (Air Quality), General Plan 2040 implementation would result in the following significant and unavoidable and potentially significant (mitigated to less than significant) impacts to air quality:

- Impact 3.2-1: Implementation of General Plan 2040 would conflict with or obstruct implementation of the applicable air quality plan.
- Impact 3.2-5: Implementation of General Plan 2040, in combination with past, present, and reasonably foreseeable projects, would conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants.
- Impact 3.2-3 General Plan 2040 implementation could expose sensitive receptors to substantial pollutant concentrations.
- Impact 3.2-6: General Plan 2040 implementation, in combination with other cumulative development, would not expose sensitive receptors to substantial pollutant concentrations.

Alternative 1

Under Alternative 1, the Planning Area would be developed with the 2020 General Plan Land Use Map and policy guidance. New local, state, and regional measures that improve air quality included in General Plan 2040 would not be updated or implemented. Both General Plan 2040 and Alternative 1 would permit and facilitate the development of new sensitive receptors, such as new homes, in locations near roadways, and stationary sources of TAC emissions.

Buildout under Alternative 1 would be lower than General Plan 2040, with buildout of Alternative 1 resulting in fewer housing units and fewer residents when compared to General Plan 2040 and Land Use Map. The decrease in total residential unit count and population may decrease the total air quality emissions and potential conflicts with applicable air quality plans. However, density reductions would generally increase per capita GHG emissions levels. Further, the goals, policies, and programs in General Plan 2040 that cover the full breadth of air quality issues as recommended in the BAAQMD's 2017 Clean Air Plan, and also implements the growth plans in Plan Bay Area 2050 that address regional air quality issues, would not be implemented. Additionally, General Plan 2040 Land Use Map and updated designations were developed to support planning principles that create mixed use areas and increase density in areas near services and community facilities, promoting alternative

transportation options and trip internalization which reduces VMT and associated emissions of air pollutants and support operational air quality goals.

While adherence to BAAQMD guidelines and rules would reduce potential exposure to TACs, it is not possible to determine at this stage of the planning process that all impacts could be reduced to a less-than-significant level from individual projects. Under both Alternative 1 and General Plan 2040, future projects would be subject to BAAQMD requirements for permitting and screening. Alternative 1 would reduce the total amount of residential development, which would reduce overall construction and operational emissions throughout the Planning Area and would not result in a reduction in non-residential development. Under Alternative 1, future development would not be subject to MM 3.2.3, which mitigates potential exposure to TACs through requiring new development projects that may result in significant TACs to perform a Health Risk Assessment and implement appropriate measures to ensure residential uses and other sensitive receptors are not exposed to levels of TACs that would result in significant health risks.

As such, Alternative 1 would be considered **slightly worse** with regard to these impacts when compared to General Plan 2040.

Alternative 2

Under Alternative 2, the Planning Area would be developed to focus more new development of multifamily housing near shopping areas within Tiburon. Specifically, development potential at Cove Shopping Center is increased to accommodate 49 units, while development potential of 4576 Paradise Drive site is reduced to focus development on only 3 acres of site (maximum 49 units). This Alternative would provide adequate units to accommodate the RHNA and does not conflict with growth projected for Southern Marin in Plan Bay Area 2050.

Alternative 2 would include the updated General Plan 2040 policy document and would be required to adhere to the same policy guidance and local, state, and regional air quality measures as General Plan 2040. General Plan 2040 and Alternative 2 include a range of goals and policies that would reduce air quality and TAC emissions, consistent with BAAQMD's 2017 Clean Air Plan. Maximum densities under Alternative 2 would be increased in selected areas to accommodate additional multifamily housing near shopping. However, buildout of Alternative 2 would result in fewer housing units and residents within Tiburon when compared to General Plan 2040 Land Use Map. The decrease in total residential unit count and population would result in a slight decrease in the total air quality emissions from both construction and operation of developed uses. Additionally, shifting the growth pattern to place more multi-family development in close proximity to local shopping resources and community facilities and reducing growth in outlying areas would also slightly reduce vehicle trips and VMT. Therefore, this alternative would be **slightly better** when compared to General Plan 2040.

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Alternative 3

General Plan 2040 and Alternative 3 would permit and facilitate the development of new sensitive receptors, such as new homes, in locations near roadways, and stationary sources of TAC emissions. Overall, development levels under Alternative 3 would include less residential development and similar job generating uses when compared to General Plan 2040. Under Alternative 3 the development potential in the Downtown is increased to allow 40-45 units per acre on all MU sites and the development potential of 4576 Paradise Drive site is reduced to the units allowed under the 2020 General Plan (7 units). As with Alternative 2, this alternative would also accommodate the Town's RHNA and implement the growth plan of Plan Bay Area 2050.

Implementation of General Plan 2040 goals, plans policies, and actions, and adherence to BAAQMD guidelines and rules that would reduce air quality impacts would still be required under this alternative as this alternative would include the updated policy document and would be required to adhere to the same policy guidance and local, state, and regional air quality measures as General Plan 2040.

Under both Alternative 3 and General Plan 2040, future projects that would generate criteria pollutants, TACs or place sensitive receptors in the vicinity of existing uses that generate emissions, would be subject to BAAQMD requirements for permitting and screening. The added development potential under General Plan 2040 would generate the most amount of overall traffic and construction-related air quality impacts. While Alternative 3 would also generate increased traffic levels when compared to the existing levels, the shift in placing more residential development within the Downtown and reducing residential development in the outlying Paradise Drive area would promote alternative transit and walkability and reduce vehicle trips and VMT. As such, this alternative would be **better** when compared to General Plan 2040.

Paleontological and Geologic Resources

As described in Chapter 3.6 (Geology), General Plan 2040 would result in a potentially significant impacts to paleontological resources which would be reduced to less than significant levels through the implementation of Project mitigation:

- Impact 3.6-6: Development facilitated by the Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Impact 3.6-7: Development facilitated by the Project, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to geology, soils, seismicity, or paleontological resources.

Alternative 1

Under Alternative 1, the Planning Area would be developed with the 2020 General Plan Land Use Map, and policy guidance. Alternative 1 would result in less development and reduced development footprints as the changes under General Plan 2040 that increase densities and identify areas for intensification would not occur. However, General Plan 2040 focuses the majority of development on infill (previously disturbed) sites. Further, because General Plan 2040 would update geological and cultural resource policies to include new policies such as Policy C-16 that calls on the Town to protect significant geological, ecological, archaeological, tribal cultural, and paleontological resources and historic sites, impacts to paleontological resources may be **slightly worse** as the No Project Alternative does not establish additional and updated policies related to geological and paleontological resources.

Alternatives 2 and 3

Under Alternatives 2 and 3, the Planning Area would be developed with the same policy guidance and a substantially similar development footprint when compared to General Plan 2040. As such the impacts to paleontological resources under Alternative 2 and 3 would remain the **substantially similar** to the proposed Project.

Greenhouse Gas Emissions

As described in Chapter 3.7 (Greenhouse Gas Emissions and Energy), General Plan 2040 would result in significant and unavoidable impacts associated with greenhouse gases:

- Impact 3.7-1 Development facilitated by General Plan 2040 would directly or indirectly generate GHG emissions that may have a significant impact on the environment.
- Impact 3.7-2 Development facilitated by General Plan 2040 would conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

Alternative 1

Under Alternative 1, the Planning Area would be developed with the 2020 General Plan Land Use Map and policy guidance. New local, state, and regional greenhouse gas measures that are included in General Plan 2040 would not be updated or implemented. Buildout under Alternative 1 would be lower than General Plan 2040, and buildout of Alternative 1 would result in fewer housing units, and fewer residents when compared to General Plan 2040 and Land Use Map. The decrease in total residential unit count and population may decrease the total greenhouse gas emissions and energy use within the planning area, however, density reductions would generally be seen to increase per capita GHG emissions levels. Additionally, the Land Use Map and updated designations including in General Plan 2040 were developed to support smart planning principals to create mixed use areas and density increased for

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multifamily developments that may place more people near services, promote alternative transportation options and trip internalization and reduce VMT. These increased densities are supportive of regional development needs, including accommodating the RHNA, and also support GHG and VMT reduction strategies. As such, the greenhouse gas emissions impact would be **increased** under Alternative 1 when compared to General Plan 2040.

Alternative 2

Under Alternative 2, the Planning Area would be developed to support additional mixed use housing opportunities in The Cove Shopping Center and residential development in the outlying area (4576 Paradise Drive). Alternative 2 would be required to adhere to the same policy guidance and local, state, and regional greenhouse gas measures as General Plan 2040. Buildout of Alternative 2 would result in fewer housing units, when compared to General Plan 2040 Land Use Map. The decrease in total residential unit count and population may decrease the total greenhouse gas emissions and energy use, however, population reductions would generally be seen to increase per capita GHG emissions levels. However, although Alternative 2 results in slightly less overall population it places more emphasis in locating multi-family higher density development near existing shopping center areas and reducing development in the outlying area, which promotes alternative transportation options and trip internalization to reduce VMT when compared to General Plan 2040. As such, Alternative 2 would be **slightly better** because the updated Land Use Map presents slightly more opportunities for trip internalization and increased opportunities for walking and bicycling due to their proposed mix of higher density residential uses near shopping areas.

Alternative 3

Under Alternative 3, the Planning Area would be developed to support increased densities in the Downtown and reduce residential development in the outlying area by reducing growth potential at 4576 Paradise Drive to the amount allowed under the 2020 General Plan. Under Alternative 3, the Planning Area would be required to adhere to the same policy guidance and local, state, and regional greenhouse gas measures as General Plan 2040. Under both Alternative 3 and General Plan 2040, future projects that would generate GHG emissions. Alternative 3 would decrease the total residential unit count and population which may decrease the total greenhouse gas emissions and energy use, however, population reductions would be seen to increase per capita GHG emissions levels. However, the added development potential under General Plan 2040 would generate the most amount of overall VMT and overall GHG emissions and impacts, While Alternative 3 would generate increased traffic levels when compared to the existing levels, placing more residential development within the Downtown and reducing development in the outlying area places future residents in closer proximity to shopping, community services, and transit. This promotes alternative transit and walkability and would reduce GHG emissions associated with VMT and vehicle trips. Therefore, this alternative would be **slightly better** in terms of overall GHG emissions when compared to General Plan 2040.

Noise and Vibration

As described in Chapter 3.11, Impact 3.11-2, Development facilitated by General Plan 2040 would result in potentially significant impacts related to construction vibration which are mitigated to a less than significant level:

- Impact 3.11-2: Development facilitated by General Plan 2040 would not generate excessive groundborne vibration or groundborne noise levels.

Alternative 1

Under Alternative 1, the Planning Area would be developed with the 2020 General Plan Land Use Map, and policy guidance. Buildout under Alternative 1 would be lower than General Plan 2040, and buildout of Alternative 1 would result in fewer housing units, and fewer residents when compared to General Plan 2040 and Land Use Map. Alternative 1 would also result in less density and smaller scale buildings. The decrease in total residential unit count and decrease in building scale would decrease the potential construction related vibration associated with General Plan 2040 buildout. However, mitigation measure MM 3.11-2 would not be applied to future projects and thus there would be a potential to expose persons to excessive groundborne vibration or noise. Therefore, this impact would be **slightly worse** under Alternative 1.

Alternatives 2 and 3

Under Alternatives 2 and 3, there would be slightly less development than the Project. However, all three scenarios would result in new residential and mixed use development and would result in potential impacts similar to the Project. For General Plan 2040, Alternative 2, and Alternative 3, future development would be subject to General Plan policies intended to minimize exposure to excessive noise, operational vibration, and construction vibration. With mitigation measure MM 3.11-2, construction vibration would be **substantially similar** across all alternatives and roughly equal when compared to General Plan 2040.

Transportation

As described in Chapter 3.14 (Transportation and Circulation), General Plan 2040 would result in significant and unavoidable impacts:

- Impact 3.14-2 Development facilitated by the General Plan 2040 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b).
- Impact 3.14-5 Development facilitated by the General Plan 2040, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to transportation.

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Alternative 1

Alternative 1 would result in development of the 2020 General Plan Land Use Map and policy document. Without an updated Land Use Element, Land Use Map, and Circulation Element which place emphasis on higher density infill development and mixed use developments that reduce the need for vehicle trips and trip lengths and also support pedestrian, bicycle, and transit alternatives to automobile traffic, impacts related to transportation under Alternative 1 would be increased when compared to General Plan 2040. As such Alternative 1 would be **slightly worse** compared to General Plan 2040 as Alternative 1 does not include updated policy guidance or targeted infill development areas.

Alternative 2

General Plan 2040 includes goals, policies, and programs designed to reduce VMT, such as implementing circulation improvements through the capital improvement program. General Plan 2040 policies, land use forecasts, and targeted areas for growth are the result of an extensive outreach process among staff, policymakers, and the public to arrive at a solution that balances competing concerns about accommodating housing growth, jobs growth, and quality of life.

Alternative 2 would be developed to support additional mixed use housing opportunities at The Cove Shopping Center and would reduce the number of units at 4576 Paradise Drive. As previously discussed, this alternative would be required to adhere to the same policy guidance and local, state, and regional measures as General Plan 2040. Buildout of Alternative 2 would result in fewer housing units, when compared to General Plan 2040 Land Use Map. While the slight decrease in total residential unit count and population may decrease total VMT levels, Alternative 2 would result in a reduction in VMT due to the shift in units from the outlying Paradise Drive area to providing higher density multifamily units or mixed use units at The Cove Shopping Center, which is closer to services, community facilities, and the regional roadway network. This provides for additional opportunities to promote alternative transportation options and trip internalization to reduce VMT when compared to General Plan 2040. As such, Alternative 2 would be **slightly better** because the Land Use Map revisions present slightly more opportunities for trip internalization and increased opportunities for alternatives trip transit options due to the proposed mix of higher density residential uses near shopping areas.

Alternative 3

Alternative 3 would include the updated General Plan 2040 policy document and would be required to adhere to the same policy guidance as General Plan 2040. The Land Use Map revisions included in Alternative 3 would place emphasis on increased densities and additional infill development within the Downtown and would reduce development in the outlying Paradise Drive area. This shift to concentrate residential development and increase intensities in the Downtown would promote trip internalization and would promote walking and biking

type trips within the downtown areas for shopping and other purposes. As such, overall impacts under Alternative 3 would be **slightly better** when compared to General Plan 2040.

Utilities

As described in Chapter 3.15, significant and unavoidable impacts are anticipated for water and wastewater utilities:

- Impact 3.15-1 General Plan 2040 implementation may result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact 3.15-2 General Plan 2040 implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Impact 3.15-3: General Plan 2040 implementation, combined with other cumulative development, may result in insufficient water infrastructure available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact 3.15-4 General Plan 2040 implementation along with cumulative development could result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact 3.15-5: General Plan 2040 implementation would not have the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Impact 3.15-6: General Plan 2040 implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects.
- Impact 3.15-7: Implementation of General Plan 2040, along with other cumulative development, would have a significant impact on wastewater infrastructure and facilities.
- Impact 3.15-8 General Plan 2040 implementation along with cumulative development could result in insufficient wastewater treatment capacities available to serve the Town and reasonably foreseeable future development.

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Alternative 1

Alternative 1 would continue the development pattern and goals, policies, and programs established by the 2020 General Plan. This alternative would not include an updated policy document or land use map. General Plan 2040 includes goals, policies and programs specifically to conserve water use and to ensure adequate capacity exists to serve future developments. While the 2020 General Plan is consistent with the current MMWD UWMP and growth anticipated for the service area, the additional housing required by the ABAG Final RHNA Plan for Marin County jurisdictions would increase the demand for water throughout the MMWD service area and is anticipated to exceed the capacity of Marin Water's system, including treatment facilities. Similarly, the additional housing required by the ABAG Final RHNA Plan for Marin County jurisdictions would increase the demand for wastewater treatment through the XX service area and may exceed the capacity of wastewater systems.

Alternative 1 would result in fewer residential units than General Plan 2040 and would thus have less demand for water (a reduction of 152,064 gallons per day) and less wastewater generation (a reduction of approximately 0.15 mgd) than General Plan 2040. Therefore, Alternative 1 would have less demand for water supply, water treatment and conveyance, wastewater treatment, and wastewater conveyance than General Plan 2040.

As such Alternative 1 would be **better** when compared to General Plan 2040.

Alternative 2

As noted in this Draft EIR Impact 3.15-1, development facilitated under General Plan 2040 could result in insufficient water supplies from MMWD. As described previously Alternative 2 would result in less residential units as compared to General Plan 2040 at buildout. Like the General Plan, this alternative would still result in increased impacts as development anticipated under this alternative would exceed growth identified by MMWD in their UWMP and future ability to serve additional developments accommodated by the RHNA's or each service area within the district will have to be assessed as part of the District's updated UWMP process. However, the reduced residential buildout would be expected to result in a slight reduction in the need for utilities and service systems when compared to General Plan 2040. Specifically, Alternative 2 would result in fewer residential units than General Plan 2040 and would thus have less demand for water (a reduction of 25,728 gallons per day) and less wastewater generation (a reduction of approximately 0.026 mgd) than General Plan 2040. Therefore, Alternative 2 would have less demand for water supply, water treatment and conveyance, wastewater treatment, and wastewater conveyance than General Plan 2040. Therefore, while the impact level would remain the same Alternative 2 would result in less overall development and a **slightly reduced** impact, to utilities and service systems as compared to General Plan 2040.

Alternative 3

As with Alternative 2 Alternative 3 would result in less residential units as compared to General Plan 2040 at buildout. Like the General Plan, this alternative would still result in increased

impacts as development anticipated under this alternative would exceed growth identified by MMWD in their UWMP and future ability to serve additional developments accommodated by the RHNA's or each service area within the district will have to be assessed as part of the District's updated UWMP process. However, the reduced residential buildout would be expected to result in a slight reduction in the need for utilities and service systems when compared to General Plan 2040. Specifically, Alternative 3 would result in fewer residential units than General Plan 2040 and would thus have less demand for water (a reduction of 25,472 gallons per day) and less wastewater generation (a reduction of approximately 0.025 mgd) than General Plan 2040. Therefore, Alternative 3 would have less demand for water supply, water treatment and conveyance, wastewater treatment, and wastewater conveyance than General Plan 2040. Therefore, while the impact level would remain the same Alternative 3 would result in less overall development and a **slightly reduced** impact, to utilities and service systems as compared to General Plan 2040.

Irreversible Effects and Adverse Effects on Human Beings

Chapter 5.0 (Other CEQA) identifies two significant and unavoidable impacts associated with General Plan 2040:

- 5.2: Significant and irreversible environmental changes
- 5.4: Substantial adverse effects on human beings

Alternatives 1, 2, and 3

General Plan 2040 would result in a significant and unavoidable impact associated with irreversible environmental effects as described under Impact 5.2. Implementation of General Plan 2040 would result in a commitment of land uses and resources for the foreseeable future. Land use and development consistent with the General Plan would result in resource commitments by introducing development onto sites that are presently undeveloped, although the majority of development would occur at infill locations and within developed areas of the Town. Additionally, future development will physically change the environment in terms noise, traffic, natural resources etc. These physical changes are irreversible after development occurs. Therefore, General Plan 2040 would result in changes in land use within the Planning Area that would commit future generations to these uses.

Development under Alternative 1 would have less than half of the residential development than General Plan 2040 while Alternatives 2 and 3 would be slightly reduced in comparison to General Plan 2040. These alternatives would all use nonrenewable resources, including metals, stone, and other materials related to construction, and result in on-going demand for fossil fuels and other resources associated with energy production at levels similar to General Plan 2040. Alternative 1 would not adopt the updated land use map that focuses development in higher density infill areas, and would also not adopt the updated policy document which includes goals policies and programs that promote resource conservation

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and establishes policies and programs that address substantial adverse effects on human beings. As such, Alternative 1 would be **slightly worse** when compared to General Plan 2040 while Alternatives 2 and 3 would have **substantially similar** impacts and commitments to resources when compared to General Plan 2040. The associated irretrievable commitment of nonrenewable resources and permanent conversion of other undeveloped lands under Alternatives 2 and 3 would also remain substantially similar when compared to General Plan 2040.

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to General Plan 2040.

A comparative analysis of General Plan 2040 and each of the Project alternatives is provided in Table 4.0-6 below. The table includes a numerical scoring system, which assigns a score of 1 to 5 to each of the alternatives with respect to how each alternative compares to General Plan 2040 in terms of the severity of the environmental topics addressed in this EIR. A score of “3” indicates that the alternative would have the same level of impact when compared to General Plan 2040. A score of “1” indicates that the alternative would have a better (or reduced) impact when compared to General Plan 2040. A Score of “2” indicates that the alternative would have a slightly better (or slightly reduced) impact when compared to General Plan 2040. A score of “4” indicates that the alternative would have a slightly worse (or slightly increased) impact when compared to General Plan 2040. A score of “5” indicates that the alternative would have a worse (or increased) impact when compared to General Plan 2040. The project alternative with the lowest total score is considered the environmentally superior alternative.

As shown in Table 4.0-6, Alternative 3 is the environmentally superior alternative when looked at in terms of the potential to reduce all environmental impacts identified throughout this EIR. However, it should be noted that this alternative and Alternative 2 didn’t reduce any identified potentially significant impact to a less than significant level without the need for identified project mitigation. General Plan 2040’s updated policy includes the fully range of feasible minimization policies and programs to reduce potential impacts to the greatest extent possible, and conserve resources while the General Plan Map updates focus on smart growth principles that identify infill development opportunities that place people and housing near services to meet housing needs when provided opportunities to limit impacts. General Plan 2040 provides for high density mixed-use areas consistent with smart growth development principles and promotes trip internalization and a mix of uses to promote alternative transit opportunities.

TABLE 4.0-6: COMPARISON OF ALTERNATIVES TO GENERAL PLAN 2040

ENVIRONMENTAL ISSUE	GENERAL PLAN 2040	ALTERNATIVE 1 (NO PROJECT)	ALTERNATIVE 2 (VILLAGE CENTERS ALTERNATIVE)	ALTERNATIVE 3 (DOWNTOWN DENSITY ALTERNATIVE)
Air Quality	3 - Same	4 - Slightly Worse	2 - Slightly Better	1 - Better
Geologic/Paleontological Resources	3 - Same	4 - Slightly Worse	3 - Similar	3 - Similar
Greenhouse Gases/Climate Change	3 - Same	5 - Worse	2 - Slightly Better	2 - Slightly Better
Noise - Construction Vibration	3 - Same	4 - Slightly Worse	3 - Similar	3 - Similar
Transportation and Circulation	3 - Same	4 - Slightly Worse	2 - Slightly Better	2 - Slightly Better
Utilities	3 - Same	1 - Better	2 - Slightly Better	2 - Slightly Better
Irreversible Effects and Adverse Impacts on Human Beings	3 - Same	4 - Slightly Worse	3 - Similar	3 - Similar
SUMMARY	21	26	17	16

4.6 SATISFACTION OF PROJECT OBJECTIVES

Alternative 1

As described previously Alternative 1 fails to meet the most basic Project Objectives and thus was not further considered. Alternative 1 fails to meet several of the basic Project Objective as no changes would be made to address updated General Plan guidelines, or the requirements of State law. Since adoption of the 2020 General Plan, State legislation has been passed requiring the Town to address new safety and circulation requirements in the General Plan and to further address greenhouse gas emissions. Additionally, the Town currently has an obligation to update and adopt its Housing Element, and receive State certification. The 2020 General Plan does not conform to state requirements regarding planning for future housing growth and would not accommodate the Town’s RHNA.

Alternative 2

Like General Plan 2040, Alternative 2 reflects the current goals and vision expressed by Town residents, businesses, decision-makers, and other stakeholders; through the updated policy document, and addresses new requirements of State law, including climate resiliency planning, complete streets, and housing goals. This alternative would update the land use map to allow more residential areas near a local shopping area and would allow for more growth that would be allowed under Alternatives 1, but less overall housing development than General Plan 2040. Although Alternative 2 meets Project Objectives, Alternative 3 provides less housing options.

Alternative 3

Like General Plan 2040, Alternative 3 would satisfy all Project Objectives as it would adopt the updated policy document as well as an updated Land Use Map. This alternative would

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update the land use map to allow more mixed use residential areas in the Downtown and would allow for more growth that would be allowed under Alternatives 1, but less overall housing development than General Plan 2040. Although Alternative 3 meets Project Objectives, Alternative 3 provides less housing options when compared to General Plan 2040.

ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER CONSIDERATION

CEQA Guidelines 15126.6(c) requires an EIR to discuss alternatives that were initially considered but rejected from further consideration. The following are alternatives that were initially considered but rejected from further consideration for the reasons described below.

Alternative Location

CEQA Guidelines Section 15126.6(f)(2) sets forth considerations to be used in evaluating an alternative location. The section states that if a lead agency concludes that no feasible alternative locations exist for the proposed action, it must disclose its reasons for that conclusion.

In this case, an alternative location does not constitute a feasible alternative because the project in question consists of a comprehensive update to the 2020 General Plan. A General Plan serves as the comprehensive land use planning document for the jurisdiction that adopts it; as such, the geographical area encompassed by the plan is an immutable, fundamental characteristic. Thus, it is not possible to evaluate an alternative location for General Plan 2040.



5.0 OTHER CEQA CONSIDERATIONS

5.1 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

“The way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth... It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.”

Based on the CEQA Guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development that would not have taken place without implementation of the project. A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand (*Napa Citizens for Honest Government v. Napa County Board of Supervisors*). Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could be considered growth-inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth

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policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service.

General Plan 2040 is a long-term plan intended to accommodate projected population, housing, and employment growth, including the appropriate balance among these factors with the necessary public services and infrastructure. General Plan 2040 would serve as a comprehensive, long-term plan for the physical development of Tiburon. Projected growth is described in Section 3.12, Population, Housing and Employment, and the environmental consequences related to the potential growth are fully assessed in each topical section. By definition, General Plan 2040 is intended to provide for and address future growth in the Town.

Because General Plan 2040 provides a framework for development through its Land Use Map, land use designations, goals, policies, and actions, it would directly induce population and employment growth in the Planning Area by designating land for development that is more intense, in some instances, than current designations allow. The analysis of the indirect growth-inducing impacts for General Plan 2040 focuses on the following factors: inducement of unanticipated population growth; encouragement of economic growth that leads to jobs and housing growth; elimination of obstacles to population growth; and resulting service, facility, or infrastructure demands in excess of existing and planned growth.

General Plan 2040 accommodates future growth in Tiburon, including new businesses, expansion of existing businesses, and new residential uses. Infrastructure and services would need to accommodate future growth. As shown in Table 2-4, General Plan 2040 Growth Assumptions, buildout of General Plan 2040 could yield up to 916 new housing units and reduction of 120,042 square feet of non-residential building square footage within the Planning Area.

Given the historical and current population, housing, and employment trends, growth in the Town of Tiburon, as well as the entire State, is inevitable. The primary factors that account for population growth are natural increase and net migration. Other factors that affect growth include the cost of housing, the location of jobs, the economy, the climate, and transportation. Growth under General Plan 2040 would remain within the general growth levels projected Statewide and would not be anticipated to exceed any applicable growth projections or limitations that have been adopted to avoid an environmental effect. General Plan 2040 is intended to accommodate the Town's fair share of Statewide housing needs, based on regional numbers provided by the California Department of Housing and Community Development and assigned to Bay Area jurisdictions by ABAG.

General Plan 2040 includes policies and programs that reduce environmental impacts associated with growth, such as air quality, noise, traffic, water supply, and water quality. Additionally, this Draft EIR identifies General Plan 2040 policies and programs, as well as

mitigation measures, where appropriate, that would serve to reduce or eliminate potentially significant impacts associated with specific environmental issues associated with growth. Sections 3.1 through 3.16 and 4.0 provide a discussion of environmental effects associated with development allowed under General Plan 2040.

With implementation of General Plan 2040 policies and actions intended to guide growth to appropriate areas and provide services necessary to accommodate growth, the land uses allowed under General Plan 2040, the infrastructure anticipated to accommodate proposed land uses, and the goal and policy framework would not induce growth that would exceed adopted thresholds. Therefore, population and housing growth associated with General Plan 2040 would result a ***less than significant impact***.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

As mandated by CEQA Guidelines Section 15126.2(c), the EIR must address significant irreversible environmental changes that would result from implementation of the project. Specifically, such an irreversible environmental change would occur if:

- General Plan 2040 would involve a large commitment of nonrenewable resources;
- Irreversible damage can result from environmental accidents associated with General Plan 2040; and
- The proposed consumption of resources is not justified (e.g., General Plan 2040 results in the wasteful use of energy); (Refer to Section 3.5, Energy, which addresses this topic in accordance with CEQA Guidelines Appendix F).

General Plan 2040 contemplates 916 new dwelling units and a reduction of 120,042 square feet of new non-residential development at buildout.

5.2.1 CONSUMPTION OF NONRENEWABLE RESOURCES

The environmental impacts associated with implementation of General Plan 2040 are analyzed in Chapter 3.0. Future development would consume limited, slowly renewable, and non-renewable resources. This consumption would occur during each individual project's construction phase and would continue throughout its operational lifetime. Future development would require a commitment of resources that would include: (1) building materials; (2) fuel and operational materials/resources; and (3) the transportation of goods and persons to and from individual development sites. Construction would require the consumption of resources that are not renewable or which may renew so slowly as to be considered non-renewable. These resources would include the following construction supplies: lumber and other forest products; aggregate materials used in concrete and asphalt; metals; and water. Fossil fuels such as gasoline and oil would also be consumed to power construction vehicles and equipment.

Development and improvements accommodated through implementation of General Plan 2040 would consume resources which would be similar to those currently consumed within the Town (i.e., energy resources such as electricity and natural gas, petroleum-based fuels required for vehicle-trips, fossil fuels, and water). Fossil fuels would represent the primary energy source associated with both construction and ongoing operation, and the existing, finite supplies of these natural resources would be incrementally reduced. Future development operations would occur in accordance with California Code of Regulations (CCR) Title 24, Part 6, which sets forth conservation practices that would limit energy consumption. Nonetheless, the proposed project's energy requirements would represent a long-term commitment of essentially non-renewable resources.

Construction activities associated with implementation of General Plan 2040 could release hazardous materials into the environment through reasonably foreseeable upset and accident conditions; refer to Section 4.8, Hazards and Hazardous Materials. All potential demolition, grading, and excavation activities would be subject to the established regulatory framework to ensure that hazardous materials are not released into the environment. Compliance with the established regulatory framework and General Plan 2040 goals, policies, and implementation measures would protect against a significant and irreversible environmental change resulting from the accidental release of hazardous materials.

In addition, there is the potential that individual future development projects would use and store limited amounts of potentially hazardous materials; refer to Section 3.8. All future development activities requiring the routine use, storage, transport, or disposal of hazardous materials would be subject to all applicable federal, State, and local regulations and standards in place for hazardous materials. Compliance with these regulations and standards would protect against significant and irreversible environmental changes due to the accidental release of hazardous materials.

In conclusion, future construction and operations would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would limit the availability of these resource quantities for future generations or for other uses during the life of the individual developments. It is noted that the continued use of such resources would be on a relatively small scale in a regional context.

5.2.2 IRRETRIEVABLE COMMITMENTS/IRREVERSIBLE PHYSICAL CHANGES

Implementation of General Plan 2040 would result in a commitment of land uses designated for the foreseeable future. Land uses and development consistent with General Plan 2040 would result in irretrievable commitments by introducing development onto sites that are presently undeveloped. The conversion of agricultural lands to urban uses would result in an irretrievable loss of agricultural land, wildlife habitat, and open space. Additionally, development would physically change the environment in terms of aesthetics, air emission, noise, transportation, open space, and natural resources. These physical changes are

irreversible after development occurs. Therefore, General Plan 2040 would result in changes in land use within the Planning Area that would commit future generations to these uses.

While development under General Plan 2040 may have potential to result in hazardous material releases into the environment by new land uses, compliance with State law and during construction and operation activities would ensure that future development would not create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving release of hazardous materials (see Section 3.8, Hazards and Hazardous Materials). As discussed in Section 3.16, Wildfire, there are no VHFHSZs located within the Town or Planning Area. While the majority of the Planning Area is not within a FHSZ, portions of the Planning Area are located in “moderate” and “high” FHSZs, including areas in the northern, northwestern, northeastern, and eastern portions of the Planning Area. No areas within or adjacent to the Planning Area are categorized as containing a “very high” FHSZs by CAL FIRE.

The majority of development anticipated under General Plan 2040 is located in or adjacent to existing developed areas, is primarily infill development, and would be located within the existing Town limits. Furthermore, it should be noted that the development that could occur includes additional residential infill development, but would be similar to the development types and developable areas as what was already planned for and would not alter or change existing identified emergency evacuation routes. As described previously, proposed changes to the Land Use Map include areas for higher density housing opportunities within generally developed portions of the Town, with the remainder of the Planning Area land uses remaining the same. As a result, the degree of wildland fire hazard, including secondary hazards, would not substantially change with adoption of General Plan 2040, and current hazards would not significantly increase (see Section 3.16, Wildfire). In addition, as discussed in Section 3.13, Public Services and Recreation, existing fire protection facilities would be adequate to serve the Planning Area under General Plan 2040, and General Plan 2040 would not result in a significant and unavoidable impact related to need for new or altered fire protection facilities. Thus, implementation of General Plan 2040 would not have potential to result in significant environmental accidents related to wildfire hazards and would not result in significant irreversible environmental changes (see Section 3.16, Wildfire).

In summary, General Plan 2040 includes an extensive policy framework that is designed to address land use and environmental issues to the greatest extent feasible, while allowing growth and economic prosperity for the Town. However, even with the policies and implementation measures that would serve to reduce potential significant impacts, General Plan 2040 would result in significant irreversible changes. This impact is considered a **significant and unavoidable impact** under CEQA.

5.3 SUBSTANTIAL ADVERSE EFFECTS ON FISH, WILDLIFE, AND PLANT SPECIES

As described throughout the analysis in the Draft EIR, General Plan 2040 would not result in any significant impacts that would substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal to the environment. As described in greater detail in Section 3.3, Biological Resources, impacts related to plant and animal species would be reduced to a less than significant level through implementation of goals, policies and implementation measures provided in General Plan 2040 as well as through adherence to state and federal regulations. Therefore, this is considered a **less than significant** impact.

5.4 SUBSTANTIAL ADVERSE EFFECTS ON HUMAN BEINGS

As described throughout the analysis of this Draft EIR, General Plan 2040 reduces environmental effects including effects that directly and indirectly impact humans through implementation of goals, policies and implementation measures provided in General Plan 2040. However, several environmental impacts would still be considered significant and unavoidable. These impacts include increases of criteria pollutants, reduced air quality, increased greenhouse gas emissions, vehicle miles traveled, and improvements to ensure adequate water and wastewater capacity which may cause substantial adverse effects on humans and the way humans interact with their environment. Therefore, this is considered a **significant and unavoidable** impact.

5.5 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(a)(b) requires an EIR to identify and focus on significant environmental effects of a project, including effects that cannot be avoided if General Plan 2040 were implemented.

Based on the analysis contained in this Draft EIR, the Town has determined that General Plan 2040 would result in the following significant and unavoidable impacts, as described in the chapter addressing each topic:

- Impact 3.2-1 Implementation of the General Plan 2040 could conflict with or obstruct implementation of the applicable air quality plan.
- Impact 3.2-5: General Plan 2040 implementation, in combination with other cumulative development, would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of criteria pollutants.

- Impact 3.7-1 Development facilitated by the General Plan could directly or indirectly generate GHG emissions that may have a significant impact on the environment.
- Impact 3.7-3 Development facilitated by the General Plan, in combination with past, present, and reasonably foreseeable projects, could result in significant cumulative impacts with respect to GHG emissions.
- Impact 3.14-2 Development facilitated by the General Plan 2040 would not conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b).
- Impact 3.14-5 Development facilitated by the General Plan 2040, in combination with past, present, and reasonably foreseeable projects, would not result in significant cumulative impacts with respect to transportation.
- Impact 3.15-1 General Plan 2040 implementation may result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact 3.15-2 General Plan 2040 implementation may require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Impact 3.15-3: General Plan 2040 implementation, combined with other cumulative development, may result in insufficient water infrastructure available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact 3.15-4 General Plan 2040 implementation along with cumulative development could result in insufficient water supplies available to serve the Town and reasonably foreseeable future development during normal, dry and multiple dry years.
- Impact 3.15-5: General Plan 2040 implementation would not have the potential to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Impact 3.15-6: General Plan 2040 implementation may require or result in the relocation or construction of new or expanded wastewater facilities, the construction or relocation of which could cause significant environmental effects.
- Impact 3.15-7: Implementation of General Plan 2040, along with other cumulative development, would have a significant impact on wastewater infrastructure and facilities.

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- Impact 3.15-8 General Plan 2040 implementation along with cumulative development could result in insufficient wastewater treatment capacities available to serve the Town and reasonably foreseeable future development.
- 5.2: Significant and irreversible environmental changes
- 5.4: Substantial adverse effects on human beings



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3.1 Aesthetics

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