

CITY OF MARINA LOCAL COASTAL PROGRAM

COASTAL HAZARDS AND SEA LEVEL RISE LAND USE PLAN

Revised November 2024



**Prepared by
EMC Planning Group Inc.
Integral Consulting, Inc.**

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**COASTAL HAZARDS AND
SEA LEVEL RISE**

PREPARED FOR

City of Marina

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Revised November 2024

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1.0 Coastal Hazards and Sea Level Rise

1.1 Background

The City of Marina is a unique place in California. Presently, the City faces some of the highest rates of erosion in California, and yet, it has not placed any shore-parallel coastal armoring. With the unique dune topography, inland distance to development, and soon to be reduced erosion rates from the cessation of sand mining, the City of Marina faces minimal exposure to most coastal hazards and sea level rise.

~~The following are key findings identified as a result of analyses in the City of Marina 2023 Existing Conditions and Sea Level Rise Adaptation Report (Appendix 1):~~

- ~~■ Coastal dune erosion hazards are the biggest threat to the City of Marina even with up to 5 feet of sea level rise. The primary impact from this erosion is to open space and dune habitats with temporary impacts to beaches and during storm events;~~
- One sewer pump station, one visitor serving resort, one inactive groundwater supply well, an inactive water treatment facility, district offices for the Marina Coast Water District, and the coastal access and associated parking lot at Marina State Beach are the key vulnerabilities in the City to projected coastal erosion;
- With 5 feet of sea level rise and a 1% annual chance wave event, there is a chance that additional areas near the Reservation Road underpass in the City could be temporarily impacted by wave run-up induced flooding;
- The pending cessation of sand mining and subsequent projected reduction in future erosion and hydraulic connectivity has substantially reduced the potential long terms impacts of sea level rise and coastal hazards to the City;
- There are no projected impacts to any residential land uses from erosion even with up to 5 feet of sea level rise; and

The City of Marina is a vibrant, sustainable coastal town and is committed to protecting and preserving its unique natural coastline and its other valued coastal resources (including accessible beaches, visual quality, groundwater, beach and dune habitat, an diverse population of plants and wildlife including threatened and endangered species) in perpetuity to support a local economy and community identify based on coastal tourism, low impact and affordable recreation, and natural habitats.

City of Marina Vision Statement October 2019

- The City of Marina currently has no coastal armoring, which allows for the continuation of natural coastal and dune processes and maintenance of beach width over time.

Natural dune erosion from large storm waves is the primary hazard challenging the Marina shoreline. *Figure 1-1, Coastal Hazard Dune Erosion area*, shows the areas of potential hazards related to projected Sea Level Rise. Dune erosion, however, is a natural process that creates and maintains beaches through time even in the face of sea level rise. As identified in the Existing Conditions and Sea Level Rise Adaptation Report, the goal of any adaptation policy or project in Marina should focus on reducing erosion rates, while allowing natural erosion and shoreline fluctuations to maintain beaches. This Coastal Hazards and Sea Level Rise chapter of the Land Use Plan contains policies ~~to respond to, and to address, coastal hazards in the City's planning and permitting process.~~ Definitions used in this chapter are provided in ~~Appendix 2.~~ [City of Marina.](#)

Summary of Public Participation and Outreach

As part of the Coastal Hazards and Sea Level Rise update to the City's Local Coastal Program (LCP), the City of Marina developed a robust public outreach program in line with the Coastal Act's declaration that the public has the right to fully participate in coastal planning.

The public outreach program spanned a series of 5 years, beginning in 2018 and included a community questionnaire, community comment forum, individual stakeholder meetings, and a series of joint Planning Commission and City Council study sessions/public workshops. To ensure that stakeholders, interested citizens and agencies were aware of the update process and public meetings, City staff:

- Established email notification lists and identified key links to community cross sections to facilitate information flow and participation; and
- Generated and maintained a web page with background documents, meeting schedules, meeting agendas and summaries, frequently asked questions, and other information.

Marina is a leader in improving coastal resiliency, responding to climate change impacts, and adapting to sea level rise and identified coastal hazard risks in a way that protects both its coastal resources and public safety and welfare.

City of Marina Vision Statement October 2019

City staff and their LCP consultants met with individual stakeholders on July 29, 2019, February 1, 2023, February 21, 2023 and February 23, 2023. Identified stakeholders included the California Department of Parks and Recreation (CPPR), Marina Coast Water District (MCWD), the Sanctuary Beach Resort, Ohlone Costanoan Esselen Nation (OCEN), and the Monterey Peninsula Regional Parks Department (MPRPD). The City hosted four public workshops during the update process with focus topics that included: sea level rise and coastal hazards background on March 26, 2019,

vision and goals on June 13, 2019, adaptation alternatives on September 12, 2019, and the Draft LCP policy development and implementation on January 28, 2020.

Coastal Act Policies

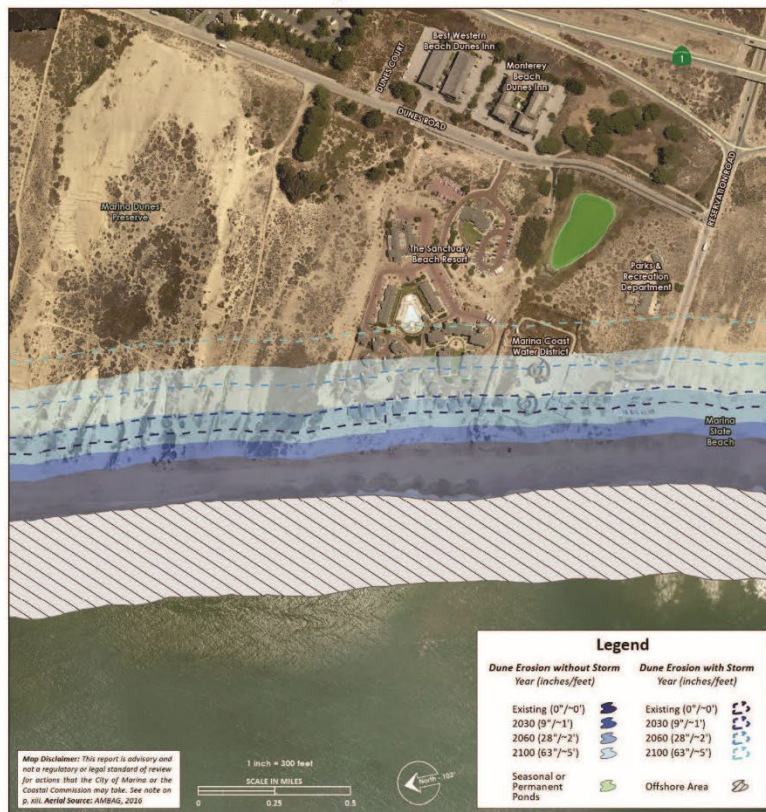
Various parts of the California Coastal Act (Coastal Act) support policies in the LCP Land Use Plan that address climate change, sea level rise and coastal hazards. The California Coastal Commission Sea Level Rise Policy Guidance (California Coastal Commission updated 2018) provides four guiding principles, many derived directly from the requirements of the Coastal Act, that can be used as a framework by which sea level rise planning can be assessed:

- The use of best available science to guide decisions (Coastal Act Sections 30006.5; 30335.5);
- Minimization of coastal hazards through planning and development standards (Coastal Act Sections 30253; 30235; 30001, 30001.5);
- Maximization of protection of public access, recreation, public views and other coastal resources (Coastal Act Chapter 3 policies);
- Maximization of agency coordination and public participation (Coastal Act Chapter 5 policies); and
- Limiting the use of shoreline protective devices (Coastal Act Section 30235).

Refer to *Appendix 3, Coastal Act Sea Level Rise and Coastal Hazards Policies* for a listing of Coastal Act policies that may inform interpretation of Marina's Land Use Plan.

Figure 1-1 Coastal Hazard Dune Erosion area

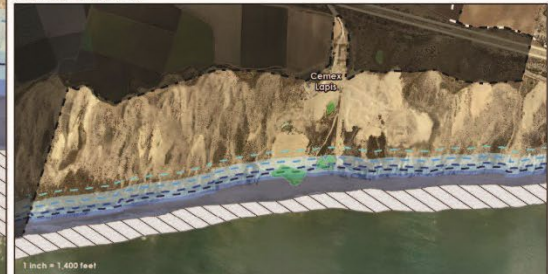
Central Marina - Dune Erosion Comparison



South Marina



North Marina



Note: Figure 1-1 maps projected Long Term and Storm Induced Coastal Erosion with 5 Feet of Sea Level Rise and Considering the Cessation of Sand Mining

2.0 General Plan and Other Policies

2.1 General Plan

The City's 2000 General Plan and 1982 LCP contain some guidance as to community values and what is important in the face of coastal hazards and sea level rise. Relevant policies within these two documents are presented below:

General Plan Vision Statement

Marina desires to grow and mature, along with its image, from a small town, primarily bedroom community, to become a small city which is diversified, vibrant and mostly self-sufficient. The City can and will accomplish this by achieving both the necessary level and diversity of jobs, economic activity, public services, housing, civic life (including culture and recreation), and parks and open space.

General Plan Goals

The following General Plan goals are relevant to the focused LCP update and are included here as background information:

Community Goals Section 1.18

Goal 2: Community development which avoids or minimizes to the greatest extent possible the consumption or degradation of non-renewable natural resources including natural habitats, water, energy, and prime agricultural land.

Goal 13: Ample opportunities for outdoor recreation for all residents, both within their immediate neighborhoods, elsewhere in the city, and in the immediate environs.

Local Coastal Program

The following policies in the 1982 LCP are relevant to the focused LCP update and are included here as background information:

Policy 2

To provide beach access and recreational opportunities consistent with public safety and with the protection of the rights of the general public and of private property owners.

Policy 3

To provide beach access in conjunction with the new development where it is compatible with public safety, military security and natural resources protection; and does not duplicate similar access nearby.

Policy 8

To prohibit further degradation of the beach environment and conserve its unique qualities.

3.0 Land Use Plan Policies – Coastal Hazards

3.1 Coastal Hazards

~~The following proposed policies address coastal hazards in the City of Marina.~~

HAZ-1

The Marina Coastal Zone is an irreplaceable resource and its protection and preservation as a natural living shoreline with connections between the ocean, beaches and dunes is a matter of great public importance.

It is the intent of the Local Coastal Program that the City responds to climate change impacts, and adapts to coastal hazard risks in a way that protects and preserves its unique natural coastline, valued coastal resources and valuable coastal dune habitats, and ensures public safety and welfare.

A history of proactive planning has avoided the construction of any shoreline protective devices. It is the intent of the Local Coastal Program to ensure that no shoreline protective devices are utilized for new or existing development, ~~unless the development or use is coastal-dependent~~. Furthermore, community stated preferences to expand coastal access opportunities, reduce the industrial uses of the coastal zone and maintain natural viewsheds of the coast, dunes, and ocean ~~should~~shall be considered in all development proposals.

HAZ-2

The City shall continue to gather and develop information on the potential effects of sea level rise and coastal hazards on Marina's shoreline, including identifying the most vulnerable areas, structures, facilities, and resources.

Project-specific coastal hazards assessments, as well as updates and amendments to the LCP, shall use the best available science, including estimates of expected sea level rise rates, elevations, and potential resultant impacts. The information gathered shall address multiple future time horizons (e.g., 2050, 2100) that span the applicable planning horizon or multiple sea level rise elevation scenarios, as appropriate and feasible.

HAZ-3

The City of Marina is recognized as a Tsunami Ready City. The City shall identify a warning system and procedures for protection of life and property in coastal areas that are subject to storm and tsunami ~~hazard~~hazards, including informing visitors to the shoreline and oceanfront

hotels of the potential danger of large waves. New development in Marina's coastal zone shall provide evacuation information and preparedness planning as necessary to warn of the potential tsunami risks along the shoreline.

HAZ-4

Development shall be sited and designed to minimize risks to life and property and assure stability and structural integrity over the life of the development; and shall avoid shoreline protection devices ~~with the exception of coastal dependent uses addressed in Policy HAZ-6.~~

HAZ-5

Development ~~in areas of coastal hazards~~ shall not create nor contribute significantly to erosion, [dune recession](#), geologic instability, or destruction of the site or surrounding area; shall not substantially alter natural landforms; and shall not adversely alter local shoreline sand supply.

HAZ-6

Shoreline protection devices, including revetments, breakwaters, groins, seawalls, and other such construction that alters natural shoreline processes shall ~~only not~~ be allowed ~~to protect coastal dependent uses. When required to serve coastal dependent uses, shoreline protection devices shall be sited to avoid sensitive resources, if feasible, and mitigate adverse impacts on all coastal resources, including possible payment of in-lieu fees.~~ [in the City of Marina.](#)

HAZ-7

~~Shoreline~~[In lieu of shoreline](#) protective devices ~~shall be discouraged on Marina's coastline. Such protective devices shall only be permitted if no other less environmentally damaging alternative is available,~~ [all other alternatives to address and abate any coastal hazards threats shall be identified, including nature based or green infrastructure approaches to addressing erosion](#) including avoidance, restoration of the sand supply, [dune restoration, living shorelines, opportunistic beach nourishment, nature-based adaptation approaches,](#) and planned retreat: [/relocation away from the identified threat. Horizontal levees may be considered for use around existing wetlands and stormwater basins to protect precipitation induced floodwaters.](#)

HAZ-8

Development ~~proposed in potential coastal hazard areas~~ shall be ~~evaluated~~[screened](#) for potential coastal hazards at the site, based on all readily available science. If the initial evaluation determines that the proposed development may be subject to coastal hazards over its lifetime, [including if it is located within the Coastal Hazard Dune Erosion area \(Figure 1-1\).](#) the following is required:

- ~~Identification of hazard avoidance strategies that have been prioritized and reflected in the development proposal including, but not limited to, consideration of additional building heights to reduce footprints, consistent with LCP visual resource and ESHA policies;~~
- ~~Preparation of~~ Coastal Hazards Report, identifying the specific hazard threats facing the proposed development, including erosion, dune recession and wave uprush, and identification of the specific siting and design techniques to avoid such threats over the development's life. All such analysis shall be based on a site-specific hazards report by a qualified geologist/engineer/geomorphologist, the purpose of which is to ensure that such development considers such risk and adapts the project (e.g. changed building heights with larger setbacks) to avoid hazards so that it can be built and maintained in a manner consistent with the City's coastal hazards policies and with the greatest protection of coastal resources for the life of the development;
- A real estate disclosure and deed restriction shall be recorded against the property that identifies the property is located in an area subject to coastal hazards risks, that acknowledges it's the responsibility of the property owner to assume all risk and liabilities associated with such hazards risks, prohibits any shoreline armoring, acknowledges that the City may not be able to guarantee access and infrastructure, that the boundary between public and private land may shift with rising seas and that development approval does not permit any development to be located on public trust lands, along with any other site and project specific recommendations from the project's hazards report.
- Development, including redevelopment, may be subject to bonding or in-lieu fees, including through payment of fees to the City prior to construction, to provide funding for remediation and/or removal of any nuisance conditions in the future due to coastal hazard impacts.
- ~~Development will assume all risk and liabilities associated with coastal hazards and acknowledge that in the future the City may not always be able to guarantee access and infrastructure; and~~
- ~~Unless the development is coastal dependent, the Coastal Development Permit shall include a condition of approval stating that the development is prohibited from using a shoreline protective device during its lifetime.~~

HAZ-9

As a response to coastal hazard, ~~threats, and in lieu of armoring, the Applicant for any development or redevelopment shall prepare a Coastal Hazards Response Plan that identifies the ways in which the development will respond to and address such threats. This may include relocation~~ and, notwithstanding other dune ESHA protection policies, the City shall work with State Parks to pursue measures to relocate the existing public parking and restroom structures at the present

location of the Marina State Beach Parking Lot to a site outside of the projected erosion hazards zone ~~to areas closer inland, nearer State Route 1 and consolidated with other facilities, so as to minimize impact and ensure continued public coastal access and recreation utility. Any activities associated with this project that may result in impacts to ESHA shall be mitigated at a minimum 2:1 ratio, and restoration of the site to dune/beach habitats.~~

HAZ-10

Planned and existing shoreline access points (including Marina State Beach, the Marina Dunes Preserve, and the Sanctuary Beach Resort) shall be sited, designed, and maintained as to minimize impacts to dune vegetation and avoid contributing to dune erosion, and relocated inland in response to coastal hazards. All new shoreline access points shall be located and constructed in such a way as to accommodate retreat in the future.

HAZ-11

~~New development shall not be allowed within the Coastal Hazard Dune Erosion area (Figure 1-1). Coastal access points and coastal trails shall be allowed as an exception in these areas as long as they comply with all other policies in this section.~~

HAZ-12

The Coastal Hazard Dune Erosion area map shall be updated approximately every 10 years based on the best available science and monitoring data which is particularly important due to the cessation of sand mining at the CEMEX site (former Lone Star site) which is anticipated to reduce erosion rates and dune recession.

HAZ-13

The City of Marina shall pursue grant funding from the State Coastal Conservancy and other agencies for funding to monitor relocation triggers for development that is located within the Coastal Hazard Dune Erosion area (Figure 1-1).

HAZ-14

Siting and design of new development adjacent to dunes shall take into account the extent of landward migration of the foredunes that can be anticipated over the anticipated duration of the development. This landward migration shall be determined based upon historic dune erosion, storm damage, anticipated sea level rise, and foreseeable changes in sand supply.

HAZ-15

~~The City shall encourage the use of soft or natural methods, such as dune restoration beach/sand nourishment, living shorelines, horizontal levees, and other “green” infrastructure to address hazards.~~

HAZ-16

The City of Marina shall support managed retreat, where feasible and appropriate, including by actions such as acquiring inland properties ~~to be zoned and maintained as open space,~~ facilitating land swaps, and/or working with adjacent landowners.

HAZ-~~17~~-15

~~A real estate disclosure for coastal hazards and sea level rise should be attached to any parcel potentially subject to coastal hazards including but not limited to those identified within the Coastal Hazard Dune Erosion area (Figure 1-1). Such a disclosure should include information about known or potential hazards and LCP policies that would apply to the parcel.~~

HAZ-18

~~Proposed~~ Pre-Coastal Act, proposed redevelopment and existing development threatened by Coastal Hazards, as identified in the 2023 Existing Conditions and Sea Level Rise Adaptation Report, shall prepare a Coastal Hazards Response Plan (CHRP) which identifies triggers and steps for relocation and response to such hazards. Proposed development or redevelopment in the Coastal Hazards Zone will be subject to in-lieu fees prior to construction to provide funding for remediation and/or removal of any nuisance conditions due to the development.

HAZ-~~19~~-16

~~Property owners shall acknowledge that the boundary between public and private land may shift with rising seas and that development approval does not permit any development to be located on public trust lands. The City is encouraged to conduct periodic surveys of the mean high tide line and, where accessible, the dune crest to monitor a development's location relative to public trust lands.~~

HAZ-20

The City of Marina faces a greater burden from environmental stressors than the surrounding cities on the Monterey Bay Peninsula. The City shall: avoid the siting of facilities in areas subject to coastal hazards and areas vulnerable to seawater intrusion; prioritize the cleanup or relocation of existing facilities in areas subject to coastal hazards; and work to advance buffering measures like wetland and vernal pool restoration that enhance ecosystem services and minimize pollutant loads in groundwater supplies.

Additional Definitions:

Existing Development: An “existing development” means any structure or development lawfully in existence post January 1, 1977 and currently existing within the coastal zone.

Pre- Coastal Act Development: A “Pre-Coastal Act development” means a structure or development lawfully in existence prior to the effective date of the Coastal Act (January 1, 1977) that has not been redeveloped since.

Shoreline Protective Device:

Structures along the shoreline that are used to protect development against coastal hazards, including but not limited to seawalls, revetments, gunite, sheet piles, breakwaters, groins, bluff retention devices, retaining walls, and pier/caisson foundation and/or wall systems.

Redevelopment

A structure shall be considered redeveloped, whereby the structure is no longer considered an existing structure and instead the entire structure and all development on the site must be made to conform with all applicable LCP policies, when such development consists of:

- (1) Alteration (including interior and/or exterior remodeling and renovations, demolition or partial demolition, etc.) of 50% or more of the major structural components (including exterior walls, floor and roof structure, and foundation) of such development.
- (2) Additions and alterations to such development that lead to more than a 50% increase in floor area for the development.

Changes to floor area and individual major structural components are measured cumulatively over time from January 1, 1977.

Coastal Hazards: Including but not limited to, episodic and long-term shoreline retreat, dune recession and coastal erosion, high seas, ocean waves, storms, tsunamis, coastal flooding, landslides, bluff and geologic instability, and the interaction of same, and all as impacted by sea level rise.

Development: As used in these policies, "development" is synonymous with "new development" and shall include construction of entirely new structures (whereby the policies apply to the entire new structure), additions to existing structures (whereby the policies apply only to the addition itself), and redevelopment (whereby the entire structure shall be considered new development subject to all applicable coastal hazards policies).