

COASTAL BLUFFS AND BEACHES: INFORMATION AND REVIEW OF POLICY INTENT

Coastal communities are particularly vulnerable to impacts from sea level rise and hazards that result from extreme weather, including flooding and inundation, erosion, and wave impacts. State law and current scientific projections regarding climate change and sea level rise require that the County update policies related to development on coastal bluffs and beaches, and relationship of such to shoreline and coastal bluff armoring, in order to acknowledge and incorporate sea level rise into development standards and into conditions of approval that apply to projects proposed on sites subject to coastal hazards. Policies are needed to guide regulatory responses by the County and Coastal Commission to proposed changes on existing developed properties due to involuntary damage (from coastal hazards or other hazards such as fire), as well as to proposed demolition/replacement projects or reconstructions that are pursued voluntarily by property owners. Policies are also needed to address projects that involve only existing shoreline protection structures themselves, such as proposals to maintain, rehabilitate or replace such structures in a manner that would reduce existing impacts on coastal resources, or that would act to protect critical public infrastructure. Areas that are anticipated to accommodate shoreline protection structures in the mid-to-longer term are considered to be "shoreline protection exception areas", which would be designated only within certain portions of the existing urbanized area of unincorporated Santa Cruz County.

Much of the Santa Cruz County coastline, particularly in the urbanized developed areas, has some level of armoring (walls, riprap, etc.). The primary type of coastal armoring in this area is riprap, but concrete, steel, wood, and gabion basket armoring also exist. Such improvements are themselves considered "structures" and some of the protection structures existed (within "existing developed areas") prior to the Coastal Act. Some of these structures are well-maintained and some less so, with varying levels of impacts on coastal resources depending upon condition and location.

East Cliff Drive is located within an urbanized area that was an existing developed area at the time the Coastal Act was adopted, and it is one of the four primary east-west transportation corridors in Santa Cruz County which include Highway One, Soquel Drive/Avenue, the Santa Cruz Branch Rail Line (not presently used for but publicly owned and planned for multi-modal transportation) and East Cliff Drive/Portola Drive/Opal Cliffs Drive. East Cliff Drive, along with its transition as it becomes Opal Cliffs Drive, connects the Santa Cruz Harbor area to the Capitola Village area. A modern seawall has been constructed by the County of Santa Cruz in the Pleasure Point area along East Cliff Drive that should greatly reduce potential damage from coastal erosion to East Cliff Drive as well as the homes on the inland side of the road. This seawall is featured in the Coastal Commission's Sea Level Rise Guidance document as a model and desired approach for protecting public access and scenic and visual qualities when armoring is necessary and allowable. Transition to this type of seawall between Pleasure Point and the City of Capitola city limits, which is considered to be a "Shoreline Protection Exception Area" is a desired outcome for this portion of the urbanized coastal area of Santa Cruz County, which will open up more beach and shoreline area through removal of rip rap and the like, avoid future deposition of emergency protection that is typically rip rap, reduce visual impacts, and increase coastal access for the general public.

It is not uncommon for East Cliff Drive, a key arterial road, to be closed or damaged where it crosses Schwann Lake, Corcoran Lagoon and Moran Lake during large winter storms. In flood hazard areas it is not appropriate to construct hard armoring structures that divert or block flood waters or that artificially modify lagoon areas. Future sea level rise may require that bridges be built to cross the lagoon frontages, if it is necessary to maintain the East Cliff Drive transportation corridor in either the current or a nearby/modified road location. Such bridges would be designed to maximize lagoon function.

Expectations about the "design life" of improvements are an important consideration when establishing policies related to coastal bluff and other development on an eroding coastline. County policies in the 1994 General Plan/Local Coastal Program required throughout the unincorporated area a geologic setback from

the top of a coastal bluff of 25 feet or a setback sufficient, at the time of application submittal, to provide a building site for an assumed 100-year design life of the structure, whichever is greater. Updated County policies require evaluation of the geologic setback for development projects on coastal bluffs considering not only historical shoreline and bluff retreat data, but also acceleration of shoreline and bluff retreat due to continued and accelerated sea level rise, and other climate impacts according to best available science. The level of uncertainty regarding the rate and amount of future sea level rise and future effects on coastal properties makes it difficult to predict when, where, and how much the coast will change in the future. Current reasonable professional projections for the Santa Cruz coastal area (State of Californian Sea Level Rise Guidance 2018 medium risk aversion scenario for Monterey tide gauge), are 0.9 feet of sea level rise from the year 2000 conditions to 2040, and 3.1 to 4.3 feet from year 2000 conditions to the year 2100. In that this Safety Element is intended to address the 2020 to 2040 timeframe, an adaptive approach is reflected that anticipates refinement of policies in the future with subsequent update(s), as well as implementation of policies and requirements within the 2020-2040 timeframe for conditioning and mitigating impacts of coastal developments.

The updated Safety Element includes new policies and requirements for development projects subject to coastal and geologic hazards. A key principle is "private internalization of the risks and costs of improving, maintaining and abating development projects/structures on sites that are subject to coastal hazards", so that the public (governments, taxpayers, insurance policyholders) are not the parties who ultimately bear the costs of private property owner investment decisions when the time comes that it is environmentally, practically and economically infeasible to continue the existence of portions or all of structures/improvements subject to coastal hazards. Property owners will be required to acknowledge and accept the risk of building along the coast within a context of rising sea levels. In this way, it is expected that property owners and future buyers and financiers of property along the coast will be well aware of and prepare for such risks, including potential future costs of adaptation, mitigation of on-going impacts on coastal resources, and eventual privately-funded removal of structures that can no longer feasibly exist due to sea level rise. Another key principle is to foster coordination between property owners along similarly-situated portions of the coastline, to pursue coordinated shoreline protection projects where such currently predominantly exist (i.e. within designated "shoreline protection exception areas", so that privately-financed replacement projects can greatly reduce impacts on coastal resources and improve public access, while also acting to protect critical public accessways and infrastructure so that local government/agencies may prioritize financial resources to other climate change adaptive responses (avoiding forest fires, managing flood risks, relocating pump stations, building bridges, and so forth).

Although shoreline armoring may reduce or delay coastal erosion processes as long as it remains functioning, ultimately coastal erosion continues, periodic maintenance and repair is needed, and shoreline armoring devices may eventually fail, especially as storm surge and episodic wave action destroys and/or impacts improvements. At some point in the future, which is not expected to occur within the 20-year term of this Safety Element (2020-2040) coastal erosion processes may overwhelm the capacity of shoreline and coastal bluff armoring, in terms of feasibility from both physical and cost considerations. Existing regulatory tools such as the Building Code provide legal mechanisms for local government to react to evolving conditions by requiring non-occupancy and/or removal of all or portions of a building or shoreline armoring device with consideration of any secondary impacts of such removal. Policies in this Safety Element establish "triggers" for when local officials will require private property owners to hire geologic and engineering professionals to more closely manage the required responses by owners of threatened properties, in order to protect public health and safety and coastal resources (i.e. protection of the structure itself is a lesser or deemed irrelevant priority).

While shoreline armoring remains in place, it modifies coastal erosion, coastal processes, and sand transport through the reduction of wave erosion energy, or reflection or refraction of wave energy. For example, focused erosion can occur at the ends of the armoring. More broadly, shoreline armoring has impacts on

natural shoreline processes, including ultimately a loss of beach and public recreational opportunities in many areas, and thus the use of armoring as a response to coastal hazards must be carefully examined in this context. While shoreline armoring can be helpful in protecting against coastal erosion, proper setbacks from the brow of bluffs, drainage control, and special construction are all necessary to protect structures, roadways, and utilities from damage for the duration of the expected design life of the improvements.

Different Contexts: Within Urbanized Areas, Rural Areas, Areas of Lower Sandy Bluffs and Beaches, and Areas Subject to Different Geology/Geography

A fundamental land use policy of Santa Cruz County since adoption of the Measure J growth management framework in 1978 is to encourage new development to locate within existing developed urban areas, and to protect agricultural land and natural resources. Santa Cruz County has a long established Urban and Rural Services Line (USL/RSL) which defines an area of the county characterized by urban densities of development based on a pattern of existing supporting urban infrastructure. In contrast, areas along the coast that are not within the USL/RSL are characterized by low-intensity development, agriculture and open space. However, geologic and geographic contexts are not uniform within either the urban service area, rural service areas, or areas outside of the USL/RSL boundaries, especially for development built on/at beach level or on/along coastal lagoons. Along the coast the USL includes the communities of Live Oak, Soquel and Aptos/Seacliff/Rio del Mar, including the Beach Drive, Pot Belly Beach and Las Olas areas. The RSL includes locations that reflect urban patterns of development within more rural contexts, including La Selva Beach, Place de Mer, Sand Dollar Beach, Canon Del Sol, Sunset Beach, Via Gaviota and Pajaro Dunes. Projects located on beaches must be restricted to maximum permissible "elevation strategies" to elevate structures above coastal flood waters and hazards, which generally is established as a "one non-habitable story" amount of elevation (i.e. approximately 10 feet), and height variances to accommodate structural elevations for replacement/redeveloped structures should not exceed approximately 10 feet in any case and may be lower in certain locations to prevent impacts on coastal resources. This applies to projects on beaches where habitable portions of new structures are required to be elevated above flood levels, and not to projects on coastal bluff where new structures are required to be setback from the eroding bluff edge. In summary, the policy objectives reflected in this Safety Element are different depending upon history, location, urbanized character, and geologic/geographic context.

The area of the County along the coast within the USL is essentially urbanized and dominated by single-family residential development on top of coastal bluffs and on beaches or back beach areas. The USL boundary at the west is the Santa Cruz Harbor coastal resource and City of Santa Cruz city limit. The boundary at the east extends to and includes the community of Seascape. This urbanized area along the coast includes the City of Capitola city limits, and the Capitola shoreline is currently protected with rip rap, and coastal bluff armoring within the key coastal visitor serving resource of Capitola Village. This urbanized area along the coast also contains critical public infrastructure such as roads, sewer, water supply, drainage, parking lots and train tracks. In many areas, such as along Opal Cliffs Drive, only one row of residential lots establishes a buffer between public roads and infrastructure and the coastal bluff and beach. Those existing roads and infrastructure improvements support public access to the coast, and support structures, businesses and economic activity related to visitor accommodations and tourism, a key job and business sector for Santa Cruz County. As the existing homes become threatened by coastal bluff erosion it will be important to consider how the homes can be protected while also preserving infrastructure and increasing public access to the coast.

Shoreline and coastal bluff armoring are common within the USL/RSL, currently protecting about one-half of the existing urbanized area along the coast. These urban areas are part of an historical pattern of development that has been present for decades along the County's coast, and most of this urban development occurred before the Coastal Act became effective in 1977. The currently existing types of shoreline and coastal bluff armoring include natural stone riprap, concrete or wood retaining walls, gabion baskets, and concrete riprap of various shapes and sizes. Some of these existing measures take up areas of

the beach that otherwise would be available to the public (at least in the near- to mid-term before sea level rise may consume the shoreline in certain locations), some have more visual impacts than others, and some are better-maintained than others.

Shoreline and coastal bluff armoring are not common outside of the urbanized coastal areas of Santa Cruz County. Armoring that does exist for development that has been built on or along beaches and coastal lagoons can have greater impacts on coastal resources. Given the distinctly different contexts that exist within the unincorporated area, the proposed coastal bluffs and beaches and armoring policies reflect a “hybrid approach”, with “managed natural retreat” (“MNR”) establishing the regulatory approach in the rural areas, beach and lagoon areas being subject to different FEMA-influenced regulations, and “conditional accommodation, acceptance of risk, and adaptation” (“AAA”) establishing the regulatory approach in certain urbanized areas. However, the AAA policies themselves differentiate between coastal bluff sites involving the less-erodible Purisima rock formation (e.g. higher existing bluffs along Opal Cliffs Drive that are included within a designated “Shoreline Protection Exception Area” or “SPEA”) and more-erodible sandy coastal bluff areas that are typically shorter and typically adjacent to higher-value coastal shorelines accessed by the public.

Objective

The objective of the coastal bluffs and beaches policies is to recognize and reasonably minimize risks to life, property, and public infrastructure in coastal hazard areas; and to minimize and mitigate for adverse impacts on coastal resources from permitted development within coastal hazard areas. Meeting this objective requires a careful balancing of impacts on public vs. private resources and investments, with appropriate mitigation based upon principles of nexus and proportionality consistent with the Coastal Act.

The approach of the County is one of balance: while climate change, sea level rise, and damage from greater storm wave attacks are realities; a practical and reality-based adaptive approach that recognizes different contexts and histories of sub-areas is necessary, given applicable legal and political constraints.

A key goal over the stated 20-year timeframe of the 2020 Safety Element is to “get ready” and have property owners obligated to “internalize private property owner risks and future costs of adaptation” so that the public does not bear costs or obligations. In order to establish this platform over the next twenty years, it is considered reasonable to allow property owners in certain defined areas to pursue new homes or redevelopment/replacement of existing homes only one time only if subject to limitations and mitigations, unless located within a designated Shoreline Protection Exception Area or an adopted Shoreline Management Plan provides otherwise; and to Property owners would continue to be allowed to remodel, do smaller (<50%) additions, and maintain and repair their homes and existing shoreline protection structures. Property owners within the USL/RSL but outside of the SPEA would be allowed one “new” or reconstruction/redevelopment project in the future, but proposed major projects of that type would be subject to different standards, limitations and mitigations after that, and may not be approved based upon then-existing conditions. The timeframe would be from the date the new Safety Element is adopted. In exchange for approvals of coastal development permits that allow “new” homes or “redevelopment/replacement” (>50%) activity on properties that are also reliant on shoreline or coastal bluff armoring, a property owner must accept a package of conditions that include payment of sand mitigation in-lieu fees, recreation in-lieu fees, and otherwise minimizing public impacts and costs. Also, while Coastal Development Permits would not expire, conditions and/or terms of monitoring, maintenance, and repair programs would be written in such a way that there is a check-in every 20 years (or less time as may be warranted in the future), and a new phase of mitigation obligations may be imposed based on conditions/impacts on coastal resources that are occurring at the time of the check-ins.

The Coastal Act actually anticipated the difficulty of creating policy along the diverse coastline of California. It recognizes that at times, Coastal Act policies may conflict, and it is difficult to balance

achievement of competing interests. Notably, Section 30007.5 of the Coastal Act (“Legislative findings and declarations; resolution of policy conflicts”) provides guidance for such balancing:

*“The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, **serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.**” [bold text emphasis added]*

Other key provisions of the Coastal Act which provide guidance for policy development include sections 30001(c) and (d) (regarding “Legislative findings and declarations; ecological balance”), which finds and declares:

(c) *“That to promote the public safety, health and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment, it is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction.”*

(d) *“That **existing developed areas, and future developments** that are carefully planned and developed consistent with the policies of this division, **are essential for the economic and social well-being of the people of this state and especially to working persons employed within the coastal zone**.”* [emphasis added]

Section 30001.5 of the Coastal Act (“Legislative findings and declarations; goals”) includes the following goals for the coastal zone, and **includes both natural and man-made (“artificial” or developed) resources:** [Bold text emphasizes point that development was anticipated with “balance of developed & natural” policy basis; bolding not intended to minimize importance of natural coastal resources.]

- a. ***Protect, maintain, and where feasible, enhance and restore the overall quality of ... its natural and artificial resources.***
- b. ***Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.***
- c. ***Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners.***
- d. ***Assure priority for coastal-dependent and coastal-related development over other development on the coast.***

County of Santa Cruz Coastal Bluffs and Beaches Guiding Principles

Key information and guiding principles related to coastal bluffs and beaches, and shoreline and coastal bluff armoring, which have guided formation of policies, include the following considerations supporting a “hybrid approach”. The approach reflects a strategy of “managed natural retreat” (“MNR”) for rural, agricultural and open space areas, as well as for developments located on beaches and along coastal lagoons, and of “conditional accommodation, acceptance of risk, and adaptation” (“AAA”), also known as “incentivized managed retreat”, for existing developed areas within the Urban and Rural Services Lines. However, the AAA Guiding Principles differentiate between coastal bluff sites involving the less-erodible portions of the Purisima rock formation (e.g. higher existing bluffs along Opal Cliffs Drive) and more-erodible coastal bluff areas backing the beaches between the harbor and Pleasure Point and the south county beaches (typically adjacent to higher-value coastal shorelines accessed by the public).

GUIDING PRINCIPLES: REGULATION OF PROPOSED DEVELOPMENT ACTIVITIES ON COASTAL BLUFFS & BEACHES

- At the time the Coastal Act was effective in 1977, the urbanized areas of Santa Cruz County were largely developed in a similar form as today, and as of 2019~~20~~ approximately one-half of the properties within the urbanized area (within the Urban and Rural Services Lines) are protected by some form of shoreline and coastal bluff armoring. Recognize that the 2020 update of policies and regulations for coastal bluffs and beaches does not affect terms of existing permits for shoreline and coastal bluff armoring unless a triggering event occurs such as a proposed development project or work that exceeds the scope of authorized maintenance and repair. Such armoring is typically subject to requirements for monitoring, maintenance and repair – which also confers an expectation of and a reasonable right to such monitoring, maintenance and repair activity.
- For certain urbanized properties along East Cliff Drive Parkway/Opal Cliffs Drive between Soquel Point (~~Pleasure Point~~from and including APN 028-304-72 at the upcoast boundary) and Capitola city limit (the downcoast boundary), which are located on less-erodible taller coastal bluffs (predominately Purisima Formation rock/geology) and which were predominately urbanized prior to approval of the Coastal Act, it is not considered reasonable or feasible to expect that existing legally permitted shoreline and coastal bluff armoring will be removed or cease to exist within the immediate or near future, even in the face of climate change and sea level rise. Nearly all of these properties with existing shoreline protection structures would have adverse impacts on adjacent properties/structures if existing shoreline protection is removed within the twenty-year timeframe of this Safety Element. Therefore, the goal for this geographic area is to maintain, rehabilitate and/or replace existing shoreline protection structures, and allow new shoreline protection structures, in a coordinated manner, largely at private expense, so that impacts on public coastal resources are reduced. This may include integration of existing shoreline protection structures with the new structures. Removal of a majority of existing rip rap and assorted disparate material, avoidance of emergency placement of rip rap, and mitigation of visual, beach, recreation and access impacts are broad goals for this area. However, any permitted armoring must be regularly monitored, properly maintained, and repaired when needed. This area would be designated as a Shoreline Protection Exception Area or “SPEA”.
- Recognize that the Coastal Act explicitly allows shoreline and coastal bluff armoring to be installed to protect existing structures and public beaches in danger from erosion, when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing structures, including but not limited to structures that existed prior to implementation of the Coastal Act in 1978, include roadways used to access coastal resources, critical public facilities such as water and sewer lines, and visitor-serving assets such as vacation rentals and commercial areas, in addition to private homes and other private improvements.
- Recognize that there is a different geologic/geographic context, even within the pre-Coastal Act urbanized areas within the USL/RSL, for developments/structures that exist on coastal bluffs and beaches and on/along coastal lagoons, due to greater impacts on valuable environmental and public coastal resources as well as greater vulnerability to sea level rise and associated risks. For these properties, unless located within a designated Shoreline Protection Exception Area or an adopted Shoreline Management Plan provides otherwise, allow ~~only on new homes or~~ "redevelopment/replacement" (defined as a project involving modification/reconstruction of 50% or more of major structural components of the structure or an addition of more than 50% of the existing habitable area of the structure for projects on coastal bluffs, as defined in SCCC 16.10) ~~in the future after adoption of the 2020~~ only as limited by this Public Safety Element and implementing coastal bluff and beaches provisions of the Santa Cruz County Code, and with mitigations. More

strictly limit, or do not approve, new/replacement/reconstruction projects if structures on the site have been damaged by coastal processes.

- Recognize that the Coastal Act also recognizes that new development would occur after adoption of the Act in 1977, and that approved developments can be considered essential for economic and social well-being. New development within identified urbanized portions of the USL/RSL may be allowed to conditionally rely upon existing armoring, as determined appropriate through the coastal development permit process, however, new development outside of designated Shoreline Protection Exception Areas will be ~~limited to one cycle of substantial remodel~~ subject to stronger limitations on new or "replacement/redevelopment" homes after the effective date for the 20-year timeframe of this 2020 Safety Element.
- Recognize that the Coastal Act and other land use laws require consideration of private property rights and ensure that policy and permitting decisions do not unduly expose the County of Santa Cruz to litigation.
- For projects located on coastal bluffs, beaches and lagoons, establish a threshold for requiring geologic review, as well as requirements for deed restriction, evaluation of existing armoring, and mitigation of the impact of existing armoring; to be projects that meet or exceed the definition of "development/development activities" as codified by Santa Cruz County Code Chapter 16.10 Geologic Hazards. This definition establishes the threshold for application of certain coastal bluffs and beaches policies (note that some projects may be considered "development" by Chapter 13.20 Coastal Regulations and may require a coastal development permit but may not meet the Chapter 16.10 definition of "development/development activities" with its 50% threshold that triggers assessment of consistency with these GP/LCP Coastal Bluffs and Beaches policies and implementing regulations). Those policies use the identifier, SCCC 16.10, after the term development to indicate the policy applies to development as defined in SCCC 16.10. This is to avoid confusion with the definition of development for purposes of the Coastal Zone Regulations (SCCC 13.20) and the need for a Coastal Development Permit, or "CDP". (California Code of Regulations §13252 provides that "maintenance" means less than 50% of a structure is worked on or improved; except that certain areas such as beaches, coastal lagoons and coastal bluffs are subject to more stringent permit requirements. Shoreline protection structures are also subject to different thresholds for being considered development that requires a CDP).
- Recognize that for projects located on beaches and dunes in flood hazard areas, the threshold for requiring geologic review, as well as requirements for deed restriction, evaluation and mitigation of the impact of existing armoring, and elevation of the structure above the flood hazard level, is established to be projects that meet or exceed the definition of substantial improvement found in Santa Cruz County Code Chapter 16.13 Floodplain Regulations. Additionally, establish policies to provide that development projects located on beaches must be restricted to maximum permissible "elevation strategies" for elevation of structures above waters and hazards, which generally is established as a "one non-habitable story" amount of elevation (approximately 10 feet), and height variances to accommodate structural elevations for replacement/redeveloped structures should not exceed approximately 10 feet in any case and may be lower in certain locations to prevent impacts on coastal resources.
- Recognize that it is the intention that developments on and along beaches and coastal lagoons are not protected by new coastal protection structures, and that impacts on coastal resources are generally greater from developments in these locations. In these areas strictly adhere to riparian setbacks requirements for development along coastal lagoons (GP/LCP 5.2.5).
- Recognize that existing legally permitted structures and armoring will continue to exist pursuant to existing valid coastal development permits and other historic and valid permits. New requirements

can and shall only be imposed as a result of a triggering event pursuant to these policies including but not limited to an application for a new coastal development permit that exceeds a defined scope of work, a violation of County Code, or the structure or armoring becomes unsafe.

- Strive to avoid placement of new rip rap that is typically associated with “emergency permits”, in favor of early planning for construction of modern more-vertical armoring approaches in identified urbanized "shoreline protection exception areas" that would reduce or replace rip rap, in a manner that would lead to improved public access and improved visual resources during the planning horizon for the expected life of structures, when armoring is determined to be appropriate. Establish triggers for when property owners would be required to address imminent danger from coastal hazards.
- Recognize that roadways crossing the mid-County lagoons (Schwann, Corcoran, and Moran) are not candidates for seawall protection, and that future road designs for crossing the lagoons will likely require bridges if the roads are to continue in their current locations, which should be a priority adaptation project for the County and adjacent cities in light of regional significance.
- Recognize that the dredging practices of the Santa Cruz Port District, especially dredging spoils disposal location, have impacts to the amount of sand transported downcoast during winter months and to the amount of downcoast erosion. Work with the Santa Cruz Port District to implement dredging disposal policies which minimize downcoast impact and maximize beaches during high recreational seasons.
- Coordinate with jurisdictions in the County on a county-wide regional sediment management policy and plan.
- Pursue a “managed natural retreat” strategy within rural, agricultural and open space areas, which reflects accommodation of natural processes and policies which do not favor shoreline and coastal bluff armoring, with new development placed beyond a 75-year (100-year for critical structures) geologic setback line.
- Pursue an “adaptation” strategy within urbanized areas that conditionally accommodates improvements to and replacements of structures on coastal bluffs, but that emphasizes the risks due to sea level rise and increased coastal hazards. Implement different approaches within designated Shoreline Protection Exception Areas within the urbanized area, ~~as compared to areas that are not designated that will be allowed only one "redevelopment/replacement" after the effective date of this Safety Element unless the property is later~~ or for properties included within a Shoreline Management Plan that establishes Shoreline Protection Exception Areas for identified properties included in the Plan area. Impose more strict standards and limitations outside of those areas, including stronger mitigations or denial of projects for sites that have had structures damaged by coastal processes.
- Realize that adaptation will take place over decades, in light of past and existing conditions, private property rights, and uncertainty about future conditions; but prepare for the time that sea level rise and climate change will mean that development along the shoreline will need to be removed, and ensure that private property owners internalize the risks and ultimately bear the costs of adaptation and removal, if and when necessary based on conditions on the ground.
- Within identified urbanized areas, a primary goal is to establish a regulatory approach that will allow for replacement of existing armoring, where allowed, with modern measures that are considered near- to mid-term improvements. Strive to ensure that these measures are unified in appearance, remove rip rap as feasible to increase sandy beach areas, incorporate public access features as feasible, are colored and treated to better match natural materials, participate in programmatic mitigation approaches that fund priority investments in sand replenishment, public

recreation and beach access, and provide funds for eventual removal of measures in the longer-term when repair and replacements are no longer feasible or appropriate.

- Recognize that the County will periodically update the Safety Element and applicable regulations in order to reflect evolving conditions and best available science, with periodic review every five years when the Local Hazard Mitigation Plan (LHMP) that is incorporated by reference into the Safety Element is adopted. Amendment of the Safety Element would occur as needed to ensure ongoing internal consistency. The planning horizon and timeframe of this current Safety Element is to the year 2040, when these policies are expected to be more comprehensively updated. Applications submitted after the update is adopted would be subject to updated policies.
- Recognize that shoreline development may have impacts on surfing resources in the County.
- Recognize that in the near- to mid-term, expenditures by private owners of certain coastal bluff properties (e.g. within the SPEA along Opal Cliffs Drive) for shoreline and coastal bluff armoring will allow time for the County of Santa Cruz to identify funding for and carry out priority adaptation projects related to relocation of critical public infrastructure (which may also include roads and bridges) that must be undertaken in the future.
- Recognize that Shoreline Management Plans may be needed to plan for and implement sea level rise adaptation strategies in certain hazardous areas of the County, especially for the area between the Harbor /7th Avenue and Pleasure Point Drive where shorter sandy bluffs rather than taller Purisima Formation coastal bluffs exist. The area that would most benefit from development of a Shoreline Management Plan in order to establish a vision and refined guidance for future development rights, is for the Harbor/7th Avenue to Pleasure Point Drive/Soquel Point area, and grant applications will be submitted as feasible for available sources. The County will strive to support development of Shoreline Management Plans to be adopted by 2035 as Local Coastal Program implementation regulations. Shoreline Management Plans will need to address potential effects of development, shoreline armoring, at-grade and elevated buildings, especially on beach and at lagoon areas, and could identify potential opportunities to improve public access to the coast, protection of coastal resources, and adaptation of public roads and infrastructure.
- Development projects located on beaches (including within certain Rural Service Areas such as for Beach Drive, Las Olas and Pot Belly Beach properties), must be restricted to maximum permissible "elevation strategies" to elevate structures above waters and hazards as sea level rises in the future, which generally is established as a "one non-habitable story" amount of elevation (approximately 10 feet), and height variances to accommodate structural elevations for replacement/redeveloped structures should not exceed approximately 10 feet in any case and may be lower in certain locations to prevent impacts on coastal resources. This would apply only to projects on beaches and not on coastal bluffs.
- Strive to ensure that public access to the coastline and coastal dependent resources is preserved, and take actions to require correction and/or mitigation if the loss of such access when the loss of such access and/or resources results from activities or inaction by private property owners.
- In conjunction with approval of coastal development permits for a new home or major project involving an existing home located on a coastal bluff or on the shoreline, impose conditions of approval consistent with principles of nexus and proportionality, including:
 - Acceptance of risk associated with geologic and coastal hazards by owners.

- Waiver of any claim of damage or liability against and indemnification of the County for any damages or injury in connection with the permitted development.
- Ensure monitoring, maintenance and repair programs are implemented for existing or approved shoreline and coastal bluff armoring.
- Ensure property owners are aware of their responsibilities to respond to coastal hazards should the site or structure become unsafe.
- ~~○ Require property owners within certain areas of the USL/RSL to recognize that should a future Shoreline Management Plan become effective, future activity that exceeds “maintenance and repair” of existing shoreline and coastal bluff armoring may only be considered if determined to be consistent with the Shoreline Management Plan.~~
- Require property owners to recognize that local jurisdictions have the power to require that unsafe/dangerous structures be vacated and/or abated/removed, under the County Building Code (including the Uniform Code for Abatement of Structural and Geologic Hazards), and notice and order of the Building Official, when site conditions are such that hazards to life and public safety are no longer acceptable.
- When otherwise allowable, require new or repaired or modification of existing shoreline armoring to be the least environmentally damaging alternative and ensure that all impacts are mitigated.
- Require property owners to recognize that as sea level rises, the public trust boundary will in most cases migrate inland, resulting in currently private lands becoming public land that is held in the public trust for public trust purposes, including public access and recreation and other coastal-dependent uses.

Objective 6.4 Coastal Bluffs and Beaches

(LCP) To reduce, minimize to an acceptable level, and internalize costs of private property investments, the risks to life, property, and public infrastructure from coastal hazards, including projected hazards due to sea level rise, wave run-up and coastal erosion, and to minimize impacts on coastal resources from developments granted coastal development permits and granted extensions to monitoring, maintenance, and repair programs for shoreline protection structures.

General Shoreline Policies

6.4.1 Shoreline Policy Framework and Time Horizon

(LCP) Recognize the diverse nature of the coastline and coastal development in the County and implement a policy hierarchy with general policies that apply to all projects, policies that apply to shoreline type, policies that apply to project type, and policies that address ongoing adaptation to sea level rise along the County’s coastline and in specific shoreline areas.

Recognizing that shoreline and blufftop areas are inherently dynamic and hazardous places to build, particularly with respect to climate change and sea level rise in the coming decades, while at the same time understanding that property owners and project applicants seek a level of assurance regarding County land use policies that apply to proposed projects, the shoreline and coastal bluff policies of this Safety Element shall be considered to be in effect until the year 2040, by which time the expectation is that shoreline management plans and an updated set of policies within a Safety Element Amendment will have been adopted. More information will be available in the year 2040 that may cause the County to change its land use goals and

development criteria or allow for further refinement. Projects proposed after adoption of any updated policies and regulations would be subject to the updated policies and regulations. Carry out 5-year reviews and amend policies as warranted at the time each Local Hazard Mitigation Plan is adopted (2025, 2030, 2035) to ensure internal consistency (the LHMP is required to be updated every five years).

6.4.2 Site Development to Minimize Coastal Hazards and Protect Coastal Resources

(LCP) Require all development/development activities (SCCC 16.10) to be sited and designed to avoid, and where unavoidable to minimize, coastal hazards affecting the proposed development, and to not contribute to increased coastal hazards on adjacent or nearby properties, as determined by the geologic hazards assessment or through geologic and engineering investigations and reports, and within acceptable risk levels for the nature of the proposed development. Consider the effects of projected sea level rise in designing proposed improvements. Protect coastal resources (e.g. public access, beaches, and coastal habitats) from significant impacts through project design. Where impacts are unavoidable either deny the project or impose mitigation measures to reduce risks to acceptable levels and reduce impacts on coastal resources to less than significant levels.

6.4.3 Coastal Hazard Technical Reports to Use Best Available Science for Sea Level Rise Projections and Calculations of Geologic/Coastal Hazards Setbacks

(LCP) Recognize scientific uncertainty, by using within technical reports and project designs reasonably foreseeable projections of sea level rise (SLR) within the acceptable range established by the best available science and statewide guidance. The projection to be used in technical reports shall be based upon current best professional practices and best available science, which as of 2020 is considered to be 0.9 feet of sea-level rise between 2000 and 2040, and 3.1 feet to 4.3 feet of sea-level rise between 2000 and 2100. (State of California Sea Level Rise Guidance medium risk aversion scenario for the Monterey tide gauge). This policy may mean that certain developments are proposed, conditioned and mitigated based upon a shorter “expected design life” as defined by a site-specific geologic study and application filed with the County.

6.4.4 Identifying Planning Horizons and Expected Design Life Timeframes for New Structures

(LCP) The time horizon to use to evaluate the impacts of projected future sea level rise on a proposed development is an expected "standard" design life; applications for a “less-than-standard” design life may be considered through a geologic setback exception request included in the project development entitlements requested application. Under the Santa Cruz County regulatory approach, a residential or commercial structure has an expected standard design life of 75 years. A critical structure or facility has an expected standard design life of 100 years. The hazards analysis prepared in association with a coastal development permit application shall evaluate the site over the applicable 75- or 100-year standard and shall include analysis supporting any requested exception to the design life/geologic setback. The proposed structure would be set back or designed to avoid hazards over the proposed "expected life" planning horizon. In areas subject to future hazards, the expected design life of any particular development may be limited by site conditions. The expected life of development in the coastal zone is not an entitlement to maintain development in hazardous areas for the stated, requested or approved “design life”, but rather shall be used for sea level rise planning, structure siting, and permitting purposes. The actual life of the development shall be as dictated by actual conditions on the ground at any time in the future, and subject to conditions of approval which include triggers/requirements for monitoring, maintenance, repair, and abatement as appropriate over time.

6.4.5 Geologic Hazards Assessment and Technical Reports in Coastal Hazard Areas

(LCP) Require a geologic hazards assessment or full geologic, geotechnical, hydrologic, and/or other engineering report(s) for all development/development activities (SCCC 16.10), and foundation replacement or upgrade, within coastal hazards areas. Other technical reports may be required if significant potential hazards are identified by the hazards assessment. Reports must be prepared based on current best professional practices and best available science, consistent with this Safety Element and implementing provisions of the Santa Cruz County Code. Setback calculations shall consider historical shoreline and bluff retreat factors but must also consider projected acceleration of retreat due to sea level rise, wave run-up and other climate impacts according to best available science, which may include requirements for alternatives analysis under a range of future possible scenarios. Reports must be accepted by the County in order to use report findings as the basis for design of proposed structures or improvements.

6.4.6 Prohibit New Lots or Parcels in Coastal Hazard Areas

(LCP) Do not allow the creation of new lots or parcels in areas subject to coastal hazards, or within geologic setback areas necessary to ensure a building site for an expected 75 or 100-year lifetime, or where development would require the construction of public facilities or utility transmission lines within coastal hazard areas.

6.4.7 New Development on Existing Undeveloped Lots of Record in Hazardous Areas Not Located Within a Shoreline Protection Exception Area

(LCP) Outside Shoreline Protection Exception Areas, allow new construction or placement of any habitable structure, including a manufactured home and including a non-residential structure occupied by property owners, employees and /or the public in areas subject to storm wave inundation or beach or bluff erosion on existing undeveloped lots of record, only under the following circumstances:

(a) A technical report(s), including a geologic hazards assessment, geologic, geotechnical, hydrologic, and/or other engineering report(s), demonstrates that the potential hazard can be adequately mitigated by providing a minimum 75 or 100-year geologic/coastal hazards setback calculated at the time of submittal of the development application without consideration of any proposed new shoreline armoring, or that a geologic setback exception would be requested.

(b) As an alternative to the 75 or 100-year hazard setback, the property owner may apply for a Geologic/Coastal Hazards Setback Exception to request that the geologic setback applicable to the site reflect a shorter “expected design lifespan” for the development, on condition that the property owner fully accepts the risk of same and agrees to future removal of all development on the site (including any shoreline armoring) as may be required by triggers or other conditions identified in the conditions of development approval and to be incorporated within the Notice that is required and recorded pursuant to Policy 6.4.9.

(c) Outside the USL/RSL, Mitigation of the potential hazard is will not be dependent on existing or proposed shoreline or coastal bluff armoring, except when within identified areas ~~Within the USL/RSL, mitigation of the potential hazard may be dependent on shoreline or coastal bluff armoring consistent with these Section 6.4 policies and~~ provided such armoring is existing, legally established, and is required to be monitored, maintained, and repaired, and to mitigate its coastal resource impacts; and

(d) The owner records a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release on the property deed pursuant to Policy 6.4.9.

6.4.8 Density Calculations

(LCP) Exclude areas subject to coastal inundation, as defined by geologic hazard assessment or full geologic report, as well as bluff faces, sandy beach areas, and areas subject to the public trust from use for density calculations.

6.4.9 Required Recordation on Deed of Notice of Geologic/Coastal Hazard, Acceptance of Risk, Liability Release, and Indemnification as a Condition of Coastal Development Permit Approval

(LCP) As a condition of approval of Coastal Development Permits for development/development activities (SCCC 16.10) on sites subject to coastal hazards, require the applicant to record on title/deed to the property, prior to issuance of a building permit or grading permit, a Notice of Geologic/Coastal Hazard, Acceptance of Risk, Liability Release, and Indemnification. The Notice shall be in a form approved by the County of Santa Cruz, and shall include, but not be limited to, the following acknowledgements and agreements, on behalf of the applicant and all successors and assigns, as applicable to the specific project:

Coastal Hazards. That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storm surges, tsunamis, tidal scour, coastal flooding, liquefaction and the interaction of same, with these hazards all expected to increase due to impacts of climate change and sea level rise;

Assume and Accept Risks. To assume and accept the risks to the Applicant and the properties that are the subject of a Coastal Development Permit of injury and damage from such coastal and geologic hazards in connection with the permitted development;

Waive Liability. To unconditionally waive any claim of damage or liability against the County of Santa Cruz its officers, agents, and employees, for injury or damage to the permitted development, occupants of the site, or the general public in connection with the permitted development as related to geologic/coastal hazards;

Indemnification. To indemnify and hold harmless the County its officers, agents, and employees, with respect to the County's approval of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement to the extent arising from any injury or damage in connection with the permitted development and geologic/coastal hazards (along with other standard indemnification provisions applied to all development permits by the County);

Property Owner Responsible. That any adverse effects to property caused by the permitted development, as related to geologic/coastal hazards potential or actual effects, shall be fully the responsibility of the property owner. That cost of monitoring, maintenance, repair, abatement and/or future removal of structures shall be fully the responsibility of the property owner;

Flood Insurance. If the structure is built so that it does not comply with an effective BFE data as may be shown on future final Flood Insurance Rate Maps (FIRM), acknowledging that the structure may be subject to a higher flood insurance rating, likely resulting in higher-risk annual flood insurance premium if the property owner purchases flood insurance (voluntarily, or as required by mortgage lenders). If a program is created in the future that removes the subject location from being eligible for FEMA flood insurance, agree to abide with the terms of such a program;

Formation of GHAD or CSA. The property owner and / or any future heirs or assigns, by accepting a Coastal Development Permit, acknowledges that a Geologic Hazard Abatement District (GHAD) or County Service Area (CSA) may be formed in the future by the County (or other public agency) or a private entity to address geologic and coastal hazards along the shoreline and coastal bluff (or related unit thereof) and coastal resources that exist in the project

area, and assessments may be proposed and/or imposed for costs of projects and/or activities related to the protection against and/or abatement of geologic and coastal hazards;

Public Funds. That public funds may not be available in the future to repair or continue to provide services to the site (e.g., maintenance of roadways or utilities) and under such circumstances the County does not guarantee essential services to the site will continue to be provided, especially to sites that have or will soon become public trust lands as the mean high tide line migrates inland due to sea-level rise;

Occupancy. That the occupancy of structures where sewage disposal or water systems are rendered inoperable may be prohibited;

Public Trust Lands. That the structure may eventually be located on public trust lands, which removes private ownership rights from such areas; and

Removal or Relocation. In accordance with County regulations and Orders of the Chief Building Official, County Geologist, and/or Civil Engineer, that all development on the site, including shoreline and coastal bluff armoring, may be required to be removed or relocated and the site restored at the owner's expense if future site conditions and coastal hazards warrant such action. ~~consistent with Policies 6.4.32 through 6.4.35 below.~~

6.4.10 Exceptions Takings Analysis

(LCP)

Where full adherence to all LCP policies, including for setbacks and other hazard avoidance measures, would preclude a reasonable economic use of the property as a whole in such a way as to result in an unconstitutional taking of private property without just compensation, the County of Santa Cruz or Coastal Commission if having primary jurisdiction or on appeal, may allow some form of development that provides for the minimum economic use necessary to avoid an unconstitutional taking of private property without just compensation. There is no taking that needs to be avoided if the proposed development constitutes a nuisance or is otherwise prohibited pursuant to other background principles of property law (e.g., public trust doctrine). In no case shall the coastal bluff setback be less than 25 feet except as specifically allowed by Policies 6.4.13 and 6.4.28. Continued use of an existing structure, including with any permissible repair and maintenance (which may be exempt from permitting requirements), may provide a reasonable economic use. If development is allowed pursuant to this policy, it must be consistent with all LCP policies to the maximum extent feasible. Approval of a lesser level of hazard reduction based upon accepting a lower than normal expected lifespan for the proposed improvements, may be based on conditions of approval to include requirements to remove improvements as life safety hazards become more imminent and upon notice of the County Building Official and County Geologist, and possible other limitations on future reconstruction or redevelopment of improvements.

Shoreline Policies by Shoreline Type

6.4.11 Geologic/Coastal Hazards Setbacks from Coastal Bluffs for New Development, Redevelopment and Reconstruction on Coastal Bluffs Located Within the Urban and Rural Services Lines

(LCP)

All development (SCCC 16.10) on a coastal bluff site, and all nonhabitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff on sites located within the Urban and Rural Services Lines (USL/RSL). A setback greater than 25 feet may be required based on conditions on and adjoining the site, based upon recommendations of required geologic, soil engineering and/or other technical reports, in order to provide a stable building site for the reasonably foreseeable future. Within the USL/RSL, the geologic/coastal hazards setback shall be sufficient to provide a stable building site for a 75 or 100-year assumed "expected design life" of the improvements, calculated at the time of

application for permits when the technical reports are submitted, unless a geologic setback exception is approved.

Within the Urban and Rural Services Lines, the calculation of the 75 or 100-year geologic/coastal setback, or alternate timeframe setback requested under an exception procedure, will take into consideration the effect of existing legally established shoreline or coastal bluff armoring. If the geologic setback relies on existing armoring, the applicants will be required to re-evaluate such armoring consistent with Policy 6.4.25 regarding shoreline armoring, including that and such armoring is required to be monitored, maintained and repaired and to mitigate its coastal resource impacts. However, armoring installed under an emergency coastal permit will not be factored into the setback calculation unless a regular Coastal Development Permit is issued, and all conditions of the permit are met. In addition, technical reports prepared for sites within the Urban and Rural Services Lines will also include analysis based upon an alternative calculation of the 75 or 100-year setback that neglects any effect of existing armoring, in order to provide a measure of the effects of the existing armoring on the site conditions and provide information for decision making.

Furthermore, in areas within the USL/RSL that are NOT within designated Shoreline Protection Exception Areas (the area from Soquel Point, from and including APN 028-304-72 upcoast, along East Cliff/Opal Cliffs Drives, and to the Capitola city limit downcoast, is within a Shoreline Protection Exception Area; other areas may be established in conjunction with adoption of future Shoreline Management Plans), allow one project that qualifies as new, a substantial remodel or "redevelopment/replacement" in the future after adoption of the 2020 Public Safety Element and implementing regulations (defined as modification/reconstruction of 50% or more of major structural components of the structure or an addition of more than 50% of the existing habitable area of the structure, as defined in SCCC 16.10) unless found consistent with a later adopted Shoreline Management Plan prior to 2040 or prior to any amendment of this policy provision, whichever is later. After the allowed new or major project, subsequent development may be considered subject to and in accordance with Policy 6.4.12. More strictly limit, or do not approve, new/replacement/reconstruction projects if structures on the site have been damaged by coastal processes.

6.4.12 Geologic/Coastal Hazards Setbacks from Coastal Bluffs for New Development, Redevelopment and Reconstruction Outside of the Urban and Rural Services Lines

(LCP) All development (SCCC 16.10) on a coastal bluff site, and all nonhabitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff on sites located outside of the Urban and Rural Services Lines (USL/RSL). A setback greater than 25 feet may be required based on conditions on and adjoining the site, based upon recommendations of required geologic, soil engineering and/or other technical reports, in order to provide a stable building site for the reasonably foreseeable future. Outside the USL/RSL, the geologic/coastal hazards setback shall be sufficient to provide a stable building site for a 75 or 100-year setback, calculated at the time of application for permits when the technical reports are submitted, unless a geologic setback exception is approved by the County.

Outside the Urban and Rural Services Lines, for properties located on coastal bluffs, the calculation of the 75 or 100-year geologic/coastal hazards setback shall be based on existing site conditions and shall not take into consideration the effect of any existing shoreline or coastal bluff armoring. New shoreline or coastal bluff armoring is not allowed outside the Urban and Rural Services Lines. Authorized maintenance and repair of existing armoring is allowed to continue under an approved monitoring, maintenance, and repair program.

- 6.4.13 Modification, Reconstruction, or Replacement of Damaged Structures on Coastal Bluffs (LCP)**
If structures located on or at the top of a coastal bluff are damaged as a result of coastal hazards, including slope instability and seismically induced landslides, and where the loss involves 50 percent or more of Major Structural Components, allow reconstruction if all applicable LCP policies and regulations can be met, including the minimum 25-foot and the applicable 75 or 100-year geologic/coastal setbacks, or alternate setback authorized by an approved setback exception that establishes a shorter-term expected design life for the structure

For structures involuntarily damaged by other than coastal hazards (fire, for example), where the loss involves 50 percent or more of the Major Structural Components of the structure, allow repair “in kind” but encourage relocation to increase the setback if feasible. Allow other than “in-kind” reconstruction, redevelopment or replacement of involuntarily damaged structures in accordance with all applicable LCP policies and regulations.

Exemption: Public beach facilities and replacements consistent with Coastal Act Section 30610(g).

- 6.4.14 Bluff Face Development (LCP)**
Structures, grading, and landform alteration on bluff faces are prohibited, except for the following: public access structures with connection to public roads and/or public access easements, or as appropriate where no feasible alternative means of public access exists, or shoreline or coastal bluff armoring if otherwise allowed by the LCP. Such structures shall be designed and constructed to be visually compatible with the surrounding area to the maximum extent feasible and to minimize effects on erosion of the bluff face. Ensure that public access to the coastline and coastal dependent resources is preserved when the loss of access and resources is due to inaction on the part of private property owners.

- 6.4.15 Flood Hazard Policies (LCP)**
As further addressed in Section 6.6 Flood Hazards, all structures shall be located outside of the flood hazard area, wherever possible, and to incorporate floodproofing measures as required by FEMA and local flood regulations in areas subject to flood hazards, provided such floodproofing measures are consistent with the shoreline armoring policies for development along coastal bluffs and the shoreline.

- 6.4.16 Flood Hazard Mitigation (LCP)**
If it is infeasible for development to avoid flooding hazards, it shall be designed to minimize risks from flooding, including as influenced by sea level rise, over the anticipated life of the development to the maximum extent feasible and otherwise constructed using design techniques that will limit damage caused by floods. (See Policies in Section 6.6 and the Floodplain Regulations)

- 6.4.17 Reconstruction or Replacement of Damaged Structures due to Storm Wave Inundation (LCP)**
If structures located in areas subject to storm wave inundation are damaged as a result of any cause and the loss involves 50 percent or more of the value of the structure before the damage occurred (substantial damage), allow such repair (substantial improvement) only if all applicable regulations and LCP policies can be met. Also see policies in Section 6.6 Flood Hazards.

Exceptions: Public beach facilities and replacements subject to Coastal Act Section 30610(g).

- 6.4.18 Pajaro Dunes**

(LCP) Siting and design of new development and other development activities in the Pajaro Dunes Community shall take into account the extent of erosion of the primary frontal dune during the 100-year flood (or 1% annual chance flood). Development shall be elevated a sufficient amount to prevent impacts to coastal resources, assure structural stability of the development, and avoid coastal hazards over the expected lifespan of the development in accordance with the Flood Hazard policies in Section 6.6 and the Floodplain Regulations.

6.4.19 Rocky Shoreline Development

(LCP) Development atop rocky shoreline areas with no beach or limited beach shall not impact existing public access to the shoreline and shall incorporate conditions of approval as appropriate to increase public access to the shoreline. Ensure that public access to the coastline and coastal dependent resources is preserved, and take actions to require correction and/or mitigation if the loss of such access and/or resources results from activities or inaction by private property owners.

6.4.20 Development Along Creeks and Rivers in the Coastal Zone

(LCP) Where creeks and rivers discharge to the coastal zone recognize the combined effects of riverine flooding and coastal storm flooding causing elevated flood levels relative to existing FEMA flood mapping. Require hydrologic analysis to determine risk and appropriate development restrictions and flood resistant designs in these areas.

6.4.21 Habitat Buffers

(LCP) Provide buffers from the edge of wetlands or other environmentally sensitive habitat areas including riparian habitat, in accordance with habitat protection policies. Development shall ensure that as sea level rises buffer areas shall also expand appropriately to allow for migration of wetlands and other shoreline habitats. Uses and development within buffer areas shall be limited to uses allowed under the County's policies and ordinances involving sensitive habitat and riparian corridor protection. All development, such as grading, buildings and other improvements, adjacent to or draining directly to a habitat area must be sited and designed so it does not disturb habitat values, impair functional capacity, or otherwise degrade the habitat area.

Shoreline Policies by Project Type

6.4.22 Publicly Owned Facilities

(LCP) Existing publicly-owned and quasi-public facilities that are coastal-dependent or visitor serving uses such as public access improvements and lifeguard facilities, that are located on the beach or within 25 feet or within a calculated 75 or 100-year setback from the edge of the bluff, may be maintained, repaired, and/or replaced. Any repair or replacement shall be designed and sited to avoid the need for shoreline protection to the extent feasible.

6.4.23 Public Works Facilities

(LCP) Public works projects as defined in the Coastal Act shall be consistent with the Local Coastal Program.

6.4.24 Public Services in Coastal Hazard Areas

(LCP) Prohibit utility facilities and service transmission systems, including internet/broadband service, in coastal hazard areas, unless they are necessary to serve existing development or public facilities.

6.4.25 Structural Shoreline and Coastal Bluff Armoring

(LCP) (a) Limit shoreline and coastal bluff armoring within the Urban and Rural Services Lines to serve coastal dependent uses or to protect existing structures or public beaches from significant threats, unless located within and proposed in accordance with adopted policies and/or plans under a Shoreline Protection Exception Area or Shoreline Management Plan, in which cases the projects must be determined to be in substantial conformance with such policies and Plan(s). Armoring shall be designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Armoring may also be considered for vacant lots where both adjacent parcels are already similarly protected, or vacant lots which through lack of protection threaten adjacent or nearby developed lots; or those which protect public roads and infrastructure, and coastal recreation areas. Developments on and along beaches and coastal lagoons shall not be protected by new shoreline protection structures. New shoreline or coastal bluff armoring is not allowed outside the Urban and Rural Services Lines unless required by the Coastal Act. Authorized maintenance and repair of existing armoring is allowed to continue under approved monitoring, maintenance, and repair programs.

(b) Through the coastal development permit review process for projects involving development (SCCC 16.10), require evaluation of existing shoreline and coastal bluff armoring in accordance with all applicable sub-sections of this policy 6.4.25. Unless triggered by a proposed development project or work that exceeds the scope of maintenance and repair of an existing shoreline or coastal bluff armoring structure, the term of a permit for an existing armoring structure shall not be altered.

Project Review

(c) Require any coastal development permit applications for shoreline and coastal bluff armoring located outside of Shoreline Protection Exception Area(s) to include a thorough analysis of all reasonable alternatives to the proposed armoring including, but not limited to, the following:

- (1) Consistency with an approved shoreline management plan, if applicable
- (2) Relocation or partial removal of the threatened structure
- (3) Protection of the upper bluff and blufftop (including through planting appropriate native or non-invasive vegetation and removing invasive plant species, and better drainage controls) or the area immediately adjacent to the threatened structure
- (4) Natural or “green” infrastructure (like vegetated beaches, dune systems, and wetlands)
- (5) Engineered shoreline or coastal bluff armoring (such as beach nourishment, revetments, or vertical walls)
- (6) Other engineered systems to buffer coastal areas
- (7) Combinations or hybrids of the above

(d) Shoreline or coastal bluff armoring projects shall be designed as close as possible to the coastal bluff or structure requiring protection and must be designed to minimize adverse impacts. Design considerations include but are not limited to the following:

- (1) Minimize the footprint of the armoring on the beach
- (2) Provide for public recreational access
- (3) Provide for future access for maintenance of the armoring

- (4) Strive for a continuous lateral pedestrian access as physically feasible
 - (5) Minimize visual intrusion by using materials that blend with the color or natural materials in the area, contouring to match nearby landforms as much as possible, and using vegetation for screening
 - (6) Meet approved engineering standards and applicable County Code provisions for the site as determined through the coastal development, building, and grading permit process
 - (7) The design must be based on detailed technical studies to accurately define geologic, hydrologic and oceanographic conditions affecting the site
 - (8) Eliminate or mitigate adverse impacts on local shoreline sand supply
 - (9) All armoring structures shall incorporate permanent survey monuments for future use in establishing a survey monument network along the coast for use in monitoring seaward encroachment or slumping of armoring and erosion trends
- (e) Unless the existing armoring is being appropriately maintained by an approved Geologic Hazard Abatement District Plan of Control or other joint maintenance agreement, for development activities (SCCC 16.10) protected by existing shoreline and coastal bluff armoring, the coastal permit application shall include:
- (1) Re-assessment of the need for the armoring (see paragraph (l) below)
 - (2) A report on the need for any repair or maintenance of the device (see paragraph (k) below)
 - (3) Evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions
 - (4) A report on changed geologic and hydrologic site conditions including but not limited to changes relative to sea level rise
 - (5) Assessment of impacts to sand supply and public recreation
 - (6) Recommendation to avoid or mitigate impacts to sand supply and public recreational resources
 - (7) If approved, such development associated with existing shoreline or coastal bluff armoring shall meet all other applicable requirements of this policy, including with respect to the impact mitigation requirements
- (f) For sites protected by existing rip rap or similar material, or nonengineered legacy structures, require that the applicant submit a report at the time of filing an application for a coastal development permit for development (SCCC 16.10), including an evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions. The report shall include a Recovery Plan for the maintenance and repair, or potential removal of all or a portion of the existing rip rap revetment, to recover migrated rip rap and to provide for least disturbance of the beach and shoreline while also functioning as necessary to protect the structures on and adjacent to the parcel. The Recovery Plan must incorporate Best Management Practices for maintenance and repair to address potential impacts to sensitive species and environmental resources, as well as Best Management Practices for construction during maintenance and repair activities.

Conditions of Approval

- (g) Shoreline or coastal bluff armoring requiring a coastal development permit should be the least environmentally damaging feasible alternative to serve coastal-dependent uses or to protect a structure or a public beach in danger from erosion
 - (1) Hard armoring (such as seawalls and revetments, etc.) shall only be allowed if soft alternatives (such as managed retreat/relocation, beach nourishment, vegetative planting, and drainage control, etc.) are not feasible, or are not the least environmentally damaging feasible alternative
 - (2) Permit shoreline or coastal bluff armoring only if non-structural measures are infeasible from an engineering standpoint or not economically viable
 - (3) Hard armoring is limited as much as possible to avoid coastal resource impacts
 - (4) Alternatively, an approved Shoreline Management Plan or projects within a designated Shoreline Protection Exception Area may authorize hard armoring for identified sections of the coast.
- (h) No coastal development permit application for shoreline or coastal bluff armoring shall be ~~allowed~~approved for the sole purpose of protecting an accessory structure.
- (i) All proposed shoreline and coastal bluff armoring shall be sited and designed to eliminate or mitigate adverse impacts on coastal resources to the maximum feasible extent. All unavoidable coastal resource impacts shall be appropriately mitigated. Any approved new, replacement, reconstructed or redeveloped shoreline protection structure must not result in unmitigated impacts to coastal resources including.
 - (1) Reduced or restricted public beach access
 - (2) Adverse effects on shoreline processes and sand supply
 - (3) Increased erosion or flooding on adjacent properties,
 - (4) Adverse effects on coastal visual or recreational resources, or harmful impacts on wildlife and fish habitats or archaeological or paleontological resources
- (j) Mitigation Programs. Require mitigation of unavoidable adverse impacts on coastal resources, including payment of in lieu fees where on-site or in-kind options are not possible. The shoreline or coastal bluff armoring project shall include proportional mitigation for all unavoidable coastal resource impacts, including impacts on shoreline sand supply, sandy beaches, public recreational access, public views, natural landforms, and water quality. At a minimum, the effects of the armoring with respect to retention of sand generating materials, the loss of beach/sand due to its footprint, and passive erosion shall be evaluated. Proportional in-lieu fees may be used as a proxy for impact mitigation if in-kind options (such as developing new public access facilities) are not possible, and if such in-lieu fees are deposited in an interest-bearing account managed by the County and used only for mitigations offsetting unavoidable adverse impacts of the project. Required mitigation shall be determined based on reasonable calculation of unavoidable adverse impacts of a specific project on coastal resources, and may include the following:
 - (1) Sand Mitigation - to mitigate for loss of beach quality sand which would otherwise have been deposited on the beach the County may collect a fee proportional to the

impact of the project on the deposit of beach quality sand which would have otherwise occurred to implement projects which mitigate for loss of beach quality sand due to or coastal bluff armoring. The methodology used to determine the appropriate mitigation fee will be as approved by the California Coastal Commission and which may be administratively amended from time to time by the Commission. Unless amended, the methodology applies to coastal bluff environments and does not apply to sand dune environments such as Pajaro Dunes. The mitigation fee shall be deposited in an interest-bearing account designated by the Planning Director or County Parks Director.

- (2) Public Recreation Mitigation - to mitigate for public recreational impacts associated with actual loss of public recreational opportunities, including access, caused by the armoring, the County shall identify mitigation that allows for objective quantification of the value of beach and shoreline area that is related in both nature and extent to the impact of the project. Project applicants have the option of proposing an on-site or in-kind public recreation/access project or payment of fees to the County in lieu of on-site or in-kind mitigation of impacts. The in-kind public recreational/access project may be an on-site easement or improvement or other off-site public use or access amenity. At the County's discretion, these projects may be accepted if it can be demonstrated that they would provide a directly related recreation and/or access benefit to the general public. Fees paid to the County to mitigate public recreational impacts shall be calculated based on the cost to provide alternative public recreational opportunity, proportional to the loss of public recreational opportunity caused by the project. Unless an alternative method is adopted, the methodology used to calculate fees paid to the County for use of County-owned property, such as rights-of-way, shall be the methodology for calculating the public recreation in-lieu fee that would satisfy this mitigation requirement. Fees for use of County-owned property may be established and amended by the County from time to time.

- (k) No approval shall be given for ~~any coastal~~ development ~~activity permit~~ involving shoreline or coastal bluff armoring that does not include a requirement for submittal and County acceptance of a Monitoring, Maintenance and Repair Program prior to finalization of the building/grading permit for the structure. The Program shall include, but is not limited to the following elements;

- (1) Monitoring by a professional engineer or geologist familiar and experienced with coastal structures and processes.
- (2) Report to the County upon completion of construction of the armoring and every five years or less thereafter, as determined by either the County Geologist or a qualified professional, for as long as the armoring remains authorized. Reports shall be reviewed and accepted by the County Geologist.
- (3) The report shall detail the condition of the structure and list any recommended maintenance and repair work
- (4) The monitoring plan and periodic report shall address impacts to shoreline processes and beach width, public access, and availability of public trust lands for public use
- (5) The monitoring, maintenance and repair program shall be recorded on the title/deed of the property
- (6) The program shall allow for County removal or repair of shoreline or coastal bluff armoring, at the owner's expense, if its condition creates a public nuisance or if

necessary, to protect the public health and safety and to ensure that public access to the coastline and coastal dependent resources is preserved. Take actions to require correction and/or mitigation if the loss of such access and/or resources results from activities or inaction by private property owners.

- (7) The program shall include any other monitoring, maintenance, and repair activities the County determines necessary to avoid or mitigate impacts to coastal resources
- (8) The term of the Program shall be 20-years. Extension beyond 20 years will require an application to amend the condition of approval of the Coastal Development Permit to extend the Monitoring, Maintenance, and Repair Program at which time the Program shall be updated if necessary, to address changed shoreline conditions, and may include additional and/or renewed requirements for mitigation of then-existing impacts of the project on coastal resources for the requested term of extension.
- (l) Armoring Duration. The shoreline or coastal bluff armoring shall only be authorized until the time when the existing structure that is protected by such a device 1) is no longer present; or 2) no longer requires armoring. Unless already authorized within an approved Monitoring, Maintenance and Repair Program pursuant to approved coastal development permit that addresses the anticipated removal of the protection structure, permittees shall be required to submit a coastal permit application to remove the authorized shoreline or coastal bluff armoring within six months of a determination that the armoring is no longer authorized to protect the structure it was designed to protect because the structure is no longer present or no longer requires armoring.
- (m) Maintenance and Repair Authorized. Approved shoreline or coastal bluff armoring may be maintained and repaired (with building or grading permits as needed) in accordance with conditions of approval of Coastal Development Permits authorizing the armoring; but exceeding authorized maintenance and repair may require updated technical reports and may require approval of an amendment of the coastal development permit. Repair and maintenance activities may require issuance of a coastal development permit, consistent with the Title 14, Section 13252, of the California Code of Regulations.

Emergency Authorization

- (n) In cases of emergency, an emergency shoreline protective device may be approved on a temporary basis only, and only under the condition that the device is required to be removed unless a regular coastal development permit is approved for retention of the structure. In such cases, a complete coastal development permit application shall be required to be submitted within 60 days following construction of the temporary emergency shoreline protective device, unless an alternate deadline is authorized by the Planning Director for good cause and good faith efforts continue toward submittal of the application. Any such temporary emergency shoreline protective device shall be sited and designed to be the minimum necessary to abate the identified emergency, and to be as consistent as possible with all LCP shoreline protective device standards, including in terms of avoiding coastal resource impacts to the maximum feasible extent. Mitigation for impacts will be required through the regular coastal development permit process, although mitigation commensurate with the duration of impacts caused by the emergency temporary device may also be required as determined by the County to be warranted. The County shall notify the Coastal Commission upon receipt of a request for an emergency shoreline protective device within the County's coastal permit jurisdiction.

- 6.4.26 Drainage and Landscape Plans**
(LCP) Require drainage and landscape plans to consider potential hazards on and off site, to require removal of invasive plants and replacement with native bluff and/or other county-approved acceptable species in the area within 15 feet of the blufftop edge and below and be approved by the County Geologist prior to the approval of development in coastal hazard areas. Require that approved drainage and landscape development not contribute to offsite impacts and that the defined storm drain system or Best Management Practices be utilized where feasible. The applicant shall be responsible for the costs of repairing and/or restoring any off-site impacts caused by drainage and landscape work on the site.
- 6.4.27 Drainage and Improvements within 25 feet or applicable setback from coastal bluff.**
(LCP) Drainage systems shall be designed to ensure that no drainage will flow over the coastal bluff. The drainage system (including water from landscaping and irrigation) shall not contribute to coastal bluff erosion. Furthermore, all drainage system components shall be maintained in good working order. All deck, stairs etc. within the 25-foot or applicable geologic/coastal setback are required to be structurally detached from other structures and not require a building permit.
- 6.4.28 Foundation Replacement and/or Upgrade**
(LCP) Foundation replacement and/or foundation upgrades involving 50% or more of the existing foundation shall meet the 25-foot minimum and the applicable 75- or 100-year geologic setback requirements. An exception to those requirements is allowed for foundation replacement and/or upgrade for existing structures that are located partly or wholly or partially within the setback if the property owner agrees to record a Notice of Geologic/Coastal Hazard prior to issuance of the building permit, and if the Planning Director determines that:
- (1) the structure will be relocated to maximize the geologic setback from the coastal bluff or shoreline; or
 - (2) the structure cannot be relocated to meet the setback due to inadequate parcel size.
- 6.4.29 Additions to Existing Structures Located on Coastal Bluff and Beaches**
(LCP) Additions of any size to existing structures located on coastal bluff sites, including second story and cantilevered additions that extend the existing structure in a seaward direction, shall comply with the applicable geologic/coastal hazards setback requirements of Policies 6.2.11 and 6.2.12. Prohibit additions of any size to existing structures located on beaches or in the wave run-up zone, including second story and cantilevered additions, that extend the existing structure in a seaward direction.
- 6.4.30 Swimming Pools and Spas**
(LCP) All new swimming pools, spas and similar in-ground and above-ground water recreation or fishpond types of features shall be located landward of the applicable geologic/coastal hazard setback. Any new water-containing features of this nature shall have double-wall construction with leak detection systems and drains to facilities and locations approved by the County.
- 6.4.31 Accessory Structures**
(LCP) Coastal Development Permits are required for accessory structures in coastal hazard areas (including on blufftops and in the shoreline area), whether habitable or nonhabitable, and whether or not a building permit is required under Chapter 12.10 Building Regulations. CDPs authorizing accessory structures must include a condition of approval that requires the property owner and all successors in interest to remove the structure if the County Geologist, the Building Official or a licensed geotechnical engineer determines that the accessory structure is

at risk of failure due to erosion, landslide or other form of bluff collapse or geologic/coastal hazard. In the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner shall be required to remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site.

Ongoing Adaptation

6.4.32 Removal Conditions/Development Duration

(LCP)

Coastal development permits for projects involving development (SCCC 16.10) on private property located in areas subject to coastal hazards shall be conditioned to indicate that it may be required that it be removed, and the affected area restored if:

- (a) the Building Official and/or the County Geologist has issued a final Notice and Order that the structure has become permanently unsafe to occupy due to bluff failure, erosion of the bluff, or coastal hazards;
- (b) essential services to the site can no longer feasibly be maintained (e.g., utilities, roads);
- (c) removal is required pursuant to implementation of an adopted Shoreline Management Plan; or
- (d) as provided by conditions of approval for a permit that has been accepted and implemented by an owner of the property.

Such condition shall be recorded on a deed restriction against the subject property. See Policy 6.4.9.

6.4.33 Abatement of Unsafe Site or Structure

(LCP)

If coastal hazards result in an unsafe site or unsafe structure, dangerous conditions shall be abated in accordance with County regulations and Orders of the Chief Building Official. If all or any portion of improvements are deemed uninhabitable, the improvements shall be removed, and the affected area restored, unless an alternative response is approved by the County of Santa Cruz, and by the California Coastal Commission if the project is within the Coastal Commission's original jurisdiction. Alternative responses to coastal hazards may include (1) pursuit of a Coastal Development Permit consistent with County Code regulations in Chapter 13.20 (Coastal Zone Regulations) and Chapter 16.10 (Geologic Hazards); and/or (2) pursuit of an alternative consistent with an adopted shoreline management plan.

6.4.34 Bluff or Beach Erosion Trigger for Technical Report

(LCP)

If the mean high tide line or the blufftop edge migrates to within 15 feet of a principal structure or to any other point where the site or structure is deemed unsafe by County regulations and/or the County Geologist, Civil Engineer, or Chief Building Official, the property owner shall retain a licensed geologist or civil engineer with experience in coastal processes and hazard response to prepare a geotechnical investigation and Coastal Hazards Report that addresses whether all or any portions of the residence and related development are threatened by coastal hazards, and that identifies actions that should be taken to ensure safe use and occupancy, which may include removal or relocation of all or portions of the threatened development and improvements, or other alternate responses. The property owner shall undertake activities to pursue an appropriate response in accordance with adopted and applicable County of Santa Cruz and California Coastal Commission regulations. The geotechnical investigation and Coastal Hazards Report shall be submitted to the Executive Director of the California Coastal Commission, and to the Planning Director, Chief Building Official and County Geologist of Santa Cruz County. If the residence or any portion of the residence is proposed to be removed, the Applicant shall submit a Removal and Restoration Plan. In the event that any structure in

the future is located below mean high tide on state lands and subject to a state lease, strive to retain local control of any lease revenue.

6.4.35 Removal and Restoration

(LCP)

If an appropriate government agency so orders, or as a result of the above-referenced geotechnical investigation and Coastal Hazards Report, it is determined that any portion of the approved development must be removed due to coastal hazards, or if removal is required pursuant to Policies 6.4.9 or 6.4.32 or 6.4.33, a Removal and Restoration Plan shall be submitted to the County for review and approval. No removal activities shall commence until the Removal and Restoration Plan and all other required plans and permits are approved. The plan shall specify that in the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner will remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site. If it is determined that separate grading and coastal development permits are required in order to authorize the activities, the application shall be submitted as soon as immediately feasible, including all necessary supporting information to ensure it is complete. The Removal and Restoration Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, and shall be implemented immediately upon County approval, or County approval of required permit applications, as may be required.

6.4.36 ~~Repetitive Loss~~ Properties Classified as Repetitive Loss Under FEMA Floodplain Regulations

(LCP)

Repetitive loss properties shall be subject to the requirements of Policy 6.4.17 regarding damage due to flooding, storm wave impacts, and inundation. Repetitive loss means flood-related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

6.4.37 Shoreline Management Plan(s)

(LCP)

Seek funding to assist with more specific planning that would assess alternatives and identify preferred strategies for how various segments of the urbanized area shoreline/coastal bluffs could transition if more comprehensive modern approaches to shoreline protection were implemented by the County and/or private property owners through Geologic Hazard Abatement District(s) or County Service Area(s); rather than property-by-property measures. Consistent with Policy 6.4.1, the shoreline and coastal bluff policies of this Safety Element shall be considered to be in effect until the year 2040, by which time the expectation is that shoreline management plan(s) and/or an updated set of policies within a Safety Element Amendment will have been adopted. Should a future Shoreline Management Plan(s) become effective, all future proposed development shall be found to be substantially consistent with the provisions of the approved management Plan. Shoreline Management Plan(s) would identify any subareas that would be designated as Shoreline Protection Exception Areas, would identify the nature of planned improvements, would identify appropriate adaptation options to implement if and when shoreline and coastal bluff armoring is no longer a feasible solution, would identify triggers for when other adaptation options should be implemented, and would identify priority areas for future adaptation responses.

6.4.38 Repair and Maintenance Requiring a Coastal Development Permit

(LCP)

Ensure consistency with Title 14, Section 13252, of the California Code of Regulations regarding repair and maintenance activities requiring a coastal development permit which

identifies different thresholds depending on the nature and location of the repair and maintenance activity.

Programs

- (LCP)** a. Relocate if feasible, essential public facilities such as sewer lines and sanitation pump stations to locations outside of coastal hazard areas when they are due for expansion or replacement or major upgrade. (Responsibility: Public Works)
- (LCP)** b. Develop and implement a program to correct existing erosion problems along coastal bluffs caused by public drainage facilities and monitor and enforce compliance of private drainage facilities with approved designs and applicable standards. (Responsibility: Public Works)
- (LCP)** c. Review existing public coastal protection structures to evaluate the presence of adverse impacts such as pollution problems, loss of recreational beach area, and fish kills and implement feasible corrective actions. (Responsibility: Public Works, Environmental Health, Planning Department)
- (LCP)** d. Support, encourage, and seek funding from FEMA and other appropriate agencies for the initiation of a review of all shoreline protective structures to evaluate their effectiveness and potential for becoming public hazards. Shoreline armoring can become public hazards, for example, if they are in such a state of disrepair that portions have fallen or are in imminent danger of falling onto beaches. Where it is determined that such structures are public hazards or where they provide ineffective protection due to inadequate maintenance, notify the property owner and require the property owner to either maintain the structure to a reasonable level or remove and replace the structure as feasible consistent with applicable policies and regulations. Consider County action to maintain or remove and replace the structure and recover costs by a lien against the property if the property owner does not act within one year of such notice. (Responsibility: Planning Department, Board of Supervisors)
- (LCP)** e. Notify private property owners in areas subject to coastal hazards they are responsible for costs of responding to property damage due to coastal erosion, coastal flooding, and wave run-up hazards, including but not limited to repair, replacement, relocation and/or removal of a portion or all of damaged structures. Encourage property owners to create a contingency fund to cover future costs to modify, relocate and/or remove development that may become threatened in the future by sea level rise and/or when removal triggers are met. Costs for removal and restoration may be based on estimates provided by a licensed building moving/demolition contractor for the amount of contingency funds necessary to remove the structure, including any seawall and restore the site. The amount of contingency funds should be reviewed every ten years and adjusted to account for changed site conditions, inflation and other conditions that effect the amount of future contingency funds needed. (Responsibility: Planning Department)
- (LCP)** f. Support, encourage, seek funding, and cooperate with the Coastal Conservancy, Coastal Commission, State Lands Commission, and the Army Corps of Engineers for the establishment and maintenance of a permanent survey monument monitoring network along the coast. Utilize existing monuments set by Caltrans, other public agencies, geologic consultants, and others to the greatest degree possible. Incorporate the use of these monuments into all future planning for shoreline protective structures. Provide geo-reference (latitude and longitude) for each monument and structure. (Responsibility: Planning Department, Public Works)

- (LCP) g. Explore, with regional, state and federal agencies as appropriate, whether it is desirable or feasible to create a program that would exclude certain areas of the coast and/or certain types of projects, from being eligible for FEMA insurance or other programs that involve shifting costs of private property repair, replacement or abatement to public agencies or to insurance ratepayers in general.
- (LCP) h. Consider the best available and most recent scientific information with respect to the effects of coastal hazards and long-range sea level rise when establishing sea level rise maps, scenarios, and assumptions for use in geologic, geotechnical, hydrologic and engineering investigations, including coastal hazards analyses. Support scientific studies that increase and refine the body of knowledge regarding potential sea level rise in the County, and possible responses to it.
- (LCP) i. Research and identify a range of financing mechanisms to support the implementation of adaptation strategies, including through grant programs (e.g. State Coastal Conservancy Climate Ready grants, NOAA Coastal Resilience grants, FEMA/Cal OES Hazard Mitigation funding) and utilization of in-lieu fees collected as mitigation for shoreline armoring.
- (LCP) j. Work with entities that plan or operate infrastructure, such as Public Works, Santa Cruz County Sanitation District, Water Districts, the Regional Transportation Commission, Caltrans and PG&E, to plan for potential realignment of public infrastructure impacted by sea level rise, with emphasis on critical accessways.
- (LCP) k. Support efforts to develop and implement innovative design alternatives that reduce or eliminate flood damage, especially those which would qualify through FEMA as acceptable alternatives to elevation under the National Flood Insurance Program (NFIP). Encourage homeowners to implement voluntary floodproofing measures in conjunction with development that is not required to be elevated.
- (LCP) l. **Shoreline Management Plan(s)** Pursue grant funding to enable creation of Shoreline Management Plan(s) for the shoreline areas within the Urban and Rural Services Lines, where such Plans would be structured around sections of the shoreline with similar existing conditions and potential hazards. Shoreline Management Plans will need to address potential effects of development, shoreline armoring, at-grade and elevated buildings, especially on beach and at lagoon areas, and could identify potential opportunities to improve public access to the coast, protection of coastal resources, and adaptation of public roads and infrastructure. Shoreline management plans would include the short- and long-term goals for the specified area, the management actions and policies necessary for reaching hazard reduction, environmental and public access goals, and necessary monitoring and maintenance to ensure effectiveness. Shoreline Management Plan(s) would examine priorities for shoreline management, timelines, options, specific projects to be implemented, phasing and action triggers. As components of the management plans, assess seasonal and long-term shoreline changes and the potential for flooding or damage from erosion, sea level rise, waves, and storm surge. Plans would provide requirements for adapting existing development, public improvements, coastal access, recreational areas, and other coastal resources. Plans would assess the impact of existing and future development, and evaluate the feasibility of hazard avoidance, managed retreat, restoration of the sand supply and beach nourishment in appropriate areas. Plans would incorporate strategies necessary to manage and adapt to changes in wave, flooding, and erosion hazards due to sea level rise.

- (LCP)** m. The County will work with coastal property owners to seek funding for preparation of Shoreline Management Plan(s), which would identify specific objectives for defined (sub)area(s) of the County's coastline. Any subareas would be defined geographically where multiple adjacent properties would be managed toward the same objective, with policies that apply in the areas.