CITY OF CARPINTERIA
INTERIM SEA LEVEL RISE GUIDANCE
APPLICANT CHECKLIST FOR NEW DEVELOPMENT
IN AREAS POTENTIALLY AFFECTED BY SEA LEVEL RISE

INTRODUCTION

In reviewing an applicant's proposed project, the City of Carpinteria's (City) must consider a proposed project's consistency with the City's certified Coastal Land Use Plan/General Plan (CLUP/GP). The City's current CLUP/GP references the broader policies of the California Coastal Act (Coastal Act) by incorporation which allows the City to consider sea level rise impacts in the interim while the City's CLUP/GP is formally amended to include specific policies and development standards. The purpose of this Interim Guidance document is to notify applicants of the information requests and the potential special conditions the City anticipates imposing on Coastal Development Permit applications for new development and redevelopment that may be affected by sea level rise within the City's jurisdiction.

DECISION PROCESS

The City will review applications to analyze (1) whether the proposed project site will be impacted by sea level rise within the life of the project, relying on the best available science, and (2) the estimated extent of the impact caused by sea level rise. The City will use these analyses to determine whether any special conditions will be placed on the Coastal Development Permit (CDP), if approved. The remaining sections of this guidance provide applicants with an overview of the potential information requests, and possible special conditions, the City may require in order to inform its review and approval of a CDP. The information requests and special conditions the applicant should be aware of are determined by answering the following questions:

a. Is my project considered "redevelopment"?
b. Where is my project located?

IS MY PROJECT CONSIDERED REDEVELOPMENT?

The following information requests and special conditions are only applicable to proposed projects that fall within the definition of "development" or "redevelopment" as specified in City City's General Plan, Zoning Code, and Public Resources Code section 30610. For the purposes of this Interim Guidance, the City interprets the terms "redevelopment" and to "redevelop" as:

All new construction or reconstruction, additions and remodels that have a valuation exceeding fifty percent (50%) of the valuation of the existing structure; or replacement of fifty percent (50%) or more of an existing structure.

Applicants are expected to provide staff with sufficient information to make a determination as to whether a project qualifies as redevelopment. Information that may be required to make a redevelopment determination include, but are not limited to, a real estate appraisal demonstrating current market value of improvements; detailed contractor's estimate for proposed scope of work; preliminary structural plans demonstrating the extent of anticipated structural alternations (e.g., foundation, load bearing walls, roof/flooring and frame work, etc.).

WHERE IS MY PROJECT LOCATED?

Conditions and information requests to be considered are determined by the geographic location of the applicant's proposed project site and potential exposure to sea level rise, as defined by the following Zones:

Zone 1	**Properties located on the ocean side of Sandyland Road between Linden Avenue and Ash Avenue**
Zone 2	**Properties located in the Beach Neighborhood excluding the northeast corner of the neighborhood, defined as those properties east of Holly Avenue *and* north of Third Street**

Once the applicant has determined in which Zone the proposed project is located, the applicant should be prepared to expect the following information requests during the permit review process and/or special conditions of approval to be placed on the permit approval:

Zone 1	• Information Request
	  ○ Wave action study
	  ○ Site specific coastal hazards study
	• Conditions
	  ○ Recorded disclaimers regarding (1) assumption of the risk, and/or (2) waiver of future claims against the City

Zone 2	• Information Request
	  ○ Site specific coastal hazards study
	• Conditions
	  ○ Recorded disclaimers regarding (1) assumption of the risk, and/or (2) waiver of future claims against the City

DESCRIPTIONS

I. Information Requests

- Wave Action Study. The City's current Safety Objective 4 (S-4) calls for minimizing "the potential risks and reduc[ing] the loss of life, property and the economic and social dislocations resulting from flooding." Implementation Policy 14 associated with this objective calls for wave run-up studies under certain circumstances. The City recognizes that every project is unique and may not present the same vulnerability to flooding hazards. The City will consider the 100-year storm event, like the 100-year flood event, as a design standard for development. Accordingly, the City will require these studies when the project is located within Zone 1.

- Coastal Hazards Study. Coastal Hazards Studies determine at what level and by what year the project site may be susceptible to sea level rise. The City and California Coastal Commission staff would likely rely on the USGS Coastal Storm Modeling System (CoSMoS) and guidance from the Commission's Sea Level Rise policy document, the 2018 Ocean Protection Council (OPC)'s Sea-Level Rise document, and appropriate tide gauges to analyze the project site's vulnerability to coastal hazards. Applicants should be aware that projects within areas susceptible to early sea level rise may be required by the Coastal Commission to address the life of their projects under the **Medium-High Risk Aversion** scenario or the **Extreme Risk Aversion (H++)** based on a set of sea level rise predictions during an appeal process. In anticipation of this requirement, applicants should prepare a Coastal Hazards Study to avoid a potential appeal to the Coastal Commission. For direction on the preparation of a Coastal Hazards Study, the City recommends reviewing the County of Santa Barbara's *Technical Guidelines for Preparation of a Coastal Hazard Report* that are pending certification by the Coastal Commission. A copy of which is attached to this guidance.

  If possible, adaptation options should be identified and analyzed as a part of the applicant's project, leading to one or more alternatives for the project site that will minimize risks from sea level rise hazards and avoid or minimize impacts to coastal resources. This is because the City may require future or incremental removal of structures if property owners are faced with certain hazard triggers, for example when the shoreline comes within a certain distance of the foundation of the project, or the OPC

predictions indicate sea level rise may encroach on a project sooner than initially anticipated. Triggers identified would be based on estimated lead times needed to catalyst planning for future adaptation measures. These potential hazard triggers are typically incorporated into an adopted LCP, however, at least one court has approved removal conditions in the absence of an LCP policy requiring such removal, as long as the triggers are not overly broad. (See *Lindstrom v. California Coastal Commission* (2019) 40 Cal.App.5th 73.) This would also be consistent with the Coastal Act's purpose of minimizing coastal hazard risks and resource impacts when making redevelopment decisions. The potential condition would encourage and/or require, as applicable, at-risk structures to be brought into conformance with current standards as necessary.

II. Disclosures & Waivers

- Assumption of the Risk. For projects that qualify as "redevelopment" located in Zones 1 and 2, The City shall require applicants to assume the risk of damage caused by future sea level rise, and to waive any claims for damages for such hazards. Examples of waivers include:

  - "*By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards, including but not limited to coastal flooding, which may worsen with future sea level rise; (ii) to assume the risks to the permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to waive unconditionally any claim of damage or liability against the City, its officers, agents, and employees for injury or damage from such hazards; (iv) to indemnify and hold harmless the City, its officers, agents, and employees with respect to the City's approval of the project 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 arising from any injury or damage due to such hazards; (v) that sea level rise could render it difficult or impossible to provide services to the site (e.g., maintenance of roadways, utilities, sewage or water systems), thereby constraining allowed uses of the site or rendering it uninhabitable; and (vi) that the structure and/or site require future adaptation or may need to be removed or relocated and the site restored if it becomes unsafe.*"

- Disclosures & Waiver of Future Development. For projects that qualify as "redevelopment" located in Zones 1 and 2, the City shall require sellers of real estate to disclose permit conditions related to coastal hazards, or property defects or vulnerabilities, including information about known current and potential future vulnerabilities to sea level rise, to prospective buyers prior to closing escrow. As a corollary, the Coastal Commission, on appeal, may require additional disclosures that inform

future property owners that under certain circumstances they are unable to seek future CDPs for bluff or shoreline protective device(s), or other development, in the event their structure is damaged by sea level rise or storm events. An example of such disclosures, which would be tailored for individual projects based on potential hazards, includes:

- *"By acceptance of this Permit, the applicants agree, on behalf of themselves and all successors and assigns, that no bluff or shoreline protective device(s) shall ever be constructed to protect the development approved pursuant to Coastal Development Permit No. [X] including, but not limited to, the residence and foundation in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions, bluff retreat, landslides, or other natural hazards in the future. By acceptance of this Permit, the applicants hereby waive, on behalf of themselves and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235."*

APPLICABLE AUTHORITY

All CDPs issued by the City must be consistent with its certified CLUP/GP as well as with the policies of the California Coastal Act. There are several policies within the City's current CLUP/GP which guide the City's evaluation and issuance of CDPs. These include, but are not limited to, the following:

- Objective LU-1: Establish the basis for orderly, well planned urban development while protecting coastal resources and providing for greater access and recreational opportunities for the public.

- Policy LU-1a: The policies of the Coastal Act are incorporated by reference as the guiding policies of the land use plan (Public Resources Code Sections 30210 through 30263). As applicable, the City may rely on:

    - *Section 30250 Location; existing developed area*
    - *Section 30253 Minimization of adverse impacts*

- Objective S-4: Minimize the potential risks and reduce the loss of life, property and the economic and social dislocations resulting from flooding.

    - *S-4-Implementation Policy 13*: The City shall support and facilitate the current Army Corps of Engineers (ACOE) feasibility study and otherwise pursue long-term solutions for beach nourishment and establishment of a vegetated dune system at City Beach. As an interim measure, and with permission from the Coastal Commission and US Army Corps of Engineers, the City may construct a sand berm on the City Beach parallel to the homes fronting on the beach.

- *S-4-Implementation Policy 14*: All new construction or reconstruction, additions and remodels that have a valuation exceeding 50 percent of the valuation of the existing structure, shall be constructed so as to be protected from wave action. A wave action study shall be prepared and submitted to the city as a part of the project application that determines the necessary construction design and technique to protect the structure and prevent impacts to adjacent property. Shoreline protective devices, such as seawalls and revetments, shall be prohibited. Coastal development permits for new construction, including reconstruction where more than 50 percent of the exterior walls are removed, shall be conditioned to not allow a future seawall to protect the development.

The Coastal Commission has taken the policy position that local governments are able to rely on the broader flood hazards policies of the Coastal Act as authority to analyze sea level rise impacts on new development without needing amendments to local coastal programs. (Pub. Res. Code, § 30253.) More specifically, while the Commission's jurisdiction on appeal is "limited to an allegation that the development does not conform to the standards set forth in the certified local coastal program or the public access policies set forth in [the Coastal Act]." (Pub. Res. Code, § 30603(b)(1)), the Commission's jurisdiction on appeal does include imposing reasonable terms and conditions on the permit "to ensure that such development or action will be in accordance with the provisions of this division." (Pub. Res. Code, § 30607.) Accordingly, applicants should be aware that the Coastal Commission has utilized the broader policies of the Coastal Act to impose special conditions for appealed projects, even if not within the authority allowed in the local government's certified LCP.

Appendix 1

County of Santa Barbara's Technical Guidelines for Preparation of a Coastal Hazard Report

APPENDIX I: TECHNICAL GUIDELINES FOR PREPARATION OF A COASTAL HAZARD REPORT

The following standards and guidelines are intended to clarify and assist with the preparation of a Coastal Hazard Report for beachfront and bluff-top development. This appendix also includes the methodology for calculating a site-specific bluff edge setback and preparing a wave run-up study. All of these standards and guidelines may not be applicable or necessary for an individual project on a specific site, based upon the initial analysis performed by a qualified professional. The qualified professional must provide sufficient evidence to show that individual standards or guidelines do not apply to a specific site or proposed development.

1. Sea Level Rise Projection Information.

   The Medium Sea Level Rise Coastal Hazard Screening Map (Appendix J to the Coastal Land Use Plan) shows areas of the county coastline that are potentially subject to increased threats from sea level rise and coastal hazards, where further site-specific study is needed to assess potential adverse impacts. The Screening Map shows the "medium" sea level rise scenario possible by the years 2030, 2060, and 2100, based on projections described in the County's 2017 "Sea Level Rise and Coastal Hazards Vulnerability Assessment." Table I-1 below shows the medium sea level rise scenario, as well as the low and high scenarios. All three scenarios can be visually examined using the Coastal Resilience Mapping Portal available online through the Planning and Development Department website.

Table I-1. Sea Level Rise Projections for Santa Barbara County (inches)

Time Period	Low Sea Level Rise Scenario	Medium Sea Level Rise Scenario	High Sea Level Rise Scenario
By 2030	0.04	3.5	10.2
By 2060	2.8	11.8	27.2
By 2100	10.6	30.7	60.2

Source: Santa Barbara County Sea Level Rise and Coastal Hazards Vulnerability Assessment, July 2017.

2. Methodology for Calculating a Bluff Edge Setback:

   (a) Identify bluff edge consistent with the Article II definition of "bluff edge."

   (b) Determine a slope stability setback. Evaluate the stability of the bluff. If the slope exhibits a factor of safety of less than 1.5 for the static condition or 1.1 for the pseudostatic condition, then a "slope stability buffer" shall be established landward of the bluff edge. The slope stability buffer is the line landward of the bluff edge where the minimum factor of safety (1.5 static and 1.1 pseudostatic) can be met. When determining the slope stability buffer, the minimum factor of safety shall be achieved without the use of new or existing slope or shoreline protection devices.

   (c) Determine the bluff erosion setback. A site-specific evaluation of the long-term bluff retreat rate at the site shall be conducted that considers not only historical bluff retreat data, but also acceleration of bluff retreat projected to occur under continued and accelerated sea level rise and any known site-specific conditions. The geologic evaluation must include the total scope of development (e.g., proposed grading, buildings, structures, landscaping, and associated irrigation). Such an evaluation shall be used to determine the distance from the bluff edge (or from the slope stability buffer line if applicable) that the bluff might reasonably be expected to erode over the anticipated life of the structure (refer to Coastal Land Use Plan Policy 3-10), factoring in sea level rise using the current best available science, and without the use of new or existing slope or shoreline protection devices. Analysis of the effect of sea level rise on erosion rate shall use the best available science and include an examination of the "medium" amount of the sea level rise expected over the anticipated life of the development. Historic erosion rates can be determined by examination of historic records, surveys,

aerial photographs, studies, or other evidence showing the location of the bluff edge through time. A minimum of 50 years' worth of historic data is generally used to evaluate historic erosion rates, but a greater time period may be warranted if the shoreline has changed dramatically due to natural forces or development.

(d) Determine the bluff edge setback by adding the slope stability and bluff erosion setback distances. Development shall be setback from the bluff edge the distance needed to: ensure slope stability (the slope stability setback); ensure the development is not endangered by erosion (the bluff erosion setback); and avoid the need for protective devices during the life of the structure.

3. Standards and Guidelines for Preparation of a Coastal Hazard Report for Bluff-top Properties:

A site-specific Coastal Hazard Report shall be required that is prepared by a qualified California licensed engineer with expertise in coastal processes. At a minimum, the Coastal Hazard shall examine the "medium" scenario of projected sea level rise over the expected life of the structure using the current best available science. The conditions that shall be considered in the hazard evaluation are: a seasonally eroded beach combined with erosion over the life of the structure, excluding the effects of any existing shoreline protective device; high tide conditions, combined with projections for sea level rise for the life of the structure; and storm waves from a 100-year event. The study shall provide maps and profiles that identify these conditions, as well as recommendations and alternatives to avoid, and if avoidance is not feasible, minimize, identified coastal hazards over the expected life of the structure. The study shall identify unavoidable coastal resource impacts and appropriate mitigation measures. Studies shall include an assessment of the availability of and potential risks to services to the site, including risks to public or private roads, stormwater management, water, sewer, electricity, and other utilities over the life of the development, considering sea level rise.

Coastal Hazard Reports shall include analysis of the physical impacts from coastal hazards and sea level rise that might constrain the project site and/or adversely impact the proposed development. Reports should address and demonstrate the site hazards and effects of the proposed development on coastal resources, including discussion, maps, profiles and/or other relevant information that describe the following:

(a.) Current conditions at the site, including the current:
- tidal range, referenced to an identified vertical datum
- intertidal zone
- inland extent of flooding and wave run-up associated with extreme tidal conditions and storm events
- beach erosion rates, both long-term and seasonal variability
- bluff erosion rates, both long-term and episodic

(b) Projected future conditions at the site, accounting for sea level rise over the anticipated life of the development, including the future:
- Shoreline, dune, or bluff edge, accounting for long-term erosion and assuming an increase in erosion from sea level rise
- intertidal zone
- inland extent of flooding and wave run-up associated with both storm and non-storm conditions

(c) Safety of the proposed structure to current and projected future coastal hazards, including:
- Identification of a building envelope on the site that avoids hazards
- Identification of options to minimize hazards if no building envelope exists that would allow avoidance of hazards

- Analysis of the adequacy of the proposed building/foundation design to ensure stability of the development relative to expected wave run-up, flooding and groundwater inundation for the anticipated life of the development in both storm and non-storm conditions
- Description of any proposed future sea level rise adaptation measures, such as incremental removal or relocation when threatened by coastal hazards

(e) Discussion of the study and assumptions used in the analysis including a description of the calculations used to determine long-term erosion impacts and the elevation and inland extent of current and future flooding and wave runup.

(f) For blufftop development, the report shall include a detailed analysis of erosion risks, including the following:

- To examine risks from erosion, the predicted bluff edge, shoreline position, or dune profile shall be evaluated considering not only historical retreat, but also acceleration of retreat due to continued and accelerated sea level rise and other climatic impacts. Future long-term erosion rates should be based upon the best available information, using resources such as the highest historic retreat rates, sea level rise model flood projections, or shoreline/bluff/dune change models that take rising sea levels into account. Additionally, proposals for blufftop development shall include a quantitative slope stability analysis demonstrating a minimum factor of safety against sliding of 1.5 (static) and 1.1 (pseudostatic, k=0.15 or determined through a quantitative slope stability analysis by a geotechnical engineer), whereby safety and stability must be demonstrated for the predicted position of the bluff and bluff edge following bluff recession over the identified project life, without the need for caissons or other protective devices. The analysis should consider adverse impacts both with and without any existing shoreline protective devices.

The "medium" sea level rise scenario shall be examined to understand potential adverse impacts that may occur throughout the anticipated life of the development. At a minimum, flood risk over the anticipated life of the development should be examined. Additionally, the analysis should consider the frequency of future flooding impacts (e.g., daily impacts versus flooding from extreme storms only) and describe the extent to which the proposed development would be able to avoid, minimize, and/or withstand impacts from such occurrences of flooding. Studies should describe adaptation strategies that reduce hazard risks and neither create nor add to adverse impacts on existing coastal resources and that could be incorporated into the development.

4. Standards and Guidelines for Preparation of a Coastal Hazard Report for Beachfront Properties:

A site-specific Coastal Hazard shall be required that is prepared by a qualified California licensed engineer with expertise in coastal processes. At a minimum, the Coastal Hazard shall examine the projected sea level rise under the "medium" scenario, over the expected life of the structure, using the current best available science. The conditions that shall be considered in the hazard evaluation are: a seasonally eroded beach combined with erosion over the life of the structure, excluding the effects of any existing shoreline protective device; high tide conditions, combined with projections for sea level rise for the life of the structure; and storm waves from a 100-year event. The study shall provide maps and profiles that identify these conditions as well as recommendations and alternatives to avoid, and if avoidance is not feasible, minimize, identified coastal hazards over the expected life of the structure. The study shall identify unavoidable coastal resource impacts and appropriate mitigation measures. Studies shall include an assessment of the availability of and potential risks to services to the site, including risks to public or private roads, stormwater management, water, sewer, electricity, and other utilities over the life of the development, considering sea level rise.

Coastal Hazard Reports shall include analysis of the physical impacts from coastal hazards and sea level rise that might constrain the project site and/or adversely impact the proposed development. Studies should address and demonstrate the site hazards and effects of the proposed development on coastal

resources, including discussion, maps, profiles and/or other relevant information that describe the following:

(a) Current conditions at the site, including the current:
- tidal range, referenced to an identified vertical datum
- intertidal zone
- inland extent of flooding and wave run-up associated with extreme tidal conditions and storm events
- beach erosion rates, both long-term and seasonal variability
- bluff erosion rates, both long-term and episodic

(b) Projected future conditions at the site, accounting for sea level rise over the anticipated life of the development, including the future:
- shoreline, dune, or bluff edge, accounting for long-term erosion and assuming an increase in erosion from sea level rise
- intertidal zone
- inland extent of flooding and wave run-up associated with both storm and non-storm conditions

(c) Safety of the proposed structure to current and projected future coastal hazards, including:
- Identification of a building envelope on the site that avoids hazards
- Identification of options to minimize hazards if no building envelope exists that would allow avoidance of hazards
- Analysis of the adequacy of the proposed building/foundation design to ensure stability of the development relative to expected wave run-up, flooding and groundwater inundation for the anticipated life of the development in both storm and non-storm conditions
- Description of any proposed future sea level rise adaptation measures, such as incremental removal or relocation when threatened by coastal hazards

(d) Discussion of the study and assumptions used in the analysis including a description of the calculations used to determine long-term erosion impacts and the elevation and inland extent of current and future flooding and wave runup.

(e) For development on a beach, dune, low bluff, or other shoreline property subject to coastal flooding, inundation or erosion, the report shall include a detailed wave uprush and impact report and analysis, including the following:
- The analysis shall consider current flood hazards as well as flood hazards associated with sea level rise over the anticipated life of the development. To examine risks and adverse impacts from flooding, including daily tidal inundation, wave impacts, runup, and overtopping, the site should be examined under conditions of a beach subject to long-term erosion and seasonally eroded shoreline combined with a large storm event (1% probability of occurrence). Flood risks should take into account daily and annual high tide conditions, backwater flooding, water level rise due to El Niño and other atmospheric forcing, groundwater inundation, storm surge, sea level rise appropriate for the time period, and waves associated with a large storm event (such as the 100 year storm or greater). The analysis should consider impacts both with and without any existing shoreline protective devices.

At a minimum, the "medium" scenario of projected sea level rise shall be examined to understand the potential adverse impacts that may occur throughout the anticipated life of the development. Additionally, the analysis should consider the frequency of future flooding impacts (e.g., daily impacts versus flooding from extreme storms only) and describe the extent to which the proposed development would be able to avoid, minimize, and/or withstand impacts from such occurrences of flooding. Studies should describe adaptation strategies that reduce hazard risks and neither create nor add to impacts on existing coastal resources and that could be incorporated into the development.