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The California Coastal Commission  
455 Market Street, Suite 300  
San Francisco, CA 94105

**RE: League of California Cities Comments:  
Critical Infrastructure at Risk: Sea Level Rise Adaptation Planning  
Guidance for California's Coastal Zone – Public Review Draft,  
August 2021**

Dear California Coastal Commissioners and Commission Staff,

The League of California Cities (Cal Cities) has reviewed the August 2021 Public Review Draft Critical Infrastructure at Risk: Sea Level Rise Adaptation Planning Guidance for California's Coastal Zone (Guidance) and offers the following comments for your consideration. The comments submitted in this letter were developed in tandem with our Coastal Cities Group Leadership Committee and their staff, which have been participating in the California Coastal Commission's (CCC) Sea-Level Rise Working Group.

Cal Cities believes it is imperative for all coastal jurisdictions to plan for sea-level rise, particularly as it relates to critical infrastructure along the coast. The Guidance has clearly incorporated concepts such as phasing of sea-level rise planning that Cal Cities has advocated for through the CCC Sea-Level Rise Working Group. However, Cal Cities is concerned that some elements of the Guidance, in particular the model policies, do not factor in many of the legal and logistical challenges associated with planning for critical infrastructure, which by its definition is essential to the functioning of our communities. Adapting critical infrastructure will require local jurisdictions to be nimble as shoreline conditions, best available science, and legal frameworks change over time. Many of the model policies in the document do not offer the flexibility that is needed and could provide disincentives for local jurisdictions to update their Local Coastal Programs to address sea-level rise. Cal Cities offers the following comments in the sincere hope that the Guidance be as useful as possible and encourage local jurisdictions to plan for sea-level rise.

**General Comments:**

**1.** The Guidance places almost all its emphasis on nature-based solutions with the presumption that any type of coastal armoring is always the least preferred option. Acknowledging that some coastal communities have limited ability to relocate infrastructure and, therefore, some form of armoring might be the most appropriate adaptation solution in some situations would go a long way to address concerns of local jurisdictions on the Guidance. In practice, the use of

hybrid strategies will be much more likely to be instituted for critical infrastructure due to the threats to purely nature-based solutions during major storm events. It may be advantageous to place more emphasis in the Guidance on how to design hybrid and armoring strategies to provide as many environmental benefits as possible instead of placing most of the focus on nature-based solutions. While we understand that CCC staff intended “nature-based solutions” discussed in the document to include hybrid solutions, that is not clear in the model policies where only the term “nature-based solutions” is used frequently.

2. The siting and design of critical infrastructure is directly tied to the development it serves. We appreciate the portion of the Transportation section entitled “Duty to Maintain Public Road Access” beginning on page 56, which explains the constraints associated with planning for public infrastructure. The Guidance would benefit from having a similar section in the Water and Wastewater section, and the Executive Summary explaining the obligations of jurisdictions to provide basic health needs, such as water and wastewater service to private and public development. Abandoning service to an area requires many legal hurdles and, in many cases, could lead to environmental impacts as private property owners pursue alternate forms of waste management and water supply. This is, in many cases, the biggest factor in siting and design of critical infrastructure and it should be emphasized more in the Guidance.
3. We understand CCC staff’s desire for the H++ sea-level rise scenario to be considered for long term programmatic planning or siting of new very critical infrastructure, however many policies overemphasize the utility of that scenario, particularly for work on existing infrastructure. The Ocean Protection Council’s (OPC) [State of California Sea-Level Rise Guidance](#) states that the H++ is an extreme scenario that currently cannot be assigned a probability of occurrence due to lack of information. When we plan for critical infrastructure, we are not able to plan for all amounts of risk, as that would be impossible. Historically, critical infrastructure has been planned to address risk levels such as the one in a 100-year storm, or for very critical infrastructure, the one in 500-year flood event. Critical infrastructure serves coastal development that the OPC guidance recommends planning for the medium-high risk aversion scenario. The medium-high risk aversion scenario is already very conservative, with a one in 200 chance of being met or exceeded. Certain very critical new facilities will require consideration of extreme scenarios, such as the H++. However, the majority of infrastructure should be sited and designed to a more reasonable level of risk associated with the development being served.

From a logistical standpoint, it is not a simple exercise to plan for the H++ both because of the infeasibility in many cases of siting and designing to that scenario at this juncture, and because agencies, such as the United States Geological Survey (USGS) Coastal Storm Modeling System (CoSMoS), have not provided modelling or data for most of the parameters associated with the H++ scenario. Requiring analysis of the H++ at a programmatic level is possible but requiring it for every infrastructure project that is implemented will require significant time and money for information that is unlikely to actually be used in the siting and design of many projects.

4. Historically coastal cities have designed and sited critical infrastructure with long life spans (up to 100 years in cases). Given the changing conditions of California's shorelines, one of the biggest lessons learned from sea-level rise planning has been that the life spans of shoreline infrastructure are no longer 100 years and phased planning will be required. This is highlighted in the Guidance, however, in the model policies section there are requirements to site and design to prescribed life spans, such as 100 years, that may no longer be appropriate. Given that infrastructure is managed by agencies who will have more resources and incentives to move infrastructure when it is threatened, there should be more flexibility in the model policies in assigning design lifespans.
5. Many of the model policies outlined in the Guidance strive to encourage certain actions, but instead of being worded "when feasible" are worded "shall" or in other prescriptive terms, such as "prioritize." Legally these terms are very meaningful and there are cases, such as when failure of infrastructure during a major storm could cause significant environmental damage, where cities will not be able to, for example, "prioritize nature-based solutions." Many of these prescriptive terms need to be restated to read "where feasible." At the end of this comment letter, we highlight some of the model policies where this adjustment should be made.
6. Appendix A of the Guidance states that the CCC interprets "existing development" in the Coastal Act, Public Resources Code Section 30235, as development in existence as of January 1, 1977. Over many years, numerous coastal jurisdictions have commented to the CCC that this interpretation by CCC staff presents significant legal liabilities for local jurisdictions given that many coastal development permits (CDPs) (including those issued by the CCC) were approved with findings that "existing development" was what was on the ground at the time of permitting. Cities' ability to defend lawsuits against the 1977 interpretation has been extremely diminished given the CCC successfully argued against the 1977 interpretation in *Surfrider Foundation v. California Coastal Commission*. In general, many coastal jurisdictions are not against the idea of setting a date for "existing development." However, not all cities can make that date in the past work and roll back years of alternate interpretations by both CCC and local jurisdictions. This issue is one of the main reasons that many jurisdictions are not undertaking or have stopped work on their local coastal plans (LCPs).
7. There should be some discussion in the Guidance of how mitigation of impacts could occur. In many cases, the jurisdictions proposing infrastructure are also the same jurisdictions managing sediment, beaches, and open spaces in the same area. It should be a priority to mitigate any impacts of protection structures in the same area of impact. Local jurisdictions therefore should be allowed to receive funding and the ability to mitigate impacts in or adjacent to their own jurisdictions.
8. There are a lot of monitoring requirements in the model policies, but no guidance on what data or parameters should be used. To be effective, monitoring along the coast should be coordinated so cities are all using the same parameters and methods. In addition, regional or statewide monitoring would assist with avoiding duplicative efforts and allow for the study of impacts outside of a project's immediate area. It would be a

benefit to all if the state would assist with funding and implementing of these types of monitoring.

The following are comments for some of the model policies outlined in the Guidance to demonstrate how additional flexibility is needed in most of the model policies. Our suggested edits are outlined in blue text and our comments are outlined in red below:

### Model Policies Comments:

#### HAZARD ANALYSIS

**21. Planning Horizons for Transportation Infrastructure.** *Sea level rise impacts shall be evaluated over a time period appropriate to the planning or project type. Adaptation planning and transportation system planning documents should consider the short-term transportation needs and priorities within a long-term context of potential SLR impacts ~~(minimum 100 years)~~. For example, system plans, which often have a 20 to 30-year horizon, should identify the necessary short-term projects such as repair and maintenance, temporary protection, or other phased adaptation measures that support possible long-term adaptation approaches. Planning horizons for individual projects should reflect the anticipated lifetime of the project, or the time period over which the project is expected to be usable for the purpose for which it is designed. The anticipated lifetime of major infrastructure projects such as new or realigned roads or rail lines, road expansion, new bridges or tunnels, culverts, or other major structures, is often 100 or more years. Minor projects such as safety barriers, rumble strips, re-paving, lighting, or projects designed as phased adaptation measures often have anticipated lifetimes of 20-50 years.*

{More flexibility needed to pick alternate lifespans to allow for phasing.}

#### NEW INFRASTRUCTURE:

**23. New or Expanded Transportation Infrastructure.** *New transportation infrastructure – and transportation infrastructure projects that would widen or otherwise increase the capacity of the infrastructure shall, as feasible, be sited and designed to avoid becoming vulnerable to sea level rise over the appropriate planning horizon(s) [See Example Policy 21]. New transportation infrastructure shall, consistent with Section 30253 of the Coastal Act, do all of the following:*

- a. *Minimize risks to life and property in areas of high geologic, flood, and fire hazard;*
- b. *Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs;*
- c. *Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development;*
- d. *Minimize energy consumption and vehicle miles traveled; and,*
- e. *Where appropriate, protect special communities and neighborhoods.*

*New transportation infrastructure shall also be designed to avoid or minimize impacts to coastal resources, including public access, recreational resources, marine resources, sensitive habitats, agricultural lands and scenic and visual resources, consistent with the LCP. Additional considerations, such as reducing VMT and enhancing multimodal and Complete Streets opportunities, shall be assessed when planning new transportation infrastructure.*

POLICIES THAT IMPLEMENT VARIOUS ADAPTATION OPTIONS:

**26. Nature-Based Adaptation Strategies.** *Nature-based adaptation strategies with measurable environmental benefits shall be prioritized over strategies with additional coastal resource impacts, such as those associated with hard shoreline protective devices. Soft strategies (e.g., dune and wetland restoration, sand replenishment, and other options that do not fix the shoreline) shall, as feasible, be prioritized over hybrid armoring (e.g., strategies that fix the shoreline combined with natural features), and hybrid armoring shall be prioritized over hard shoreline protection. Hybrid armoring shall only be allowed if it complies with all of the requirements of **Policy 27**, except for the near-term danger requirement as specified in **Policy 27.a**. Instead of the near-term danger requirement, hybrid armoring may be allowed to protect infrastructure that is expected to be threatened by hazards in **[insert appropriate planning horizon, consistent with relevant planning and funding cycles; e.g., 20-30 years]**, and shall be constructed with enough lead time for vegetation cover to establish or for other steps to be completed so the project can provide the benefits for which it was designed. In all cases, the least environmentally damaging feasibly alternative shall be selected.*

**28. Transportation Infrastructure Realignment. Siting of Realigned Transportation Infrastructure.** *Any new transportation infrastructure footprint shall, as feasible, be set back or otherwise designed to be safe from the impacts of sea level rise over the life of the infrastructure at least 100 years...*

STORMWATER MANAGEMENT:

**38. Use Natural Processes to Improve Flood Prevention.** *Flood hazard prevention and mitigation shall prioritize, as feasible, restoration of low-lying flood-prone areas and natural drainageways. Native plants and nature-based, “soft” stabilization shall be prioritized over methods that rely on concrete channelization or other “hard armoring” stabilization methods.*

**39. Design of Stormwater Outfalls.** *Development shall, as feasible, be sited and designed to avoid the adverse impacts of discharging concentrated flows of stormwater or dry weather runoff through outfalls to coastal waters, intertidal areas, beaches, bluffs, or stream banks.*

WASTEWATER MANAGEMENT:

**40. Life Expectancy and Economic Analysis.** *When applying for a coastal development permit for a major improvement ~~or upgrade~~ to wastewater infrastructure in a vulnerable area, ~~or for any shoreline armoring to protect vulnerable wastewater infrastructure~~, the applicant ~~should shall~~ conduct a life expectancy and economic analysis for wastewater infrastructure...*

{This is an extensive, expensive study to be conducted for even minor upgrades and shoreline armoring.}

**41. Long-Term Planning for Wastewater Infrastructure in Vulnerable Areas.**

No coastal development permit shall be issued for any major improvements ~~or upgrades~~ to wastewater infrastructure in vulnerable areas ~~or for any shoreline armoring to protect vulnerable wastewater infrastructure~~, without the requirement for a long-term plan for adapting to sea level rise and coastal hazards. The long-term plan shall address impacts to water quality, protect coastal resources, and minimize use of shoreline armoring. In addition, consistent with Section 30412(d) of the Coastal Act, the plan shall identify, and where appropriate, reserve new sites for treatment plants or system components at locations that are safe from coastal hazards...

- B. Prioritize, *as feasible*, strategies that avoid hazards related to sea level rise, such as relocation. After hazard avoidance, the next priority ~~shall~~ should be nature-based adaptation strategies that reduce impacts to coastal resources and provide measurable environmental benefits.
- C. Select, *as feasible*, strategies that maximize protection of coastal resources, including public access, recreation, marine and terrestrial resources, and visual resources; ensure safety and stability of infrastructure; and maintain wastewater service to communities that is responsive to shifting community needs over time.

{This analysis may be needed for a major overhaul but implementing on minor upgrades and shoreline protection will be difficult. Policies 40 and 41 could be combined to make any analysis needed programmatic in nature. The highlighted verbs are too prescriptive when there could be many other mandates to consider.}

**GENERAL ADAPTATION PLANNING:**

**52. Nature-Based Adaptation Strategies.** Nature-based adaptation strategies with measurable environmental benefits shall be prioritized, *as feasible*, over strategies with additional coastal resource impacts, such as those associated with hard shoreline protective devices. Soft strategies (e.g., dune and wetland restoration, sand replenishment, and other options that do not fix the shoreline) shall be prioritized, *as feasible*, over hybrid armoring (e.g., strategies that fix the shoreline combined with natural features), and hybrid armoring shall be prioritized, *as feasible*, over hard shoreline protection. Hybrid armoring shall only be allowed if it complies with all of the requirements of the Shoreline Protection Devices Policy 53, except for the near-term danger requirement as specified in Policy 53.a. Instead of the near-term requirement, hybrid armoring may be allowed to protect infrastructure that is expected to be threatened by hazards in [insert appropriate planning horizon, consistent with relevant planning and funding cycles; e.g., 20-30 years], and shall be constructed with enough lead time for vegetation cover to establish or for other steps to be completed so the project can provide the benefits for which it was designed. In all cases, the least environmentally damaging feasible alternative shall be selected.

**53. Shoreline Protection Devices and Long-Term Planning.** *Permits for new hard or hybrid shoreline protection to protect water infrastructure shall include conditions requiring long-term sea level rise adaptation planning that protects public safety and coastal resources, and ensures structural stability of that infrastructure, in a manner that, if feasible, does not require the long-term retention of the protective device. Subject to specific criteria, and notwithstanding any other policy in the LCP, hard or hybrid shoreline protective devices may be permitted to protect existing, critical water infrastructure at near-term risk from erosion or flooding when there is no less environmentally-damaging feasible alternative, when designed to eliminate or mitigate adverse impacts on local shoreline sand supply, and provided that: (a) special conditions state that the permit will expire in [insert appropriate timeframe considering long-term planning needs], and that (b) a sea level rise adaptation plan must be submitted for review and approval by [list agency] prior to the end of the permit term. Prior to the end of the permit term, the applicant shall also submit a permit amendment application to implement the measures identified in the approved sea level rise adaptation plan. If a sea level rise adaptation plan is not approved, the permitted shoreline protective device may be required to be removed.*

**a. Hard shoreline protective devices shall be permitted when:** *(1) needed to protect water infrastructure that is in near-term danger from coastal hazards; (2) there is no less environmentally damaging feasible alternative to the proposed shoreline protective device; (3) sited and designed to eliminate or mitigate adverse impacts on local shoreline sand supply; (4) sited and designed to avoid or minimize coastal resource impacts to the maximum feasible extent; and (5) all of the following standards are met:*

**i. Mitigation required.** *Mitigation for impacts on all coastal resources shall, as feasible, be required. For shoreline protective devices on or adjacent to beaches, mitigation shall be required for all impacts, including impacts to public access and recreation, environmentally sensitive habitats, and shoreline sand supply that result from the footprint of the proposed shoreline protective device as well as from halted erosion that would have occurred over the life of the shoreline protective device. Mitigation shall minimize impacts to the extent feasible and fully compensate impacts that remain; mitigation shall address impacts that will occur over the full life of the structure, but may be assessed in appropriate increments, rather than being required entirely up front. For shoreline protective devices on or adjacent to other coastal habitats (e.g., wetlands), appropriate mitigation shall be required to address impacts to wetlands and other coastal resources. In-kind mitigation shall be prioritized, although in-lieu fee mitigation may be appropriate, such as when used for programs developed to advance community-wide public access goals (for mitigating impacts to public access) and environmentally protective adaptation strategies. Mitigation shall be designed such that the benefits derived from mitigation are equitably distributed and/or increase benefits to communities that have traditionally lacked public access opportunities and the benefits associated with other coastal resources.*

- ii. **Maintenance and monitoring.** *Shoreline protective devices constructed to protect water infrastructure shall be monitored and maintained in the permitted configuration to prevent increased impacts to public access, recreation, environmentally sensitive habitats, and other coastal resources.*
- iii. **Long-term planning.** *Approvals of shoreline protective devices shall include a special condition requiring planning for a long-term solution. This condition shall require the Permittee to acknowledge that the CDP only authorizes the development for an initial, temporary period, during which time the Permittee must develop a longer-term Adaptation Plan that, if feasible and consistent with other applicable LCP policies, does not rely on armoring. Permit applications shall include a plan and timeline for the development of the Adaptation Plan. The Plan shall include, at minimum, possible options to explore as long-term solutions, including phased adaptation strategies as appropriate, a mechanism and process to choose the preferred long-term adaptation approach, and a reporting cycle with deadlines for action. The Adaptation Plan shall consider and prioritize retreat/avoidance strategies, followed by feasible nature-based adaptation strategies. The plan shall also consider measures to minimize greenhouse gas emissions and to ensure the benefits and impacts to environmental justice communities, DACs, and EDAs are equitable. The date by which adaptation plans shall be completed shall depend on the vulnerability of the water infrastructure and its potential to cause coastal resource impacts. If the segment or facility is expected to be vulnerable in the near-term, adaptation planning shall be required in the near-term, and the permit shall specify a completion date that allows an appropriate amount of lead time for permit review and implementation before impacts are expected to become significant.*
- iv. **Assumption of risk.** *As a condition of temporary coastal permit approval for shoreline protective devices, applicants shall be required to acknowledge and agree to assume risks as required in Policy 59 (Assumption of Risk, Waiver of Liability, and Indemnity Agreement).*
- v. **Maximize environmental benefits.** *Any permitted shoreline protective device shall, [as feasible](#), be constructed in a manner that maximizes environmental benefits. Such benefits shall not be considered the creation of habitats that require protection; when appropriate, such shoreline protective devices shall be removed as planned.*

Thank you for the opportunity to provide comments and for your consideration. We look forward to continuing to work with you and the Commission staff on the important work of fostering and protecting California's coast. If you have any questions, do not hesitate to contact me at [ddolfie@calcities.org](mailto:ddolfie@calcities.org) or (916) 658-8218.





Sincerely,

A handwritten signature in blue ink that reads "Derek Dolfie".

Derek Dolfie  
Legislative Affairs, Lobbyist

cc: Jack Ainsworth, Executive Director, California Coastal Commission