AGN. NO.

REVISED MOTION BY SUPERVISORS LINDSEY P. HORVATH AND HOLLY J. MITCHELL November 7, 2023

Protecting LA County's beaches from coastal erosion through the beneficial reuse of sediment and by deploying living shorelines

The Los Angeles County (LAC) shoreline is world-renowned. Home to iconic sites like the Malibu Pier and Venice's Muscle Beach, the 75-mile-long mainland coastline has been immortalized in film and media and attracts some 70-million day visits annually. The County's ocean-related tourism and recreation industries contribute tens of thousands of jobs to the local economy and produced over $2.2 billion in GDP in 2020.

LAC operates 18 beaches, each located in a densely urbanized environment and each provide a critical public resource to inland residents, many of whom live in historically disadvantaged and pollution-burdened communities. For example, on a hot day, Third District residents from the San Fernando Valley flock to Malibu's world-class Zuma Beach due to its ocean breeze, relative proximity, and accessibility. According to the County's Climate Vulnerability Assessment, by mid-century, most of LAC will have high exposure to extreme heat, with over 2 million people considered highly vulnerable based on temperatures and adaptation capacity. The County's beaches are more than just cultural

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touchstones: they provide a critical public resource to residents seeking respite from extreme heat, access to the water and nature, and recreational opportunities.

The wide beaches in Southern California have been maintained by various agencies through beach nourishment projects and the construction of protective coastal structures since the 1930s. However, since the 1960s, rates of beach replenishment have significantly decreased. In addition, a legacy of sprawling development throughout the region, and channelized flood control infrastructure that has deprived local beaches of natural sources of sedimentary nourishment from mountain streams, creeks, and other waterways have contributed to a gradual erosion of our LAC coastline. Long practiced beach maintenance activities such as grooming (the raking of the beach with heavy equipment), armoring, and the creation of tractor-built seasonal sand berms create short term protection from trash and storm surge but may undermine the formation of sustainable natural features that reduce erosion and coastal flooding. Combined with increasingly dynamic weather patterns including more frequent, intense storms and surf, and LAC projected sea level rise of between 0.6 and 1.1 feet by 2050, many of the County's beaches are narrowing, with some ebbing close to elimination.

The Department of Beaches and Harbors will soon release a Coastal Resiliency Strategy that will provide a detailed risk assessment of all 18 County-operated beaches and an adaptation plan that identifies strategies to reduce risks of beach loss, with ranked priority based on physical vulnerability and accessibility of each beach. Adaptation strategies, which are currently in the conceptual review stage, will prioritize nature-based living

shoreline adaptations, such as dune habitat enhancement, in conjunction with beach widening and hybrid hard structures where necessary and appropriate, to build lasting resilience along our coastline. A pilot project in Santa Monica led by the Bay Foundation and with support from the Santa Monica Bay Restoration Commission shows the benefits of this approach. In addition to protecting the shorelines, these interventions would create habitat for wildlife on the beach and in the adjacent inter-tidal and underwater habitats. To accomplish beach widening that will provide the necessary land for dune habitat enhancement, and sufficient space for recreational activities, sand nourishment is critical.

Climate change is not only threatening our coastline, but also our County's immense flood control infrastructure, due to higher intensity and frequency of wildfires and storms. These both have led to a significant increase in the amounts of sediment and debris deposited in the Flood Control District's (District) debris basins and reservoirs. In 2022, the District developed a Sediment Management Strategic Plan (SMSP), which estimates that over the next 10 years, the District will need to remove approximately 15 million cubic yards of sediment from its various facilities at a cost of $570 million. Currently, dredged sediment is sent to Sediment Placement Sites in the Angeles National Forest (which are expected to reach capacity within 20 years) or sent to regional landfills (of which we have just 11 still in operation in LAC).

An updated SMSP is being developed and it should include the potential beneficial use of sediment removed from District facilities for beach replenishment and include updated cost estimates, environmental impacts, sediment testing protocols, community outreach,

logistics, transportation, and permitting requirements. The District should also consider other alternatives for sediment that may not be suitable for beaches, such as use for sand bags to assist during storms and floods. This work should have implications for other major public works projects that may generate large amounts of sediment, such as Metro, the California High Speed Rail, and the proposed decommissioning of the Rindge Dam.

The District is undertaking a herculean effort of sediment removal to protect the long-term viability, safety, flood-control, and water conservation capacity of our flood infrastructure, much of which was built nearly a century ago. Los Angeles' iconic beaches are a product of major investments which took place at nearly the same time and require significant planning and investment to survive into the next century. These mutually beneficial efforts will require a coalition of government, non-profit, academic, and community partners to guarantee these essential County resources can adapt to a changing climate. It will also require an ambitious fundraising strategy involving Federal (e.g. National Oceanic and Atmospheric Administration, Federal Emergency Management Agency), State (e.g. Coastal Conservancy, Wildlife Conservation Board), and philanthropic sources. The potential beneficial reuse of sediment from the District can nourish our beaches with sand, maintain and restore our coastlines, and provide the expanded area necessary to implement the hybrid living shoreline strategies that will enhance coastal resilience, native habitat, and biodiversity.

We owe it to Angelenos to ensure that our beaches remain resilient and accessible for generations to come.

~~I~~ **WE, THEREFORE, MOVE** that the Board of Supervisors:

1. Direct the Director of Beaches and Harbors, with the assistance of the Chief Sustainability Officer and the Director of Public Works, to report back in writing within 90 days with an outreach and fundraising strategy for the implementation of the Coastal Resiliency Strategy based on deploying living shorelines at Los Angeles County beaches. The funding strategy should identify federal, state, and foundation funding targets, and a proposed coalition of partners including coastal cities, tribes, non-profits, academic institutions, and potential technical and regulatory experts that can participate in regular convenings; and
2. Direct the Director of Public Works, acting as the Chief Engineer of the Los Angeles County Flood Control District, with the assistance of the Chief Sustainability Officer, to report back in writing in 120 days with a strategy for the beneficial reuse of sediment, including environmental and transportation considerations (including consideration of natural sediment transport), and including fiscal impacts and funding opportunities, that could be used to address coastal erosion and other potential uses of sediment; and
3. Direct the Director of Beaches and Harbors, with the assistance of the Chief Sustainability Officer, to report back in writing in 120 days with a strategy for beneficial reuse of dredged marina and ocean sediment and of the feasibility, permitting requirements, and other considerations for reusing sediment – regardless of source – on beaches and for departmental uses; and
4. Direct the Director of Beaches and Harbors and the Director of Public Works, acting as the Chief Engineer of the Los Angeles County Flood Control District

to separately report back within 120 days on any staffing or other resources needed to implement these strategies.

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