



June 7, 2024

To: Caryl Hart, Chair, California Coastal Commission
Cc: Stephanie Rexing, Dan Carl, Staff, California Coastal Commission

Re: Item 2-21-0912, SFPUC Ocean Beach Armoring, TH 11c

Dear Chair Hart,

The Surfrider Foundation, California Coastal Protection Network and Natural Resources Defense Council strongly support preserving a beach South of Sloat at Ocean Beach in San Francisco. We are asking the Commission to require additional studies and an updated design proposal in order to facilitate a resilient project that is over a decade in the making in South Ocean Beach.

The South Ocean Beach Climate Adaptation Project was once expected to be a poster child for strong sea level rise planning. Of particular note, the Ocean Beach Master Plan in 2012 clearly designated preservation of the beach and coastal access as key priorities for achieving resilience in the area. The Coastal Commission has also had a thirty-year history of encouraging SFPUC to manage known erosion issues in the area with non-armoring alternatives since the Lake Merced Tunnel was placed too close to the ocean in the 1990s.

Now, as sea level rise is forcing a need for immediate resilience building, San Francisco has an opportunity to show what phased adaptation to protect a beach looks like in practice. The proposed dune in this project is based on top of a mile-long seawall set too close to the ocean and 20 feet above sea level in some places — the wall will frequently become exposed and will exacerbate erosion in a known erosion hotspot.

While we celebrate the removal of rubble at South Ocean Beach, the connection of the California Coastal trail, the upgraded restrooms, and parking that the project provides, we do not consider this project a nature-based project — it is a gray infrastructure project with access components and with green components.

Our groups are confident that an adjusted version of The Ocean Beach Climate Adaptation Project can and should instead be a *model* for phased adaptation that protects the public trust. Such a project will not only preserve an iconic stretch of coastline serving the Bay Area's 7.3 million residents, it will show that beaches in California can be preserved when they benefit from long-term planning and vision setting. This is appropriate especially given the Commission's longstanding guidance on

this project, and the \$144 million impact that the Staff Report correctly finds the armoring will have on Ocean Beach¹. **Due to the great importance of this project to sea level rise planning in California and San Francisco's Ocean Beach in particular, our groups ask the Coastal Commission to:**

1) Scrutinize the size and location of the proposed 3,200 foot seawall to determine whether it can be smaller or more landward so as to have less impact on the beach. A groundwater study must be required to support SFPUC's rationale that the extent of the gray infrastructure in the wall and path are necessary to address seismic and groundwater concerns.

2) The project must be redesigned as a nature based solution that puts dune creation and maintenance as a coequal goal to infrastructure replacement. The current proposal utilizes sand to cover an enormous seawall, but that is not the same as a carefully designed, resilient dune habitat that meets biodiversity and beach protection objectives. The SFPUC, working with Coastal Commission staff, must be required to develop a hybrid nature based solution that protects the beach and enhances biodiversity as soon as feasible.

2) Require an updated adaptation plan that specifies when SFPUC plans to relocate the Lake Merced Tunnel off the public beach, which should include necessary milestones needed to be achieved to ensure that relocation is physically and financially possible in the timeframe designated. Creation of this plan should precede project approval.

3) Require an adjusted path design that is able to facilitate the eventual relocation of the multi-use path, stairways, and LMT. We recommend forming the bike path out of dirt, as the Ocean Beach Master Plan states that coastal access should be akin to nature-based projects in Crissy Field or Land's End.

4) Support prior to construction conditions which include removal of the rubble on the beach and closure of the Great Highway Extension to traffic.

We support and appreciate many strong conditions in the staff report, including the condition which dictates that the seawall permit expires in 20 years, as well as the condition concerning removal of the unnecessary planned service road. We also strongly support the Beach Protection Plan outlined in condition 4, however we have a fundamental concern that the proposed sand management plan and triggers for keeping the seawall buried are simply unrealistic for maintaining a beach in the long-term; given the location of the seawall and the wave energy at Ocean Beach. The fundamental project design must be adjusted so that all the related infrastructure can be relocated in a planned manner.

A Soft Solution Has Been Expected Here Since the 1990s

¹ [Staff Report](#) page 60

The Coastal Commission has directed SFPUC to limit armoring at South Ocean Beach since it authorized construction of the Lake Merced Tunnel in the 90s. The Commission conditioned the LMT to be protected via beach nourishment, not armoring.² Assurances to keep the tunnel buried “fell by the wayside,” according to the Staff Report, and in 1997, SFPUC illegally placed at least 600 feet of rock revetment near Sloat without a CDP, then adding an additional 440 feet in 2010 via an emergency permit.³

The Commission denied the after-the-fact authorization applications for the armoring, again encouraging the City to develop a non - armoring alternative. Even the Coastal Commission’s 2011 permits for temporary emergency measures to protect the Great Highway Extension from storm damage were conditioned on the development of a long term solution for the area that prioritized a non-armoring alternative⁴.

The City and County of San Francisco have also long awaited a nature-based project at South Ocean Beach. In 2018, the City amended its LCP to address the need for managed retreat in this area, allowing for armoring only if necessary to prevent damage to the LMT and only if “less environmentally damaging alternatives are determined to be infeasible.”⁵ The Ocean Beach Master Plan, which involved a multi-stakeholder community-driven process, also proposed introducing “native dune morphology” via managed retreat of infrastructure and prioritized “improving recreational access, ecological function and character, in keeping with its [Ocean Beach’s] status as a national park.”⁶

Finally, under a 2014 settlement agreement between the California Coastal Protection Network (CCPN) and the City and County of San Francisco, the City agreed to initiate a Long-term Adaptive Management Plan (LAMP) for the South Reach of Ocean Beach that “preserves recreational opportunities, complies with all applicable land use and environmental laws and regulations, and contemplates a managed retreat in the face of expected sea level rise.”⁷

In other words, SFPUC has been expected to do everything within its power to avoid armoring of the Lake Merced Tunnel since it was built too close to the ocean in the 1990s, after the Coastal Act was passed.

Coastal Commission staff commented on SFPUC’s Draft Environmental Impact Report in 2022 preceding SFPUC’s application for this project, stating instead that the proposal “cannot be considered the environmentally superior alternative” and that “a true ‘no project’ alternative..needs to be framed and explored differently.”⁸ Little has changed

² [Staff Report](#), page 2

³ [Staff Report](#), page 34

⁴ [Staff Report](#), page 37

⁵ Policy 12.1(f) Permit shoreline protection devices if necessary to protect coastal water quality and public health by preventing damage to existing wastewater and stormwater infrastructure due to shoreline erosion only when less environmentally damaging alternatives are determined to be infeasible.

⁶ Ocean Beach Master Plan, V-16

⁷ Exhibit 7, Settlement Agreement <https://documents.coastal.ca.gov/reports/2015/11/th14b-11-2015.pdf>

⁸ [Coastal Commission Comment Letter on Draft EIR](#)

about the project since the EIR was completed and the project proposal remains essentially founded upon a mile-long seawall backed by a large concrete trail.

The State Supports “Nature-Based Solutions”

The Ocean Protection Council’s Sea Level Rise Action Plan emphasizes nature-based solutions as critical for sea level rise planning in California. The Action Plan states that:

“Nature-based solutions must be prioritized as feasible. Nature-based solutions are the prioritized method for SLR adaptation pursuant to existing state policy. These include vegetated dunes, living shorelines, and wetlands and marsh restoration. Gray infrastructure such as seawalls and hard armoring should be used only as a last resort after nature-based solutions have been exhausted. Strategic relocation, as feasible, should be implemented where needed.”⁹

While many state agencies generally afford the idea that some ‘hybrid’ green-gray approaches can still qualify as nature-based projects, the defining characteristic of a nature-based project is that it provides multiple cost-effective benefits; such as providing effective protection against erosion, requiring less maintenance over time, and providing resilient and sustainable coastal protection. None of these characteristics can be applied to SFPUC’s proposed project at South Ocean Beach as the composition of the dune is clearly described in the Staff Report as needing frequent maintenance.

The Coastal Conservancy’s “Baylands and Climate Change: What Can We Do” Report describes how natural infrastructure can be used to protect shoreline communities from coastal flooding while providing other benefits such as water filtration, habitat and recreation, and cautions against seawalls. The Coastal Commission is also detailed in its guidance to discourage armoring and similarly prescribes dunes as one kind of nature-based solution that can help a community develop long-term resilience against sea level rise. The Commission’s Sea Level Rise Guidance describes dunes as providing “buffers against erosion and flooding by trapping windblown sand, storing excess beach sand, and protecting inland areas, and they also provide habitat.”¹⁰

In short, coastal agencies in the State of California encourage nature-based solutions because they build resilience for public trust spaces, provide their own flood protection and are cheaper in the long-run to maintain. These characteristics are not applicable to SFPUC’s project proposal.

The Proposed Project is Not a Nature-Based Project

Our number one concern about this project is that the sandy area envisioned in this project is not dynamic and will not prevent against erosion in the long-term. Instead, the sand will have to be highly maintained in order to preserve periodic benefits to habitat and potential recreation (if the sand is not absent or deeply scarped.) As the cost of maintenance goes up, a detailed plan for relocation of the project and of the Lake

⁹ [SLR Action Plan](#), page 7

¹⁰ [SLR Policy Guidance](#), page 29

Merced Tunnel is also needed to determine at what point it is simply cheaper to move the tunnel. We appreciate that the staff report has outlined strong conditions for maintaining the beach and keeping the wall buried, but we question the reality that this is feasible at South Ocean Beach or will be enforced as these problems get worse all along the coast. A conversion of the multi-use path and commitment to relocation of the seawall and LMT would address these concerns.

According to the Staff Report, the project involves a significant amount of concrete being placed near the ocean. Elements include:

- **3,200 foot seawall**, in places up to 20 feet above sea level. The seawall will be located roughly where the current armoring exists. This is typically inundated on anything other than a low tide, and USGS studies show that a single storm event in sections of this beach can cause up to 30 feet of shoreline erosion¹¹
- **Cement layer (SSL)** that stretches from the concrete path to the lower end of the proposed dune and is meant to hold sand in place. This Soil Stabilization Layer is meant to have a 4-foot-thick layer of sand on top of it, with vegetation. The sand will sit at a 3:1 slope.
- **3 locations of a deep soil mixing** to stabilize the bluff inland of the seawall
- **4,000 foot long path**, varying from 15 to 20 feet wide
- **18-inch wide retaining wall** to provide seating and ocean viewing
- **A beach access stairway** attached by concrete

Taken together, these elements represent a project that will be very difficult and expensive to move — particularly if these features are allowed to exist until sea levels have fully inundated the beach. Even the Staff Report's suggested permitted timeline will likely make removal very difficult, given the proximity of the proposed structures to the location of the tide line today.

The applicant proposes to keep the wall buried and maintain the beach in order to provide multiple benefits including to avoid exacerbating known erosion in the area. However, the sand management plan required to keep the wall buried suggests that the proposed dune will be difficult and expensive to maintain. The sand management plan proposes:

- Scheduled sand replenishments from North Ocean Beach every 2-8 years
- Dredged sand as replenishments every 4-10 years in milder years
- Repeated small placements of sand in milder years from North OB
- Non-scheduled large sand replenishments during severe storm years when certain triggers occur, like when beach width is less than 50 feet over 500 linear feet of beach

SFPUC's application proposed that the wall be able to be exposed at least some of the time, with the sand management plan outlining:

¹¹ Page 55 staff report

- A trigger if 500 feet or more of buried seawall is exposed, requiring placement of emergency sandbags;
- Statement that nourishment would not be implemented if the beach recovers naturally during 12 months between June 1 measurement

In other words, Condition #4 in the Staff Report concerning a Beach Protection Plan is critical and an enormous improvement from the applicant's proposal because the applicant proposed that the wall could be exposed for up to one year at a time with no replenishment, whereas Condition 4 requires it to be covered.

However, our concern is that keeping the wall covered will be expensive and difficult — even more so than the applicant has estimated because the model used to determine how much nourishment would be needed in the area over time did not appear to include the seawall as an erosive factor. The need to highly manage the proposed dune and periodic exposure of the seawall do not live up to the characteristics of a nature-based project that the state is trying to encourage. Rather than build resilience over time, there is clear risk that this project will lose resilience as the cost of bringing sand to South Ocean Beach rises, storms increase, sea levels rise, and the wall becomes exposed more and more often.

The Right Project for this Area Would Use Phased Adaptation to Maximize Benefits of a Nature-Based Project

In its recently updated Sea Level Rise Science and Policy Guidance, OPC includes consideration of phased adaptation via adaptation pathways as a critical step in sea level rise planning. The Guidance describes the purpose of phased adaptation planning as “allowing a community to build resilience over time.”¹² It is generally understood that phased adaptation involves implementing measures that can be adjusted over time, which can allow for a more sustainable and resilient response to coastal hazards compared to rigid, one-time solutions like seawalls.

We agree with the Staff Report in stating that “this project would appear to be the perfect opportunity to move a piece of critical infrastructure inland, allow the bluff to naturally retreat to maintain beach widths, and to effectively solve the potential danger to the LMT in perpetuity.”¹³ However, we disagree with the conclusion that the project can be found consistent with the Coastal Act because a piece of critical infrastructure is in danger of erosion.

As Surfrider pointed out in a 2022 comment letter on the the EIR for this project, and which the Coastal Commission staff also pointed out in its own letter and in the staff report for this application, the proposed project is not the ‘least environmentally damaging alternative’ because the “least environmentally damaging alternative was not thoroughly studied in the EIR. As the staff report points out, the alternatives studied in

¹² [OPC 2024 Sea Level Rise Science and Policy Guidance](#)

¹³ [Staff Report](#), page 60

the EIR are critically flawed — beginning with the fact that a true no project alternative was not studied. Relocation of vulnerable infrastructure was not properly studied, as the cost-benefit analysis was not up to date, did not include major pieces of infrastructure, and was based on cost estimates that even the staff report describes as “unclear.”

Assuming that relocation is too expensive is not acceptable in the current era in sea level rise planning, in which the state is hinging our hopes that public trust land will be preserved on phased adaptation that can buy time to create space and finances for nature-based solutions like living shorelines. Relocation should have been properly analyzed in this project’s EIR, and this staff report should set a date at which relocation will and must happen, as well as permit a more ‘green’ project with less concrete that can realistically be moved in a phased way over the identified time period.

As quoted in the staff report, the 2018 California Coastal Commission Sea Level Rise Policy Guidance encourages “both siting infrastructure, especially wastewater infrastructure, away from areas threatened by sea level rise and other coastal hazards over the life of the infrastructure, as well as phased movement of infrastructure inland as areas are further threatened by sea level rise.”¹⁴ Similarly the Ocean Protection Council’s Updated Sea Level Rise Guidance identifies phased adaptation as a critical step that planners should consider to increase resilience in response to sea level rise planning¹⁵.

In order to commit to phased adaptation, this project should begin with a commitment to relocation of vulnerable infrastructure at a set date in time. A plan should then be devised to meet that relocation commitment, and the project set in motion today should be one that is capable of being relocated, with significantly greener elements than the one being proposed.

Conclusion

Thank you for considering our analysis of this project, which has been developed from within the Ocean Beach community over the past ten years. We urge you to request updated studies and design to facilitate a true nature-based project for this iconic stretch of Ocean Beach.

Best,

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¹⁴ Staff report, page 60

¹⁵ [OPC SLR Guidance 2024](#)

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