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February 11, 2022

Via Electronic Mail [Tom.Luster@coastal.ca.gov](mailto:Tom.Luster@coastal.ca.gov)  
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Mr. Tom Luster  
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California Coastal Commission  
455 Market Street, Suite 300  
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Re: Poseidon Resources, LLC; Seawater Desalination Project at Huntington Beach; Application for Coastal Development Permit; Appeal of Coastal Development Permit; 21730 Newland Street, Huntington Beach

Dear Mr. Luster and Honorable Commissioners:

We submit these comments to you on behalf of California Coastal Protection Network, California Coastkeeper Alliance, the Orange County Coastkeeper and the Surfrider Foundation concerning the Commission's review of the coastal development permits ("CDPs") sought by Poseidon Resources, Inc. for the Seawater Desalination Project at Huntington Beach ("Project").

If approved and constructed, the massive Poseidon Project will become the second-largest marine predator along California's 1,100-mile coastline.<sup>1</sup> The Project's open-water intakes will kill 108 million<sup>2</sup> fish larvae, eggs, and invertebrates each year, with dramatic impacts to miles of coastline that include Marine Protected Areas (MPAs). Its brine will pollute the habitat of surviving wildlife by increasing salinity and other chemical pollutants. The energy-intensive desalination process will result in greenhouse

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<sup>1</sup> The current largest marine predator, the Diablo Canyon Power Plant in San Luis Obispo County, will be taken offline in 2025. (<https://www.slocounty.ca.gov/Departments/Planning-Building/Department-News-Announcements/Diablo-Canyon-Nuclear-Power-Plant-Decommissioning.aspx>.)

<sup>2</sup> This number was presented in the Power Point presentations given during at the Santa Ana Regional Water Quality Control Board proceedings.

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gases that exacerbate sea-level rise and coastal hazards while adding the electrical load equivalent of 38,732 homes to the grid.<sup>3</sup> The Poseidon Project is also unnecessary, considering North Orange County's demonstrated water demand, and unnecessarily expensive when compared to other methods of ensuring sustainable water supplies, such as conservation, recycling, or stormwater capture. Designed only as a "community facility" instead of International Building Code Risk Category IV<sup>4</sup> "critical infrastructure," the Project cannot even ensure its availability as an emergency water supply. On behalf of thousands of California resident members who treasure California's coastal resources, we urge you to reject this harmful Project, once and for all.

The Project was first considered by the Commission in 2006 and again in November 2010 pursuant to appeals of the CDP issued by the City of Huntington Beach. In response, the Commission adopted findings of Substantial Issue concerning the Project's compliance with Huntington Beach Local Coastal Program ("LCP") policies related to protection of marine life, water quality, protection of environmentally sensitive habitat areas ("ESHA"), energy use, public services, protection against seismic events and liquefaction, and whether the Project met LCP mitigation requirements. Yet, 15 years since the first appeal was filed and the Commission found substantial issues, Poseidon has failed to remedy the problems.

In November of 2013, Commission Staff prepared a detailed staff report.<sup>5</sup> The Report determined that, as initially proposed, the Poseidon Project violated numerous provisions of the Coastal Act and the LCP. In addition to the magnitude of impacts to marine wildlife, the Staff Report found that the high salinity of effluent discharge would harm coastal waters and marine life populations. Further, the Staff Report found the Project site is subject to a multitude of significant coastal and geological hazards, including floods, tsunamis, surface fault rupture, ground movement, and liquefaction. Accordingly, Staff recommended approval of the Project only if strictly conditioned not to harm marine life through intakes or effluent; if reconfigured with a 100-foot buffer from wetlands and other mitigation to prevent noise effects on endangered, threatened and sensitive species; and if redesigned to address and withstand known and anticipated

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<sup>3</sup> Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 p. 13, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

<sup>4</sup> See, International Building Code Table 1604.5, Risk Category of Buildings and Other Structures, <https://www.fandr.com/wp-content/uploads/2020/07/Speaking-in-Code-August-2020.pdf>.

<sup>5</sup> Attachment 1, Coastal Commission Staff Report, Appeal No. A-5-HNB-10-225, November 2013.

coastal and geological hazards. Poseidon withdrew its application for a retained jurisdiction CDP and requested another postponement of the appeals.

On June 29, 2021, Commission Staff sent Poseidon a list of questions and areas of remaining concern and asked Poseidon to address them before deeming the application complete. Staff posed additional questions and concerns to Poseidon on August 4, 2021, and again on October 7, 2021. At that time Staff identified a “way forward,” despite Poseidon’s repeated failure to provide information necessary to evaluate the Project’s consistency with the Coastal Act and the Huntington Beach LCP and the site’s open wetlands violation.

While Poseidon publicly claims that its project has been held up by unnecessary bureaucratic red tape, it is Poseidon’s own refusal to comply with the law that is at fault. Unfortunately, our review of the CDP application for the Huntington Beach Desalination Plant reveals that Poseidon has failed to adequately modify its Project in response to concerns the Commission raised eight years ago. Nor has Poseidon removed concerns raised as recently as 2021. The Project is still too large for the demonstrated water demand, and the Applicant has failed to incorporate feasible alternatives and mitigation measures to reduce the Project’s enormous environmental footprint. If approved, the current iteration of the Poseidon Project would violate the California Coastal Act and be inconsistent with the Huntington Beach Certified LCP. Further, of importance to both public safety and consistency with the Coastal Act and the LCP, Poseidon does not propose to construct the desalination facility to Risk Category IV “critical infrastructure” standards, even though the Project is intended to supply water in the event of an emergency, which renders it critical infrastructure under the Ocean Protection Council’s 2018 *State of California Sea- Level Rise Guidance*, and thereby subject to heightened Sea Level Rise projections.

We urge the Commission to deny the Project’s CDPs.

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**I. The Coastal Commission Can and Must Use its Authority to Analyze Less Damaging Alternatives and to Impose the Maximum Feasible Mitigation Available.**

Coastal Act section 30233 only allows dredging and filling in coastal waters “*where there is no feasible less environmentally damaging alternative.*” This requirement to consider alternatives to the proposed project is also mandated under CEQA, as discussed in Section II below.

**a. The Commission Retains Authority to Consider Alternatives to Regional Board Decisions.**

Before discussing alternatives to the project, it is critical to understand that the Commission is not bound by the Santa Ana Regional Water Quality Control Board’s prior issuance of the Water Code § 13142.5(b) determination (13142.5 Determination). Regardless of the Regional Board’s primary responsibility over water quality, the Commission retains authority to require an alternative to the project under Coastal Act section 30233 to ensure the full enforcement of marine life protections articulated in Coastal Act section 30230. Further, any alternatives required could bring the project into compliance with section 30231

Chapter 5, section 30412 states:

(a) In addition to Section 13142.5 of the Water Code, this section shall apply to the commission and the State Water Resources Control Board and the California regional water quality control boards.

(b) The State Water Resources Control Board and the California regional water quality control boards are the state agencies with primary responsibility for the coordination and control of *water quality*. The State Water Resources Control Board has primary responsibility for the administration of *water rights* pursuant to applicable law. The commission shall assure that proposed development and local coastal programs shall not frustrate this section. The commission shall not, except as provided in subdivision (c), modify, adopt conditions, or take any action *in conflict* with any determination by the State Water Resources Control Board or any California regional water quality

control board in *matters relating to water quality or the administration of water rights.*

*Except as provided in this section, nothing herein shall be interpreted in any way either as prohibiting or limiting the commission, local government, or port governing body from exercising the regulatory controls over development pursuant to this division in a manner necessary to carry out this division.*

(emphasis added). This delegation of authority to the Regional Board is limited to decisions concerning water quality and water rights but does not include decisions regarding marine life protection. Therefore, the Regional Board’s “Section 13142.5(b) Determination” is outside the scope of Coastal Act section 30412.

First, subsection 30412 (a) provides that this section is inclusive of Water Code section 13142.5. But, aside from subsection (b), Water Code section 13142.5 regulates water quality. Coastal Act Section 30412(b) clearly articulates that the Coastal Commission shall not take any action “in conflict” with any determination by the Regional Board in “matters relating to water quality or the administration of water rights.” But the Regional Board’s “Section 13142.5(b) Determination” does not necessarily regulate water quality because it applies only to the seawater intake.

Water Code Section 13142.5(b) states:

For each new or expanded coastal powerplant or other industrial installation using seawater for cooling, heating, or industrial processing, the best available site, design, technology, and mitigation measures feasible shall be used to minimize the intake and mortality of all forms of marine life.

Coastal Act Section 30412 should not be read to eliminate the Commission’s authority to Protect coastal resources by requiring alternatives. The Commission has authority to require modifications to what the Regional Board found was the best site for the facility, the best design (size), the best technology (subsurface intakes), or even consider and incorporate the best mitigation.

Additionally, the policy objectives in Coastal Act Section 30230 differ from the objective of Water Code Section 13142.5(b). The Water Code merely seeks to ensure “[minimization of] the intake and mortality of all forms of marine life.” In contrast, Coastal Act 30230 mandates: “Marine resources shall be **maintained, enhanced,** and, where feasible, **restored.**” We disagree that the Regional Board adequately enforced

Water Code section 13142.5(b). Regardless of the Regional Board decision, however, alternatives for meeting regional water reliability are available that do more than just minimize intake and mortality – the alternatives discussed below are proven and feasible ways to enhance and restore marine resources.

Finally, regarding the best technology to minimize intake and mortality, the Regional Board concluded Poseidon had provided an “identified need” for 50 million gallons of water per day (mgd). The record clearly shows that alternatives are available to ensure a reliable supply for predicted demand. Again, Coastal Act Section 30412 does not prohibit reconsideration of the “need” for 50 mgd, nor findings by the Commission that alternatives not only ensure a reliable supply to meet demands into the foreseeable future, but that those alternatives are mandated under Section 30233.

Below we document several alternatives that would “feasibly restore marine life populations” in compliance with Section 30230 rather than continue the destruction of marine life through surface screened intakes. These alternatives would also make significant improvements to ocean water quality in furtherance of Coastal Act Section 30231.

**b. The Coastal Act Requires the Commission to Consider Less Damaging Alternatives to the Project.**

The Coastal Act requires heightened protections where projects include dredge and fill in coastal waters, as proposed here.

Coastal Act Section 30233, subdivision (a) prohibits filling or dredging when less damaging alternatives exist. Specifically, the section provides, the filling or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, **“where there is no feasible less environmentally damaging alternative**, and where feasible mitigation measures have been provided to minimize adverse environmental effects.” As a preliminary matter, the Commission must utilize any feasible, less environmentally damaging alternatives to the Poseidon Project.

Section 30260 provides for the accommodation of certain developments “where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division.” However, this section is limited to specific types of development, none of which apply to the Project. Moreover, in order to permit the Project under this section, the Commission must make and support findings that: “(1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental

effects are mitigated to the maximum extent feasible.” Both sections require the Commission to incorporate all feasible mitigation if it determines alternatives are infeasible.

The Coastal Act defines “feasible” as “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.” (Coastal Act Section 30108.) Findings about feasibility must be supported. The Commission cannot simply take Poseidon at its word that a proposed alternative or mitigation measure is infeasible, without independent evidentiary support.

Finally, the Commission must keep any “public welfare” determination made under section 30260 separate from its determination about whether a particular alternative or mitigation is feasible. Even if the Commission finds the Project important to public welfare, this does not mean Poseidon is not fully capable of bearing or passing on to its consumers the full cost of appropriate alternatives or mitigation. Passing the public welfare test cannot enable mitigation avoidance.

The Project requires a dredge and fill permit to modify the existing AES intake and discharge structures, and to construct the artificial reef required to “minimize intake and mortality” as part of the Regional Board’s 13142.5(b) determination, as well as to grade on-site historical wetlands. Yet, all of the Project’s planned dredge and fill, and the resulting environmental impacts, could be avoided or dramatically minimized with feasible alternatives. These alternatives include conservation, acquiring water from the Metropolitan Water District’s proposed wastewater recycling plant in Carson, and through construction and operation of a smaller desalination facility, tailored to supply the amount of water actually needed to satisfy demand, where slant wells may be feasible. Thus, the Commission has not only the authority but the responsibility to analyze and require feasible, less environmentally damaging alternatives. Sections 30233 and 30260 of the Act require rejection of the Poseidon Project, as proposed.

**i. The Region’s Water Needs Could Be Satisfied Through Conservation or Through Construction of a Smaller Facility.**

Poseidon’s application seeks CDPs for a 50 mgd facility, but Poseidon has never demonstrated a local need for 50 mgd of desalinated water. Since around 2000, when Poseidon first proposed the project, water demand in Orange County has remained relatively flat. The Orange County Water District has successfully completed a wastewater recycling facility – the Groundwater Replenishment System (GWRS). GWRS currently supplies a local drought-proof supply of approximately 100 million mgd – twice the volume Poseidon proposes. Further, the GWRS is on track to expand

production by an additional approximate 30 mgd. The predicted shortfall for which Poseidon proposed a 50 mgd facility has not materialized.

Looking forward, the Metropolitan Water District of Orange County's 2018 Water Reliability Study demonstrated that "the need for additional water supplies for the OC Basin is fairly small," and occurs once in 20 years.<sup>6</sup> The Study concluded that a 10 percent water cutback would fill the supply gap. The Study further compared eight water reliability supply alternatives for filling a ten percent supply gap, including the Poseidon Project. The Study found that alternatives better met the District's needs. Further, the 2020 Metropolitan Water District of Orange County Urban Water Management Plan (UWMP), drafted prior to and only published after the Regional Board's conditional approval of the Project, further concluded that the region had sufficient water supplies and discussed plans to continue increasing supplies through conservation and recycling.<sup>7</sup> While seawater desalination is considered, the Plan notably does not state a need for the Poseidon Project to conclude there will be water supply reliability for the foreseeable future.

This is relevant to the Commission's review because Poseidon has never provided a good faith analysis of conservation, of recycled wastewater, or of a smaller desalination facility designed to meet the region's actual shortfall between water supply and water demand. Water conservation would require no construction, dredge, or fill in the coastal zone, and would fully eliminate impacts to ESHA, coastal wetlands, frontline communities, recreation, and marine life. It would require no armoring or fill that would later become an island. Conservation and wastewater recycling would also be significantly less impactful from a greenhouse gas standpoint.<sup>8</sup> Finally, these alternatives would have direct benefits to ocean water quality from outdoor water conservation programs that reduce polluted runoff, as well as wastewater recycling benefits of significantly limiting wastewater treatment plant effluent discharge to the ocean – all benefits required under Coastal Act Section 30231.

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<sup>6</sup> <https://www.mwdoc.com/wp-content/uploads/2019/01/OC-Water-Reliability-Study-2018-Briefing-December-12-Revision.pdf>.

<sup>7</sup> MWDOC 2020 Urban Water Management Plan, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/MWDOC-2020-UWMP\\_2021.06.02.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/MWDOC-2020-UWMP_2021.06.02.pdf)

<sup>8</sup> Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 pp. 9-10, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

Compared to the Project, a smaller desalination facility would reduce construction impacts, such as dredge and fill, and associated impacts to wetlands, ESHA, and beach access. Importantly, the proposed surface intake with wedgewire screens would only reduce entrainment by one percent or less than a similar volume from continued use of the now-outlawed cooling water intake.<sup>9</sup> A facility producing less than 50 mgd would need to process far less water through its intakes, thereby reducing the facility's impact on marine life through entrainment and impingement. A smaller facility could potentially avoid entrainment and impingement altogether by feasibly incorporating slant wells or other subsurface intake technology. Less desalination would also mean less brine: a smaller facility would discharge less hypersaline brine into coastal waters, thereby reducing water quality, marine life, and recreational impacts. Operation of a smaller facility would also limit the electricity demand of the desalination facility, thereby reducing its greenhouse impacts and contribution to future sea-level rise that endangers coastal resources. Importantly, subsurface intakes would significantly reduce energy demand because the natural filtration eliminates the need for costly and energy intensive in-plant pre-filtration.

**ii. The Carson Project Is a Feasible Alternative that Would Reduce Project Impacts.**

The Metropolitan Water District (MWD) is currently planning a Potable Reuse project on the site of the Los Angeles County Wastewater Treatment Plant (WWTP) in Carson ("Carson Project"). The Carson project would provide approximately 150 mgd, or approximately 160,000 acre feet per year (afy) for regional distribution.<sup>10</sup> The most recent 2020 MWD "White Paper" shows approximately 60 mgd could be "feasibly" delivered to Orange County for groundwater basin recharge – more water than the 50 mgd Poseidon Project would produce.<sup>11</sup> The Carson project would meet OCWD's claimed need for a drought-proof supply of potable water.

Importantly for Coastal Act section 30233 compliance, the Carson Project could feasibly deliver recharge water for the Orange County Basin while eliminating dredge and fill around the proposed Poseidon Project's intake and discharge structures. Because it would eliminate intake and mortality of marine life, it would eliminate dredge and fill at the site of the proposed artificial reef mitigation project. The Carson Project would

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<sup>9</sup> Santa Ana Regional Water Quality Control Board Staff Report, July 30, 2020, p. 11, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/Regional%20Board%20Poseidon\\_Staff\\_Report\\_July\\_30,2020.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/Regional%20Board%20Poseidon_Staff_Report_July_30,2020.pdf).

<sup>10</sup> See, <https://www.eenews.net/articles/could-la-water-recycling-be-a-miracle-for-parched-west/>.

<sup>11</sup> See, Attachment 4, Regional Recycled Water Program: Institutional and Financial Considerations, White Paper 2, October 13, 2020, p. 12.

further improve ocean habitat through reduced ocean discharges from the Carson WWTP. For these reasons, the Carson Project is a feasible alternative that is consistent with Coastal Act sections 30230 and 30231.

Coastal Act Section 30231 provides, “The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health *shall be maintained and, where feasible, restored* through, among other means, *minimizing adverse effects of waste water discharges and entrainment*, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.” (emphasis added.) In contrast to the proposed desalination facility, the Carson Project will feasibly “restore” water quality for both marine life and human health by “minimizing adverse effects of wastewater discharges and entrainment.” Likewise, in contrast to the proposed project, the “Carson Project” complies with the Coastal Act Section 30230 mandate that “Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.” The Commission should note that the existing cooling water intake will be discontinued in 2023, which would help “restore” marine life populations – if not for the proposed plan to re-purpose the structures for Poseidon’s continued use.

The Commission must review the Carson Project as a less-damaging alternative water supply to the Project. Only after the Commission has determined that there are no “less environmentally damaging alternatives,” may it move to the next step of the inquiry, conditioning the Project on minimizing the impacts of dredge and fill through mitigation. Less damaging and feasible alternatives to the Project exist, and we urge the Commission to deny the CDPs for this harmful Project.

### **iii. A Smaller Desalination Facility is Feasible.**

Achieving reliable water supplies into the foreseeable future does not require the Poseidon proposed 50 mgd project. Further, although we disagree with the analyses and conclusions in the Regional Board’s “13142.5(b) Determination” regarding “identified need” and the feasibility of slant well intake technology, the heightened standards for marine life protection in Coastal Act section 30230 mandate a different analysis and conclusion by the Commission. A smaller desalination facility sited and designed to use

subsurface wells for withdrawing source water is feasible and must be required under the Coastal Act policies.

The Regional Board staff analyses concluded that slant wells were “technically infeasible.”<sup>12</sup> This was based on the ISTAP Phase 2 report.<sup>13</sup> But these conclusions were based on information supplied by the Orange County Water District (OCWD), Poseidon’s partner in the proposed “public-private-partnership” (PPP) proposal. OCWD claimed that withdrawal of more than 1,000 afy of freshwater into the slant wells was unacceptable.<sup>14</sup> Closer scrutiny shows that OCWD’s objection to freshwater withdrawal into slant wells was primarily based on the cost of replacing that water.<sup>15</sup> OCWD’s conclusion regarding freshwater withdrawal was: “Not only would this interfere with the operation and benefits of OCWD’s Talbert Seawater Barrier, the volume of extracted groundwater would need to be accounted for in OCWD’s annual water budget, meaning it would need to be balanced by some combination of increased replenishment water or reduced pumping – which would be a substantial financial impact to OCWD and its ratepayers.”<sup>16</sup> While the record shows that OCWD was primarily concerned about the “cost” of freshwater withdrawal, neither the ISTAP nor the Regional Board conducted the analysis necessary to support a conclusion of economic feasibility.

Importantly, a report provided by HydroFocus, the hydrogeologist experts who conducted the CalAm-Monterey slant well analyses, found that the reports prepared by Geosyntec for Poseidon needed to be calibrated with physical data for reliability.<sup>17</sup> Further, the HydroFocus 2 report showed that if OCWD modified the volume of water injected into the Talbert Gap seawater intrusion barrier, and added slant wells for seawater desalination source water, the volume of freshwater withdrawn could be significantly reduced.<sup>18</sup> On behalf of Poseidon, Geosyntec responded that the HydroFocus modeling showed the freshwater withdrawal would still exceed the 1000 afy economic threshold asserted by OCWD. Again, importantly, neither ISTAP nor the Regional Board conducted an economic feasibility analysis. It should be noted that subsurface intakes can significantly reduce energy demand because they source water filtration that is needed from expensive and energy intensive in-plant pre-filtration

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<sup>12</sup> Attachment 5, Santa Ana Regional Water Quality Control Board, Poseidon Staff Report, July 30, 2020, p. 4.

<sup>13</sup> Ibid.

<sup>14</sup> Attachment 6, Letter from OCWD to Regional Board, May 18, 2018.

<sup>15</sup> Attachment 6, p. 2.

<sup>16</sup> Ibid.

<sup>17</sup> See Attachment 7, HydroFocus Report, March 10, 2020.

<sup>18</sup> Ibid.

systems – and this benefit translates to both construction and operation costs associated with screened surface intakes.

Further, the Geosyntec response to the 2020 HydroFocus Report<sup>19</sup> concluded that a 25 mgd seawater intake through slant wells would withdraw 1120 afy of freshwater – a small marginal increase above the OCWD self-determined 1000 afy threshold. A 25 mgd seawater intake volume could produce approximately 12 mgd of potable water, only approximately 120 afy over OCWD’s arbitrary 1000 afy threshold.

Given that the 2020 MWDOC UWMP concludes water demand in the foreseeable future can be reliably met without the 50 mgd proposed facility, a 12 mgd facility is a feasible alternative.

Finally, OCWD is conducting a study to plan construction of a new seawater intrusion barrier in the Sunset Gap just north of the proposed Poseidon facility. The situation in Sunset Gap is similar to the seawater intrusion barrier in the Talbert Gap studied by HydroFocus: seawater intrusion is threatening nearby freshwater production wells. The wells constructed for this barrier could provide a reliable, drought-proof water sources.

The OCWD study includes a combination of injection wells inland of the planned barrier as well as extraction wells seaward of the planned barrier – similar to the HydroFocus 2 simulations.<sup>20</sup> OCWD plans to extract 3 mgd seaward of the proposed barrier in combination with injection 13 mgd of fresh water inland of the barrier.<sup>21</sup> Mr. Herndon from OCWD noted that the extracted water could be desalted if the salinity was low enough to make it economically feasible. He also noted that an alternative plan could be to rely solely on extraction wells in lieu of any inland injection wells -- but he did not indicate what volume would be extracted. Clearly, the water extracted from the proposed wells would be equal to or less saline than water extracted from the screened surface intake Poseidon proposes, and consequently more economically feasible.

This new study, not considered by the Regional Board “13142.5(b) Determination,” is substantiating evidence that the HydroFocus 2 report should be given substantial weight in determining the economic feasibility of alternative sized facilities utilizing subsurface intakes. Further, this study introduces a potential new site for a

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<sup>19</sup> Attachment 8, Appendix GGGGGG, Geosyntec Response to HydroFocus Report, Attachment Table 1.

<sup>20</sup> See: Seawater Intrusion Control in Orange County - Do We Need Another Barrier? (12/14/21) at <https://www.ocwd.com/news-events/events/water-webinars/>

<sup>21</sup> Id at Slide 27

desalination facility that may provide a more economical solution because it would provide source water for desalination as a by-product of seawater intrusion protection.

Finally, in regard to the “economic feasibility” analysis that has yet to be conducted, the Commission must consider the context of a proposed desalination facility with construction costs at approximately \$1.3 billion. It is difficult to imagine the additional cost of 1,000 acre feet of water per year would render the project “economically infeasible.”

For example, OCWD quoted a replacement cost of \$445 per acre foot. An annual cost would be \$445,000 per year). The annual revenue from Project water sales would be, at a conservative minimum, \$102 million ( $\$2,000 \text{ ac/ft} \times 56,000 \text{ ac/ft/yr} = \$102,000,000$  per year). Therefore, the marginal cost for replacing the freshwater withdrawn at  $\$445,000 / \$102,000,000$  would be less than half of one percent of Poseidon’s annual revenue. Poseidon would need to show that a minor cost escalation of less than one percent would “render the project unviable.”

Coastal Act Section 30233 mandates alternatives to the proposed project. A smaller desalination facility utilizing subsurface intakes is clearly a feasible alternative.

**c. The Commission Has The Duty and Authority to Impose the Maximum Feasible Mitigation Available to Protect Coastal Resources.**

The Coastal Commission retains jurisdiction and is obligated to impose the “maximum feasible mitigation available” on the Project to ensure its consistency to protect coastal resources, wildlife, and public safety, consistent with the Coastal Act and the Huntington Beach certified LCP. (Section 30260.) As proposed, the Project fails to incorporate all feasible mitigation measures to minimize its well-documented adverse effects, in violation of Coastal Act section 30233 and section 30260.

The Commission’s feasibility standard is a high bar, and it cannot be overcome simply because a proposed mitigation measure or technology is not cheap or easy. On the contrary, innovation can and should be expected of projects that will impose great environmental cost. An alternative or mitigation is not infeasible unless there is “evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project.” (*Citizens of Goleta Valley, supra*, 197 Cal.App.3d 1167, 1181; *Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 599.) The Coastal Act defines “feasible” in the same way as the California Environmental Quality Act (CEQA), “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic,

environmental, social, and technological factors.” (*Compare* Coastal Act Section 30108 with Pub. Resources Code § 21061.1.) Thus, CEQA case law is instructive on this issue. “[I]f the project can be economically successful with mitigation, then CEQA requires that mitigation...” (*Uphold our Heritage, supra*, 147 Cal.App. 4th at 600.) In short, the Commission should not “authorize an agency to proceed with a project that will have significant, unmitigated effects on the environment...unless the measures necessary to mitigate those effects are *truly* infeasible.” (*City of Marina v. Board of Trustees of the California State University* (2006) 39 Cal.4th 341, 368, emphasis added.) Under this standard, each potential mitigation measure is analyzed individually.

Outside the CEQA context, courts have applied more stringent definitions of feasibility. Regarding a water safety regulation claimed infeasible by industry, the Court of Appeal held, “A standard is not infeasible simply because it is financially burdensome or even because it threatens the survival of some companies within an industry [citation]. A standard is economically feasible if the costs it imposes do not ‘threaten massive dislocation to or imperil the existence of, the industry.’” (*California Manufacturers & Technology Assn. v. State Water Resources Control Bd.* (2021) 64 Cal.App.5th 266, 282-283.)

Poseidon has not demonstrated the infeasibility of Project alternatives and mitigation measures, including, but not limited to, the Carson Project, a smaller project, alternative intake locations, and slant wells. While Poseidon makes these claims, these claims do not supply substantial evidence necessary to support Commission findings. The Commission should obtain or conduct an independent economic feasibility analysis and not simply take Poseidon at its word.

During Regional Board proceedings, two alternative intake locations were identified that would reduce marine life mortality.<sup>22</sup> However, Poseidon claimed that the time it would take to relocate intakes to new locations, and the time it would take to receive permits for the changes, would cut into its profits. The very idea that a Project could be made infeasible solely because permitting agencies follow California law is absurd. Even if this absurd notion were accepted, case law is clear that reduced profits do not render a project infeasible. (*City of Marina, supra*, 39 Cal. 4th at 368, emphasis added.)

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<sup>22</sup> Santa Ana Regional Water Quality Control Board, Attachment G – Narrowing Sites, November 21, 2019, p. G1-44 and p. G1-57, <https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/Attachment%20G.1%20Narrowing%20of%20Sites%20Parts%201%20to%203.pdf>.

The Project also fails to include slant wells, which have been deemed feasible for other proposed desalination plants. When other similar projects implement particular mitigation measures, it is evidence that those measures are feasible. (*Western States Petroleum Association v. Southern California Air Quality Management District* (2006) 136 Cal.App.4th 1012, 1020 [no evidence showing that refineries could not make the same air pollution control changes one refinery made or that the cost of such changes would be prohibitive].) Poseidon has claimed slant wells to be infeasible, but the record shows that the determination of infeasibility rests on primarily economic concerns, and there are no economic feasibility analyses included. It also relies on the independent scientific technical advisory panel (ISTAP) for this conclusion<sup>23</sup>, but, notably, ***the ISTAP failed to analyze the economic feasibility of slant wells, and the process was never completed.*** Commission staff had recommended that Poseidon fund a third phase, but this phase never occurred. “Infeasible” means that the Project cannot be completed, not that it might be marginally less profitable and not that an applicant has not bothered to study a mitigation measure for a project. Unlike the Poseidon Project, the proponents of both the Cal-Am and Doheny desalination proposals studied the feasibility of slant wells and calibrated the computer modeling with test wells – a critical step missing in this CDP application.<sup>24</sup>

The CalAm and Doheny tests demonstrate that slant wells are feasible, in particular for a desalination facility that is actually designed to meet the area’s water demand.<sup>25</sup> Despite Poseidon’s claim that OCWD needs 50 mgd, the 2020 Urban Water Management Plan for the Municipal Water District of Orange County recently determined that rare demand shortfalls can be more feasibly met with alternatives to the Project.<sup>26</sup> A smaller facility designed to produce only what OCWD needs could feasibly supply seawater through slant well intakes, thereby avoiding the massive entrapment and entrainment impacts of open water intakes, as well as the maintenance concerns posed by wedgewire screens.

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<sup>23</sup> Phase 2 Report: Feasibility of Subsurface Intake Designs for the Proposed Poseidon Water Desalination Facility at Huntington Beach, California, ISTAP, August 2015, [https://documents.coastal.ca.gov/assets/press-releases/huntington-beach-desal/CCC-Poseidon\\_ISTAP\\_Draft\\_Phase\\_2\\_Report\\_for\\_Public\\_Review\\_8-14-15.pdf](https://documents.coastal.ca.gov/assets/press-releases/huntington-beach-desal/CCC-Poseidon_ISTAP_Draft_Phase_2_Report_for_Public_Review_8-14-15.pdf)

<sup>24</sup> Staff Report for Cal-Am Desalination Project, September 2020, p. 114 fn. 116, <https://documents.coastal.ca.gov/reports/2020/9/Th3a&4a/Th3a&4a%20Staff%20Report.pdf>.

<sup>25</sup> Staff Report for Cal-Am Desalination Project, September 2020, p. 114 fn. 116, <https://documents.coastal.ca.gov/reports/2020/9/Th3a&4a/Th3a&4a%20Staff%20Report.pdf>.

<sup>26</sup> The Municipal Water District of Orange County (MWDOC) 2020 UMWP and 2018 Reliability Study demonstrate the projected need for water can be met with alternatives. The Regional Board relied on the 2015 Urban Water Management Plan in determining the region’s water “need” for 56,000 afy.

As proposed, the mitigation incorporated into the Project is insufficient. For example, the State Water Resources Control Board acknowledges that the wedgewire screens would reduce entrainment of marine organisms by a *single percent*, or less.<sup>27</sup> This abysmal performance assumes that the wedgewire screens do not experience the same unexpected maintenance issues experienced at the Carlsbad Desalination Plant.

Other Project mitigation itself will harm wildlife. The Project will incorporate linear brine diffusers on the outfall, which themselves cause marine life mortality through shear.<sup>28</sup> In the turbulent mixing zone of a diffuser, entrained eggs, larvae and juvenile adults suffer both *impact mortality* from direct contact with the high velocity core of a diffuser jet and *turbulent shear mortality* along the edges of the turbulent mixing zone. Marine eggs, larvae, soft shelled veligers, and juvenile adults are particularly vulnerable to becoming distorted or ripped apart, particularly when the size of the affected organisms is comparable to the Kolmogorov turbulent mixing lengths.<sup>29</sup> Outfall systems can be designed to try to reduce shearing impacts on larger organisms, but the size-specific nature of shear mortality may limit these mortality reductions to larger juvenile and adult organisms. While it was previously thought that the use of linear diffusers on outfalls would reduce marine life mortality of a desalination plant by reducing entrainment caused by plant intakes, more study is needed. Linear diffusers increase the size of the turbulent mixing zone, where shear mortality occurs, shear mortality rates in and along the edge of the turbulent mixing zone are very high, and mitigation of impacts to eggs larvae, and juvenile organisms may not be possible.<sup>30</sup>

Proposed Project mitigation is also speculative. Wetland mitigation sites at Bolsa Chica will likely go underwater during the life of the Project. A recent study evaluating the sustainability of the Bolsa Chica Lowlands Restoration Project concluded, “In the long term (2060 to 2100), placement or redistribution of sediment appears to be the only remediation measure available to provide coastal salt marsh habitat under projected

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<sup>27</sup> Santa Ana Regional Water Quality Control Board Staff Report, July 30, 2020, p. 11, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/Regional%20Board%20Poseidon\\_Staff\\_Report\\_July\\_30,2020.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/Regional%20Board%20Poseidon_Staff_Report_July_30,2020.pdf).

<sup>28</sup> Even documents produced in support of desalination facilities describe shear mortality. See, e.g., Dilution Issues Related to Use of High Velocity Diffusers in Ocean Desalination Plants: Remedial Approach Applied to the West Basin Municipal Water District Master Plan for Sea Water Desalination Plants in Santa Monica Bay, pp. 9-15, available at <https://www.westbasin.org/wp-content/uploads/2020/07/Brine-Diffuser-Study.pdf>.

<sup>29</sup> Id., pp. 9-15.

<sup>30</sup> Id., p. 36 [“It is not possible to both minimize jet velocity and shearing rate, while simultaneously making the Komogorov turbulent mixing lengths small relative to *all* resident water column species and life phases.]

increases in sea levels.”<sup>31</sup> The wetlands are unable to migrate inland because they are surrounded by urban development.<sup>32</sup> Figure 4-4 of the attached report shows substantial inundation of Bolsa Chica in 2060 and near-total inundation in 2100 under even minimum anticipated levels of sea level rise.

Moreover, if the Commission is inclined to approve the Project, it must be conditioned on being designed and constructed to Risk Category IV Critical Infrastructure standards. As proposed, the Project will be subject to sea-level rise, coastal flooding, and tsunami, all while being built along an active and dangerous fault line. Unless constructed to withstand geologic, coastal, and seismic hazards *while continuing to operate safely at full capacity*, the Project would run counter to several Coastal Act and LCP policies.

Poseidon has not disclosed the basis for any of its infeasibility claims, and its conclusions about slant wells are based on a *lack* of study. Thus, neither the public nor the decisionmakers can confirm whether any of the proffered alternatives or mitigation measures are truly economically infeasible. The few datasets that are cited regarding alternative locations and intakes are woefully out-of-date and, in some instances, have been superseded by studies demonstrating feasibility. Consequently, the Commission currently lacks substantial evidence supporting any infeasibility findings it makes on Poseidon’s behalf. The Commission must also remember that, even if it is able to find that a particular mitigation measure is infeasible, it does not mean that all mitigation is infeasible. It just means that other mitigation must be incorporated for that impact. Poseidon should not be allowed to claim that “maximum feasible mitigation” means “no mitigation.” Nor should Poseidon be allowed to claim under section 30260 that, because water supports the public welfare, the Project is exempt from mitigation. This is especially true, here, where mitigation costs can be passed on to end users, and where the Project is seeking public funding.<sup>33</sup> Given the gravity of the consequences of these determinations, the Coastal Commission cannot be expected to rely on Poseidon’s unsupported assertions. An independent and thorough feasibility analysis must be conducted.

Finally, we note that Poseidon has known about the environmental groups’ concerns and mitigation proposals for well over a decade by this point. Management failure on the part of a project proponent to properly anticipate and budget for these costs

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<sup>31</sup> Attachment 3, Bolsa Chica Lowland Restoration Project, Sustainable Alternatives Study Analysis, December 2021, p. ES-7.

<sup>32</sup> Id. p. 46.

<sup>33</sup> <https://voiceofoc.org/2021/12/will-poseidons-hb-desal-plant-take-state-money-away-from-low-income-housing/>

in its financial calculations and product delivery contracts is not a reason to assert that mitigation is economically infeasible. Mitigation for project impacts is as easily anticipated as any other cost of doing business on a major project, and management decisions solely in the interests of Poseidon's business plan should not provide a basis to pass the Project's enormous environmental costs on to the public or to future generations.

Regardless of the Regional Board's findings on this issue, the Commission must require conformance with the Coastal Act, require all feasible mitigation of environmental impacts, and select less-damaging alternatives.

## **II. The Commission Has the Authority and the Duty to Analyze the Environmental Impacts of the Project, and Recent Project Changes, Under CEQA.**

The Coastal Commission derives its authority under CEQA to review the CDPs from at least two sources. First, the Coastal Commission's program for reviewing and granting CDPs is a certified regulatory program that serves as a "functional equivalent" of CEQA. (Pub. Resources Code § 21080.5 (c); 14 CCR § 15251(c).) The Commission's administrative regulations require CDP application approvals to be supported by a finding that the application, as modified by any conditions of approval, is consistent with any applicable requirements of CEQA. (Section 13096.)

Second, the Commission is a responsible agency for the Project under CEQA, although the City of Huntington Beach and the State Lands Commission have served as the lead agencies for environmental impact report (EIR) preparation. (14 CCR § 15381.) Because the Commission must take discretionary action regarding the Poseidon Project's CDPs, it must comply with CEQA. While CEQA permits a responsible agency to rely on a lead agency's CEQA document, the Commission complies with CEQA "by considering the EIR or negative declaration prepared by the Lead Agency and by reaching its own conclusions on whether and how to approve the project involved." (14 CCR § 15096(a).) The Commission retains responsibility for mitigating or avoiding the direct or indirect environmental impacts of the portions of the project that approves. (14 CCR § 15096(g)(1).)

CEQA's primary purpose is to ensure that the environmental consequences of an action are disclosed to the public and to agency decisionmakers before that action is taken. Put another way:

The CEQA process is intended to be a careful examination, fully open to the public, of the environmental consequences of a given project, covering the entire

project, from start to finish. This examination is intended to provide the fullest information reasonably available upon which the decision makers and the public they serve can rely in determining whether or not to start the project at all, not merely to decide whether to finish it. The EIR is intended to furnish both the road map and the environmental price tag for a project, so that the decision maker and the public both know, before the journey begins, just where the journey will lead, and how much they-and the environment-will have to give up in order to take that journey.”

(*Natural Resources Defense Council v. City of Los Angeles* (2002) 103 Cal.App.4th 268, 271.) CEQA further contains a substantive mandate that a project’s adverse environmental impacts must be avoided or reduced to the extent feasible through the incorporation of project alternatives or mitigation measures. (Pub. Resources Code § 21002.) For this reason, it is imperative that alternatives and mitigation measures not be foreclosed prior to project approval. (*Save Tara v. City of West Hollywood* (2008) 45 Cal.4th 116, 138.) Environmental review must occur prior to project approval.

**a. CEQA Requires Environmental Review of Project Changes, Including the Marine Life Mitigation Plan and the Artificial Reef.**

Although we dispute the adequacy of the Poseidon Project’s CEQA review, we acknowledge that environmental impacts for *portions* of the Project have been certified. However, no environmental review has been conducted for the Marine Life Mitigation Plan portion of the Project, which will include the construction of an artificial reef near Palos Verdes, which we have reason to believe is in relatively close proximity to DDT contamination,<sup>34</sup> among other impactful activities. Sinking debris into the ocean will undoubtedly have environmental impacts, and these impacts must be disclosed, analyzed, and fully mitigated before the Commission may approve portions of the Project reliant on the Marine Life Mitigation Plan. The reef will require transporting large quantities of quarried rock from Catalina Island, which will generate greenhouse gas and air pollution-attributable impacts from both quarrying and barge transport. There will also be cumulative impacts from the dredge and fill for the intake and discharge locations, combined with the exact same kind of activity at the artificial reef site. Environmental

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<sup>34</sup> See, e.g., <https://www.latimes.com/projects/la-coast-ddt-dumping-ground/>, <https://www.theguardian.com/environment/2021/apr/29/californias-legacy-of-ddt-waste-underwater-dump-site-uncovers-a-toxic-history>, and <https://www.smithsonianmag.com/smart-news/deep-sea-robots-kick-start-ddt-ocean-floor-clean-south-californian-coast-180977237/> (extent of dumping much larger than initially understood).

review has not been conducted for changes to the discharge structures imposed by the Santa Ana Regional Water Quality Control Board, either. That review was a narrowly focused Addendum that did not consider the direct or cumulative impacts from the artificial reef construction that they mandated as part of the “13142.5(b) Determination.”

It appears that some future review of the Marine Life Mitigation Plan may be contemplated, later, by the State Lands Commission, after Poseidon applies for the lease needed to construct the reef, but “CEQA’s informational purpose ‘is not satisfied by simply stating information will be provided in the future.’” (*Vineyard Area Citizens v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 440-41.) The information must be disclosed and evaluated, now, before approvals provide momentum that forecloses feasible alternatives or mitigation measures that may have fewer environmental risks. Approval of the Project without a thorough, *prior*, analysis of project components such as the artificial reef violates CEQA.

CEQA requires environmental review to evaluate the “whole of a project” and not simply its constituent parts when determining whether it will have a significant environmental effect. (CEQA Guidelines § 15003(h).) Separating the Marine Life Mitigation Plan and the changes to the Project discharge structures from the rest of the Project results in impermissible segmentation.

CEQA also requires that environmental documents evaluate mitigation measures – both the adverse environmental impacts caused *by* mitigation and the efficacy *of* that mitigation. (14 CCR § 15126.4; *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645.) Here, neither has occurred, leaving the Commission in a precarious position. The Commission has not received any information about the reef’s potential environmental consequences, so it cannot make a decision about whether to approve the reef or how to condition it so that it complies with the Coastal Act. The same goes for other portions of the Marine Life Mitigation Plan. The Commission also lacks information of the efficacy of the Marine Life Mitigation Plan as mitigation for the Poseidon Project’s harm to marine organisms. Similarly, the Commission does not have before it environmental review of the changes to the discharge structures. Given the enormous potential of discharge shear to cause mortality of marine organisms, this information is critical. The Commission cannot determine whether the Project will actually offset its environmental harms or whether more mitigation is needed. Nor can it support its findings on these issues, as required.

While CEQA permits reliance on prior EIRs, this reliance does not extend to changes to a Project that occur between EIR certification and the grant of a new discretionary approval, when those changes and their impacts were not analyzed in the certified EIR. (Pub. Resources Code § 21166.) Subsequent or supplemental

environmental review must occur when changes to a Project necessitate revisions to the EIR for it to retain relevance and accuracy. (14 CCR §§ 15162, 15163.) In particular, CEQA requires preparation of subsequent environmental review when:

- (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
  - (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
  - (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
  - (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
  - (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

(14 CCR § 15162 (a).)

Substantial changes have been incorporated into the Project, the circumstances under which the Project is being evaluated have changed, and new information of

substantial importance has been developed since the Project's last relevant environmental review. In particular, the Project now proposes mass grading on a toxic site to remove existing berms to build the foundation 14 to 16 feet higher – above the level where coastal flooding is expected in the near-term. This change has significant environmental implications related to air quality and construction, hazards and toxics, air quality, water quality, and environmental justice. As Commission staff found in 2013:

Based on limited sampling at the site, there are known and expected soil and groundwater contaminants that Poseidon will need to remediate. Although sampling has not yet been conducted beneath the storage tanks, which cover a substantial area of the project footprint, Poseidon proposes to implement a Remedial Action Plan (RAP) that includes excavation and removal of up to about 18,000 cubic yards of soil (a worst-case estimate) containing petroleum and possibly other contaminants.<sup>35</sup>

The site is toxic, and doubling the expected quantity of grading will have environmental impacts that have not yet been studied. This alone requires supplemental environmental analysis. As soil sampling has not yet occurred, the extent of contamination is unknown, and the measures needed to remediate the expected contamination have not yet been identified. Remediation may require removal and disposal of contaminated soil, coupled with import of soil needed to raise the Project's base elevation. The Project leans on deferred analysis and deferred mitigation. CEQA provides the Commission with authority to analyze and mitigate these impacts to air quality, coastal access and traffic, hazards, water quality, and biological resources now, not later.

Further, northern Orange County's water demand has decreased over time, and much more is known about the shear mortality impacts of linear brine diffusers, the Project's impacts on marine organism mortality, and the local near-term impacts of climate change. Alternatives – such as reliance on conservation measures, a smaller project, and the Carson Project – are now feasible. Finally, mitigation measures such as slant wells have proven feasible at other sites. The conditions for subsequent environmental review – whether through the Commission's CDP process or otherwise – are met. Since certification of the 2010 SEIR, additional changes to the Project, circumstances, and substantial new information include, but are not limited to:

- Orange County Water District (OCWD) has announced expansion of the Groundwater Replenishment System to add 30 million more gallons per day to local water supplies as an alternative.

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<sup>35</sup> Attachment 1, 2013 Staff Report, p. 26.

- OCWD has taken responsibility for developing a system to deliver the Poseidon product water. OCWD has added 5 new alternative delivery options to the 2 options considered in the 2010 SEIR. These new delivery options include using the Poseidon water to recharge the groundwater basin.<sup>36</sup> Irvine Ranch Water District found that introduction of the Poseidon product water can have adverse impacts on water quality in the groundwater basin, and alternatives were preferable.<sup>37</sup> However, OCWD does not plan to prepare CEQA review of the new alternatives until **after all discretionary approvals are complete. Further, as explained below, these new delivery options have not been considered nor found consistent with LCP Policy C6.1.1 mandating protection of basin water quality.**
  
- An investigation by the Irvine Ranch Water District (IRWD) quantified significant water quality impacts to the regional groundwater basin caused by injecting Poseidon's water that has not been analyzed in compliance with the CEQA. IRWD's expert report demonstrated that avoiding boron exceedances in the groundwater aquifer will require subjecting 80 to 100 percent of the Poseidon Project to a second pass reverse osmosis treatment process. According to the investigations, "these second pass treatment requirements will significantly increase the flow rates through the seawater intake and brine discharge facilities proposed by Poseidon."<sup>38</sup> The Regional Board never analyzed the foreseeable increased flow rates through Poseidon Water's seawater intake and brine discharge facilities that will be needed to avoid the identified significant impacts to water quality.
  
- Three major demolition and development projects will occur on properties adjacent to the project site either concurrently or consecutively with the proposed Poseidon project: AES power station demolition and re-power project; Ascon Toxic Waste Site remediation, Magnolia Tank Farm demolition and multi-use development. The 2010 SEIR does not include cumulative impacts analyses for these new projects.

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<sup>36</sup> Attachment 10, OCWD Workshop 3: Distribution of Poseidon Resources Ocean Desalinated Water, July 2, 2016.

<sup>37</sup> Attachment 9, Irvine Ranch Water District Letter to OCWD, July 6, 2016.

<sup>38</sup> Irvine Ranch Water District, Comments on the NPDES Permit Renewal for Proposed Huntington Beach Desalination Project, pg. 2 (Dec. 4, 2019); *available at* [https://www.irwd.com/images/pdf/about-us/Desalination/12\\_4\\_19\\_irwd\\_letter\\_to\\_rwqcb.pdf](https://www.irwd.com/images/pdf/about-us/Desalination/12_4_19_irwd_letter_to_rwqcb.pdf).

- Proposed landside refinements to the Project involve the addition of an emergency generator, revisions to the original grading plan and layout, and revisions to the electrical substation component of the Project.
- The Project would now involve fiber optic cables and a conduit, requiring thousands of feet of previously undisclosed trenching, plus new overhead poles.
- Removal and replacement of hardware to accommodate upgraded substations, installing underground duct banks, trenching and installing would occur.
- The updated grading plan proposes the removal of the exterior berms on the site. The majority of soils from the removal of the berm will be retained onsite and used to raise the elevation of the site from the 2010 design elevation of approximately 11 feet to between 14 and 16 feet (NAVD88).
- Initial site grading would take approximately 4 months, with 5,200 total construction worker and haul trips, and a maximum of 60 one-way truck trips per day. The haul trucks were assumed to have a capacity of 14 CY; grading refinements would require an additional 6,400 CY of export; result in 10 - 21 days of additional grading that will have air quality, coastal access, and environmental justice impacts, among others.
- The extent of potential DDT contamination near the Palos Verdes shelf, in relatively close proximity to the proposed artificial reef mitigation project is now understood to be much greater than initially understood.<sup>39</sup>

These items were not analyzed in the State Lands Commission addendum to the CEQA review.

The Regional Board made significant changes to the project to meet the new requirements in the Ocean Plan Amendment by adding “projects” to “mitigate” intake and mortality. Additional environmental review of the Marine Life Mitigation Plan and other as-yet unreviewed Project components is necessary before the Commission may

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<sup>39</sup> See, e.g., <https://www.latimes.com/projects/la-coast-ddt-dumping-ground/>, <https://www.theguardian.com/environment/2021/apr/29/californias-legacy-of-ddt-waste-underwater-dump-site-uncovers-a-toxic-history>, and <https://www.smithsonianmag.com/smart-news/deep-sea-robots-kick-start-ddt-ocean-floor-clean-south-californian-coast-180977237/>

grant approvals for the Project. If the Commission wishes to undertake this analysis, it must analyze the Marine Life Mitigation Plan projects for environmental impacts and propose alternatives and mitigation measures to eliminate any adverse environmental impacts it finds.

**b. CEQA Requires the Commission to Analyze and Incorporate Feasible Alternatives and Mitigation Measures.**

Section 13096 of the Commission’s administrative regulations requires Commission approval of CDP applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of CEQA. CEQA prohibits approval of developments when there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant environmental impacts of the Project. Thus, the Commission cannot find that the Poseidon Project is consistent with the Coastal Act unless it is also consistent with CEQA.

While the Commission is governed by its certified regulatory process, CEQA principles remain relevant. One of [an EIR’s] major functions . . . is to ensure that ***all reasonable alternatives*** to proposed projects are thoroughly assessed by the responsible official.” (*Laurel Heights Improvement Ass’n. v. Regents of the University of California* (1988) 47 Cal.3d 376, 400.) Further, “Under CEQA, the public agency bears the burden of affirmatively *demonstrating* that...the agency’s approval of the proposed project followed meaningful consideration of alternatives and mitigation measures.” (*Mountain Lion Foundation v. Fish and Game Commission* (1997) 16 Cal.4th 105, 134, emphasis added.) The Commission can and must analyze the relative environmental impacts of providing water through conservation, through a smaller project, and through use of the Carson indirect potable reuse project.

CEQA differs from the National Environmental Policy Act (NEPA) in its substantive mandate. Under this mandate, a less damaging feasible alternative or mitigation measure ***must*** be adopted by the lead agency unless the lead agency can demonstrate that the mitigation is “truly infeasible.” (*City of Marina v. Board of Trustees of the California State University* (2006) 39 Cal.4th 341, 368; see also Pub. Resources Code § 21002 [“public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects”].) Notably, CEQA requires agencies to evaluate offsite alternatives when they are feasible, will achieve reasonable project objectives, and “significant effects of the project would be avoided or lessened by putting the project in another location.” (14 CCR § 15126.6(f)(2)(A); (See, for example, *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 [upholding EIR

in part because of adequate analysis of an off-site alternative] and *Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437 [EIR found inadequate for failure to assess an offsite alternative that would have reduced impacts].) This is particularly relevant to the Commission's consideration of the Carson potable reuse project as a water supply alternative for the region.

Ultimately, the Commission cannot support, with the requisite substantial evidence, findings that there are no feasible alternatives or mitigation measures available which would substantially lessen the significant adverse impacts the Poseidon Desalination Project would have on the environment. On the contrary, feasible alternatives and mitigation measures exist in the form of increased water conservation, a smaller plant, and the Carson potable reuse project. The Commission cannot find the Project consistent with CEQA and, consequently, cannot find that it is consistent with the Coastal Act. The CDPs must be denied.

### **III. As Proposed, the Poseidon Project Fails to Satisfy Standards for Risk Category IV Critical Infrastructure Necessary to Ensure Emergency Function.**

It is hard to overstate the importance of ensuring that the facility is designed and constructed to remain safe and operable in the event of an emergency. The Poseidon Project would provide fresh water, and fresh water is necessary for life, not to mention public safety and fire suppression. The Project would construct important water infrastructure on the Huntington Beach coast, along the active Newport-Inglewood fault. Thus, the desalination plant would be subject to seismic hazards, as well as threats from sea level rise, flooding, and tsunamis. If constructed, it must meet International Building Code Risk Category IV standards.<sup>40</sup>

Scientists have determined that the Newport-Inglewood fault is capable of generating magnitude 7.5 earthquakes. Even smaller earthquakes may damage water treatment facilities and conveyance systems. The Environmental Protection Agency warns, "For a drinking water system, an earthquake can cause hundreds ... even thousands ... of breaks in water pipelines, ruptures in storage and process tanks and the collapse of buildings. This can cause a loss of water system pressure, contamination and

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<sup>40</sup> See, International Building Code Table 1604.5, Risk Category of Buildings and Other Structures, <https://www.fandr.com/wp-content/uploads/2020/07/Speaking-in-Code-August-2020.pdf>.

drinking water service disruptions...”<sup>41</sup> Earthquakes also frequently cause fires that require water for suppression. It is crucial that the Project be designed to withstand seismic damage and continue operation during and after these types of events.

The State of California has recently found, “Sea level rise poses a significant threat to the state’s infrastructure located within and near the coast.”<sup>42</sup> Specifically, the Ocean Protection Council and the California Coastal Commission have issued guidance that recommends “evaluating the expected impacts to critical infrastructure that would be caused by approximately 10 feet of sea level rise by 2100 (using what is known as the extreme risk or “H++” scenario).”<sup>43</sup> In May 2020, the agency further adopted “Principles for Aligned State Action (State SLR Principles)” which recommend planning to address “a minimum of 3.5 feet of sea level rise in the next 30 years.”<sup>44</sup> The expected impacts of sea level rise are compounded by the threat of a tsunami event at the site. While rare, Southern California has experienced several tsunamis in the last decade, most recently in January 2022. The 2011 tsunami event caused an estimated \$100 million worth of damage to California harbors.<sup>45</sup> Even the smaller 2022 event caused significant damage in some California harbors. The Project must be designed to withstand damage from sea level rise, coastal flooding, and tsunami – and continue operating.

The likelihood of continued Project operation, and the ability to maintain public safety in the event of an emergency, is much greater when infrastructure is designed to meet Risk Category IV standards. Table 1604.5 of the International Building Code assigns buildings risk categories, each of which triggers certain design and building standards related to earthquake, flood, wind loads, and other risks. One explanation of the Risk Categories explains:

The value of the importance factor generally increases with the importance of the facility. Structures assigned greater importance factors must be designed for larger forces. The result is a more robust structure that would be less likely to sustain damage under the same conditions than a structure with a lower importance factor.

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<sup>41</sup> EARTHQUAKE RESILIENCE GUIDE for Water and Wastewater Utilities, Environmental Protection Agency, March 2018, <https://www.epa.gov/sites/default/files/2018-02/documents/180112-earthquakeresiliencguide.pdf>, p. 1.

<sup>42</sup> “Sea-Level Rise Guidance for Critical Infrastructure” August 2021 Public Review Draft, Page vii, [https://documents.coastal.ca.gov/assets/slr/SLR%20Guidance\\_Critical%20Infrastructure\\_8.16.21\\_FINAL\\_FullPDF.pdf](https://documents.coastal.ca.gov/assets/slr/SLR%20Guidance_Critical%20Infrastructure_8.16.21_FINAL_FullPDF.pdf).

<sup>43</sup> Ibid.

<sup>44</sup> Ibid.

<sup>45</sup> <https://www.latimes.com/california/story/2022-01-22/the-tsunami-that-battered-santa-cruz-highlights-the-threat-facing-californias-coast>

The intent is to enhance a structure's performance based on its use or need to remain in operation during and after a disaster.<sup>46</sup>

In particular, Risk Category IV buildings are “buildings that are considered to be essential in that their continuous use is needed, particularly in response to disasters,” including “water storage facilities and pump structures required to maintain water pressure for fire suppression” as well as “facilities required for emergency response.” This definition clearly includes the Project, which is being treated as an essential water supply and backup supply, and which would provide the City's only reservoir shoreward of the Newport-Inglewood Fault Zone.

Poseidon claims that the Project would provide a “community facility” and that it need only meet design and building standards applicable to a “community facility.” In reality, according to Poseidon, the City of Huntington Beach, and the Orange County Water District's own documents, plans, and agreements, the Project is intended to be a critical facility.<sup>47</sup> Critical facilities are those necessary for health and safety. Because residents rely on these facilities to provide necessities such as water, critical facilities are constructed according to more stringent building standards. This ensures that the facilities needed to support health and safety remain operational at all times, including during emergency situations. The availability of potable water is especially important. Not only is it vital to sustain life at all times, but water supplies are critical during periods of emergency response. As discussed above, the Project site is located near portions of the Newport-Inglewood Fault, which is capable of up to a magnitude 7.5 earthquake. In 1933, the magnitude 6.4 Long Beach Earthquake ruptured approximately nine miles of the Newport-Inglewood Fault south of Huntington Beach, levelling thousands of buildings and killing 120 people. Fires erupted from broken gas lines, and thousands of people were left without water service. Disruption of water supplies impedes fire response.

Decades of documents prove that the Poseidon Project is intended to be a critical facility. The City of Huntington Beach's 2010 environmental impact report states that the Poseidon facility will provide an emergency water supply.<sup>48</sup> The City required Poseidon to enter into a water purchase agreement that allows the City to purchase up to seven million gallons per day during declared water emergencies. (CCC 2013 Staff

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<sup>46</sup> See, International Building Code Table 1604.5, Risk Category of Buildings and Other Structures, <https://www.fandr.com/wp-content/uploads/2020/07/Speaking-in-Code-August-2020.pdf>.

<sup>47</sup> Huntington Beach Desalination Project Sea Level Rise Analysis, Poseidon, pp. 6, 13.

<sup>48</sup> Huntington Beach SEIR, e.g., p. 6-40, [https://www.huntingtonbeachca.gov/files/users/planning/Sec06\\_Alternatives.pdf](https://www.huntingtonbeachca.gov/files/users/planning/Sec06_Alternatives.pdf).

Report p. 27.) The Project will also construct a 10-million-gallon reservoir onsite to be integrated into the City’s water system. (CCC 2013 Staff Report p. 27.) Notably, at one point, the stated purpose of the reservoir was to provide a water supply shoreward of the Newport-Inglewood Fault in the event seismic activity severs access to water supplies inland of the fault. The City of Huntington Beach’s CDP approvals and environmental findings further characterize the Project as an emergency supply. The Santa Ana Water Board also specifically found that the Poseidon Facility’s water is needed water supply and must be integrated into the rest of the existing water system. While we disagree that 50 mgd is actually needed, the Board’s reliance on this water supply, and its approval of this supply in lieu of less impactful alternatives, means that the community will become reliant on this supply and therefore renders it “critical.” Thus, this is exactly the type of critical facility that must remain operational in the emergency situation that would arise after an earthquake or a tsunami. This requires that the facility be designed to meet heightened standards including the Ocean Protection Council’s sea level rise scenarios and Risk Category IV “critical facility” standards.

It is undisputed that the Carlsbad Desalination Plant *is* considered a critical facility.<sup>49</sup> Similarly, the desalination plant proposed for Huntington Beach is not a mere community facility, but a critical one. That the Project would be constructed in a location vulnerable to documented geological and coastal hazards, including, but not limited to earthquake, flooding, sea level rise, and tsunami, makes it even more crucial that the facility is built to meet critical infrastructure standards. Allowing the facility to proceed without meeting critical infrastructure requirements would be inconsistent with approvals granted by the Santa Ana Water Board, entitlements granted by the City of Huntington Beach, past practice with other nearby desalination plants, and common sense. A Project that proceeds according to mere “community facility” standards would endanger the public. As discussed below, designing and constructing the Project to standards below Risk Category IV Critical Infrastructure not only defeats the purpose of the Project and wastes public funds, but violates both the Coastal Act and the Huntington Beach certified LCP.

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<sup>49</sup> See SDCWA’s 2019-2023 Business Plan and Fact Sheet – Overview [n.d.]. identifies the facility as a critical local water resource; 2 2017 San Diego County Multi-Jurisdictional Hazard Mitigation Plan, and as defined in the County’s April 2013 Integrated Floodplain Management Planning [defining a “critical facility” as including both public and private potable water facilities]; Poseidon March 18, 2020 press release, “Carlsbad Desalination Plant Staff Take Extraordinary Step to Shelter in Place to Ensure Operational Continuity at Critical Facility” [facility manager describing [Project as a “critical regional facility”]

#### **IV. The Poseidon Project is Inconsistent with the Huntington Beach Certified LCP and the California Coastal Act.**

The Commission must ensure strict adherence to the Coastal Act. California “courts are enjoined to construe the statute liberally” because “The highest priority must be given to environmental consideration in interpreting the statute.” (*Bolsa Chica Land Trust v. Superior Court* (1999) 71 Cal.App.4th 493, 506.) As proposed, Poseidon’s Huntington Beach Desalination Project violates Coastal Act policies related to the protection of and mitigation of impacts to wetlands and ESHA, marine life, recreation and coastal access, coastal armoring, community safety, aesthetics, and environmental justice. Coastal Act section 30233 grants the Commission authority to find that conservation, the Carson Project, or a combination of the Carson Project and a downsized desalination facility operating with slant wells are feasible and less environmentally damaging alternatives to the Project. In particular the Carson Project is consistent with Coastal Act policies to “enhance and restore” marine resources (Section 30230) and “maintain optimum populations of marine organisms” (Section 30231) by improving ocean habitat through reduced ocean discharges from the Carson Wastewater Treatment Plant. The CDP must be denied pursuant to the Commission’s retained jurisdiction.

The existence of feasible, less environmentally damaging alternatives precludes the need to impose mitigation measures because the Commission may deny the Project CDPs as proposed. However, if the Commission finds alternatives infeasible, it can and must impose the maximum mitigation available to avoid and reduce the Project’s myriad environmental impacts.

Further, the Huntington Beach Certified LCP lays out specific requirements for coastal development occurring within the City’s coastal jurisdiction. Many of these LCP policies are similar to Coastal Act policies or outright replicate them. The Poseidon Project is inconsistent with a number of LCP policies, including those related to the protection of wildlife, wetlands, and ESHA, tsunami and coastal flooding, community safety, and recreation. These inconsistencies provide the Commission with yet another ground for rejecting this harmful project.

##### **a. The Commission Should Resolve Open Enforcement Actions Prior to Considering the Project’s CDPs.**

The Project site has an open violation of the Coastal Act for destruction of wetlands in blatant disregard of the Act.<sup>50</sup> Although the City’s environmental review has not disclosed the presence of wetlands on the site, the Commission’s biologist determined

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<sup>50</sup> Attachment 1, 2013 Staff Report, pp. 61-65.

that there were approximately 3.5 acres of wetlands within the project site and there remain an additional approximately 0.5 acres on the east side of the project site that may be impacted by the Project.<sup>51</sup> Prior to development of the AES plant, the Project site was part of the tidal marsh, dune habitat, and floodplain of the Santa Ana River. Despite disturbance, wetlands have reemerged and reappeared throughout the area, due in part to “the area’s relatively high groundwater table, the continued presence of hydric soils beneath much of the area, anthropogenically influenced topography and hydrology in some areas, and the presence of nearby wetland vegetation that provides an ongoing seed source.”<sup>52</sup> This is what occurred onsite, wherein disuse of the site’s storage tanks and containment areas after the mid-1990s permitted reemergence of wetlands that the Commission documented in site visits and photographs taken in 2009. Sometime prior to 2012, and without obtaining a permit, these wetlands were disked, and all vegetation was removed. While subject to Commission enforcement action, the Project site’s unpermitted removal of wetlands has never been resolved or remediated. This open violation should have been resolved prior to the consideration of an application that would impose additional impacts on coastal resources and wetlands. Instead, we are concerned that this violation will be swept under the proverbial rug and permitted after-the-fact. Approval of Poseidon’s application for CDPs on a site with an open enforcement action, prior to the resolution of these violations, will incentivize future disregard of the Act. In addition to requiring full restoration of the past destruction, we ask the Commission to levy fines for the unpermitted wetlands destruction as authorized by SB 433.

**b. The Project is Not Designed to Avoid, Minimize, or Remediate Impacts to On-site Wetlands and ESHA.**

**i. The Project’s Dredge and Fill of Wetlands Violates the Coastal Act and Numerous LCP Policies.**

The Coastal Act provides robust protection of wetlands. The overarching principle is contained in Section 30231, which requires, “The biological productivity and the quality of coastal waters, streams, wetlands, estuaries... appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored...” (See also, Sections 30240, 30607.1.) This principle is implemented, in part, through Section 30233, which limits “[t]he diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes.” Such dredge and fill are only permitted (1) “where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize

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<sup>51</sup> Id. at p. 61.

<sup>52</sup> Ibid.

adverse environmental effects” and (2) for facilities enumerated in Section 30322. The Commission cannot make findings to support allowing the Project pursuant to this section.

The Project would involve dredge and fill to retrofit the existing intakes for Poseidon’s use, to place the linear brine diffusers on the outfalls, to construct the artificial reef provided but not studied in the Marine Life Mitigation Plan, and for continued maintenance of the Project. As currently proposed, these activities would violate the Coastal Act. Conservation, the Carson Project, and a smaller facility present feasible, less environmentally damaging alternatives that have never been studied or evaluated in good faith. Likely feasible mitigation measures also exist in the form of slant wells, which the ISTAP process never truly analyzed for economic feasibility. Moreover, the Project is not one of the enumerated facility types eligible under section 30233. Of the options, the Project could only be considered “New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.” But a water source is not coastal-*dependent* by nature. Water is available through other means including conservation, the Carson Project, and continued Metropolitan Water District imports, all without implicating the coast. Section 30233(a)(4) provides for “Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines,” but the Project is not an “incidental” public use. “Incidental” means “accompanying but not a major part of something” per the Oxford English Dictionary. Yet the existing intake and outfall structures are the entire reason the Project is being proposed, despite the existence of cheaper and less environmentally damaging alternative water sources. Retrofitting the intakes and outfalls and extending their use for decades is also more than mere “maintenance.” On the other hand, the structures are not *even* incidental to the AES power plant operation. State and federal laws require the AES power plant intakes and outfalls to be decommissioned to eliminate their adverse effects on marine life, and the AES plant is being modified to no longer need them.

Approval of the current Poseidon Project would also violate various LCP policies designed to ensure protection of wetlands. Violated provisions of the LCP include, but are not limited to:

- LCP Policy C6.1.4 states, “The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain organisms and for the protection of human health shall be maintained and, **where feasible, restored.**”
- LCP Policy C6.1.20 requires Poseidon to “Limit diking dredging, and filling of coastal waters, wetlands, and estuaries to the specific activities outlined in Policy

30233 and 30607.1 of the Coastal Act” and “Conduct any diking dredging and filling activities in a manner consistent with Section 30233 and 30607.1 of the Coastal Act.”

- LCP Policy C7.2.6 states, “Prohibit fill in any wetland areas for the purpose of road construction, except for roads allowed pursuant to Section 30233 of the Coastal Act or when required to serve uses allowed in wetlands pursuant to and consistent with Sections 30260-30264 of the Coastal Act for coastal dependent and energy uses.”
- Finally, LCP Policy I-C 8(c), states, “For proposed projects within the Coastal Zone, utilize the development review/environmental review process to accomplish the following: ... Permit resource dependent and incidental public service related land uses within wetlands and environmentally sensitive habitat areas only if consistent with the following Coastal Act policies: Section 30233 and Section 30240.”
- LCP Policy C1.1 requires the Commission to “[e]nsure that adverse impacts associated with coastal zone development are mitigated or minimized to the greatest extent feasible.”

As re-iterated in the Commission’s June 29, 2021 letter, the Commission’s 2013 Staff Report identified several acres of on-site wetlands—already previously adversely affected—that the Poseidon Project would permanently fill. Poseidon is responsible for ensuring adequate mitigation of impacts to the on-site and adjacent wetlands. In June 2021, the Commission requested further information regarding the Project’s treatment of previous adverse effects on, and proposed fill of, Coastal Act wetlands within the project footprint and its proposed mitigation approach. (p. 3.) Since that request, Poseidon has not offered any further on-site project design changes or additional mitigation for impacts to on-site wetlands.

In violating Coastal Act sections 30233 and 30240 (discussed below), the proposed Project also runs afoul of LCP Policy I-C 8(c). The CDP must be denied for failing to conform to the Huntington Beach certified LCP’s clear policies.

## **ii. The Project Fails to Protect ESHA.**

The Coastal Act’s protections for ESHA are paramount. Section 30240 provides that environmentally sensitive habitat areas (ESHA) “**shall be protected** against any significant disruption of habitat values,” and development adjacent to ESHA “shall be

sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.” The courts have been clear: “The Coastal Act does not permit destruction of an environmentally sensitive habitat area [ESHA] simply because the destruction is mitigated offsite.” (*Bolsa Chica Land Trust v. Superior Court* (1999) 71 Cal.App.4th 493, 499.) Where the Project will adversely impact wetlands and ESHA, the Project must be modified to eliminate those impacts, an alternative must be chosen, or the CDPs must be denied.

The Huntington Beach LCP protects ESHA via LCP Policy C7.1.2, which provides, “Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values...” Further, LCP Policy C7.1.3, requires that “Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.”

The Commission has identified tidally influenced wetlands and associated ESHA “just outside” the Project footprint. (Commission June 2021 letter, p. 3.) The Project, as proposed, will have significant indirect impacts on adjacent wetlands and ESHAs during Project construction and operations. (Commission 2013 Staff Report, p. 66, Commission August 2021 Notice of Incomplete CDP Application). Unless avoided or fully mitigated, the Project’s approval would violate the Coastal Act and LCP provisions requiring ESHA protection. When the Commission requested further information about how Poseidon will address direct and indirect impacts to ESHA in June 2021, Poseidon failed to respond – it made no Project changes and has failed to provide any new evidence that the Project will alleviate impacts to ESHA raised by Commission Staff. The CDP should be denied.

In its Consistency Analysis, Poseidon claims that the City’s 2010 SEIR did not identify ESHA on or near the Project site that would be impacted by the proposed Project; therefore, it concluded, the Project is consistent with Section 30240. (p. 7.) This “analysis” fails to meaningfully address or remedy the Commission’s concerns, especially those detailed in the Commission’s 2013 Staff Report. The Commission is required to enforce Coastal Act protections of adjacent ESHA, and its prior declaration of ESHA cannot be ignored. The City of Huntington Beach’s dismissal of the Commission’s photographs and evidence of ESHA does not mean ESHA does not exist.

The Commission has already found, the “SEIR did not fully describe the important habitat values of the adjacent ESHA/wetland areas to the approximately two dozen sensitive species known or presumed to use that habitat, and did not adequately evaluate.

. . dewatering, noise, and the required buffer. . .” (p. 66.) Furthermore, CEQA does not require the Commission to abdicate its protection of coastal resources to the City and rely wholly on the City’s analysis of environmental impacts. On the contrary, CEQA authorizes the Commission to provide additional analysis in its evaluation of CDPs, the functional equivalent of a CEQA document, and to require additional mitigation as appropriate. (14 CCR § 15096(g)(1).)

Further, Poseidon’s claims that the Project’s location within an existing industrial facility “avoids and minimizes” potential impacts to nearby coastal resources (July 2021 Letter p. 6), does not address the Commission’s concerns nor provide information about on-site improvements to address these impacts. Rather, Poseidon admits it is not proposing any changes to the project design, layout, or operations to address direct or indirect noise/vibration impacts to adjacent wetlands and sensitive receptors. (*Ibid*, Exhibit A p. 2.) For example, Poseidon refused to provide the requested Sound Mitigation Plan requested by Commission staff *now*, deferring its preparation until *after* project approval. The location within an industrial facility further fails to address the entrainment and impingement impacts to public trust marine resources, which would be better minimized through operation of a smaller-capacity facility.

The Commission was aware that the Project would be sited on an existing industrial facility when it detailed the Project’s construction and operation impacts in its 2013 Staff Report and when it requested information about how Poseidon will address these impacts in its June 2021 letter. Instead of detailing how the Project will minimize the construction and operational impacts, however, Poseidon points to findings and measures from the 2010 SEIR and CDP. Its failure to adequately address impacts to adjacent ESHA violates Coastal Act Section 30240.

Poseidon is not proposing any on-site or operational changes in response to the Commission’s recently raised concerns over the on-site wetlands and indirect impacts to adjacent wetlands and ESHAs, including the Project’s lack of the required buffers. The Commission’s 2013 Staff Report requires Poseidon to provide “for Executive Director review and approval, a delineation of all ESHA and wetland areas within 200 feet of the project footprint conducted by a qualified biologist approved by the Executive Director. The approved delineation shall serve as the basis for the 100-foot setback.” (p. 10.) Based on the correspondence between Poseidon and the Commission, Poseidon has not completed this review to identify nearby ESHA, instead pointing to the City’s 2010 SEIR finding that no wetlands exist within 100 feet of the project site.

The 2013 Staff Report cautioned that “[e]levating the facility or its components would also likely increase noise levels at the adjacent wetlands and ESHA during project operations, thereby adversely affecting listed special status species. Elevating would also

require additional electricity to pump water to the higher elevations, which would increase the project's indirect greenhouse gas emissions.” (p. 85.) Poseidon now proposes to increase the Project's finished floor elevations to 14-16 ft due to hazard risks—this will exacerbate the impacts on surrounding ESHA.

Not only does the Project fail to prevent adverse impacts to ESHA, but the Applicant denies the very existence of ESHA. The CDPs should be denied.

### **iii. Mitigation for Dredge and Fill Impacts is Insufficient.**

The Commission must ensure adequate mitigation of project impacts to coastal resources, especially where a Project requires dredge and fill development. Here, the Project will require Poseidon to construct and retrofit the Project's intakes and outfalls and grading and fill to raise the foundation of the proposed desalination plant above projected sea level rise, flood, and tsunami danger. The Project will require additional dredge and fill-related activities associated with construction of the artificial reef. Under the Coastal Act Section 30607.1, any permitted dike and fill development must require the following mitigation, **at a minimum**: “either acquisition of equivalent areas **of equal or greater biological productivity** or opening up equivalent areas to tidal action” where there are appropriate restoration sites available. The Project, as proposed, does not ensure adequate mitigation for the planned filling of on-site wetlands, or the indirect impacts to adjacent wetlands. Proposed mitigation is insufficient in size and is unlikely to exist in the future. Moreover, the Coastal Act prohibits destruction of ESHA.

The Project's failure to provide adequate buffers further exacerbates impacts on adjacent wetlands. Yet, Poseidon has failed to provide any new mitigation measures or Project design changes to address the Project's direct and indirect impacts to on-site and adjacent wetlands. The Commission typically requires a wetland mitigation ratio of 4:1. (June 2021 letter, p. 3.) Poseidon has not demonstrated that it will provide the required mitigation. In its August 2021 Notice of Incomplete CDP Application, the Commission raised concerns over Poseidon's planned mitigation in Bolsa Chica. Poseidon has already received mitigation credit at Bolsa Chica, and the Bolsa Chica wetlands will be heavily impacted by sea level rise and unlikely to provide long-term mitigation for wetlands impacted at the Project site. (*Id.*, p. 2.) Instead of addressing these concerns, in its September 20, 2021 response to the Commission, Poseidon questioned whether on-site wetlands even exist and labeled the concerns over sea level rise impacts on Bolsa Chica as “speculative.” Yet, a recent study of the Bolsa Chica Lowland Restoration Project recently found that, without intervention, the majority of the wetlands will be inundated

by sea level rise between 2060 and 2100.<sup>53</sup> The Project is inconsistent with section 30607.1 of the Coastal Act, and the CDPs should be denied.

**c. The Project Does Not Contain Buffers to Protect Wetlands and ESHA.**

The Project fails to include a Coastal Act and LCP-compliant ESHA and wetland buffer and should be denied on that ground, alone. The Project is located among sensitive coastal resources and ESHA, as Commission Staff has repeatedly found.

Coastal Act section 30231 provides for the protection of the biological productivity of wetlands through “maintaining natural vegetation buffer areas that protect riparian habitats.” Section 30240 subd. (b) requires the Applicant to design development “to prevent impacts which would significantly degrade [ESHA]” such that it “shall be compatible with the continuance of those habitat...areas.” Similarly, the certified LCP requires “that new development contiguous to wetlands or environmentally sensitive habitat areas include buffer zones” that “shall be a minimum of one hundred feet setback from the landward edge of the wetland.” (LCP Policy C 7.1.4.) Larger buffers may be required “if substantial development or significantly increased human impacts are anticipated.” (*Ibid.*) The LCP contains a detailed explanation of factors that justify requiring a larger wetland or ESHA buffer. These factors include:

- Biological significance of adjacent lands: The buffer should be sufficiently wide to protect the functional relationship between the wetlands and the adjacent upland.
- Sensitivity of species to disturbance: The buffer should be sufficiently wide to ensure that the most sensitive species will not be disturbed significantly by permitted development, based on habitat requirements of both resident and migratory species and the short- and long-term adaptability of various species to human disturbance.
- Use existing cultural features to locate buffer zones: The buffer zones should be continuous with the environmentally sensitive habitat areas and make use of existing features such as roads, dikes, irrigation canal, and flood control channels where feasible.

All of these factors justify a larger buffer than 100 feet. The Project site is located in the wetlands and dune complex located at the mouth of the Santa Ana River, adjacent

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<sup>53</sup> Attachment 3, Bolsa Chica Lowland Restoration Project, Sustainable Alternatives Study Analysis, December 2021, Fig. 4-4.

to Magnolia Marsh, Commission-determined ESHA, and proximate to the Bolsa Chica and other productive wetlands along the Pacific Flyway. The immediate area provides habitat for 23 listed and sensitive species, including the burrowing owl (Species of Special Concern), western snowy plover (federally threatened), Belding's Savannah Sparrow (state endangered), California brown pelican (Species of Special Concern), and California least tern (federally endangered).<sup>54</sup> The California Department of Fish and Wildlife recommends a 300-foot buffer to protect passerine species, and a 500-foot buffer is typically recommended to prevent impacts to raptor species. Even so, the Project currently fails to contain buffers at all. Poseidon's July 7, 2021 letter to the Commission accompanying its application claims that buffers are not needed because the City did not designate ESHA in its SEIR. Again, the Commission has deemed locations on- and off-site to be ESHA, regardless of whether the City did so in the past. Poseidon's claim that the adjoining land does not contain ESHA lacks support. The Commission is the agency charged with designating ESHA, and the Commission has specifically found areas on and off-site to be ESHA. The Project fails to contain LCP-required buffers, and the CDP should be rejected on those grounds.

**d. The Project Violates LCP Policies Designed to Protect Marine Life.**

The Project's entrainment of 108 million organisms each year, or *5.4 billion*<sup>55</sup> organisms during its operating life, will lead to violations of Coastal Act and LCP policies that have not been resolved or adequately mitigated. Section 30230 of the Coastal Act requires:

Marine resources shall be maintained, enhanced, and **where feasible, restored**. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 similarly provides:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, **where feasible, restored** through, among other means,

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<sup>54</sup> Attachment 1, 2013 Staff Report, p. 67.

<sup>55</sup> This is likely an underestimate, based on aging datasets.

**minimizing adverse effects of waste water discharges and  
entrainment...**

The LCP provides similar protection. Goal C6 of the LCP is to “Prevent the degradation of marine resources in the Coastal Zone from activities associated with an urban environment.” Objective C.6.1 is to “Promote measures to mitigate the adverse impacts of human activities on marine organisms and the marine environment through regulation of new development, monitoring of existing development, and retrofitting necessary and feasible.” This policy provides wide latitude for conditioning the Poseidon Project to limit harm to marine life. The LCP implements this goal through policies that include, but are not limited to:

- Policy C6.1.1 requires, “that new development include mitigation measures to enhance water quality, if feasible; and, at a minimum, prevent the degradation of water quality of groundwater basins, wetlands, and surface water.
- Policy C6.1.2 echoes the Coastal Act: “Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance.
- Policy C6.1.3 states, “Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.
- Policy C6.1.4 also reproduces the Coastal Act: “The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain organisms and for the protection of human health shall be maintained and, **where feasible, restored.**”
- Policy C 6.1.19 addresses the Project with specificity: “Prior to approval of any new or expanded seawater pumping facilities, require the provision of maximum feasible mitigation measures to minimize damage to marine organisms due to entrainment in accordance with State and Federal law.

The Project fails to maintain the biological productivity of wetlands and coastal waters and will cause significant adverse effects to marine life and water quality through intake, discharge, and construction. (See, Staff Report 2013, pp. 32-37.) An estimated 108 million organisms will be killed during each year of operation. As Coastal Commission staff found in 2013:

The source water areas of species entrained in this intake extend up to about 100 miles of the Shoreline. The Areas of Production Foregone calculated for the sampled species range from about seven acres to about 350 acres, with an average of about 110 acres. For example, the APF for queenfish, with a source water extending along about 53 miles of shoreline, is about 164 acres, while the source water distance and APF for the California halibut are 19 miles and 23.7 acres, respectively. The various source water areas encompass at least nine State Marine Conservation Areas (SMCAs) or State Marine Reserves (SMRs) established pursuant to California's Marine Life Protection Act Initiative – those within 50 miles upcoast or downcoast of the intake include Bolsa Bay SMCA, Bolsa Chica Basin SMCA (“no take”), Upper Newport Bay SMCA, Crystal Cove SMCA, Laguna Beach SMR, Laguna Beach SMCA (“no take”), and Dana Point SMCA.<sup>56</sup>

Thus, the Project will adversely affect not only the waters nearest the plant, but it will harm State Marine Conservation Areas and State Marine Reserves. Additional marine life will be killed by brine diffusion. The Project presents a clear conflict with the policies of the Coastal Act and LCP that protect marine life.

While Poseidon claims that the use of wedgewire screens will reduce the wildlife impacts of the intakes, there is no evidence that the screens will restore, or even *maintain* biological productivity. The coastal power plant on the site is set to discontinue use of its “once through cooling” (OTC) system in 2 years. Without the Poseidon project repurposing the intake and discharge conduits, marine life would experience “restoration” benefits. A one percent reduction in mortality from the use of wedgewire screens is insufficient to maintain benefits from the State enforcing regulations to discontinue OTC systems to “restore” marine life populations – especially where alternatives are available, as is the case here. Further, the Commission recently raised concerns with the maintenance and performance of wedgewire screens in response to reports of difficulties at the Carlsbad facility. As of October 2021, the Commission stated it did not have the “necessary information” about maintenance of the proposed intake system. The Commission cannot approve a project without assurance of compliance with the LCP policies and Coastal Act. We request that the Commission disclose how it will move forward despite this information.

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<sup>56</sup> Attachment 1, 2013 Staff Report, p. 33.

The Project incorporates linear brine diffusers on outfall pipes. While wildlife advocates initially believed this approach would reduce overall entrainment mortality as compared to in-plant brine dilution, it is now better understood that linear brine diffusers themselves cause marine life mortality through shear.<sup>57</sup> These are impacts from Project mitigation that themselves need to be analyzed and mitigated.

Alternatives including conservation, a smaller facility, or use of the Carson Project would avoid or entirely eliminate sources of entrainment or brine and diffuser shear and should be adopted instead. In violation of the Coastal Act and the Huntington Beach LCP, as currently proposed, the Project does not contain the maximum mitigation available to avoid devastating impacts to marine resources. Further, the Applicant has not conducted slant well feasibility studies that include test wells to validate computer modeling as occurred with the proposed Cal-Am and Doheny projects and was recommended here<sup>58</sup>, nor has there been an economic feasibility analysis conducted by ISTAP nor the Regional Board.

The Coastal Act and LCP call for “restoration” of marine life populations, habitat and water quality where feasible. Water conservation, recycled water from the “Carson Project” and/or a desalination facility using subsurface intakes are feasible alternatives and mandatory.

**e. The Project Violates LCP Policies Designed to Avoid the Adverse Effects of Coastal Armoring.**

The Commission’s June 2021 letter specifically asked whether Poseidon’s submittal will assure that its solution for tsunami and sea level rise risks “will not include shoreline protective devices (which the LCP prohibits at this location.)” (p. 5.) Sea walls interfere with natural sand deposition processes and accelerate beach erosion. By armoring the coast, they also prevent beaches and wetlands from migrating inland as sea-level rises. Coastal Act section 30253 prohibits developments that “in any way require the construction of protective devices...” This section has been broadly construed to prohibit not only sea walls, but elevated project platforms that are themselves protective devices.<sup>59</sup>

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<sup>57</sup> Dilution Issues Related to Use of High Velocity Diffusers in Ocean Desalination Plants, pp. 9-15.

<sup>58</sup> See, HydroFocus Reports (1&2).

<sup>59</sup> Staff Report for Application No. 5-18-0788, February 2021, <https://documents.coastal.ca.gov/reports/2021/2/Th14a/th14a-2-2021-report.pdf>.

LCP Coastal Element Hazards Section C10.1.19 seeks to avoid beach loss by requiring that development “shall be conditioned to prohibit a shoreline protective device.” LCP Policy C1.1.9 states, “New development shall be designed to 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 a protective device.***” (emphasis added.) As the City of Huntington Beach, which advertises itself as “Surf City USA” is heavily dependent on beach tourism, this prohibition on sea walls is echoed in Policy C10.1.14. This policy states, “During major redevelopment or initial construction, require specific measures to be taken ...to prevent or reduce damage of flooding and the risks upon human safety. Development shall, to the maximum extent feasible...(a) Avoid the use of protective devices; (b) Avoid encroachments into the floodplain, and (c) Remove any encroachments into the floodplain to restore the natural width of the floodplain.”

Even so, in direct contravention of Coastal Act section 30253, LCP Policy C.10.1.9, and LCP Policy C10.1.14, the Project contains what it calls a “sound wall” that abuts the tidal wetlands of Magnolia Marsh. Regardless of what Poseidon calls it, the “sound wall” will provide protection to the project from flood and tsunami risks. Poseidon’s claim that it is not, in fact, a protective device, is a distinction without a difference. More detail is needed regarding its design and function, especially under future flood scenarios. Poseidon claims that the sound wall is exempt from Policy C.10.1.9’s and Coastal Act section 30235 and 30253(b)’s prohibition on protective devices because it is located along Magnolia Marsh and not within the tsunami run-up zone. Again, the wall is being relied upon to reduce coastal flooding hazards so that Poseidon can then claim no such hazards exist. Even along Magnolia Marsh, the wall will prevent wetlands from migrating inland and will contribute to the island effect. Wetland managers are trying to prevent, not exacerbate, the loss of wetlands due to coastal and near-coastal armoring. These losses are already expected at the Bolsa Chica wetlands located just north of the Project site. There, a recent study noted, “Rising sea levels pose a risk to habitats...because the [Bolsa Chica Lowland Restoration Project] site is surrounded by urban development, preventing the inland migration of habitat.”<sup>60</sup> Moreover, section 30253(b) prohibits not just protective devices, but any development that will “create [or] contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area.”<sup>61</sup> The Project will contribute to erosion and destruction of the site and surrounding area, including wetlands, and cannot be approved.

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<sup>60</sup> Attachment 3, Bolsa Chica Lowland Restoration Project, Sustainable Alternatives Study Analysis, December 2021, p. 46.

<sup>61</sup> Similarly, Chapter 222.04 FP2 of the Huntington Beach Municipal Code prohibits development that will allow flood waters to be diverted onto adjacent properties.

The Project further proposes mass grading to remove existing berms and raise the foundation *14 to 16 feet*, thereby attempting to elevate the Project above sea level rise and tsunami hazards. This grading also serves as a form of shoreline armoring, as the Project builds what will eventually become an island to avoid foreseeable impacts due to its coastal location. This is twice the height of the 7-foot plinth the Commission found was an impermissible shoreline protective device at the proposed Belmont Pool.<sup>62</sup> The proposed pool was ultimately moved further inland. Experts agree that near-coast armoring will prevent beach and wetland migration at the Project site.

Dr. David Revell states in his memorandum that the proposed project would be maladaptive to sea level rise:

[...] this proposed project discourages longer term adaptation planning by the City of Huntington Beach and the County of Orange to avoid future coastal hazards, by keeping critical infrastructure in a hazardous area.

[...]

From public trust doctrine principles, it is also in the City/County's best interest to proactively plan for adapting critical infrastructure well in advance of adverse sea-level rise impacts. Impairments to, losses of functionality of, and pollution events from the Poseidon Plant that negatively affect the coastal environment and public recreational resources would be in violation of the public trust doctrine and state and federal environmental laws.<sup>63</sup>

The proposed Project is sited in a sea level rise hazard zone as designated by the City of Huntington Beach Sea Level Rise Vulnerability Assessment (SLRVA) for the Huntington Beach Wetlands Subarea.<sup>64</sup> The SLRVA describes the site as historic tidelands that are low-lying with a high groundwater table, which may result in earlier than predicted flooding for the site and surrounding area as sea levels rise.<sup>65</sup> Notably, the SLRVA describes widespread groundwater emergence for the Huntington Beach Wetlands Subarea:

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<sup>62</sup> Staff Report for Application No. 5-18-0788, February 2021, <https://documents.coastal.ca.gov/reports/2021/2/Th14a/th14a-2-2021-report.pdf>.

<sup>63</sup>[https://law.ucla.edu/sites/default/files/PDFs/Publications/Emmett%20Institute/\\_CEN\\_EMM\\_PUB%20Combatting%20Sea-Level%20Rise.pdf](https://law.ucla.edu/sites/default/files/PDFs/Publications/Emmett%20Institute/_CEN_EMM_PUB%20Combatting%20Sea-Level%20Rise.pdf)

<sup>64</sup> City of Huntington Beach Final Sea Level Rise Vulnerability Assessment. May 2021. <https://huntingtonbeachca.gov/government/departments/planning/major/files/Sea-Level-Rise-Vulnerability-Assessment-May-26-2021.pdf>

<sup>65</sup> Ibid.

Hazard area projections become more widespread with 3.3ft SLR, extending inland in areas between the Huntington Beach Channel and Talbert Channel. Hazard area projections continue to extend landward in these areas under 4.9ft and 6.6ft SLR scenarios, also becoming more widespread in areas south of Talbert Channel. (p.32)

Dr. David Revell describes the “island effect” as such:

While the proposed project as revised and described in the Moffat & Nichol report says the site elevation will be graded to 14-16 feet, access to the site and the feasibility of existing distribution infrastructure is not considered. While this grading increase will improve site resilience to sea level rise to some of the coastal hazards, this increased grading further contributes to “an island effect” in which the facility will become more and more inaccessible as sea level rises, with routine flooding as early as 2030 during higher tides.<sup>66</sup>

***The facility may become an inaccessible island before 2030 due to routine flooding of the surrounding area.*** Simple analyses show that the facility’s isolation will become routine during high tide events of 5.3 MHHW and greater with one foot of SLR. This portion of California’s coast experiences high tides of 5.3 MHHW over 200 times per year, thus the proposed facility could become inaccessible during high tides a majority of the year as early as 2030 when those tides occur along with one foot of sea level rise. Groundwater daylight flooding occurs in many adjacent areas under present day conditions. [...] By 2050, all of Edison Avenue is likely to be flooded during daily high tides with water depths of over 2 feet. This greatly reduces the ability to maintain this critical facility or even access the facility which is particularly of concern in the case of an emergency either from a storm event or another oil spill.<sup>67</sup>

The key finding here is that the Project site will ultimately become an island surrounded by lower lying areas. It will not be serviceable in terms of access, water, power, and the burden on the City and taxpayers to maintain.<sup>68</sup> LCP policy C1.1.1 requires that new

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<sup>66</sup> Dr. David Revell, Integral Consulting. Memorandum: Sea level rise concerns for the proposed Poseidon desal project. February 2, 2022. [https://california.surfrider.org/wp-content/uploads/2022/02/Comment\\_letter\\_on-Poseidon\\_02022022-Final.pdf](https://california.surfrider.org/wp-content/uploads/2022/02/Comment_letter_on-Poseidon_02022022-Final.pdf)

<sup>67</sup> Dr. David Revell, Integral Consulting. Memorandum: Sea level rise concerns for the proposed Poseidon desal project. February 2, 2022. [https://california.surfrider.org/wp-content/uploads/2022/02/Comment\\_letter\\_on-Poseidon\\_02022022-Final.pdf](https://california.surfrider.org/wp-content/uploads/2022/02/Comment_letter_on-Poseidon_02022022-Final.pdf)

<sup>68</sup> Dr. David Revell. Technical Memorandum: Huntington Beach Desalination Review of Sea Level Rise Hazards. December 14, 2018. [https://california.surfrider.org/wp-content/uploads/2022/02/Huntington\\_Hazards\\_FINAL\\_Small.pdf](https://california.surfrider.org/wp-content/uploads/2022/02/Huntington_Hazards_FINAL_Small.pdf)

development “be located in areas with adequate public services, and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.” The LCP does not permit construction of critical facilities where roads and bridges will not allow continuing access.

The Commission addressed the burden of maintaining an infrastructure island at the Morro Bay Wastewater Treatment Plant, which was ultimately relocated inland.<sup>69</sup> In February 2022, the Commission considered a condition requiring demolition of a development when it is reached by the mean high tide line and implicates the public trust.<sup>70</sup> The Commission must assess the Project’s future impacts on public trust resources. The Project should be rejected for attempting to shoehorn a prohibited protective device into the facility.

Poseidon may rely on the Project’s location near Magnolia Marsh to allege that the sound wall and its raised platform do not currently abut the ocean. However, the Coastal Commission considers areas that are tidally influenced to be “shoreline.” The Project site is undoubtedly tidally influenced. In a memorandum dated April 27, 2021, Dr. David Revell concluded that additional shoreline armoring should be anticipated for tidally influenced portions of the proposed Project site:

[...] changes to the flood control channel or enhanced protection to the berm along the triangle wetland site may constitute shoreline armoring because it is tidally influenced. Thus, given the existing site configuration exposure to tides, reliance on the Orange County Flood Control District, and the elevations across the site, that additional shoreline armoring and or alterations to existing shoreline hardening should be anticipated.<sup>71</sup>

In addition, in a January 28, 2022 memorandum, Dr. Revell elaborates on the defenses the proposed Project would rely on for protection from sea level rise related hazards:

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<sup>69</sup> Staff Report for Morro Bay Wastewater Treatment Plant, CDP Application Number A-3-MRB-11-00, January 2013, pp. 4, 33, 46,  
<https://documents.coastal.ca.gov/reports/2013/1/Th23b-1-2013.pdf>.

<sup>70</sup> See, Special Condition 2C <https://documents.coastal.ca.gov/reports/2022/2/W11d/W11d-2-2022-report.pdf>

<sup>71</sup> Dr. David Revell, Integral Consulting. Memorandum: Response to Poseidon’s comment letter from 2/4/2019 [https://california.surfrider.org/wp-content/uploads/2022/02/Comment\\_letter\\_to-Poseidon\\_04272021\\_Integral-FINAL.pdf](https://california.surfrider.org/wp-content/uploads/2022/02/Comment_letter_to-Poseidon_04272021_Integral-FINAL.pdf)

The proposed Poseidon project must rely on various artificial flood defenses to avoid hazards at the facility. These defenses include the existing maintained beaches resulting from upcoast Army Corps operations, Orange County Flood Control District maintenance of the existing flood control channel, and outlet beach management of the Talbert Channel into the future. Poseidon has no authority to implement or execute these expensive management actions or public works projects – \_which involve extensive permitting processes and careful management of impacts on Endangered Species Act listed species. Nor are they contributing financially to the long term maintenance and management costs of these resources. The flood control channel outlet maintenance permit, for example, expires in 2023.<sup>72</sup>

In order to claim the desalination plant will not be at risk due to sea level rise, coastal flooding, and tsunami, the Project must elevate 14 to 16 feet above ground level and construct a “sound wall,” in violation of Coastal Act section 30253 and the Huntington Beach LCP. As a result, the Project will ultimately become an island of infrastructure and increasingly difficult to maintain. The Project’s protective devices will prevent the inland migration of wetlands as sea levels rise. The CDPs should be denied.

**f. The Project Would Not Be Designed and Sited to Avoid Seismic Hazards and Community Harm.**

The Project site’s seismic hazards are well-documented and include the Newport-Inglewood Fault, now understood to be capable of generating up to a magnitude 7.5 earthquake. Section 30253 of the Coastal Act requires new development to both “Minimize risks to life and property in areas of high geologic, flood, and fire hazard” and “Assure stability and structural integrity.” The certified LCP also contains several policies aimed at ensuring the safety and integrity of development. As proposed, the Poseidon Project remains inconsistent with these policies and must be denied.

- LCP Policy C1.1.9 states development must “Minimize risks to life and property in areas of high geologic, flood...and fire hazard through siting and design to avoid the hazard. New development shall be designed to 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 a protective device.”

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72 Dr. David Revell, Integral Consulting. Memorandum: Sea level rise concerns for the proposed Poseidon desal project. February 2, 2022. [https://california.surfrider.org/wp-content/uploads/2022/02/Comment\\_letter\\_on-Poseidon\\_02022022-Final.pdf](https://california.surfrider.org/wp-content/uploads/2022/02/Comment_letter_on-Poseidon_02022022-Final.pdf)

- LCP Policy I-C 20 requires authorities to “Enforce and implement the policies of the Environmental Hazards Element of the General Plan...” Huntington Beach’s Environmental Hazards Element, in turn, requires that structures be designed to preserve integrity in light of geologic and seismic events.

These policies are intended to protect life and property, and also to encourage the construction of resilient facilities in areas of known hazard. While Poseidon has provided updated seismic studies to the Commission, as of last fall, Poseidon had not analyzed the impact of a fault rupture on the South Branch, nearest to the Project. Furthermore, these studies do not show that the facility would be designed as Risk Category IV “critical infrastructure” that could be relied on to remain safe and functional in the event of a foreseeable large earthquake on the Newport-Inglewood Fault. Risk Category IV buildings are those that must remain in continuous operation in the event of an emergency and therefore must be built to withstand greater seismic and other forces to ensure that emergency function. Instead, the Project is proposed as a “community facility” that need not withstand such an earthquake and maintain continuous operation. Yet, the Project includes construction of a 10-million-gallon reservoir tank intended to provide the City of Huntington Beach with an emergency water supply located on the shoreward side of the fault in the event of an emergency.<sup>73</sup> The placement of a mere “community facility” in an area of hazard, charged with providing critical services, is inconsistent with these policies of the LCP.

Moreover, if damaged, destroyed, or merely rendered nonoperational by a large earthquake because it was not designed to the critical infrastructure standard, the Project would risk life and property, a further inconsistency with these policies. The Project site contains large electrical generation units and would itself be connected to the AES power plant. The Project would also connect a toxic site to the local potable water system and groundwater. If a seismic event damages storage containers for RCRA hazardous wastes, they could be conveyed into the water supply. Flood or tsunami waters could dissolve toxic chemicals in onsite soils, also contaminating the water supply. In any case, the failure to design the Project to Risk Category IV standards conflicts with LCP Objective C8.4, “Minimize the safety and aesthetic impacts of resource production facilities on nonresource production land uses.”

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<sup>73</sup> See, [https://www.huntingtonbeachca.gov/business/economic-development/redevelopment/southeast\\_coast\\_projects.cfm](https://www.huntingtonbeachca.gov/business/economic-development/redevelopment/southeast_coast_projects.cfm).

**g. The Project Does Not Comply with Coastal Act and LCP Policies Directed at Avoiding Tsunami and Flood Hazards.**

Recent scientific projections and guidance for adaptation to sea level rise and tsunami risk demonstrates higher projections for expected sea level rise and tsunami runup elevation. The State’s most recent guidance recommends planning for expected tsunami runup elevation between 12 and 15 feet plus predicted sea level rise of 3.5 feet by 2050, and up to 13.8 feet by 2120.<sup>74</sup> The January 2022 and 2011 tsunami events caused millions of dollars of damage to coastal California infrastructure.<sup>75</sup>

The Poseidon Project violates Coastal Act and LCP policies aimed at preventing tsunami and flood hazards. For example, contrary to State guidance recommending planning for 3.5 feet of sea level rise by 2050, Poseidon’s analysis looks at a 3.5-foot rise over 50 years. And, although the Project’s application materials admit that neighboring communities will be flooded under certain conditions in the future, it claims no risks to the Project over the next 100 years. The analysis is deficient and fails to adequately prepare for future conditions, as required by Coastal Act sections 30001.5(f) and LCP section C10.1.19.

Coastal Act section 30001.5(f) enunciates a statewide policy goal of anticipating, assessing, planning for, and, to the extent feasible, “avoid, minimize, and mitigate the adverse environmental and economic effects of sea level rise within the coastal zone.” Section 30270 of the Act mandates, “The commission shall take into account the effects of sea level rise in coastal resources planning and management policies and activities in order to identify, assess, and, to the extent feasible, avoid and mitigate the adverse effects of sea level rise.” The Project, on the other hand, will contribute to coastal armoring and the island effect, preventing inland migration of coastal wetlands as sea level rises, and exacerbating the adverse environmental effects of sea level rise within the coastal zone. The placement of new key infrastructure in a seismic and flood danger zone is poor planning that fails to act on any realistic anticipation or assessment of sea level rise at the Project site. Since feasible alternatives exist, the Commission should reject the CDPs.

Similarly, in order to protect life and property, LCP Coastal Element Hazards Policy C10.1.19 provides, “Development permitted in tsunami and seiche susceptible

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<sup>74</sup> 2020 California Natural Resources Agency’s “Making California’s Coast Resilient to Sea Level Rise: Principles for Aligned State Action,”

[https://www.opc.ca.gov/webmaster/\\_media\\_library/2021/01/State-SLR-Principles-Doc\\_Oct2020.pdf](https://www.opc.ca.gov/webmaster/_media_library/2021/01/State-SLR-Principles-Doc_Oct2020.pdf).

<sup>75</sup> <https://www.latimes.com/california/story/2022-01-22/the-tsunami-that-battered-santa-cruz-highlights-the-threat-facing-californias-coast>

areas shall be designed and sited to minimize this hazard...” The Policy further provides, “Identify tsunami and seiche susceptible areas, and require that specific measures be taken by the developer, builder or property owner during major redevelopment or initial construction, to prevent or reduce damage from these hazards and the risks upon human safety.” LCP Policy C1.1.9 states development must “Minimize risks to life and property in areas of high geologic, flood...and fire hazard through siting and design to avoid the hazard. New development shall be designed to 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 a protective device.”

The 2018 update of the Ocean Protection Council’s 2018 *State of California Sea-Level Rise Guidance* document recommends that Project analysis include the following:

For high consequence projects with a design life beyond 2050 that have little to no adaptive capacity, would be irreversibly destroyed or significantly costly to relocate/repair, or would have considerable public health, public safety, or environmental impacts should this level of sea-level rise occur, the ***H++ extreme scenario should be included in planning and adaptation strategies (e.g. coastal power plant)***.<sup>76</sup>

The Sea Level Rise Guidance further provides for use of the H++ planning scenario (extreme risk aversion projection) for “highly vulnerable or critical assets that have a lifespan beyond 2050 and would result in significant consequences if damaged.”<sup>77</sup> Finally, the Guidance recommends incorporating the H++ scenario for projects that could result in threats to public health and safety, natural resources and critical infrastructure, should extreme sea-level rise occur.<sup>78</sup>

Where seawater desalination is truly needed (i.e., as a supply option of last resort), or where a Regional Water Board has deemed a project needed and approved it, such that it is pursued instead of or before less impactful and less expensive alternatives, it logically follows that the project be considered a “high consequence project” with public health and safety depending on that project’s water. This is particularly so where a project is approved on the understanding that it will provide emergency water supplies. Such a project, with people depending on its water for their health and safety, has a clear low tolerance for risk. Desalination facilities would also be significantly

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<sup>76</sup> 2018 update of the Ocean Protection Council’s 2018 *State of California Sea- Level Rise Guidance*, p. 24.

<sup>77</sup> Id. p. 25.

<sup>78</sup> Id. p. 32.

costly to relocate or repair. Accordingly, desalination projects are plainly subject to the H++ scenario under the State’s Sea Level Rise Guidance. Poseidon’s use of a 3.5-foot sea level rise over 50 years is insufficient to demonstrate that it has been designed and sited to avoid hazards in compliance with the certified LCP or the Coastal Act.

The Commission requested more information on Poseidon’s plans to avoid encroachments into the floodplain and to remove existing encroachments where feasible. As with its deficient sea level rise planning, Poseidon has not demonstrated the Project’s compliance with floodplain policies of the LCP or the Act, and the CDPs should be denied.

**h. The Project Does Not Comply with Coastal Act and LCP Policies Protecting Visual Resources.**

Section 30251 of the Coastal Act is clear, “The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance.” Therefore, “development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to *restore and enhance* visual quality in visually degraded areas.”

The Huntington Beach LCP incorporates the Coastal Act with Goal C4, “Preserve and, where feasible, enhance and restore the aesthetic resources of the City’s coastal zone...” Objective C4.1 speaks to providing “opportunities within the Coastal Zone for open space as a visual and aesthetic resource.” The LCP implements this objective with several policies aimed at protecting public views. Policy C 4.1.1 echoes the Coastal Act’s proclamation that “The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance” and provides that “Permitted development shall be sited and designed to protect public views to and along the ocean and scenic coastal areas.” Objective C.4.2 further speaks to promoting “the protection of the Coastal Zone’s visual and aesthetic resources through design review and development requirements.” More specifically, Policy C.4.2.2 speaks to the “massing, height, and orientation of new development” and *requires* that such development “be designed to protect public coastal views.” Policy C.4.2.3 applies the preservation of public view corridors to “views of the sea and the wetlands” through strict application planning efforts.

LCP visual resource protection policies apply explicitly to industrial facilities, as well. Policy C.4.7.5 requires that “review of new and/or expansions of existing industrial and utility facilities” ensures the resulting facilities will not visually impair the City’s coastal corridors. Objective C.8.4 is to “Minimize the safety and aesthetic impacts of

resource production facilities on nonresource production land uses.” Policy C.8.4.2 implicates the Project site and requires “any power plant expansion or alteration proposals to include adequate buffer and screening measures.”

The Project would do nothing to restore or enhance the Project site’s visual qualities. Instead, contrary to the Coastal Act, the Project would alter landforms by building up the site’s foundation and place an additional industrial facility in the midst of a coastal wetland and dune complex. The Project would become yet another dominant industrial feature to a coastal corridor, next to ESHA and wetlands at Magnolia Marsh. In short, the Project’s expansion of industrial facilities in and next to coastal wetlands and without adequate buffers would detract from and not enhance the aesthetic quality of coastal views, in violation of both Coastal Act section 30251 and multiple objectives and policies of the certified LCP.

**i. The Project Violates LCP Policies Requiring Cost-Efficient Water Systems.**

Huntington Beach’s LCP requires that the City “Provide and maintain water, sewer, and drainage systems that adequately serve planned land uses at a maximized cost efficiency.” (Objective C.9.1.) Desalinated water is notoriously expensive – more than *twice* the cost of imported water and \$500 per acre foot more than indirect potable reuse.<sup>79</sup> Accordingly, the Project’s water would maximize cost inefficiency, in direct contravention of the City’s LCP.

**j. The Project Violates LCP Policies Directed at Protecting Recreation and Coastal Access.**

The foundation of the California Coastal Act is the preservation of public access to the state’s revered coastline. Unfortunately, through construction disruptions, brine discharge, and marine life mortality, the Project would harm recreational access and opportunities in Huntington Beach and may ultimately deter visitors from surfing, swimming, and otherwise recreating nearby.

The Coastal Act derives its protection of public access from the California Constitution. Section 30210 states, “In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people...” Section 30211 prohibits development from interfering “with the public’s right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.”

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<sup>79</sup> See, <https://www.eenews.net/articles/could-la-water-recycling-be-a-miracle-for-parched-west/>.

Section 30220 protects areas suited for water-oriented recreational activities. Section 30253 subd. (e) requires that new development “protect...popular visitor destination points for recreational uses.” Section 30234.5 provides, “The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.”

Likewise, the Huntington Beach LCP is protective of coastal access and recreation. Goal C3 is to “Provide a variety of recreational and visitor commercial serving uses.” Objective C 3.1 is to “Preserve, protect and enhance, where feasible, existing public recreation sites in the Coastal Zone.” Policy C 3.2.1 is to encourage “facilities, programs and services that increase and enhance public recreational opportunities.” Objective C3.4 is to “Encourage and protect water oriented recreational activities that cannot readily be provided at inland water areas.”

Policy C7.1.3, requires that “Development in areas adjacent to ...parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those ... recreation areas.” LCP Policy C1.1.6 regulates construction in the coastal zone that might affect recreation. Policy C2.6.6 discusses promoting public access to coastal wetlands. Additional provisions encourage public boating and fishing.

Huntington Beach is not only popular for coastal recreation, but recreation is integral to the local economy. The calls itself “Surf City,” and is home to the U.S. Open of surfing. Huntington Beach is also a very popular beach and swimming destination for worldwide visitors and locals alike. The Junior Lifeguard program is located at Huntington Beach and meets near the Project site.<sup>80</sup> The area is also utilized by recreational fishermen, given the proximity to harbors and moorings for watercraft.

The Project would adversely affect coastal access and recreation, contrary to the Coastal Act and LCP. The Commission recognized the potential for Project construction to impede beach access through traffic and parking in 2013.<sup>81</sup> These considerations remain. The Project’s brine discharge into the Pacific Ocean will also alter salinity with potentially harmful impacts to swimmers, surfers, and Junior Lifeguards. The LCP specifically calls out continuation of the Junior Lifeguard program in Policy I-C.16-F. Interest in a wide swath of the coast for recreational fishing will also diminish if fish populations decline due to entrainment mortality, brine exposure mortality, or shear mortality caused by the Project’s linear brine diffusers. The Commission’s 2013 Staff Report specifically noted California halibut as a species entrained by the intakes.<sup>82</sup>

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<sup>80</sup> See, <http://hsbjg.com/huntington-beach-jgs/> .

<sup>81</sup> Attachment 1, 2013 Staff Report, pp. 113-115.

<sup>82</sup> 2013 staff report, p. 33

Ocean swimming, surfing, lifeguarding, and fishing are not easily replicable inland. These coastal-dependent recreational uses must be protected.

The adverse impacts of brine discharges must be minimized, or the CDPs must be denied. Unless the Project's capacity is strictly tailored to actual, demonstrated capacity (i.e., demand that exceeds supply), those brine impacts haven't been minimized, and will harm Huntington Beach's surfing, swimming, and fishing opportunities."

Additional public access impacts may occur during construction because the Project site's soils are likely extremely toxic. Hydrocarbon tanks sat on the site for decades, leading Commission Staff to acknowledge the near certainty of contamination.<sup>83</sup> Safe public access to the beach will not likely be possible while toxic soils are being moved and removed during mass grading. The Applicant has not analyzed this impact, provided a remediation plan, or disclosed how access will be affected during construction.

Unless very carefully conditioned to avoid construction and brine impacts, the Project will conflict with Coastal Act and LCP policies concerning public access and recreation. The Project should be rejected.

**k. The Project Would Vastly Increase Energy Consumption and Greenhouse Gas Emissions, in Violation of the Coastal Act and the LCP.**

It is undisputed that climate change poses an existential threat to the livelihoods of Californians and to the coast itself. Associated sea level rise and coastal erosion further erode opportunities for recreation and habitat for Californians and the state's unique and sensitive wildlife. It is also undisputed that climate change is caused by greenhouse gas emissions, such as those the Project would emit. Accordingly, section 30253(d) of the Coastal Act provides that the Project must minimize energy consumption. Coastal Act policies aimed at protecting coastal resources, recreation, and marine life further support minimizing energy use. Instead, in direct violation of the Coastal Act, the Project's electricity demand would be indirectly responsible for 68,745 metric tons per year of carbon dioxide (CO<sub>2</sub>) emissions.<sup>84</sup> Further, Poseidon's proffered "Energy Minimization and Greenhouse Gas Reduction Plan" will not actually prevent its high energy

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<sup>83</sup> 2013 Staff Report, p. 26.

<sup>84</sup> Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 p. 1, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

consumption or its creation of greenhouse gas emissions. The Project would be a net contributor to climate change. Given the feasibility and availability of water supply alternatives that would not impact the coastal zone, this, alone, justifies rejecting the Project's CDPs.

The Project violates section 30253(d) in several ways. First, the Project is not sized to meet the actual water demand of the area. A smaller plant would use less energy. Second, less energy-intensive alternatives are available. Recent trends in water demand have led to reductions in greenhouse gas emissions.<sup>85</sup> The Project would reverse these trends, without justification. Desalinated water is four times more energy intensive – and therefore has four times the carbon footprint – of available alternatives, such as the purified recycled water the Carson Project would produce.<sup>86</sup> The Carson indirect potable reuse project will occur regardless of the Commission's decision on Poseidon and has offered 60 mgd to OCWD that will be produced through less-carbon-intensive recycling processes. Third, the Project fails to incorporate renewable energy to reduce or eliminate its greenhouse gas footprint onsite and instead proposes an upfront payment to acquire offsets. This is putting the cart before the horse as the incorporation of renewable energy is completely feasible.<sup>87</sup> If approved, the Project must incorporate demonstrably feasible renewable energy sources including 150 megawatts of rooftop solar within Huntington Beach.<sup>88</sup> Fourth, Poseidon's alleged off-site mitigation through purchased offsets fails to ensure greenhouse gas reductions as claimed. Even though offset credits are its only proposal for reducing greenhouse gas emissions, Poseidon drastically underestimates the

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<sup>85</sup> See, The Future of California's Water-Energy-Climate Nexus, Pacific Institute, [https://pacinst.org/wp-content/uploads/2021/09/Water-Energy-Report\\_Sept-2021.pdf](https://pacinst.org/wp-content/uploads/2021/09/Water-Energy-Report_Sept-2021.pdf).

<sup>86</sup> Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 pp. 9-10, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

<sup>87</sup> The annualized cost of 150 MW rooftop and parking lot solar and 30 MW of battery storage will be less than three percent of Poseidon's projected gross annual revenue. See, Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 p. 21, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

<sup>88</sup> Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 p. 18, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

cost of these offset credits. Poseidon estimates paying a ceiling cost of \$10 per metric ton, far lower than the California Air Resources Board’s 2021 cap-and-trade allowance settlement price of \$28.26, and 2022 ceiling of \$72.29.<sup>89</sup> In addition to this *present* undervaluation of the cost of carbon, Poseidon’s proposed offset plan assumes a static price of carbon, despite the fact that the price of carbon offsets will only continue to increase each year as Poseidon continues to inefficiently consume energy and create greenhouse gases.<sup>90</sup>

Further, Poseidon provides no assurances or enforceable performance standards to ensure the validity of the purchased “offsets,” and allows the purchase of offsets—including international offsets—from the Climate Registry (TCR), the Climate Action Reserve (CAR) or any other registry “in the event that sufficient offsets are not available. . . at a price that is reasonably equivalent to the price for offsets in the broader domestic market.”<sup>91</sup> Poseidon’s Plan allows the Planning Director to choose any different registry, without providing adequate performance standards.<sup>92</sup> A Court of Appeal recently overturned an agency’s reliance on some of the same voluntary registries and improper discretion, and detailed the reasons why voluntary registries do not actually ensure greenhouse gas emission reductions. (*Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal.App.5th 467, 510-518 [expressing concerns with international offsets in particular].)

Adding the final nail on the coffin, Poseidon allows itself to not even purchase offsets at all. Its GHG Reduction Plan provides an escape hatch to put funds in escrow at \$10.00 per metric ton if offsets are “economically infeasible,” which likely means costing over \$10 (this “contingency” option also lacks any performance standards).<sup>93</sup> Offsets cost more than \$10 and only will continue to increase. Poseidon’s plan does not fully

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<sup>89</sup> Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 pp. 15-17, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

<sup>90</sup> Carbon Offset Prices Could Increase Fifty-Fold by 2050, <https://about.bnef.com/blog/carbon-offset-prices-could-increase-fifty-fold-by-2050/>; Summary of California-Quebec Joint Auction Settlement Prices and Results (November 2021), [https://ww2.arb.ca.gov/sites/default/files/2020-08/results\\_summary.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-08/results_summary.pdf) [Advance Auction Settlement Price (i.e cost to purchase future credit) of \$34.01].)

<sup>91</sup> Huntington Beach Seawater Desalination Project Energy Minimization and Greenhouse Gas Reduction Plan (February 27, 2017), p. 5, 14, 16. Further, the Annual “True-Up” Process should not occur outside of public review.

<sup>92</sup> *Ibid.* at p. 16.

<sup>93</sup> *Ibid.* at p. 17-18.

reduce its inefficient energy consumption as claimed.<sup>94</sup> The Commission must enforce section 30253(d) and require direct on-site reductions, especially considering Poseidon's faulty claimed off-site reduction plan.

Nothing precludes the Commission from using its authority to require the Project to directly reduce its greenhouse gas impacts. Reducing the Project's energy-use would produce co-benefits<sup>95</sup> including the reduction of other pollutant emissions at the Project site and the reduction of pollution associated with the generation of the Project's electricity source. Electrical generation often occurs in communities already facing higher pollution burdens. Thus, reducing Project electricity use will have environmental justice benefits.<sup>96</sup> If the Commission chooses to allow the purchase of offsets, at all, it must require the purchase of in-state offsets pursuant to legally adequate performance standards and protocols.

The availability of feasible, less carbon-intensive water sources justifies entirely rejecting the CDPs for the Project. However, if the Commission considers approving a desalination project at the site, it must size the Project to the minimum size necessary and condition the Project to offset all of its energy use with the installation of local renewables.

The Project's electrical demand will also destabilize the electrical grid, in violation. Powers Engineering estimates that the Project will add a continuous 30.34-megawatt load to the electrical grid, the equivalent of 38,732 homes, thereby jeopardizing the grid's reliability.<sup>97</sup> The Project's enormous electrical load would be offset if

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<sup>94</sup> Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 p. 15, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

<sup>95</sup> Co-benefits of mitigating global greenhouse gas emissions for future air quality and human health, <https://www.nature.com/articles/nclimate2009>; Public health co-benefits of greenhouse gas emissions reduction: A systematic review, <https://www.sciencedirect.com/science/article/abs/pii/S0048969718302341>.

<sup>96</sup> Health Cobenefits of Achieving Sustainable Net-Zero Greenhouse Gas Emissions in California, <https://www.osti.gov/servlets/purl/1734873>.

<sup>97</sup> Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 p. 13, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

Poseidon developed 30 megawatts of battery storage in Huntington Beach and must be included as a condition of the Project if approved.

Requiring the inclusion of battery storage and solar energy would also bring the Project into conformity with Huntington Beach LCP policies encouraging solar and the incorporation of new energy technologies. Policy C.8.2.1 supports, the “application of new energy technologies so long as public health, safety and welfare are not jeopardized and environmental impacts are mitigated to the maximum extent possible.” If anything, a combination of renewable solar energy and battery storage technology would improve the public health, safety and welfare. Policy C.8.3.1 explicitly “Promote[s] the use of solar energy and encourage[s] energy conservation.” An energy-intensive desalination plant discourages energy conservation and would be in conflict with the LCP absent strong conditions about renewable energy.

In 2017, with the support of Governor Newsom, members of the State Lands Commission called on Poseidon to make the Project 100 percent greenhouse gas emission-free, and to do it through technology, innovation, or any means outside of merely writing a check.<sup>98</sup> Given the Governor’s leadership on climate change, it is disappointing that Poseidon has done little more than rename its offset plan a “Climate Change Action Plan” and submit it to the Santa Ana Regional Water Quality Control Board in 2019 and to the Commission last summer. Expert reports demonstrate that far more can be done to reduce or even eliminate the Project’s greenhouse gas emissions, and the Coastal Act requires no less.

#### **I. The Project Would Adversely Impact Groundwater Basin Water Quality.**

LCP Policy C6.1.1 mandates protection of water quality in the groundwater basin. OCWD is proposing delivery systems that would use Poseidon water for groundwater recharge.<sup>99</sup> However, the Irvine Ranch Water District determined that introducing Poseidon water to the basin would degrade water quality.<sup>100</sup> Thus, the Project violates LCP protections for groundwater quality and must be denied.

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<sup>98</sup> Transcript, State Lands Commission Meeting, October 19, 2017, p. 316, ln. 5, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/10-19-2017\\_Transcripts.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/10-19-2017_Transcripts.pdf).

<sup>99</sup> Attachment 10.

<sup>100</sup> Attachment 9.

**m. Coastal Act Section 30260 Does Not Authorize the Project.**

Claims have been made that the Project can be authorized subject to Section 30260 of the Coastal Act, but the Commission cannot make the three requisite findings. This section provides, “Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division.”

Preliminarily, there is no reason why a water source need be coastal dependent. Section 30101 defines coastal dependent as a “development or use which requires a site on, or adjacent to, the sea to be able to function at all.” If a project aims can be satisfied at a location that is not on or adjacent to the sea, even if it is not an applicant’s particular proposal, then the project is not a coastal-dependent industrial use and should not qualify for the possible exemption from full mitigation provided in Section 30260. Development of a water source is not coastal dependent. We discuss several non-coastal alternatives. Further, the evidence in the Project record argues against this water source. Available alternatives such as water conservation and reliance on the Carson project eliminate the need for the Project, and with it, all of the Project’s adverse impacts on coastal resources. Section 30260 was not intended to apply to developments like the Project. Instead, this provision of the Coastal Act exists for two reasons – (1) California’s past reliance on water to cool electrical power plants; and (2) the need for federal approval of the state’s program under the Coastal Zone Management Act, which, at that time, was contingent on continued coastal oil production.<sup>101</sup>

Section 30260 next requires that an industrial facility subject to its terms be “consistent with this division.” The Poseidon Project is inconsistent with Coastal Act policies concerning marine life, wetlands, ESHA, greenhouse gases, coastal hazards, seismic hazards, and more. The Project is inconsistent with the Act. Section 30260 continues:

However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

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<sup>101</sup> 16 U.S.C. Section 1451 *et. seq.* See, 16 U.S.C. Section 1455 (d) (8); see also *American Petroleum Institute v. Knecht* (1978) 456 F. Supp. 889, affirmed. (1979) 609 F. 2<sup>nd</sup> 1306.

The Commission cannot make any of the required findings, and it certainly cannot support them with substantial evidence, as required. First, as discussed at length above, alternative water sources located elsewhere are available and are less environmentally damaging. Conservation of water to increase supply brings net environmental benefits, as would the Carson Project.

Second, reliance on an alternative to the Poseidon Project would not adversely affect the public welfare. The test requires more than a finding that, on balance, a project as proposed is in the interest of the public. It requires that the Coastal Commission find that there would be a detriment to the public welfare were the Coastal Commission to deny a permit for the project proposal. If anything, denial of the CDPs would drastically reduce ratepayer costs, reduce greenhouse gases that contribute to sea level rise and drought (and water scarcity), and eliminate a burden on the electrical system. Preventing the deaths of 108 million marine organisms each year is another great public benefit.<sup>102</sup>

Third, as also discussed above, the Commission cannot find that the Project's adverse environmental effects are mitigated to the maximum extent feasible. The Project includes no ESHA buffers, greenhouse gas mitigation is weak, wedgewire screens will reduce entrainment impacts by a maximum of one percent, and linear brine diffusers cause shear mortality to marine organisms.

Commission staff recently applied this test to the CalAm Desalination proposal, and found that the Project did not satisfy the requirements for approval pursuant to section 30250. The staff recommendation was that, because the project did not meet either of the first two tests of that section ("alternative locations," and "public welfare"), there was no need to determine whether it met the "mitigated to the maximum extent feasible" test.<sup>103</sup>

Ultimately, Commission approval under Section 30260 is entirely discretionary. The section provides that the Commission *may permit*, rather than *shall permit* a Project once effects are mitigated to the maximum extent feasible. The Commission can and must impose far more mitigation for the Project and must do so before it may consider authorizing the Project pursuant to section 30260.

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<sup>102</sup> Even if the Commission does find that the public welfare would be adversely affected by denial of the Project, this does not affect Poseidon's mitigation obligations. There is no reason that Poseidon cannot bear or pass to its customers the cost of full mitigation.

<sup>103</sup> Staff Report for Cal-Am Desalination Project, September 2020, <https://documents.coastal.ca.gov/reports/2020/9/Th3a&4a/Th3a&4a%20Staff%20Report.pdf>

## V. Environmental Justice Requires the Commission to Deny the CDPs.

The Project implicates critical environmental justice and tribal consultation requirements. Recognizing the serious harms wrought by environmental racism, the Commission has taken a laudable stand in favor of environmental justice. Government Code section 65040.12 defines environmental justice as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.” Since the signing of AB 2616 (Burke) (Ch. 578, Stats. 2016), the Coastal Commission has had authority to specifically consider environmental justice when making permit decisions, and it has done so to great effect.<sup>104</sup> Coastal Act section 30604(h) now provides, “When acting on a coastal development permit, the issuing agency, or the Commission on appeal, may consider environmental justice, or the equitable distribution of environmental benefits throughout the state.”<sup>105</sup>

In March 2019, the Commission unanimously adopted an Environmental Justice Policy to guide implementation of this authority<sup>106</sup>. The Commission’s policy provides:

- “Commission staff shall consider, when applicable, whether and how proposed development will positively or negatively affect marginalized communities, and will be fully transparent in that analysis in staff reports and presentations.”
- “Where project impacts to disadvantaged or overburdened communities are identified, and where otherwise consistent under the Coastal Act, civil rights and environmental justice laws, the *Commission staff shall propose permit conditions to avoid or mitigate those impacts to underserved communities to the maximum extent feasible* while protecting coastal resources.
- “If viable alternatives are available, consider those in permitting decisions.”

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<sup>104</sup> Staff Report for Cal-Am Desalination Project, September 2020, pp. 86-101, <https://documents.coastal.ca.gov/reports/2020/9/Th3a&4a/Th3a&4a%20Staff%20Report.pdf>; see also Staff Report for Application No. 5-18-0788, February 2021, <https://documents.coastal.ca.gov/reports/2021/2/Th14a/th14a-2-2021-report.pdf>. [conditioning pool on outreach and development of a plan to enhance recreation and coastal access for underserved communities in Long Beach.]

<sup>105</sup> Section 30107.3 (a) of the Coastal Act, defines “environmental justice” as “the fair treatment and meaningful involvement of people of all races, cultures, incomes and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.”

<sup>106</sup> California Coastal Commission Environmental Justice Policy, March 2019, [https://documents.coastal.ca.gov/assets/env-justice/CCC\\_EJ\\_Policy\\_FINAL.pdf](https://documents.coastal.ca.gov/assets/env-justice/CCC_EJ_Policy_FINAL.pdf).

The Commission, therefore, has a duty to conduct robust analysis of the Project and its environmental justice implications. In light of the Commission’s specific environmental justice policies, it cannot simply rely on another agency’s analysis of this issue. (See, for example, *Friends of Buckingham v. State Air Pollution Control Bd.* (4th Cir. 2020) 947 F.3<sup>rd</sup> 86 [NEPA requires an agency to conduct its own environmental justice analysis].) The Commission prepared an evaluation of the environmental justice-related impacts of another project, the Cal-Am Desalination proposal, in its September 2020 Staff Report.<sup>107</sup> The Commission can and must prepare an analysis of the Poseidon Project, which will have significant impacts on disadvantaged communities throughout the region.

The Project will disproportionately affect disadvantaged or overburdened communities in several ways. The high cost of project water<sup>108</sup> will have the greatest impact on those least able to afford it. The Commission analyzed ratepayer costs in September of 2020 during its consideration of the Cal-Am Desalination Project.<sup>109</sup> The Project will also require very large amounts of energy, energy produced through polluting processes. The Project will also reduce free recreational opportunities during construction and as its greenhouse gas emissions exacerbate sea level rise and beach loss and as its beach armoring prevents beach and wetland migration inland. The loss of free recreational opportunities hits disadvantaged communities the hardest.

The Huntington Beach LCP further implicates environmental justice considerations of water cost. Section I-C 18 of the LCP requires implementation of “the programs and policies contained in the Public Facilities and Services Element of the General Plan to the extent that these programs and policies are not inconsistent with the City’s Local Coastal Program.” Goal PSI-6B of the City’s General Plan is to “Ensure that the costs of water and wastewater infrastructure improvements are borne by those

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<sup>107</sup> Staff Report for Cal-Am Desalination Project, September 2020, pp. 86-101, <https://documents.coastal.ca.gov/reports/2020/9/Th3a&4a/Th3a&4a%20Staff%20Report.pdf>.

<sup>108</sup> <https://www.dailybreeze.com/2021/07/31/west-basin-reveals-costs-of-desalination-as-public-meeting-set-for-monday/>;  
<https://www.desertsun.com/story/news/environment/2016/10/14/desalination-costliest-california-water-solution-study-finds/91973414/>

<sup>109</sup> See, Staff Report for Cal-Am Desalination Project, September 2020, pp. 8-9, 92-96, 113-114, 134, <https://documents.coastal.ca.gov/reports/2020/9/Th3a&4a/Th3a&4a%20Staff%20Report.pdf> [“Water from Cal- Am’s proposed Project could significantly raise water rates for low-income ratepayers in Seaside and other low-income ratepayers throughout the service area.”]

who benefit, through adequate fees and charges or the construction of improvements.”<sup>110</sup>  
The Commission must conduct a robust analysis to determine whether the Project is consistent with LCP Section I-C 18.

The Environmental Justice Policy requires the Commission to consider viable alternatives to projects, such as this one, that will adversely affect disadvantaged and overburdened communities. Viable alternatives exist in the form of conservation, the Carson Project, and in a smaller plant used for emergency purposes only, sized to meet the area’s demonstrated need. Supplying water through conservation is both cost- and energy-efficient and has environmental justice benefits. The Carson Project’s less expensive water supply<sup>111</sup> would avoid the Poseidon Project’s water bill increases for lower-income residents, construction and recreation impacts that might have disproportionate impacts, and greenhouse gas emissions that contribute to sea level rise. A smaller plant would require less dredge and fill, use less energy, and also avoid some of the contributions to climate change and sea level rise. The Commission should use its Environmental Justice Policy authority to recommend viable alternatives to the Project.

Alternatively, the Commission must condition the Project to avoid or mitigate these impacts to the maximum extent feasible. This means that the Project must limit cost increases to end-users, drastically reduce energy consumption, greenhouse gas production, and prohibit reductions in beach access or brine-related recreational impacts. If not conditioned to avoid these impacts, we urge the Commission to deny the Project CDPs.

We also note that the Project must comply with AB 52 and the Commission’s Tribal Consultation Policy. We ask the Commission to thoroughly analyze the Project for potential impacts to tribal cultural resources and traditional cultural landscapes.

The Project further implicates the environmental justice definitions contained in SB 115, SB 535, AB 1550, SB 1000, and AB 1628.

## **VI. Executive Order N-82-20 Requires State Agencies to Preserve Lands and Coastal Waters to Limit Climate Change, Protect Biodiversity, and Increase Climate Resilience.**

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<sup>110</sup> <https://www.huntingtonbeachca.gov/files/users/planning/Public-Services-and-Infrastructure.pdf>

<sup>111</sup> See, <https://www.eenews.net/articles/could-la-water-recycling-be-a-miracle-for-parched-west/> [Carson water cost of \$1,800/af v. desalination water cost of \$2,300/af or more].

On October 7, 2020, Governor Newsom issued Executive Order N-82-20, which enlisted all state agencies – including the Coastal Commission – to preserve thirty percent of California’s coastal waters to fight climate change, protect California’s astonishing biodiversity, and increase the State’s climate resilience. As discussed above and throughout a decade of documents submitted to the Commission, the Poseidon Project’s desalination process is inherently energy-intensive. The Project would generate 68,745 metric tons per year of carbon dioxide (CO<sub>2</sub>) emissions that would accelerate climate change.<sup>112</sup> Even if the proposed offsets are reliable, verifiable, and otherwise enforceable, these offsets would not prevent or minimize the emissions of greenhouse gases due to the Project. The desalination facility’s intakes would kill billions of marine organisms during the facility’s lifetime, thereby reducing the productivity and biodiversity of Orange County’s remaining coastal wetlands and nearby Marine Protected Areas. Finally, although only constructed to “community facility” standards, the facility is intended to provide critical infrastructure services in a coastal area subject to geological and increasing sea level-rise hazards. Thus, the Poseidon Project threatens to accelerate climate change, diminish biodiversity, and increase climate vulnerability by contributing to sea level rise. In addition to the Coastal Act and LCP provisions discussed above, approval of the CDPs by the Coastal Commission would violate Executive Order N-82-20.

## **VII. Conclusion**

We thank you for your consideration of these comments and urge you to reject Poseidon’s application for CDPs for the Huntington Beach Desalination Plant on a site with open violations of wetlands protection policies. The Project cannot be approved until it is brought into conformity with the California Coastal Act, the Huntington Beach certified LCP, and regulations intended to safeguard critical and emergency infrastructure such as that surrounding water supply, environmental justice and Tribal consultation policies, and Poseidon has not demonstrated that such conformity is possible. The continuing recovery of this important marine estuary, the supremacy of Huntington Beach’s certified LCP, and the safety and security of the region’s people depend on the Commission’s willingness to see the Poseidon Project for what it is, permission to build the largest marine predator in California.

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<sup>112</sup> Powers Engineering, Assessment of Energy Intensity and Greenhouse Emissions of Proposed Poseidon Huntington Beach Desalination Plant – 2022 Update Report, January 19, 2022 p. 1, [https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022\\_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf](https://documents.coastal.ca.gov/assets/upcoming-projects/environmental-coalition/2022_Powers%20Engineering%20Review%20of%20Poseidon%20HB%20GHG%20reduction%20strategy.pdf).

Mr. Tom Luster  
California Coastal Commission  
February 11, 2022  
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Sincerely,



Michelle N. Black, on behalf of California Coastal  
Protection Network, California (and/or OC)  
Coastkeeper, and the Surfrider Foundation

Attachments:

1. Coastal Commission Staff Report, Appeal No. A-5-HNB-10-225, November 2013.
2. Appellant Comment Letter, November 3, 2013.
3. Bolsa Chica Lowland Restoration Project, Sustainable Alternatives Study Analysis, December 2021, prepared by Anchor QEA, LLC.
4. Regional Recycled Water Program: Institutional and Financial Considerations, White Paper 2, October 13, 2020, p. 12.
5. Santa Ana Regional Water Quality Control Board, Poseidon Staff Report, July 30, 2020, p. 4.
6. Letter from OCWD to Regional Board, May 18, 2018.
7. HydroFocus Report, March 10, 2020.
8. Appendix GGGGGG, Geosyntec Response to HydroFocus Report, Attachment Table 1.
9. Letter from Irvine Ranch Water District to OCWD, July 6, 2016.
10. OCWD Water Delivery Study, July 2016.