Sean Bothwell (SBN 272105)
CALIFORNIA COASTKEEPER ALLIANCE
1100 11th Street, 3rd Floor
Sacramento, CA 95814
Telephone: (949) 291-3401
Facsimile: (415) 520-6125
Email: sbothwell@cacoastkeeper.org

Jennifer F. Novak (SBN 183882)
Law Office of Jennifer F. Novak
500 Silver Spur Road, Suite 206
Rancho Palos Verdes, CA 90275
Telephone: (310) 693-0775
Facsimile: (310) 957-2624
Email: novak@jfnovaklaw.com

Deborah A. Sivas (SBN 135446)
ENVIRONMENTAL LAW CLINIC
Mills Legal Clinic at Stanford Law School
559 Nathan Abbott Way
Stanford, California 94305
Telephone: (650) 723-0325
Facsimile: (640) 723-4426
Email: dsivas@stanford.edu

Attorneys for Petitioners

SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF ALAMEDA

CALIFORNIA COASTKEEPER, a California non-profit corporation, and ORANGE COUNTY COASTKEEPER, a California non-profit corporation,

Petitioners,

v.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SANTA ANA REGION a public agency,

Respondent.

POSEIDON RESOURCES (SURFSIDE) LLC,

Real Party in Interest.

Case No. RG21113898

VERIFIED PETITION FOR WRIT OF MANDATE

[Pursuant to Code of Civil Procedure § 1094.5; Water Code § 13330; California Environmental Quality Act]

1. Petitioners California Coastkeeper, also doing business as California Coastkeeper Alliance ("CCKA"), and Orange County Coastkeeper ("Coastkeeper") (collectively, "Petitioners" or "Keepers") hereby seek a Writ of Mandate against the California Regional Water Quality Control Board, Santa Ana Region ("Santa Ana Regional Water Board" or "Regional Board") for failing to comply with the mandatory requirements of California Water Code section 13142.5(b), as applied through the Water Quality Control Plan for the Ocean Waters of California, and the California Environmental Quality Act ("CEQA"), California Public Resources Code section 21000 et seq., by adopting Order No. R8-2021-0011, National Pollutant Discharge Elimination System ("NPDES") No. CA8000403, Waste Discharge Requirements for Poseidon Resources ("Poseidon") L.L.C. Huntington Beach Desalination Facility Orange County ("Order"). In adopting the Order, the Santa Ana Regional Water Board prejudicially abused its discretion because it failed to proceed in the manner required by law, failed to make findings required by law, and made findings not supported by the evidence.

INTRODUCTION

2. Since 2001, Poseidon has sought to construct and operate a 50 million gallons per day ("MGD") desalination facility (the "Poseidon Facility") in Huntington Beach, California, adjacent to the current location of the AES Huntington Beach Generating Station ("AES Power Plant"), using the seawater intake and discharge pipes that the AES Power Plant intends to discontinue using pursuant to applicable federal and state requirements.

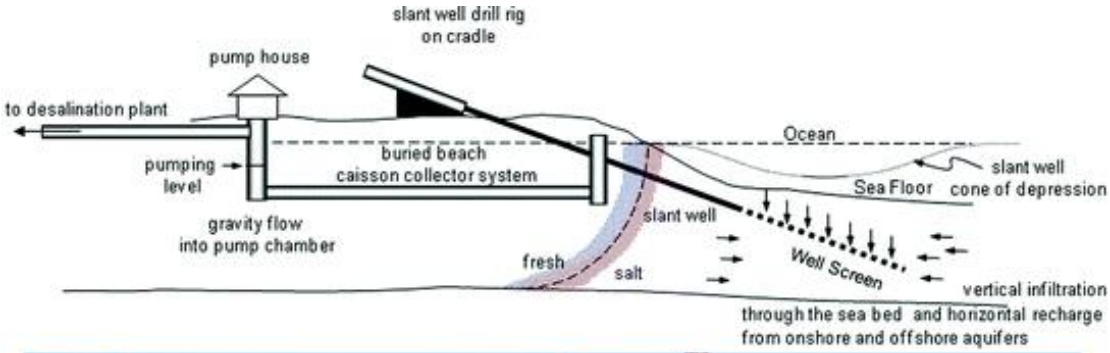
3. On April 29, 2021, the Santa Ana Regional Water Board issued Order No. R8-2021-0011, NPDES No. CA8000403 to Poseidon, thereby authorizing it to operate a seawater desalination facility with the intake capacity to withdraw approximately 107 MGD of seawater and marine life, to discharge approximately 56 MGD of highly concentrated brine and pollutants associated with the Poseidon Facility's operation, using the AES Power Plant's intake and discharge pipes.

4. "Seawater Desalination" refers to the process of pumping seawater from the near-shore ocean into a reverse osmosis facility that uses electricity to force intake water through a permeable membrane to extract salts. During this process, all marine life in the intake water is killed. The potable water produced by this process is then either distributed into a drinking water system or injected into the local groundwater aquifer for storage and future use (as is likely for the proposed Poseidon

Facility). It typically takes two gallons of seawater to create one gallon of potable water. The salt concentration in the reject water, typically referred to as brine, is twice as great as the salt concentration in intake seawater and the coastal water into which it is typically discharged.

5. A seawater desalination facility withdraws seawater from either subsurface or surface intake structures and pumps the intake water into the desalination facility.

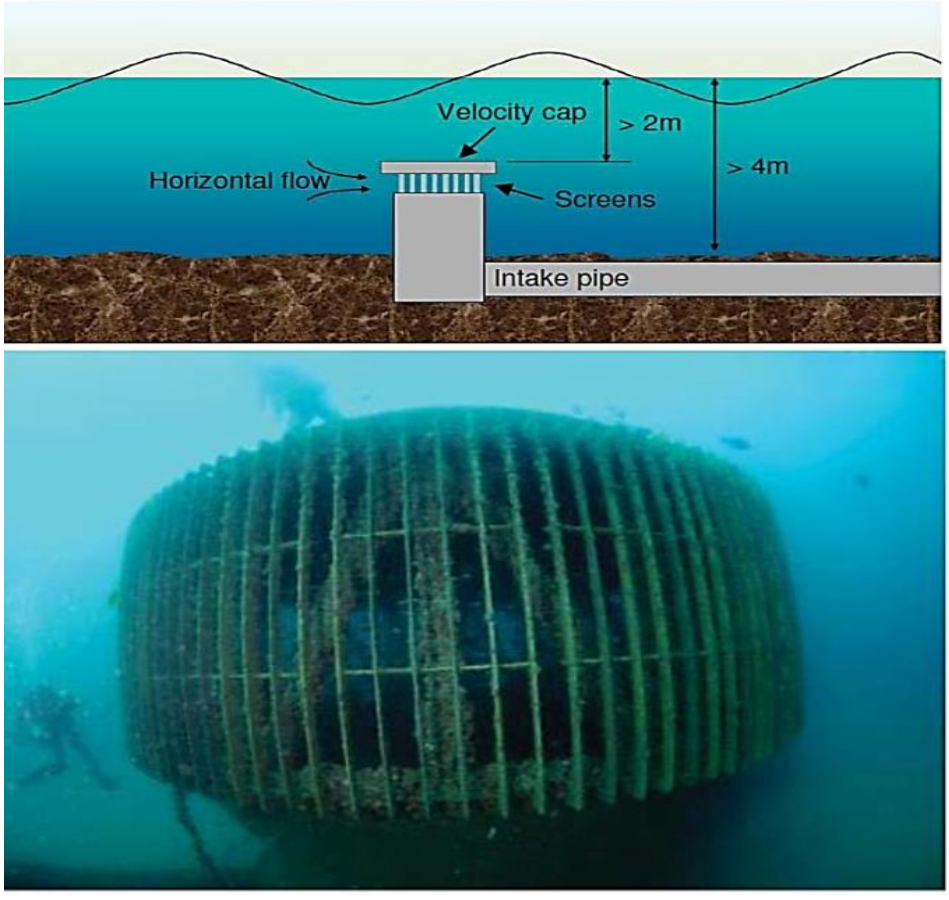
6. Facilities that utilize subsurface intakes will drill a well from the shore out to the ocean beneath the seafloor so that the well can draw seawater through the seafloor, into the underground pipe (similar to a groundwater well), which is then pumped to the facility.



Subsurface intakes extract seawater from beneath the ground, filtering the seawater through the geological features of the seafloor. Subsurface intakes act as a natural barrier to organisms and thus eliminate marine life mortality from impingement and entrainment. Because the water is naturally filtered as it moves through sediments, it generally contains lower levels of contaminants such as suspended solids, silts, organic contaminants, oil, and grease. Subsurface intakes do not require full conventional pretreatment, resulting in cheaper life-cycle costs compared to open ocean intakes, and

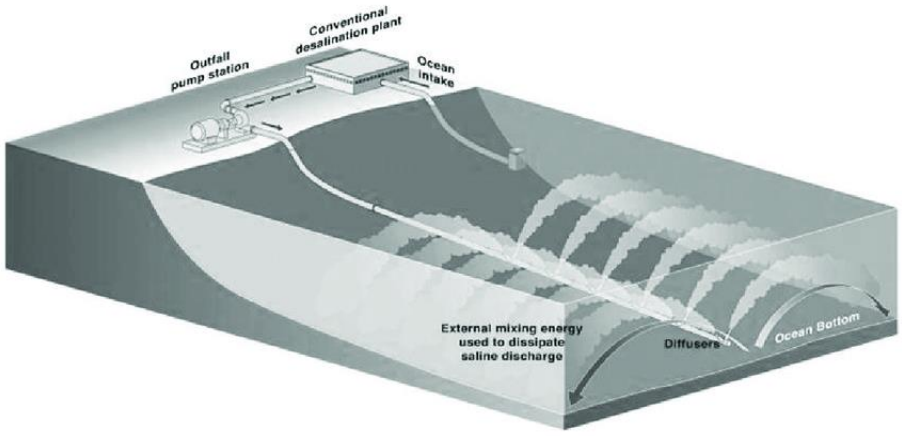
allowing subsurface intakes to produce water cheaper than large-scale open ocean desalination facilities. This gives subsurface intakes a significant environmental advantage over surface water intakes because a project using subsurface intakes will not have to mitigate for its marine life impacts throughout the operational lifetime of the facility, while also saving money on pretreatment and using less energy due to the natural pretreatment that improves water quality.

7. In contrast, surface water intakes draw seawater directly from the ocean through a pipe above the seafloor. Surface water intakes have a significant impact, causing marine life mortality through impingement and entrainment. Impingement occurs when marine life is trapped against the intake screen and are unable to dislodge themselves. Entrainment occurs when marine life is sucked through the screens and drawn into the facility for processing. Marine life does not survive entrainment. Marine life entrained through surface water intakes is exposed to high pressure, significantly higher salinities, and increases in temperature during processing activities, resulting in the rupture of the marine life's cellular composition and mortality. Entrainment typically affects smaller organisms in the water column such as algae, plankton, fish and invertebrate larvae (e.g. shellfish) and eggs.



8. Given the destructive nature of surface intakes, as contrasted with subsurface intakes, the State of California has found that these types of seawater desalination facilities create "significant" adverse impacts to marine life.

9. In addition to impingement and entrainment impacts on marine life, desalination facilities also discharge brine wastes to near-shore waters that can result in toxic plumes. Concentrated brine has a greater density than natural seawater. The increased density can cause the plume to sink and spread on the seafloor instead of mixing with the surrounding water. Bottom-dwelling marine life can thus have increased exposure to the brine and other potentially toxic pollutants, which decreases dissolved oxygen in the water, suffocating animals on the seafloor. Lab and field studies have shown the potential for acute and chronic toxicity and small-scale alterations to community structure after being exposed to concentrations of brine near discharge sites. Brine discharges may cause shear-related mortality. Shear stress is the measure of friction or force from the discharge on an organism in the path of the discharge. At certain velocities, the shear stress can be lethal to marine life. This is a concern for facilities that discharge their brine waste through multiport diffusers. Although this method rapidly dilutes the waste, the velocity of the brine waste at the point of discharge results in marine life mortality.



10. In addition to environmental impacts, seawater desalination is the costliest option for supplying potable water. The Municipal Water District of Orange County's ("MWDOC") most recent water reliability study documented that Orange County has numerous alternative water supply projects undergoing regulatory approval available to meet future needs. The study determined that the Poseidon

Facility is the least cost-effective and most financially risky of all of the alternatives reviewed.

11. As another example of desalination's environmental impacts, the State Water Resources Control Board ("State Board") has found that the energy consumption associated with seawater desalination is the most energy intensive alternative compared to other water supply options in California.

12. Lessons learned from recent experiences with desalination plants in the United States and Australia show that desalination plants create economic risk as well. "Demand risk" is the term used when consumer demand for desalinated water cannot justify the cost of operating a desalination plant. Demand risk raises serious concerns about the size and timing of desalination projects.

13. Studies estimate that, on average, from 2000 to 2005, 19.4 billion fish larvae were entrained at California seawater intakes for cooling coastal power plants (referred to as "Once-Through Cooling"). During the same time, approximately 2.7 million fish (84,250 pounds) annually were impinged at power plants, along with marine mammals and sea turtles.

14. Given the significant environmental impacts associated with the intake of seawater for once-through cooling, on May 4, 2010, the State Board adopted regulations to create technology-based standards for coastal facilities that utilize recirculating air or water towers to cool a power plant's generators without the need to intake large amounts of seawater (the "Once-Through Cooling Policy"). The Once-Through Cooling Policy applied to 13 existing power plants. One of these plants is the AES Power Plant, where Poseidon hopes to locate its desalination facility.

15. The State Board's Once-Through Cooling Policy implements the federal Clean Water Act requirements to minimize adverse environmental impacts associated with cooling water intake structures on marine and estuarine life. The Once-Through Cooling Policy identifies closed-cycle cooling towers as the best available technology, thus phasing out seawater intakes along the California coastline.

16. The Water Quality Control Plan for the Ocean Waters of California ("Ocean Plan") serves as the State's foundational document to establish water quality objectives for California's ocean waters, as required by the Clean Water Act and provides the authority to regulate wastes discharged into California's coastal waters. The State Board adopted the Ocean Plan, which has regulatory effect

and applies to other agencies unless they have statutes to the contrary. The State Water Board and six coastal regional water quality control boards ("regional water boards") implement the Ocean Plan.

17. The State Board has directed all affected regional water boards to implement the Ocean Plan's provisions. The Ocean Plan is typically implemented through NPDES permits issued by the regional water boards for all discharges into ocean waters of the State.

18. In 2015, the State Board amended the Ocean Plan in 2015 in order to protect ocean water quality and marine life from those impacts associated with the construction and operation of seawater desalination facilities (the "Desalination Amendment"). (Chapter III.M of the Ocean Plan). When formulating the Desalination Amendment's requirements, the State Board was guided by, and relied upon, much of the evidence and information it developed when adopting the Once-Through Cooling Policy. The Desalination Amendment is a codified and enforceable regulation that implements California Water Code section 13142.5(b).

19. On April 29, 2021, Respondent Santa Ana Regional Water Board adopted its Order, granting Poseidon an NPDES permit. The Order allows Poseidon to site its desalination facility at the AES Power Plant and allows Poseidon to use once-through cooling pipes to pull approximately 107 MGD from the ocean. As explained below, the Santa Ana Regional Water Board adopted the Order without following the requirements found in the California Water Code section 13142.5(b), the Ocean Plan (as set forth in the Desalination Amendment), and CEQA, thereby failing to adequately meet the Ocean Plan's goal to protect marine life and water quality from impacts from Poseidon's proposed seawater desalination project, which is expected to operate for 50 years.

PARTIES & STANDING

20. Petitioner CALIFORNIA COASTKEEPER, doing business as California Coastkeeper Alliance ("CCKA"), is a statewide voice for our waters. CCKA is a non-profit public benefit corporation organized under the laws of the State of California and headquartered in Sacramento, California. Founded in 1999, CCKA is a network of California Waterkeeper organizations working to protect and enhance clean and abundant waters throughout the state, for the benefit of Californians and California ecosystems. Collectively, CCKA and its members, including member organizations, are dedicated to the preservation, protection, and defense of the environment, and the natural resources of

California watersheds and surface waters. CCKA, and its members, work to protect the health of their local water bodies and communities throughout California, as indicated by the geographic descriptors of each Waterkeeper organizational name (*e.g.*, Orange County Coastkeeper). CCKA defends and expands on local matters by advocating before decision-makers on issues and programs with statewide impact and significance. To further their goals, CCKA and CCKA's member groups actively seek Federal and State agency implementation of Federal and State environmental laws and policies, and where necessary, directly initiate administrative challenges and enforcement actions on behalf of themselves and their individual members in State and Federal courts.

21. Petitioner ORANGE COUNTY COASTKEEPER is a California non-profit public benefit corporation ("Coastkeeper") with its office in Costa Mesa, California. Founded in 1999 as the 27th "Keeper" program to be licensed in the United States, OCCK's mission is to protect and promote sustainable water resources that are swimmable, drinkable, and fishable. OCCK is dedicated to the preservation, protection, and defense of the environment, and the natural resources of Orange County's watersheds and surface waters. OCCK works to protect the health of local water bodies and communities and is a member group of Petitioner CCKA. To further its goals, OCCK actively seeks Federal and State agency implementation of Federal and State environmental laws and policies, and where necessary, directly initiates administrative challenges and enforcement actions on behalf of itself and its members. OCCK also advocates before state and local decision-makers on significant issues and programs. OCCK represents thousands of members, including Orange County residents and strong supporters of environmental quality and public health. OCCK members live and/or recreate in and around the Santa Ana River, Huntington Beach State Park, and the surrounding waters. OCCK's members use the waterways to participate in a variety of water sports and other activities, including, but not limited to, surfing, swimming, boating, kayaking, bird watching, wildlife viewing, hiking, biking, fishing, wading, standup paddle boarding, walking, and running. Additionally, members of OCCK use the waters to engage in scientific studies including monitoring and restoration activities.

22. The Petitioners and their members benefit directly from the protection of these natural resources by using them for a diversity of recreational and aesthetic enjoyment purposes. Additionally, the waters in question are an important resource for recreational and commercial fisheries. The waters

also provide significant wildlife values important to the mission and purpose of Petitioners. The value of these waters includes, among other things, critical nesting and feeding grounds for resident and migratory water birds, essential habitat for endangered species and other plants and animals, nursery areas for fish and shellfish and their aquatic food organisms, and open space areas.

23. The entrainment of marine species in the Poseidon Facility's intake and the shearing mortality caused by the discharge will adversely impact the Pacific Ocean and impair its beneficial uses. For this reason, the Petitioners are interested parties that participated in all of the administrative proceedings below, hired expert consultants who submitted reports throughout the administrative process, submitted timely comment letters at each opportunity, provided coordinated presentations with other aggrieved parties, and participated in focused stakeholder meetings. Thus, the Petitioners and their members, as interested parties, have been, are being, and unless the relief requested herein is granted, will continue to be adversely aggrieved and injured by Respondent's failure to comply with the California Water Code, the Ocean Plan, and CEQA.

24. Respondent CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SANTA ANA REGION ("Santa Ana Regional Water Board") is the entity authorized pursuant to California Water Code section 13263 and Water Code Chapter 5.5 to issue waste discharge requirements ("WDRs") and NPDES permits for discharges of pollutants into, among other places, the Pacific Ocean. In issuing such permits, the Santa Ana Regional Water Board is required to comply with the provisions of the California Water Code section 13142.5(b), the California Ocean Plan, and CEQA.

25. Real party in interest POSEIDON RESOURCES (SURFSIDE) LLC ("Poseidon") is a Delaware corporation doing business in California. Poseidon is the Discharger named in the Santa Ana Regional Water Board's Order R8-2021-0011 and NPDES NO. CA8000403, and the owner and operator of the proposed Huntington Beach Desalination Facility that is the subject of that Order.

JURISDICTION AND VENUE

26. This Court has jurisdiction over this action pursuant to California Code of Civil Procedure section 1094.5, California Water Code sections 13320 and 13330, and California Public Resources Code section 21168.

27. Venue is proper in this court pursuant to Code of Civil Procedure sections 393, 395 and

401 because an office of the attorney general for the State of California is located in Alameda, California.

28. The Petitioners have exhausted all remedies available, including through active participation in the Santa Ana Regional Water Board administrative process relating to the adoption of the Order.

29. On May 29th, 2021, California Coastkeeper, Orange County Coastkeeper, and Residents for Responsible Desalination petitioned the State Board to review the Santa Ana Regional Water Board's adoption of Waste Discharge Requirements Order R8-2021-0011 and NPDES NO. CA8000403 ("Order") pursuant to Water Code section 13320. The State Board dismissed the petition on August 27, 2021. This writ petition is timely filed within 30 days of service of the State Board's denial and dismissal of the petition for review, SWRCB/OCC File A-2742, in accordance with section 13330 of the California Water Code. Petitioners have exhausted any and all available administrative remedies to the extent required by law.

30. Pursuant to Code of Civil Procedure section 388, Petitioners are serving the Attorney General with a copy of this Petition for Writ of Mandate along with a notice of its filing.

LEGAL BACKGOUND

Federal Clean Water Act

31. The Federal Water Pollution Control Act, known as the Clean Water Act (United States Code, title 33, sections 1251, *et seq.*), is the principal federal statute for water quality protection. In California, the State Board and nine regional water boards are authorized to implement many of the Clean Water Act's provisions.

32. The Clean Water Act requires the State to adopt water quality standards and to submit those standards for approval by the U.S. Environmental Protection Agency ("U.S. EPA"). For point source discharges to surface water, the Clean Water Act authorizes California to administer the NPDES program. (*See* 33 U.S.C. § 1342.)

Porter-Cologne Act (California Water Code)

33. The Porter-Cologne Water Quality Act (Water Code section 13000 *et seq.*), which implements the Clean Water Act, is the principal law governing water quality regulation in California.

It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act, the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected,
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

(Cal. Water Code section 13000).

34. The Porter-Cologne Act established the State Board and regional water boards, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The State Board provides program guidance and oversight, allocates funds, and reviews regional water board decisions. The regional water boards have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions.

35. The regional water boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits for point source discharges and WDRs.

36. The Porter-Cologne Act also requires adoption of water quality control plans that contain the guiding policies of water pollution management in California. The Ocean Plan is a water quality control plan. These plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. The water quality control plans also contain implementation, surveillance, and monitoring requirements. Statewide and regional water quality control plans include enforceable prohibitions.

<u>California Water Code Section 13142.5(b)</u>

37. Water Code section 13142.5(b) requires that for each new or expanded coastal power plant 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.

California Ocean Plan

38. The Ocean Plan creates ocean standards to protect the beneficial uses of California's marine waters through establishing water quality objectives and implementation provisions in statewide water quality control plans and polices.

39. Chapter III.M of the Ocean Plan, the Desalination Amendment, provides the mandatory regulatory framework that regional water boards must use to evaluate whether a desalination facility complies with Water Code section 13142.5(b). Under Government Code section 11353, the Desalination Amendment is a duly adopted regulation under state law. The Desalination Amendment provides direction to the regional water boards regarding the determination required by Water Code section 13142.5(b), to evaluate the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of all forms of marine life at new or expanded desalination facilities.

40. The Desalination Amendment became effective on January 28, 2016. The regulation was designed to create a systematic approach for controlling adverse effects of desalination facilities, with the express purpose of protect[ing] and maintain[ing] the highest reasonable [ocean] water quality possible for the use and enjoyment of the state.

41. The Desalination Amendment manifestly changed how regional water boards must now evaluate proposed desalination facilities. Most significantly, the regulations strongly discourage the use of open-ocean intake systems and, instead, establish a significant regulatory preference for subsurface intake systems. The State Board found that operation of surface water intakes can result in significant intake and mortality of all forms of marine life. In contrast, subsurface intake systems extract ocean water though intake pipes that lie underground and collect seawater filtered through sand and sediment, thereby effectively avoiding marine life intake. In the Desalination Amendment, therefore, the State Board established subsurface intakes as the preferred intake technology because they are the best method for minimizing intake and mortality of all forms of marine life.

42. The Desalination Amendment sets forth mandatory procedures that regional water boards must follow before issuing a permit for a desalination facility.

43. Before it may take any action, a regional water board shall first analyze separately as

independent considerations a range of feasible alternatives for the best available site, the best available design, the best available technology, and the best available mitigation measures to minimize intake and mortality of all forms of marine life. Then, only after performing this analysis of independent and separate factors, the regional water board shall consider all four factors collectively and determine the best combination of feasible alternatives to minimize intake and mortality of all forms of marine life. (Chapter III.M.2(a)2 of the Ocean Plan).

Best Available Site (Chapter III.M.2(b) of the Ocean Plan)

44. As defined in the Desalination Amendment, "site" is the general onshore and offshore location of a new or expanded facility. There may be multiple potential facility design configurations within any given site. The regional water board shall require that the owner or operator evaluate a reasonable range of alternative sites, including sites that would likely support subsurface intakes.

45. In order to determine whether a proposed facility site is the best available site feasible to minimize intake and mortality of all forms of marine life, for each potential site identified, the regional water board shall require the owner or operator to:

(1) Consider whether subsurface intakes are feasible.

(2) Consider whether the identified need for desalinated water is consistent with an applicable adopted urban water management plan prepared in accordance with Water Code section 10631, or if no urban water management plan is available, other water planning documents such as a county general plan or integrated regional water management plan.

(3) Analyze the feasibility of placing intake, discharge, and other facility infrastructure in a location that avoid impacts to sensitive habitats and sensitive species.

(4) Analyze the direct and indirect effects on all forms of marine life resulting from facility construction and operation, individually and in combination with potential anthropogenic effects on all forms of marine life resulting from other past, present, and reasonably foreseeable future activities within the area affected by the facility.

(5) Analyze oceanographic geologic, hydrogeologic, and seafloor topographic conditions at the site, so that the siting of a facility, including the intakes and discharges, minimizes the intake and mortality of all forms of marine life.

(6) Analyze the presence of existing discharge infrastructure, and the availability of wastewater to dilute the facility's brine discharge.

(7) Ensure that the intake and discharge structures are not located within a Marine Protected Area ("MPA") or State Water Quality Protected Area ("SWQPA") with the exception of intake structures that do not have marine life mortality associated with the construction, operation, and maintenance of the intake structures (e.g. slant wells). Discharges shall be sited at a sufficient distance from a MPA or SWQPA so that the salinity within the boundaries of a MPA or SWQPA does not exceed natural background salinity. To the extent feasible, surface intakes shall be sited so as to maximize the distance from a MPA or SWQPA.

Best Available Design (Chapter III.M.2(c) of the Ocean Plan)

46. As defined in the Desalination Amendment, "design" is the size, layout, form, and function of a facility, including the intake capacity and the configuration and type of infrastructure, including intake and outfall structures.

47. Proposed facilities must be designed as the best available design feasible to minimize intake and mortality of all forms of marine life. To meet that standard, a regional water board shall require that the owner or operator perform the following analysis:

(1) For each potential site, analyze the potential design configurations of the intake, discharge, and other facility infrastructure to avoid impacts to sensitive habitats and sensitive species.

(2) If the regional water board determines that subsurface intakes are not feasible and surface water intakes are proposed instead, analyze potential designs for those intakes in order to minimize the intake and mortality of all forms of marine life.

(3) Designs for the outfall should ensure that the brine mixing zone does not encompass or otherwise adversely affect existing sensitive habitat.

(4) Designs for the outfall should ensure that discharges do not result in dense, negatively-buoyant plumes that result in adverse effects due to elevated salinity or hypoxic conditions occurring outside the brine mixing zone. An owner or operator must demonstrate that the outfall meets this requirement through plume modeling and/or field studies.

(5) Designs for the outfall structures should minimize the suspension of benthic sediments.

Best Available Technology (Chapter III.M.2.d. of the Ocean Plan)

48. As defined by the Desalination Amendment, "technology" refers to the type of equipment, materials, and methods that are used to construct and operate the design components of a desalination facility.

49. When considering a proposed desalination facility, a regional water board shall require subsurface intakes unless it determines that subsurface intakes are not feasible. In order to reach an infeasibility conclusion, the regional water board must first engage in a comparative analysis of the factors listed below for surface and subsurface intakes.

50. The regional water board shall consider certain factors in determining the feasibility of subsurface intakes. Under the regulation, these factors include: geotechnical data, hydrogeology, benthic topography, oceanographic conditions, presence of sensitive habitats, presence of sensitive species, energy use for the entire facility; design constraints (engineering, constructability), and project life cycle cost. Project life cycle cost shall be determined by evaluating the total cost of planning, design, land acquisition, construction, operations, maintenance, mitigation, equipment replacement and disposal over the lifetime of the facility, in addition to the cost of decommissioning the facility.

51. A regional water board cannot conclude that subsurface intakes are infeasible simply because the facility has been designed larger than needed.

52. A regional water board also may not determine subsurface intakes to be economically infeasible solely because they may be more expensive than surface intakes. To reach a finding of economic infeasibility, a regional water board must determine that any additional costs or lost profitability associated with subsurface intakes, as compared to surface intakes, would render the desalination facility economically unviable.

53. If a regional water board determines that subsurface intakes are not feasible for a proposed facility's intake design capacity, it must then examine the feasibility of a reasonable range of alternative intake design capacities. The regional water board may find that a combination of subsurface and surface intakes is the best feasible alternative to minimize intake and mortality of marine life and meet the identified need for desalinated water as described in chapter III.M.2.b.(2).

54. If subsurface intakes are not feasible, the regional water board may approve a surface water intake, subject to the following conditions:

i. The regional water board shall require that surface water intakes be screened. Screens must be functional while the facility is withdrawing seawater.

ii. In order to reduce entrainment, all surface water intakes must be screened with a 1.0 mm (0.04 in) or smaller slot size screen when the desalination facility is withdrawing seawater.

Best Available Mitigation (Chapter III.M.2(3) of the Ocean Plan)

55. As defined by the Desalination Amendment, "mitigation" is the replacement of all forms of marine life or habitat that is lost due to the construction and operation of a desalination facility after minimizing intake and mortality of all forms of marine life through best available site, design, and technology.

56. The regional water board shall ensure that an owner or operator fully mitigates for the operational lifetime of the facility and uses the best available mitigation measures feasible to minimize intake and mortality of all forms of marine life.

57. If a proposed owner/operator chooses to complete a mitigation project ("Mitigation Option 1"), it shall submit a Mitigation Plan. Mitigation Plans must include: project objectives, site selection, site protection instrument (the legal arrangement or instrument that will be used to ensure the long-term protection of the compensatory mitigation project site), baseline site conditions, a mitigation work plan, a maintenance plan, a long-term management plan, an adaptive management plan, performance standards and success criteria, monitoring requirements, and financial assurances.

58. A mitigation project must meet the following requirements:

i. Mitigation shall be accomplished through expansion, restoration or creation of one or more of the following: kelp beds, estuaries, coastal wetlands, natural reefs, MPAs, or other projects that will fully mitigate for intake and mortality of all forms of marine life associated with the facility.

ii. The proposed facility's owner or operator shall demonstrate that the project fully mitigates for intake-related marine life mortality by including expansion, restoration, or

creation of habitat based on the amount of acreage impacted by the facility for the lifetime of the project. If using surface water intakes, the owner or operator shall model the mitigation project's production area to confirm it overlaps with the area of impact by the facility. Impacts on the mitigation project due to entrainment by the facility must be offset by adding compensatory acreage to the mitigation project.

iii. The owner or operator shall demonstrate that the project also fully mitigates for the discharge-related marine life mortality projected in the Marine Life Mortality Report above.

iv. The owner or operator shall demonstrate that the project also fully mitigates for the construction-related marine life mortality identified in the Marine Life Mortality Report above.

California Environmental Quality Act (Public Resources Code commencing with section 21000)

59. Regional water board orders implementing Water Code section 13142.5(b) and the Desalination Amendment constitute discretionary projects subject to CEQA compliance. CEQA requires the preparation of an Environmental Impact Report ("EIR") where there is a fair argument that a discretionary project will have a significant effect on the environment. An EIR must evaluate all direct, indirect, and cumulative environmental effects of the project and must consider a reasonable range of alternatives and mitigation measures to reduce or avoid such effects.

60. Where an EIR is prepared and certified, but substantial changes in the project or the circumstances under which the project is being undertaken, or new information of substantial importance becomes available, the next agency to issue a discretionary decision on the project must prepare a subsequent or supplemental EIR.

61. A subsequent or supplemental EIR must consider all reasonably foreseeable impacts from the whole of the project, and the agency preparing the EIR may not piecemeal or segment the CEQA process by deferring the consideration to reasonably foreseeable impacts to other agencies.

FACTUAL BACKGROUND

62. Poseidon proposes to construct a large regional seawater desalination facility on public tidelands and adjacent private property within the City of Huntington Beach. As proposed, the Poseidon

Facility will withdraw approximately 107 million gallons of seawater each day from the coastal waters of Huntington Beach, killing all larvae and other marine life consumed through its open-ocean seawater intake systems. Using an energy-intensive pre-filtration system combined with a high pressure "reverse osmosis" process that extracts salt by forcing seawater through a semipermeable membrane, the Poseidon Facility is designed to produce and distribute approximately 50 MGD of potable water. Currently, there is only one interested purchaser for this water, Orange County Water District ("Water District"), the groundwater management agency for northern Orange County. The Water District already has access to water supplies from the Santa Ana River, the Orange County Groundwater Basin, and the Groundwater Replenishment System, which is the world's largest advanced water purification system for potable reuse.

63. The Poseidon Facility will discharge approximately 56 MGD of concentrated toxic brine waste back into the near-shore ecosystem, causing additional environmental harms to marine life.

64. The Poseidon Facility's water will likely cost the Water District at least twice as much compared to other viable sources such as imported water and potable recycled wastewater.

65. On September 7, 2010, the City of Huntington Beach certified a Final Subsequent Environmental Impact Report ("2010 FSEIR") for the Poseidon Facility. As the lead agency at the time, the City of Huntington Beach adopted a CEQA Statement of Findings of Facts with Statement of Overriding Considerations and a Mitigation Monitoring and Reporting Program. On September 20, 2010, the City of Huntington Beach approved Coastal Development Permit No. 10-014.

66. Poseidon never built the Facility approved by the City of Huntington Beach in 2010, nor did it obtain the requisite final approvals from affected public agencies, including – the California Coastal Commission, the Santa Ana Regional Water Board, the Water District, and the California State Lands Commission ("State Lands").

67. Since 2010, changed circumstances and new information have significantly altered the planning landscape, which should have compelled Poseidon to redesign the Poseidon Facility in several substantial ways.

68. In response to increasing environmental concern over the impact of desalination facilities on marine ecosystems, in 2015, the State Board adopted the Desalination Amendment. The

Desalination Amendment now compels regional water boards to require subsurface intake systems unless they are deemed infeasible. The Desalination Amendment also required regional water boards to analyze intake capacities to minimize marine life mortality, and to analyze a range of sites that would likely support subsurface intakes. The Desalination Amendment became effective on January 28, 2016.

69. The projected demand for potable water, and thus the need for the Poseidon Facility, has substantially declined since 2010. Spurred by newfound water supplies and innovative conservation measures, the demand for potable water in Orange County has fallen, even as water supply to the region grows. Using the 2010 Regional Urban Water Management Plan, MWDOC, the regional wholesale water agency, previously projected total water demand in 2035 at 525,079 acre-feet per year. By 2016, however, that water demand projection for 2035 had fallen to 433,233 acre-feet per year, a 17.5 percent reduction. And by March 30, 2021, MWDOC's water demand projection was 426,978 AFY for 2035, and would continue to level off at the same amount through 2050.

70. New local sources of recycled water are becoming increasingly available for use, supplanting the need for a large desalination plant. In 2008, the Water District began its Groundwater Replenishment System, an approach whereby wastewater is recycled and treated to produce purified water for indirect potable reuse. This new practice provides a cost-effective solution to replenish water supply and has recently been expanded to produce 130,00 acre-feet per year of potable water. A similar Los Angeles recycling program, the Carson Indirect Potable Reuse Project, could provide Orange County with up to 65,000 acre-feet of additional potable water per year – more than the proposed capacity of the entire Poseidon Facility, which would produce 56,000 acre-feet per year.

71. Water users are simultaneously increasing their conservation practices, leading to an overall decrease in demand for potable water. While water demand was previously forecasted to increase during multiyear droughts, users have in fact achieved reductions on the order of 20 to 30 percent due to advancing practices in water conservation. Based on those projections, MWDOC staff now estimates water shortfalls through 2040 of only 6,300 acre-feet per year and has concluded that the Poseidon yield of 56,000 would supply more water than needed in most ever year.

72. Certain retail water agencies within Orange County that are customers of the Water District, including Irvine Ranch Water District, have questioned the need for this desalination facility.

And as the Water District has itself confirmed, there are many routes to [water] reliability and the Poseidon Facility is not specifically necessary, but merely one option among others.

73. On October 19, 2017, State Lands, acting as a responsible agency, certified the Final Supplemental Environmental Impact Report ("2017 FSEIR") for the Poseidon Facility: Outfall/Intake Modifications & General Lease – Industrial Use (PRC 1980.1) Amendment (State Clearinghouse No. 2001051092) and adopted a CEQA Statement of Findings of Facts with Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program. The SEIR was limited to changes in the State Lands lease in response to modifications of the intake and discharge structures required in the Ocean Plan Amendment. It did not consider alternatives necessary to satisfy the intervening Desalination Amendment, deferring that analysis to the Santa Ana Regional Water Board, and it did not consider impacts from reasonably foreseeable changes to the product water distribution system, deferring that analysis to the Water District.

74. In 2018, Poseidon's proposed diffuser design (the diffuser design that was analyzed in the 2017 FSEIR) was reviewed by Dr. Phil Roberts, an independent reviewer. In his review, Dr. Roberts ultimately concluded that the proposed diffuser design was not the best available design or technology to minimize intake and mortality of marine life. The Santa Ana Regional Water Board prepared an Addendum to the 2010 FSEIR and the 2017 FSEIR to address the changes to the diffuser design.

75. On November 22, 2019, the Santa Ana Regional Water Board released a tentative Order No. R8-2021-0011, NPDES No. CA8000403, Waste Discharge Requirements and draft California Water Code section 13142.5(b) determination for the Poseidon Facility ("Tentative Order") for public review and comment. On December 6, 2019, the Santa Ana Regional Water Board held a public workshop to discuss the draft Tentative Order, and to receive comments from the public. The Petitioners timely submitted written comments by the public comment deadline of January 21, 2020.

76. On May 15, 2020, the Santa Ana Regional Water Board held another public workshop limited to the project need and mitigation requirements. Most of the workshop consisted of several presentations and questions from the Regional Board members followed by an extensive public comment period.

77. A public hearing to consider the adoption of the Tentative Order was held July 30 and 31, 2020 with a third date of August 7, 2020 set for the Santa Ana Regional Water Board to deliberate.

78. During the hearing on July 31, 2020, several Santa Ana Regional Water Board members questioned the amount of acreage awarded for the inlet maintenance dredging, which staff classified as a preservation action.

79. After the July 31 meeting, Poseidon negotiated with Santa Ana Regional Water Board staff, State Board staff, and California Environmental Protection Agency staff to modify the proposed mitigation to address the Santa Ana Regional Water Board's concerns. On August 7, 2020, the third day of the public hearing, Santa Ana Regional Water Board staff presented the proposal developed during those discussions, which included the reduction of acres of credit for maintenance dredging to 45 acres of credit.

80. The Santa Ana Regional Water Board rejected staff's revised recommendation for inlet maintenance dredging acreage and gave direction that the dredging should not account for more than 25% of the required acres of mitigation credit. As a result of this reduction, Poseidon's mitigation proposal was not sufficient to fully mitigate the construction and operation impacts of the Poseidon Facility. Therefore, the adoption hearing was suspended until April, 2021 in order for Poseidon to determine additional mitigation credits.

81. The Regional Board continued public hearing on the Tentative Order for the proposed Poseidon-Huntington Beach Ocean Desalination facility on April 23 and April 29, 2021, with the final decision on the Order made on April 29, 2021. Despite concerns over the need for the Poseidon Facility, the Order was approved by a 4-3 vote.

82. The Santa Ana Regional Water Board approved the Order without preparing a subsequent or supplemental EIR. The Santa Ana Regional Water Board prepared an Addendum to the 2010 FSEIR and the 2017 FSEIR to address changes to Poseidon's diffuser design. The Santa Ana Regional Water Board did not evaluate the impacts from Poseidon's new mitigation measures adopted within the Order, nor did the Santa Ana Regional Water Board evaluate the impacts from the reasonably foreseeable change in the distribution system or the new alternatives prescribed by the Desalination Amendment.

83. In the nearly 20 years since Poseidon first proposed its plan, the regulatory landscape changed to impose greater scrutiny on the Facility, but the political landscape changed as well, with increasing pressure put on staff and Regional Board members to approve Poseidon's proposal. This pressure included removal of a Regional Board member who daylighted the lack of evidence that staff had considered the correct factors under the Desalination Amendment, and appointment of members who had received political donations from pro-Poseidon trade groups.

CAUSES OF ACTION

First Cause of Action for Writ of Mandate

Pursuant to Code of Civil Procedure section 1094.5:

Violation of Water Code section 13142.5(b) and the Ocean Plan

84. Petitioners reallege and incorporate by reference each and every allegation set forth in paragraphs 1 through 83, inclusive, as though fully set forth herein.

85. The Santa Ana Regional Water Board is obligated under the Water Code to only permit ocean desalination facilities when such facilities use the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of all forms of marine life.

86. The Santa Ana Regional Water Board failed to comply with the requirements and process articulated in the Desalination Amendment within the Ocean Plan.

87. The Ocean Plan requires the Santa Ana Regional Water Board to conduct a Water Code section 13142.5(b) analysis using a two-step evaluation process. As a preliminary and mandatory first step, the Santa Ana Regional Water Board was required to "*first analyze separately as independent considerations a range of feasible alternatives* for the best available site, the best available design, the best available technology, and the best available mitigation measures to minimize intake and mortality of all forms of marine life." (italics added.) Only after completing the first step may the Santa Ana Regional Water Board move to the next step of the process to consider the four factors *collectively* to determine the best combination of the identified feasible alternatives to minimize intake and mortality of all forms of marine life.

88. The Santa Ana Regional Water Board failed to comply with the Desalination Amendment's requirements by not first analyzing separately as independent considerations a range of

feasible alternatives for the best available site, the best available design, the best available technology, and the best available mitigation measures to minimize intake and mortality of all forms of marine life. The Santa Ana Regional Water Board instead created its own initial test, thereby exceeding its regulatory authority. Its subsequent action therefore lacked adequate evidence and findings as required.

89. The Santa Ana Regional Water Board's Order failed to require the best available onshore site feasible to minimize marine life mortality by deeming sites infeasible due to factors outside of the Desalination Amendment considerations and irrelevant to the Water Code and Ocean Plan goal of minimizing marine life mortality.

90. The Santa Ana Regional Water Board failed to require the best available offshore site to minimize marine life mortality. The Santa Ana Regional Water Board relied upon outdated data and an imprecise marine life impacts calculation, instead of requiring Poseidon to perform a new entrainment study. The Santa Ana Regional Water Board abused its discretion by unlawfully permitting Poseidon to site its offshore intake location at the existing AES Power Plant intake location (Station E), despite a third-party reviewer's conclusion that two other offshore intake locations (Station D2 or U2) would result in lower marine life mortality.

91. The Desalination Amendment requires the Santa Ana Regional Water Board to analyze a range of alternative intake capacities as part of its Best Available Design analysis to minimize the intake and mortality of marine life. The Santa Ana Regional Water Board only considered one intake capacity: approximately 107 MGD. The Santa Ana Regional Water Board was required to consider a range of alternative intake capacities yet failed to conduct such an analysis.

92. The Santa Ana Regional Water Board failed to require the Best Available Technology to minimize the intake and mortality of all forms of marine life. The Desalination Amendment requires the Regional Board to *require* subsurface intakes unless it determines that subsurface intakes are not feasible based upon a comparative analysis of factors.

93. The Santa Ana Regional Water Board improperly determined slant wells to be infeasible based upon an improper additional factor of consideration: "aquifer drawdown". The Desalination Amendment purposefully excluded this factor from those which regional water boards must consider, and the Santa Ana Regional Water Board exceeded its authority by including it among the

considerations to determine the Best Available Technology. The Santa Ana Regional Water Board also set an arbitrary aquifer drawdown threshold that was not supported by the evidence to analyze the technical feasibility of the Best Available Technology. This led to the Santa Ana Regional Water Board failing to conduct an economic feasibility analysis for slant wells.

94. The Regional Board wrongfully relied upon a subsurface study conducted prior to the adoption of the Desalination Amendment to conclude that slant wells and infiltration galleries were not feasible as the Best Available Technology.

95. Water Code section 13142.5(b) and the Ocean Plan requires the Regional Board to protect all forms of marine life. The Desalination Amendment states that if subsurface intakes are not feasible, "to reduce entrainment, all surface water intakes must be screened with a 1.0 mm (0.04 in) *or smaller slot size screen* when the desalination facility is withdrawing seawater." (italics added.)

96. The Regional Board failed to consider or analyze an open-ocean intake screen smaller than 1 MM as the best available technology for minimizing all forms or marine life despite evidence that the effectiveness of reducing entrainment with wedgewire screens is largely a function of the size of the screen slot opening.

97. The Ocean Plan states that "[m]itigation shall be accomplished through expansion, restoration or creation." Preservation is not an element of mitigation under the Ocean Plan.

98. The Regional Board unlawfully abused its discretion by allowing Poseidon to mitigate a significant portion of their marine life impacts through the use of preservation.

99. For these reasons articulated above, the Santa Ana Regional Water Board abused its discretion in adopting the Order without complying with the mandates of the Water Code and the Ocean Plan, specifically the Desalination Amendment, without making the required findings, and without the support of evidence.

Second Cause of Action

Pursuant to Code of Civil Procedure section 1094.5 or 1085:

Violation of CEQA

100. Petitioners reallege and incorporate by reference each and every allegation set forth in paragraphs 1 through 83, inclusive, as though fully set forth herein.

101. The Santa Anal Regional Water Board violated CEQA by failing to prepare a subsequent or supplemental EIR, as required by Public Resources Code section 21166, in connection with issuance of the Order. In particular, the Board's action violated CEQA in at least three ways: (1) The Order imposed required certain new mitigation requirements, the impacts of which were not evaluated and disclosed to the public in any CEQA-compliant document; (2) Substantial information in the record demonstrates that it is reasonably foreseeable that produced water from the Poseidon Facility will be injected into the local aquifer, the impacts of which were not evaluated and disclosed to the public in any CEQA-compliant document; and (3) After the State Lands Commission deferred the consideration of alternatives to satisfy the Desalination Amendment requirements to the Santa Ana Regional Water Board, the Regional Board failed to consider and disclose those alternatives in a CEQA-compliant document. By failing to evaluate and disclose these impacts and alternatives in a subsequent or supplemental EIR and deferring the requisite analysis to another agency or a future administrative process, the Santa Ana Regional Water Board also illegally piecemealed and segmented the CEQA process.

102. The Santa Ana Regional Water Board's failure to comply with CEQA constitutes a prejudicial abuse of discretion actionable under California Public Resources Code section 21168 or 21168.5 and California Code of Civil Procedure section 1094.5 or 1085. Petitioners have a clear, present, and beneficial right to the Santa Ana Regional Water Board's proper performance of its CEQA obligations and has no other plain, speedy, or adequate remedy at law. Petitioners, their members, and the general public which they represent will be adversely affects by these legal violations and are thus entitled to issuance of a writ of mandate directing the Santa Ana Regional Water Board to comply with CEQA.

PRAYER FOR RELIEF

WHEREFORE, Petitioners pray for entry of judgment as follows:

1. For a peremptory writ of mandate directed to the California Regional Water Quality Control Board, Santa Ana Region (1) declaring that the Order No. R8-2021-0011 for Poseidon Resources (Surfside) L.L.C. Huntington Beach Desalination Facility Orange County is unlawful, (2)

vacating and setting aside Order No. R8-2021-0011, and (3) remanding Order No. R8-2021-0011 to the Regional Board for further proceedings consistent with applicable law.

2. For an award of attorneys' fees under California Civil Procedure Code section 1021.5 and costs of suit.

3. For any such other equitable or legal relief as the Court deems appropriate.

Date: September 24, 2021

CALIFORNIA COASTKEEPER

By: 

Sean Bothwell (SBN 272105)

Jennifer F. Novak (SBN 183882)

Deborah A. Sivas (SBN 135446)

Attorneys for Petitioners

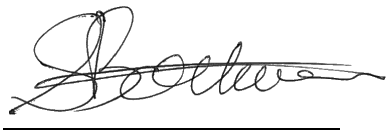
VERIFICATION

I, the undersigned, declare:

I am the Executive Director of Petitioner California Coastkeeper Alliance and execute this verification on its behalf.

I have read the foregoing petition and know its contents. The facts alleged in the above petition are within my own knowledge and I know these facts to be true.

I declare under penalty of perjury that the foregoing is true and correct. This declaration was executed on September 24, 2021, in Napa, California.



Sean Bothwell

Executive Director

California Coastkeeper Alliance

EXHIBIT A

September 24, 2021

Via U.S. Mail

Clerk to the Board
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Notice of Intent to File a CEQA Petition

To the Santa Ana Regional Water Quality Control Board:

PLEASE TAKE NOTICE, pursuant to Public Resources Code §21167.5, that Petitioners California Coastkeeper and Orange County Coastkeeper, intend to file a petition for writ of mandate challenging the California Regional Water Quality Control Board, Santa Ana Region for failure to comply with the requirements of the Water Code section 13142.5(b), the Water Quality Control Plan for the Ocean Waters of California, and its failure to comply with California Environmental Quality Act ("CEQA"), Cal. Pub. Res. Code §21000 et seq., in adopting Order No. R8-2021-0011, National Pollutant Discharge Elimination System No. CA8000403, Waste Discharge Requirements for Poseidon Resources L.L.C. Huntington Beach Desalination Facility Orange County. The California Regional Water Quality Control Board, Santa Ana Region prejudicially abused its discretion because it failed to proceed in the manner required by law, failed to make findings required by law, and made findings not supported by the evidence.

CALIFORNIA COASTKEEPER

By _____
Sean Bothwell

Attorney for Petitioners California Coastkeeper
and Orange County Coastkeeper

September 24, 2021

Via U.S. Mail

Scott Maloni
Vice President
Poseidon Surfside
17011 Beach Boulevard, Suite 900
Huntington Beach, CA 92467-5998

Notice of Intent to File a CEQA Petition

Dr. Mr. Maloni:

PLEASE TAKE NOTICE, pursuant to Public Resources Code §21167.5, that Petitioners California Coastkeeper and Orange County Coastkeeper, intend to file a petition for writ of mandate challenging the California Regional Water Quality Control Board, Santa Ana Region for failure to comply with the requirements of the Water Code section 13142.5(b), the Water Quality Control Plan for the Ocean Waters of California, and its failure to comply with California Environmental Quality Act ("CEQA"), Cal. Pub. Res. Code §21000 et seq., in adopting Order No. R8-2021-0011, National Pollutant Discharge Elimination System No. CA8000403, Waste Discharge Requirements for Poseidon Resources L.L.C. Huntington Beach Desalination Facility Orange County. The California Regional Water Quality Control Board, Santa Ana Region prejudicially abused its discretion because it failed to proceed in the manner required by law, failed to make findings required by law, and made findings not supported by the evidence.

CALIFORNIA COASTKEEPER

By _____
Sean Bothwell

Attorney for Petitioners California Coastkeeper
and Orange County Coastkeeper